

ATTACHMENT I TO IPN-99-118

PLANT OPERATING PROCEDURE POP-2.3, REVISION 7
"CORE OPERATING LIMITS FOR CYCLE 11"

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64

New
York
Power
Authority
Indian Point 3

Procedure Use Is:

- Continuous
- Reference
- Information

Control Copy: _____

Effective Date: 10-19-99

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This procedure is
TSR

INFORMATION ONLY

**POP-2.3, Revision: 7
CORE OPERATING LIMITS FOR CYCLE 11**

Tom Gander J E Gander / 09/29/99
Writer Date

[Signature] / 10-18-99
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Approved By: [Signature] / 10/19/99
Procedure Sponsor, DM/Designee Date

N/A
PORC Meeting Number



MINOR REVISION

REVISION SUMMARY

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1.0 REASON FOR REVISION

1.1 Incorporate reactor core safety limits for operating cycle 11.

2.0 SUMMARY OF CHANGES

2.1 Changed $PF_{\Delta H}$ for $P < 0.5$ to 0.4 per Core Operating Limits Report for Cycle 11, Rev. 0.

2.2 Added Attachment 3, Axial Flux Difference Envelope, as a graph.
(Feedback IP3-2716)

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1.0 PURPOSE

- 1.1 This procedure establishes the cycle specific safety limits for the reactor fuel.
- 1.2 This procedure applies to cycle 11 fuel.

2.0 PRECAUTIONS AND LIMITATIONS

- 2.1 The data presented in this report applies to Cycle 11 Only and SHALL NOT be used for other operating cycles.

NOTE

The *Core Operating Limits Report (COLR)*, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

- 2.2 IF a part of this procedure is changed which affects information contained in the COLR {**Definition 5.1**}, THEN SUBMIT a copy of this approved procedure to the Site Licensing Manager for transmittal to the NRC per T.S. 6.9.1.6.d. {**Reference 6.1.1**}

3.0 PREREQUISITES

None

4.0 PROCEDURE

4.1 The following are Specific Safety Limits for the cycle 11 reactor fuel:

Table 4.1 CORE OPERATING LIMITS FOR CYCLE 11 REACTOR FUEL		
PARAMETER	VALUE	CORRESPONDING T.S.
Hot Channel Factor at Rated Thermal Power (F_Q^{RTP})	2.42	3.10.2.1
Hot Channel Factor at Rated Thermal Power ($F_{\Delta H}^{RTP}$) for Vantage + for OFA and V5	1.635 1.59	3.10.2.1
Height Dependent F_Q Multiplier $K(Z)$, referred to as "fraction"	Refer to Attachment 2	3.10.2.1
Power Factor Multiplier for $F_{\Delta H} = PF_{\Delta H}$ $PF_{\Delta H}$ for $0.50 \leq P \leq 1.0$ $PF_{\Delta H}$ for $P < 0.5$	0.3 0.4	3.10.2.1
Axial Flux Difference Band Width	$\pm 5\%$ Refer to Attachment 3	3.10.2.4 3.10.2.6.1
Axial Flux Difference Envelope Limits at 90% power	-11%, +11% Refer to Attachment 3	3.10.2.6.1
Axial Flux Difference Envelope Increase for each 2% of rated power below 90% power	$\pm 1\%$ Refer to Attachment 3	3.10.2.6.1
Shutdown Bank Position for Criticality	≥ 225 Steps withdrawn (Indicated)	3.10.4.1
Control Bank Insertion Limits	Refer to Attachment 1	3.10.4.2

5.0 DEFINITIONS

- 5.1 **Core Operating Limits Report (COLR)** - the parts of this procedure which satisfy the requirements of T.S. 6.9.1.6 and T.S. 1.17 (i.e. Table 4.1, Attachment 1, and Attachment 2)

6.0 REFERENCES**6.1 Commitment Documents**

- 6.1.1 Technical Specification 6.9.1.6

6.2 Development Documents

- 6.2.1 NRC Generic Letter 88-16
- 6.2.2 Technical Specifications
- 6.2.3 Indian Point 3 Cycle 11 Reload Safety Evaluation, September 1999
- 6.2.4 Technical Specification 3.10.2.1
- 6.2.5 Technical Specification 1.17.
- 6.2.6 NRC Safety Evaluation Report for T.S. Amendment 103.

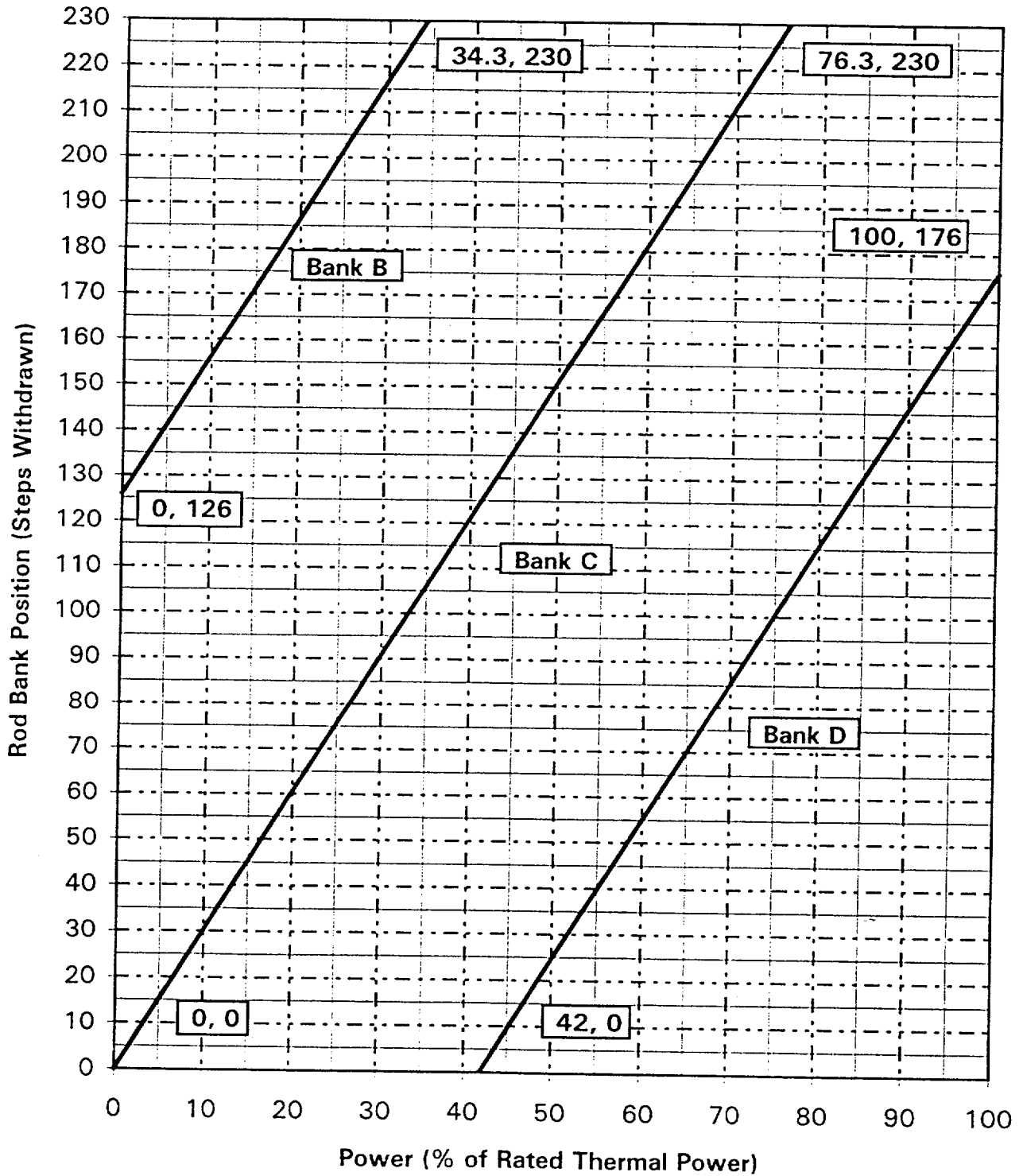
6.3 Interface Documents

None

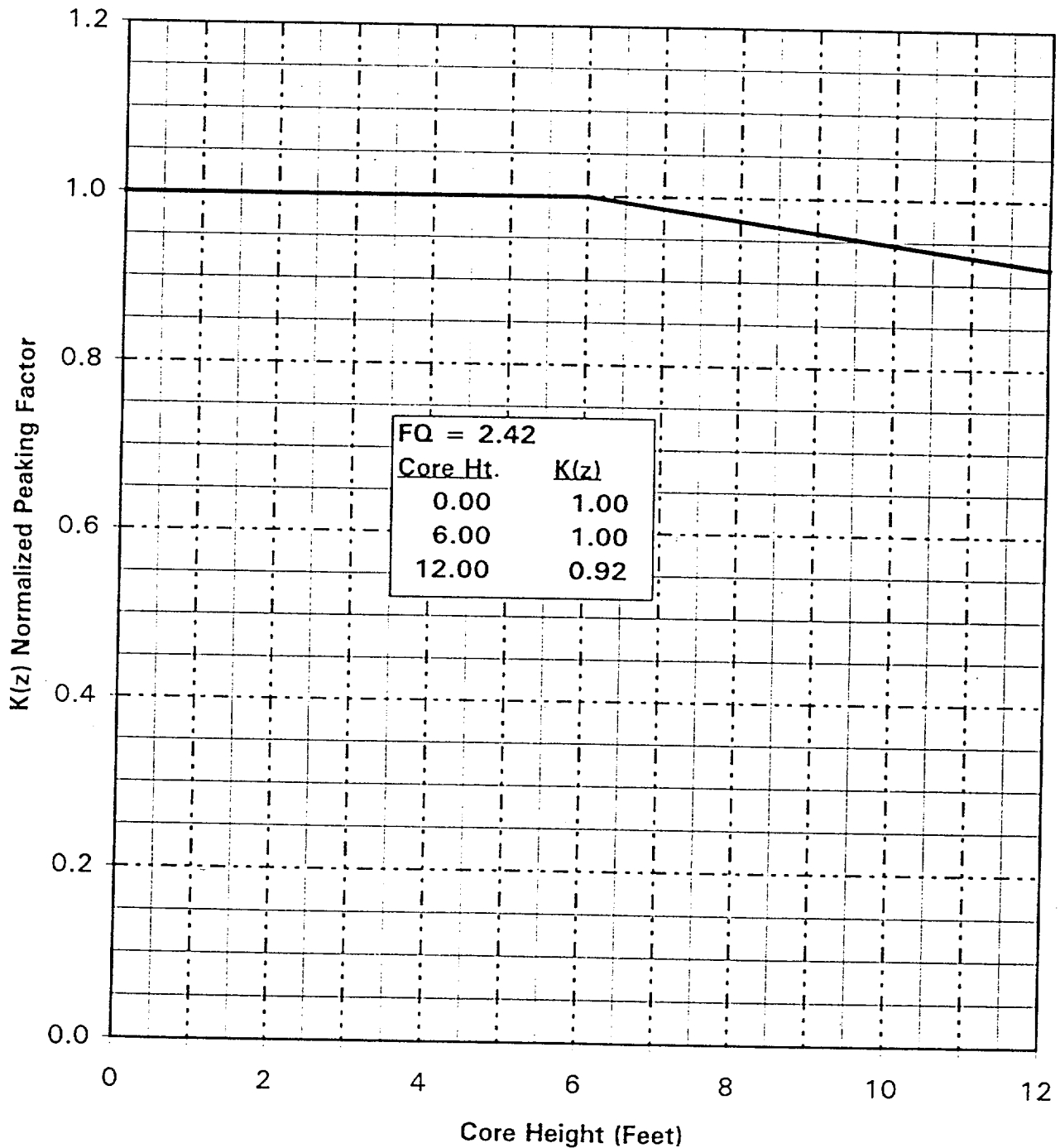
7.0 RECORDS AND DOCUMENTATION

None

Attachment 1
CONTROL ROD INSERTION LIMITS vs RATED THERMAL POWER
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Attachment 2
K(z) NORMALIZED $F_Q(z)$ AS A FUNCTION OF CORE HEIGHT
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Attachment 3
AXIAL FLUX DIFFERENCE ENVELOPE LIMITS
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