



Entergy Nuclear Northeast
Entergy Nuclear Operations, Inc
Indian Point Energy Center
295 Broadway, Suite 1
P O Box 249
Buchanan, NY 10511-0249

November 15, 2002

Re: Indian Point Unit No. 2
Docket No. 50-247
NL-02-143

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station O-P1-17
Washington, DC 20555-0001

Subject: Indian Point Unit 2 Cycle 16 Core Operating Limit Report (COLR)

Dear Sir:

In accordance with the Indian Point Unit 2 Technical Specification 6.9.1.11, enclosed is the IP2 COLR for Cycle 16.

There are no commitments contained in this letter.

Should you have any questions regarding this matter, please contact Mr. John McCann, Manager, Licensing, Indian Point Energy Center at (914) 734-5074.

Sincerely,

Fred Dacimo
Vice President - Operations
Indian Point 2

cc: Hubert J. Miller
Regional Administrator
US Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

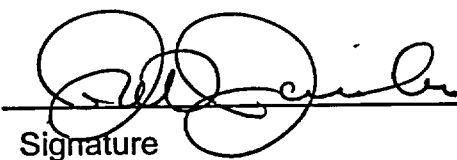
Mr. Patrick D. Milano, Senior Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
US Nuclear Regulatory Commission
Mail Stop O-8-2C
Washington, DC 20555

NRC Senior Resident Inspector
US Nuclear Regulatory Commission
PO Box 38
Buchanan, NY 10511

A001

CYCLE 16 CORE OPERATING LIMITS REPORT

Prepared by: Don Dewey Reviewer: MB Driscoll
Reviewer: R.J. Haisler Reviewer: _____
Reviewer: _____ Reviewer: _____

Approval:  11/16/12
Signature Date

Effective Date

BIENNIAL REVIEW

Reviewer / Date

Reviewer / Date

For use as field copy. Valid for 24 hours:

24 Hr Extension:

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_____ Qualified Operator	_____ Date / Time
_____ Control Room Supervisor	_____ Date / Time
_____ Control Room Supervisor	_____ Date / Time

REFERENCE USE

**Core Operating Limits Report
COLR**

Note

The Technical Specification references shown next to each Factor OR Limit in this COLR, are there to identify the corresponding sections in the Technical Specifications, that refer to the COLR

The data presented in this report applies to Cycle 16 ONLY and may NOT be used for other cycles of operation. Any technical change to this graph requires a Safety Evaluation to be performed.

NUCLEAR ENTHALPY RISE HOT CHANNEL FACTOR

Note

P is the fraction of full power at which the core is operating.

$$F_{\Delta H}^N \leq 1.70 \{ 1 + 0.3 (1 - P) \}$$

Tech. Spec.

3.10.2

HEIGHT DEPENDENT HEAT FLUX HOT CHANNEL FACTOR FOR ≤ 20% TUBE PLUGGING

Note

K(Z) is the fraction given in Figure 1 AND Z is the core height location of F_Q.

IF $P > .5, F_Q(Z) \leq (2.50 / P) \times K(Z)$

Tech. Spec.

3.10.2

IF $P \leq .5, F_Q(Z) \leq (5.00) \times K(Z)$

Tech. Spec.

3.10.2

AXIAL FLUX DIFFERENCE ENVELOPE LIMITS

The Indicated Axial Flux Difference limit is the Target Band; i.e., the Target \pm 5%

Tech. Spec. 3.10.2.6.1

The Axial Flux Difference Envelope Limits at 90 percent power are -11% , $+11\%$ AND increase by -1% and $+1\%$, for each 2% of rated power below 90% power, as indicated by graph RV-10, Unit 2 Target Flux Values

Tech. Spec. 3.10.2.6.1

INSERTION LIMITS

The Shutdown Banks shall be fully withdrawn when the reactor is critical OR approaching criticality.

Tech. Spec. 3.10.4

The Control Bank Insertion Limits for Criticality, are as indicated in Figure 2.

Tech. Spec. 3.10.4

Figure 1 HOT CHANNEL FACTOR NORMALIZED OPERATING ENVELOPE
(For S. G. Tube Plugging up to 20%)

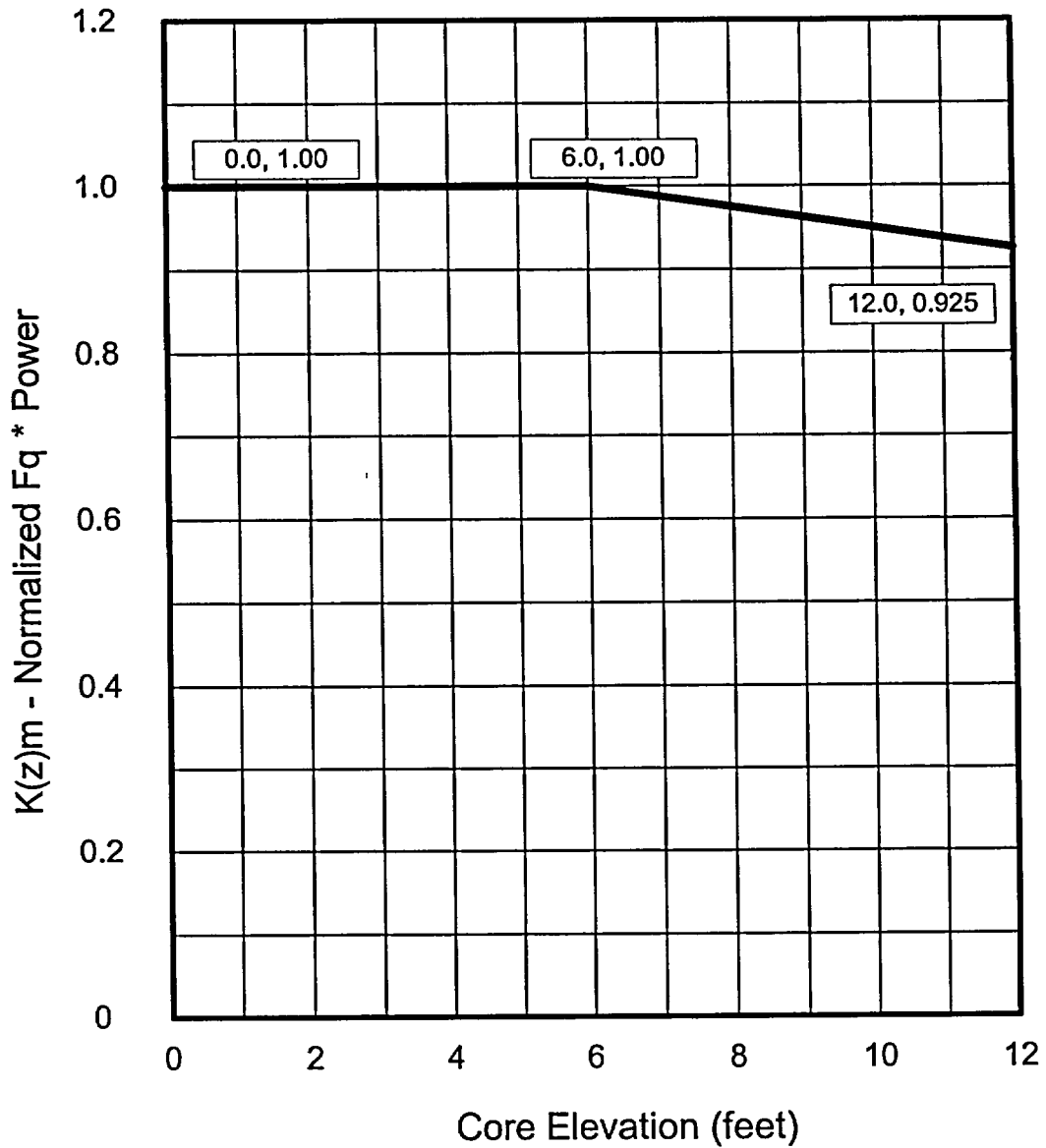


Figure 2 ROD BANK INSERTION LIMITS
(Four Loop Operation)
100 Step Overlap

