



Portland General Electric Company

David W. Cockfield Vice President, Nuclear

March 31, 1989

Trojan Nuclear Plant  
Docket 50-344  
License NPF-1

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington DC 20555

Dear Sirs:

Cycle 12 Radial Peaking Factor Limit Report

Pursuant to Technical Specification 6.9.1.7, "Radial Peaking Factor Limit Report", attached is a copy of Cycle 12 Radial Peaking Factor Limit Report for the Trojan Nuclear Plant. The results of this analysis are applicable for the Technical Specifications which we expect to be approved as part of License Change Application (LCA) 161, "Nuclear Fuel Upgrade". It is our understanding that LCA 161 will be approved prior to the scheduled initial criticality of Cycle 12 operation.

Sincerely,

Attachment

c: Mr. John B. Martin  
Regional Administrator, Region V  
U.S. Nuclear Regulatory Commission

Mr. William T. Dixon  
State of Oregon  
Department of Energy

Mr. R. C. Barr  
NRC Resident Inspector  
Trojan Nuclear Plant  
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TROJAN CYCLE 12  
RADIAL PEAKING FACTOR LIMIT REPORT

This Radial Peaking Factor Limit Report is provided in accordance with Paragraph 6.9.1.7, "Radial Peaking Factor Limit Report", of the Trojan Nuclear Plant Technical Specifications.

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

1.  $F_{xy}^{RTP}$  less than or equal to 1.92 for all core planes containing bank "D" control rods, and
2.  $F_{xy}^{RTP}$  less than or equal to 1.76 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:

$$F_Q(z) \leq \left[ \frac{2.50}{P} \right] [K(z)] \text{ for } P > 0.5 \text{ and } *,$$

$$F_Q(z) \leq [5.00] [K(z)] \text{ for } P \leq 0.5 *$$

assuming the most limiting axial power distributions expected to result from the insertion and removal of Control Banks C and D during operation, including 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 Loss-of-Coolant-Accident analysis are met, along with the Emergency Core Cooling System acceptance criteria of 10 CFR 50.46. "Acceptance Criteria for Emergency Core Cooling Systems for Light Water Nuclear Power Reactors".

\*K(z) - Figure 3.2-2 in Technical Specifications.

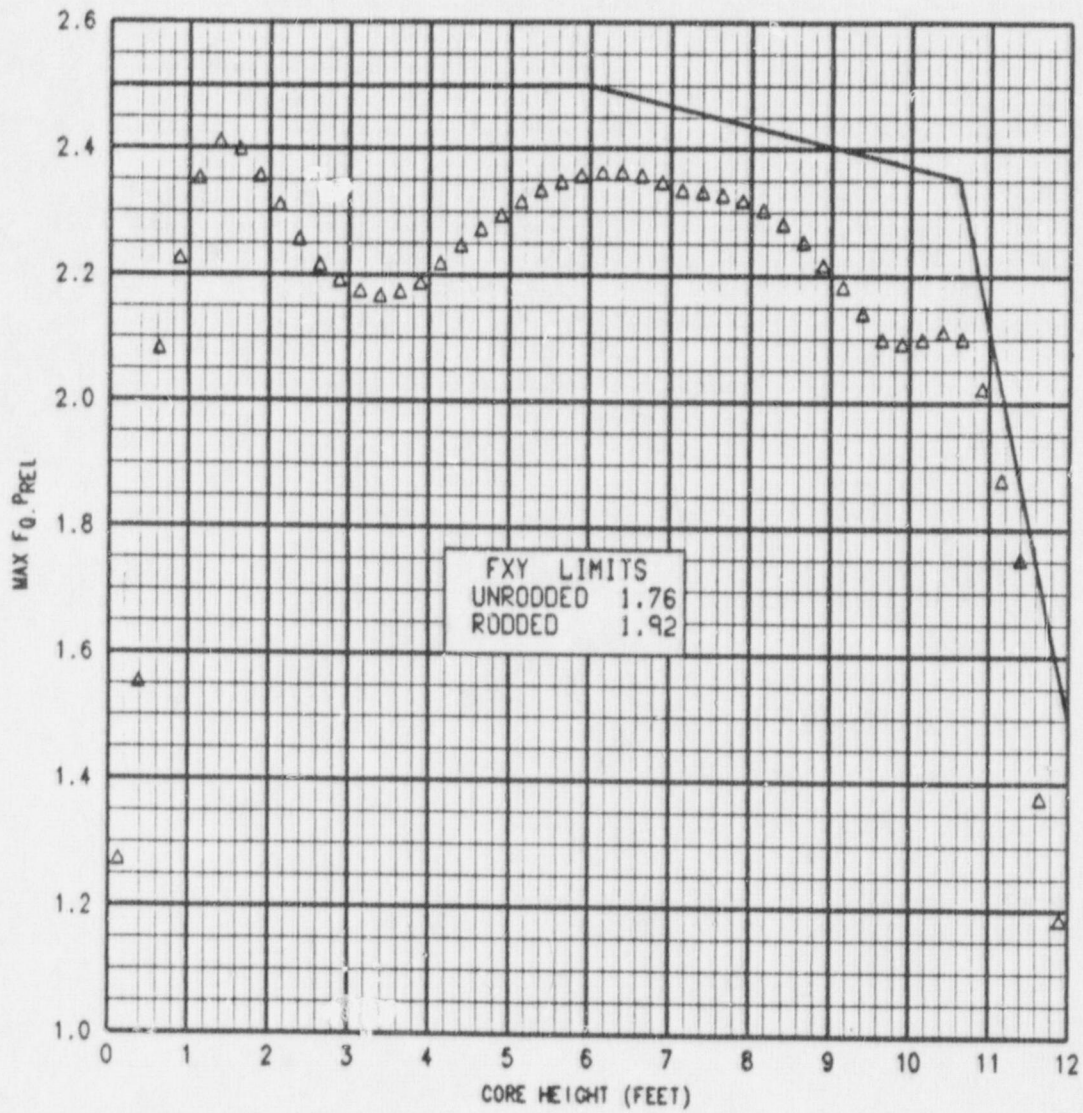


FIGURE 1

MAXIMUM FQ VERSUS CORE HEIGHT FOR TROJAN CYCLE 12