

8.0 PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS

It is requested that the following revisions be made to the Technical Specifications.

Section B. DESIGN SPECIFICATIONS

Add the following paragraph:

- "3. The Performance Analysis for the current reload core is incorporated as a part of these technical specifications. The analysis presented in the FSAR for Core XI forms the basis for the reference core performance analysis".

Section D. OPERATING PROCEDURES AND RESTRICTIONS

2. Operating Limits

c. Thermal

Revise paragraph (1) to read as follows:

- "(1) During steady state power operation, the peak linear heat rate shall not exceed the limits shown in Figure 8-1. With these limits, if full power cannot be attained, the allowable fraction of full power shall be calculated as follows:

$$\text{Allowable Fraction of Full Power} = \frac{\text{Limiting LHGR}}{\text{Peak Full Power LHGR}}$$

where the limiting LHGR is obtained from Figure 8-1. The peak full power LHGR shall include the following:

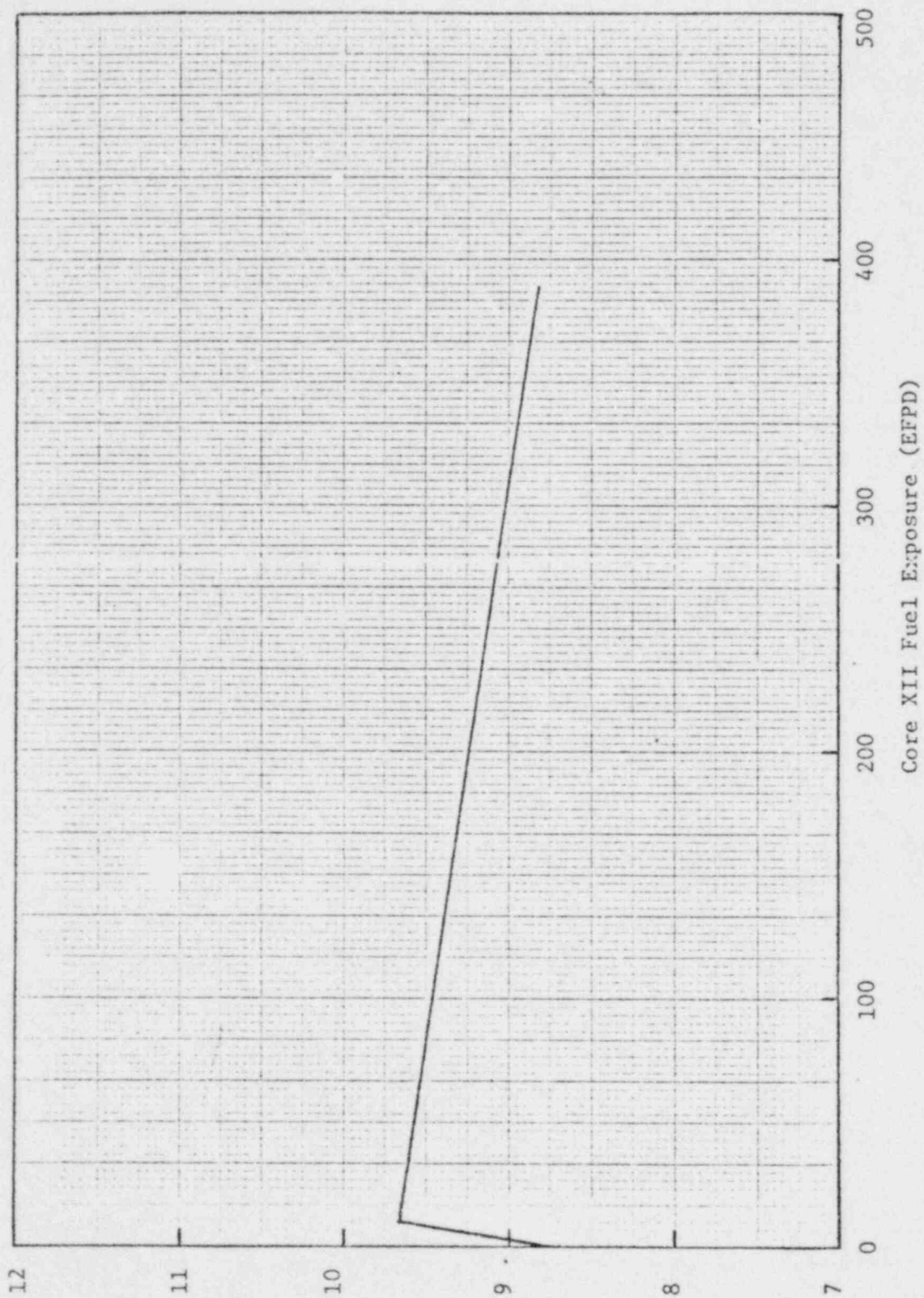
- a) Heat flux power peaking factor, F_q^N measured using core instrumentation at a power $\geq 10\%$;
- b) Effect of inserting the control bank from its position at the time of measurement to its insertion limit (F_I) as shown in Figure 8-2. The rod insertion limit is shown in Figure 8-3;
- c) Effect of xenon redistribution (1.10);
- d) Shortened stack height factor (1.009);
- e) Measurement uncertainty (1.05);
- f) Power level uncertainty (1.03);
- g) Heat flux engineering factor, F_q^E , (1.04);
- h) Core average linear heat generation rate at full power (4.34 kw/ft).

These factors are multiplicative and items (a) and (d) shall be chosen at a core height so as to maximize their product. When operating at constant power, all rods out, with equilibrium xenon, power peaking in the Yankee Rowe core decreases monotonically as a function of cycle burnup. This has been verified by both calculation and measurement on Yankee cores and is in accord with the expected behavior in a core that does not contain burnable poison. The all-rods-out power peaking measured at any time in core life thus provides an upper bound on ARO power peaking for the remainder of that cycle. Therefore, the measured power peaking shall be checked every 1000 equivalent full power hours and the latest measured value shall be used in the computation. The only effects which can increase peaking beyond this value would be control rod insertion and xenon transients and these are accounted for in items (b) and (c).

These proposed changes reference this report as the performance analysis for the current reload core while retaining the performance analysis for the reference core in the FHSR. The section on core thermal performance is also changed to reflect the results of the LOCA analysis and to describe the manner in which core thermal performance will be monitored. No other changes are required.

Figure 8-1

Core XII Allowable Peak LHGR Versus
Exposure

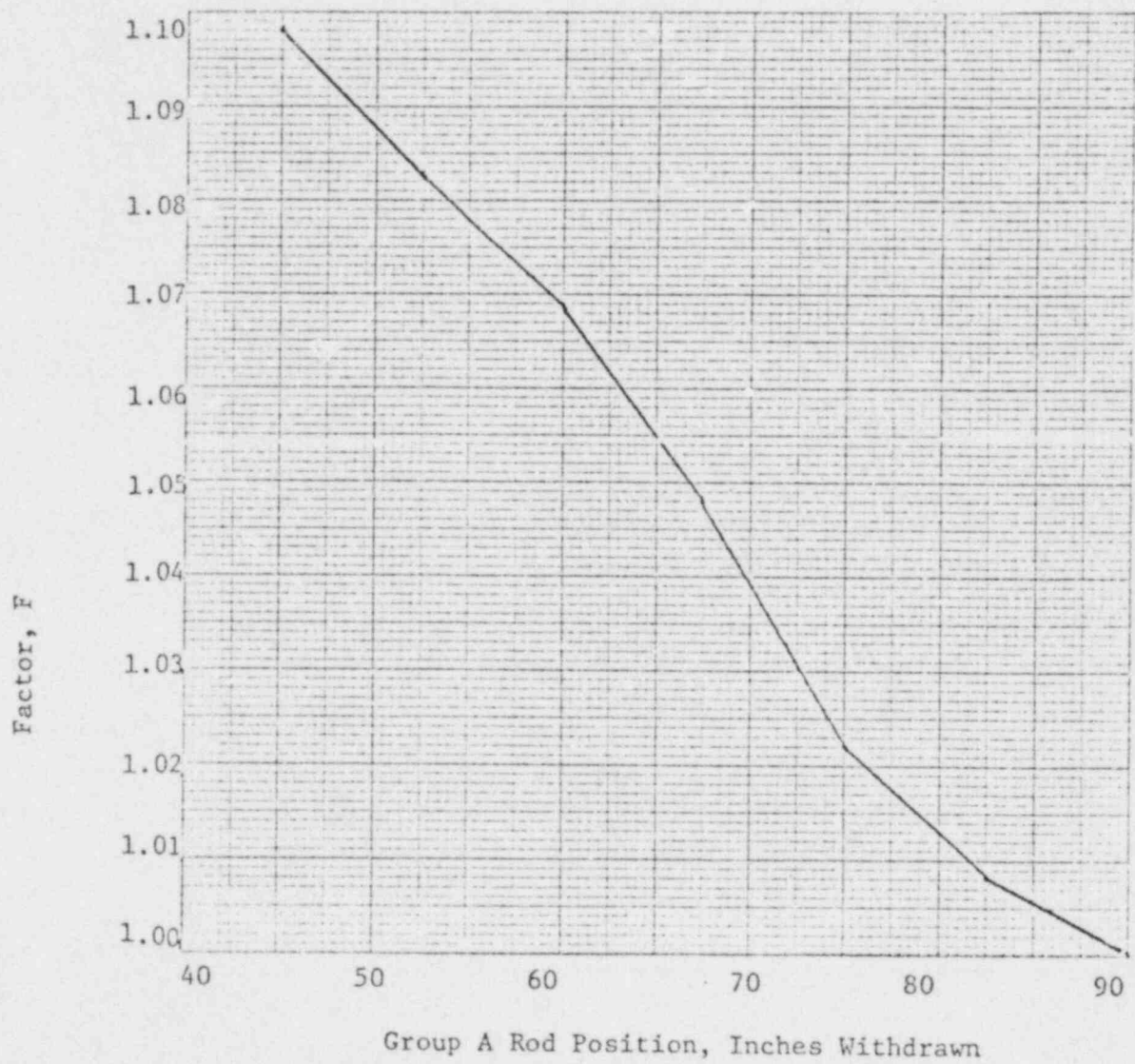


Allowable Peak LHGR (kw/ft)

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Figure 8-2

Factor F as a Function
of Rod Insertion

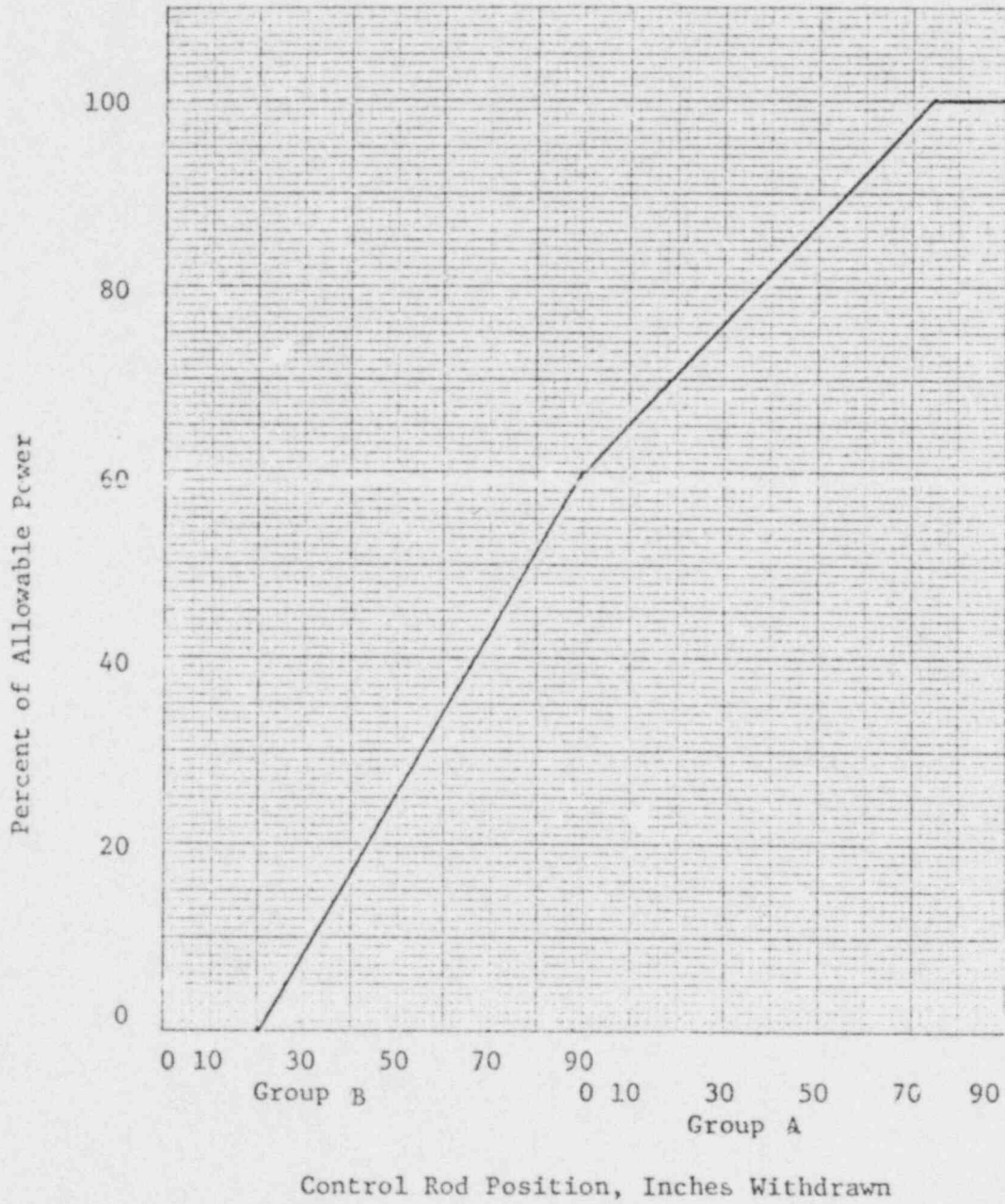


$$F_I = \frac{F @ \text{Limit}}{F @ \text{Measurement}}$$

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Figure 8-3

Rod Insertion Limit vs. Allowable Power



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(TEMPORARY FORM)

CONTROL NO: ZZ

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FROM: Yankee Atomic Elec Co Westborough, Mass D E Vandenburg		DATE OF DOC 12-29-75	DATE REC'D 1-5-76	LTR XXX	TWX	RPT	OTHER
TO: NRC		ORIG 3 signed	CC	OTHER	SENT NRC PDR <u>XX</u>		SENT LOCAL PDR <u>XX</u>
CLASS	UNCLASS XXXXXX	PROP INFO	INPUT	NO CYS REC'D 3	DOCKET NO: 50-29		

DESCRIPTION:

Ltr notarized 12-29-75....trans the following:

ENCLOSURES:

Amdt to OL/Change to Tech Specs #125, Suppl #6: Consisting of revisions to Appendix A with regard to ECCS modifications.....

(40 cys encl rec'd)

PLANT NAME: Yankee Rowe

FOR ACTION/INFORMATION 1-7-76 ehf

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