

PRIORITY 1

ACCELERATED RIDS PROCESSING

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9506090116 DOC. DATE: 95/06/01 NOTARIZED: NO DOCKET #
 FACIL: 50-281 Surry Power Station, Unit 2, Virginia Electric & Power 05000281
 AUTH. NAME AUTHOR AFFILIATION
 BOWLING, M.L. Virginia Power (Virginia Electric & Power Co.)
 RECIP. NAME RECIPIENT AFFILIATION

Document Control Branch (Document Control Desk)

SUBJECT: Forwards Rev 0 to "COLR Surry 2 Cycle 13 Pattern UG."

DISTRIBUTION CODE: A001D COPIES RECEIVED: LTTR 1 ENCL 1 SIZE: 146
 TITLE: OR Submittal: General Distribution

NOTES:

05000281

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD2-1 LA	1 1	PD2-1 PD	1 1
	BUCKLEY, B	1 1		
INTERNAL:	ACRS	6 6	<u>FILE CENTER</u> 01	1 1
	NRR/DE/EMCB	1 1	NRR/DRCH/HICB	1 1
	NRR/DSSA/SPLB	1 1	NRR/DSSA/SRXB	1 1
	NUDOCS-ABSTRACT	1 1	OGC/HDS2	1 0
EXTERNAL:	NOAC	1 1	NRC PDR	1 1
NOTES:		1 1		

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL
 DESK, ROOM P1-37 (EXT. 504-2083) TO ELIMINATE YOUR NAME FROM
 DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 19 ENCL 18

MA4

P
R
I
O
R
I
T
Y

1

D
O
C
U
M
E
N
T

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

June 1, 1995

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Serial No. 95-273
NA&F/RTR-CGL R0
Docket Nos. 50-281
License Nos. DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNIT 2
CYCLE 13 CORE OPERATING LIMITS REPORT

As required by Technical Specification 6.2.C, attached is a copy of the Core Operating Limits Report (COLR) for Surry Unit 2 Cycle 13 Pattern UG. The COLR contains limits for the Moderator Temperature Coefficient, Control Bank Insertion, and Power Distribution Limits (i.e., Heat Flux Hot Channel Factor and Nuclear Enthalpy Rise Hot Channel Factor).

If you have questions or require additional information, please contact us.

Very truly yours,



M. L. Bowling, Manager
Nuclear Licensing & Programs

cc: U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N. W.
Suite 2900
Atlanta, Georgia 30323

Mr. M. W. Branch
NRC Senior Resident Inspector
Surry Power Station

9506090116 950601
PDR ADDCK 05000281
P PDR

ADD 1

CORE OPERATING LIMITS REPORT
SURRY 2 CYCLE 13 PATTERN UG
Revision 0

February, 1995

1.0 CORE OPERATING LIMITS REPORT

This Core Operating Limits Report (COLR) for Surry Unit 2 Cycle 13 has been prepared in accordance with the requirements of Technical Specification (TS) 6.2.C.

The Technical Specifications affected by this report are:

- TS 3.1.E and TS 5.3.A.6.b - Moderator Temperature Coefficient
- TS 3.12.A.2 and TS 3.12.A.3 - Control Bank Insertion Limits
- TS 3.12.B.1 and TS 3.12.B.2 - Power Distribution Limits

2.0 OPERATING LIMITS

The cycle-specific parameter limits for the specifications listed in section 1.0 are presented in the following subsections. These limits have been developed using the NRC-approved methodologies specified in Technical Specification 6.2.C.

2.1 Moderator Temperature Coefficient (TS 3.1.E and TS 5.3.A.6.b)

2.1.1 The Moderator Temperature Coefficient (MTC) limits are:

+3.0 pcm/°F at less than 50 percent of RATED POWER, or

+3.0 pcm/°F at 50% of Rated Power and linearly decreasing to 0 pcm/°F at Rated Power

2.2 Control Bank Insertion Limits (TS 3.12.A.2)

2.2.1 The control rod banks shall be limited in physical insertion as shown in Figure 1.

2.3 Heat Flux Hot Channel Factor-FQ(Z) (TS 3.12.B.1)

$$FQ(Z) \leq \frac{CFQ}{P} * K(Z) \text{ FOR } P > 0.5$$

$$FQ(Z) \leq \frac{CFQ}{0.5} * K(Z) \text{ for } P \leq 0.5$$

$$\text{where: } P = \frac{\text{THERMAL POWER}}{\text{RATED POWER}}$$

2.3.1 CFQ = 2.32

2.3.2 K(Z) is provided in Figure 2.

2.4 Nuclear Enthalpy Rise Hot Channel Factor - $F_{\Delta H}(N)$ (TS 3.12.B.1)

$$F_{\Delta H}(N) \leq CFDH * (1 + PFDH * (1 - P))$$

where: $P = \frac{\text{THERMAL POWER}}{\text{RATED POWER}}$

2.4.1 $CFDH = 1.56$

2.4.2 $PFDH = 0.3$

FIGURE 1
CONTROL BANK INSERTION LIMITS

FULLY WITHDRAWN = 227 Steps

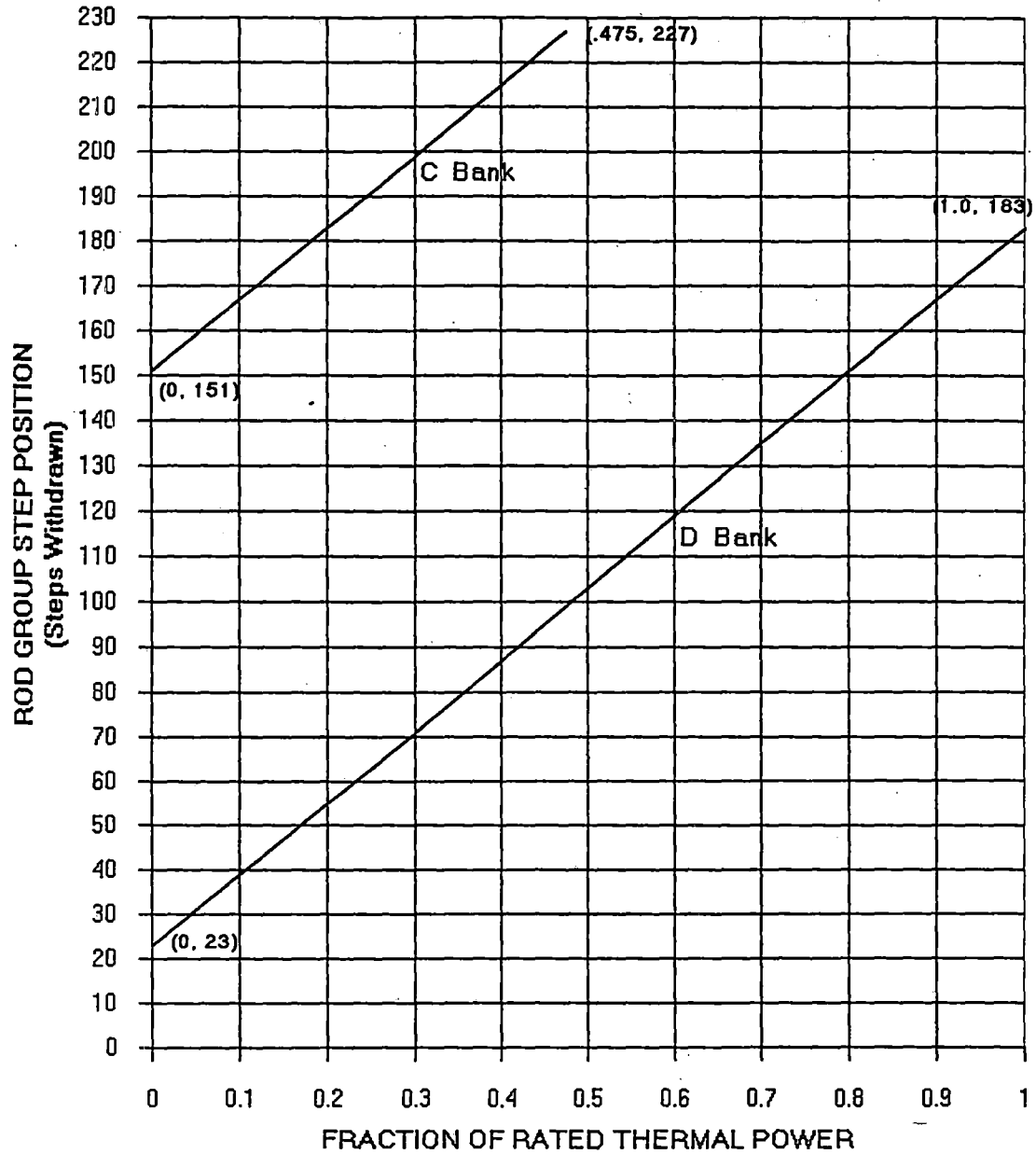


FIGURE 2
K(Z) - NORMALIZED FQ AS A FUNCTION OF CORE HEIGHT

