

**VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261**

October 30, 2000

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Serial No.: 00-581
NLOS/MM
Docket No.: 50-281
License No.: DPR-37

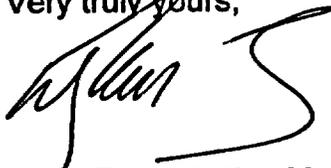
Gentlemen:

**VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNIT 2
CYCLE 17 CORE OPERATING LIMITS REPORT**

Pursuant to Surry Technical Specification 6.2.C, attached is a copy of the Virginia Electric and Power Company's Core Operating Limits Report for Surry Unit 2, Cycle 17 Pattern UP, Revision 0.

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

Very truly yours,



W. F. Renz, Acting Manager
Nuclear Licensing and Operations Support

Attachment

Commitment Summary: There are no new commitments as a result of this letter.

cc: U. S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303-8931

Mr. R. A. Musser
NRC Senior Resident Inspector
Surry Power Station

A001

CORE OPERATING LIMITS REPORT
Surry 2 Cycle 17 Pattern UP
Revision 0

August 2000

1.0 INTRODUCTION

This Core Operating Limits Report (COLR) for Surry Unit 2 Cycle 17 has been prepared in accordance with the requirements of Technical Specification 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:

+6.0 pcm/°F at less than 50 percent of RATED POWER, or

+6.0 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 A-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 $CFQ = 2.20$

2.3.2 $K(z)$ is provided in Figure A-2.

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

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

$$\text{where : } P = \frac{\text{Thermal Power}}{\text{Rated Power}}$$

2.4.1 $CFDH = 1.56$ for Surry Improved Fuel (SIF)

2.4.2 $PFDH = 0.3$

Figure A-1

S2C17 ROD GROUP INSERTION LIMITS

Fully w/d position = 228 steps

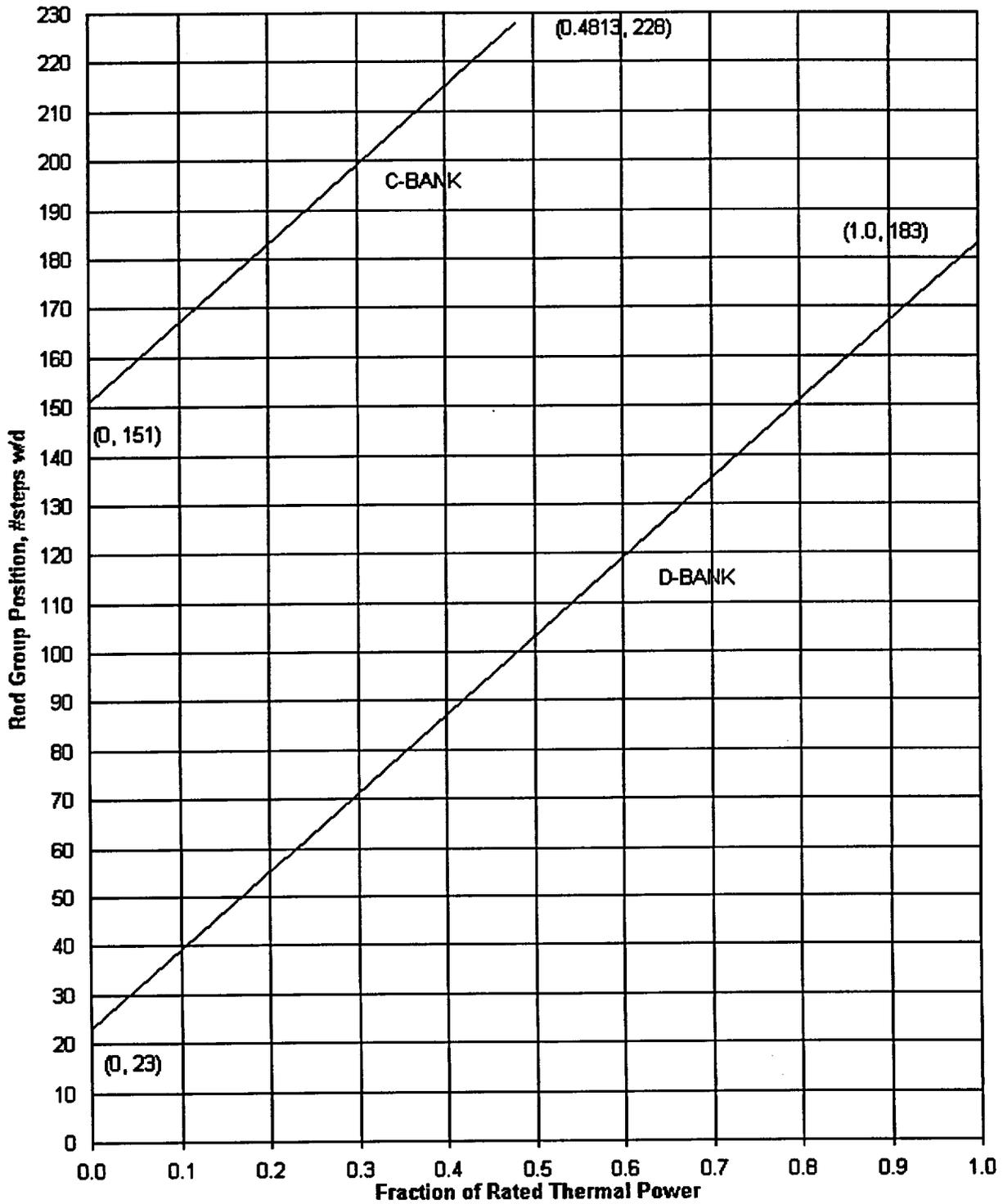


Figure A-2

