DUKE POWER COMPANY

OCONEE 3 CYCLE 16

CORE OPERATING LIMITS REPORT

REVISION 0

QA CONDITION 1

REFERENCE OSC-5839

Prepared by: Jay D. Foster Date: 19MAY95

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Approved by: R. R. St. Clair Date: 19 MAY 95

Oconee Nuclear Station

Unit 3 Cycle 16

Core Operating Limits Report

Insertion Sheet for Revision 4

This revision is not valid until the end of operation for Unit 3 Cycle 15.

Remove these Revision 3 pages	**Insert these Revision 4 pages**
1-33	1-38

Oconee Nuclear Station

Unit 3 Cycle 16

Core Operating Limits Report

Revision Log

Revision	Effective Date	Pages Revised	Pages Added	Pages Deleted	Total Effective Pages
4	May, 1995	1-33	34-38	-	38

Oconee 3 Cycle 15 Revisions Below					
3	March 9, 1995	1-3,12, 19, 22-25	-	-	33
2	January 30, 1995	1-3, 12, 19, 22-25	-	-	33
1		1-3, 25, 33	-	-	33
0		-	1-33	-	33

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1.0 ERROR-ADJUSTED CORE OPERATING LIMITS

This Core Operating Limits Report for O3C16 has been prepared in accordance with the requirements of Technical Specification 6.9. The core operating limits within this report have been developed using NRC-approved methodology (References 1, 2, 3, and 4). The RPS protective limits and maximum allowable setpoints are documented in References 6 and 7, and validated in References 5 and 8 for O3C16. Operational limits and requirements are documented in Reference 5. The reactor coolant system design flow used in References 5 and 8 for O3C16 is 107.5 % (of 88,000 gpm per pump). The core operating limits have been developed with a radial local peaking factor ($F^N_{\Delta H}$) of 1.714 and an axial peaking factor (F^N_Z) of 1.5.

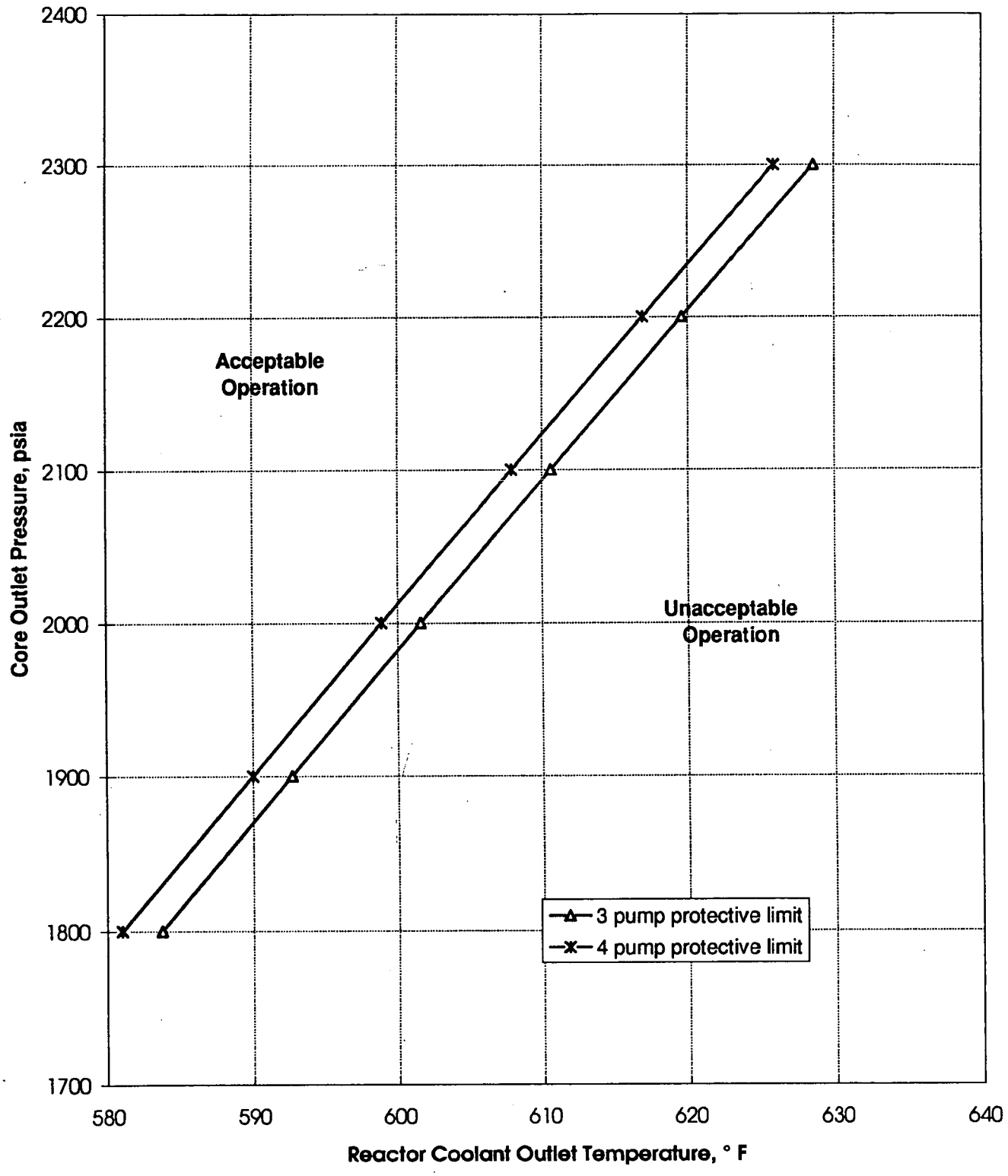
The error-adjusted core operating limits (i.e., setpoints) have been determined for O3C16, with all necessary uncertainties and margins applied. The calculations that support these setpoints are documented in Reference 5. The following cycle specific error-adjusted setpoints are included in this report:

1) RPS protective limits (Figures 1.1 and 2.1), and RPS maximum allowable setpoints (Figures 1.2 and 1.3),
2) Steady state operating band,
3) BWST, SFP, CBAST, and CFT boron requirements,
4) Quadrant power tilt operational setpoints,
5) RPS power-imbalance trip setpoints,
6) Power-imbalance operational setpoints and,
7) Rod index operational alarm and shutdown margin-restricted setpoints.

1.1 REFERENCES

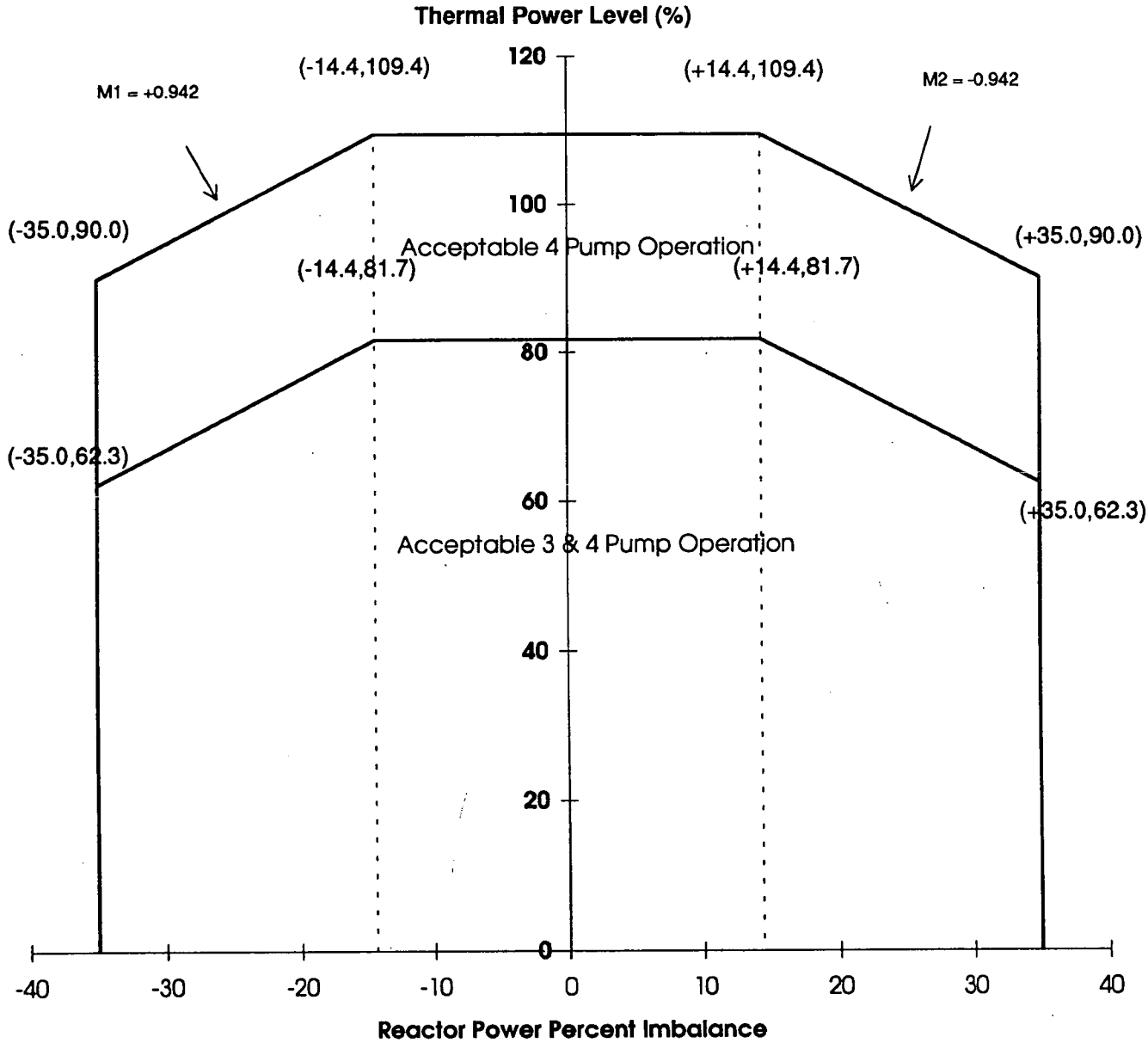
1) DPCo, Nuclear Design Methodology Using CASMO-3 / SIMULATE-3P, DPC-NE-1004A, November 1992.
2) DPCo, Oconee Nuclear Station, Reload Design Methodology II, DPC-NE-1002A, October 1985.
3) DPCo, Oconee Nuclear Station, Reload Design Methodology, NFS-1001A, April 1984.
4) DPC-NE-2003A, Oconee Nuclear Station Core Thermal Hydraulic Methodology Using VIPRE-01, July 1989.
5) O3C16 Maneuvering Analysis, DPCo calculational file, OSC-5839, Rev. 1, May 1995.
6) Variable Low Pressure Safety Limit, DPCo calculational file, OSC-4048, Revision 0, July 1990.
7) Power-Imbalance Safety Limits and Tech. Spec. Setpoints Using Error-Adjusted Flux-Flow Ratio of 1.094, DPCo calculational file, OSC-5604, Revision 0, November 1993.
8) O3C16 Thermal-Hydraulic Evaluation, DPCo calculational file, OSC-5848, Revision 0, August 1994.

Figure 1.1. Variable Low RCS Pressure RPS Protective Limits



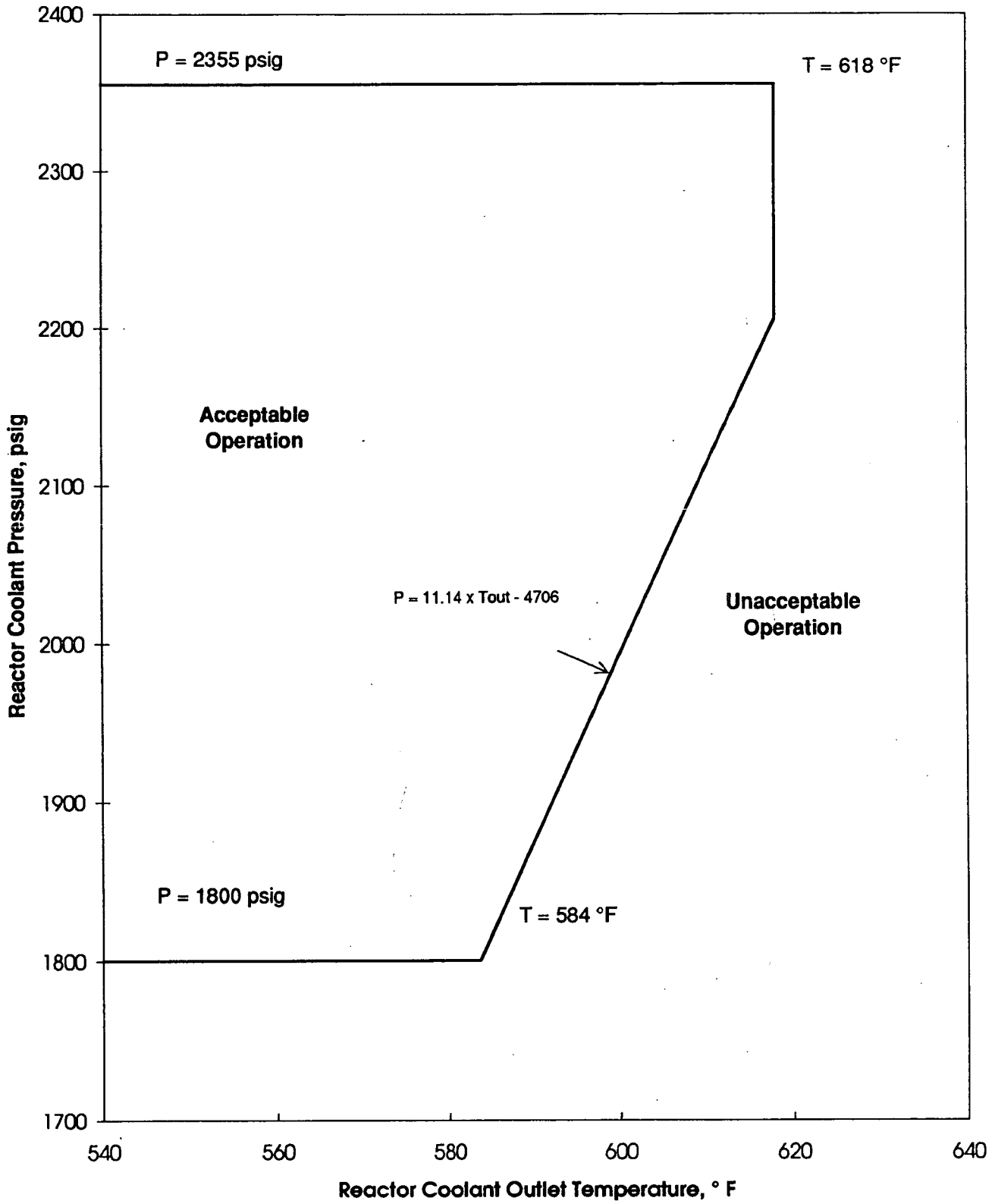
Referred to by Tech Spec 2.1

Figure 1.2, Axial Power Imbalance RPS
Maximum Allowable Setpoints



Referred to by Tech Spec 2.3

Figure 1.3. Variable Low RCS Pressure RPS Maximum Allowable Setpoints



Referred to by Tech Spec 2.3

Oconee 3 Cycle 16

STEADY STATE OPERATING BAND

	Rod Index		APSR % withdrawn	
	Min	Max	Min	Max
0 to 425 EFPD	292	300	30	40
425 to 445 EFPD	292	300	100	100

Oconee 3 Cycle 16

BWST, SFP, CBAST, and CFT BORON REQUIREMENTS

0 EFPD to EOC

1) The BWST boron concentration shall be greater than 2210 ppm and less than 3000 ppm (referred to by Tech Spec 3.3.4).

2) The Spent Fuel Pool boron concentration shall be greater than 2210 ppm and less than 3000 ppm (referred to by Tech Spec 3.8.15).

3) The equivalent of at least 1100 cubic feet of 11,000 ppm boron shall be maintained in the CBAST (referred to by Tech Spec 3.2.2).

4) The boron concentration in each CFT shall be greater than 1835 ppm (referred to by Tech Spec 3.3.3).

5) The refueling canal boron concentration shall be greater than 2210 ppm (referred to by the bases to Tech Spec 3.8.4). This concentration is large enough to maintain 1% $\Delta k/k$ shutdown margin with all control rods out of the core at temperatures down to 33 deg F, and with no credit for xenon worth. There is no upper limit on the refueling canal boron concentration.

Note that in the event that the refueling boron should fall below 2210 ppm, the criticality calculations would need to be re-evaluated.

Oconee 3 Cycle 16

ERROR-ADJUSTED QUADRANT POWER TILT OPERATIONAL SETPOINTS

	CONDITION 1 (STEADY STATE)		CONDITION 2 (TRANSIENT)		CONDITION 3 (MAXIMUM)
	30 - 100 % FP	0 - 30 % FP	30 - 100 % FP	0 - 30 % FP	0 - 100 % FP
Full Incore Alarm *	3.50	7.75	7.25	9.53	16.69
Outcore Alarm	2.23	6.09	5.63	7.72	14.22
Backup Incore	2.14	3.94	3.64	5.03	9.58

* BASED UPON q (fraction of incore detector initial charge consumed) = 0.51
(See Reference 1 for more details on this calculation).

Note that the above limits will be used in the following order of priority:

1) Full Incore
2) Outcore
3) Backup Incore

The backup incore limits will be used in the event that the Operator Aid Computer is out of service. For normal operation with a working Operator Aid Computer, the full incore limits will be used as long as sufficient incore detector strings are operational. In the event that sufficient incore strings are not operational, the outcore limits will be used.

The Steady State, Transient, and Maximum Limits tabulated above define quadrant tilt ranges that impose different restrictions on power operation, and time intervals within which specific action may be required. In brief, Condition 1 applies to all power operation above 15% power excluding physics testing. For Conditions 2 and 3, steps are taken to reduce the tilt to within Condition 1 limits or a power reduction is required. If tilt is in excess of Condition 3 limits, reactor shutdown is required. Refer to the Technical Specification Sections listed below for more detailed information.

Referred to by Tech. Spec.
3.5.2.4.a
3.5.2.4.b
3.5.2.4.d
3.5.2.4.e
3.5.2.4.f

Oconee 3 Cycle 16

ERROR ADJUSTED RPS POWER-IMBALANCE TRIP SETPOINTS

	POWER % OF 2568MW	IMBALANCE SETPOINT
4 PUMP	0.0	-33.00
	90.4	-33.00
	107.9	-14.40
	107.9	14.40
	90.4	33.00
	0.0	33.00
3 PUMP	0.00	-33.00
	63.1	-33.00
	80.6	-14.40
	80.6	14.40
	63.1	33.00
	0.00	33.00

Oconee 3 Cycle 16

ERROR ADJUSTED POWER-IMBALANCE OPERATIONAL SETPOINTS

0 EFPD to EOC

	POWER % OF 2568 MW	P-I OPERATIONAL LIMIT	FULL INCORE ALARM SETPOINT	BACKUP INCORE SETPOINT	OUTCORE ALARM SETPOINT
4 PUMP	0	-50.86	-31.50	-31.50	-31.50
	80	-50.86	-31.50	-31.50	-31.50
	90	-48.36	-29.70	-29.70	-29.70
	102	-36.40	-17.00	-17.00	-17.00
	102	+26.96	+17.00	+16.03	+16.49
	90	+34.24	+29.70	+22.56	+23.13
	80	+47.20	+31.50	+31.50	+31.50
	0	+47.20	+31.50	+31.50	+31.50
3 PUMP	0.0	-50.86	-31.5	-31.5	-31.5
	63.3	-50.86	-31.5	-31.5	-31.5
	77.0	-50.86	-17.0	-17.0	-17.0
	77.0	+47.20	+17.0	+17.0	+17.0
	63.3	+47.20	+31.5	+31.5	+31.5
	0.0	+47.20	+31.5	+31.5	+31.5

Oconee 3 Cycle 16

ERROR ADJUSTED ROD INDEX OPERATIONAL ALARM SETPOINTS

0 EFPD to EOC

	POWER % OF 2568 MW	RI, %WD		
		MIN		MAX
		0 INOP ROD	1 INOP ROD	
4 PUMP	102	261.5	264.2	300.0
	88	261.5	261.5	300.0
	78	241.5	246.5	300.0
	48	201.5	201.5	300.0
	13	91.5	116.5	300.0
	3.0	-	51.5	300.0
	2.8	0.0	-	300.0
	0.0	0.0	32.0	300.0
3 PUMP	77	240.5	267.1	300.0
	75	237.5	261.5	300.0
	48	201.5	201.5	300.0
	13	91.5	116.5	300.0
	3.0	-	51.5	300.0
	2.8	0.0	-	300.0
	0.0	0.0	32.0	300.0

Oconee 3 Cycle 16

ERROR ADJUSTED ROD INDEX SHUTDOWN MARGIN SETPOINTS

0 EFPD to EOC

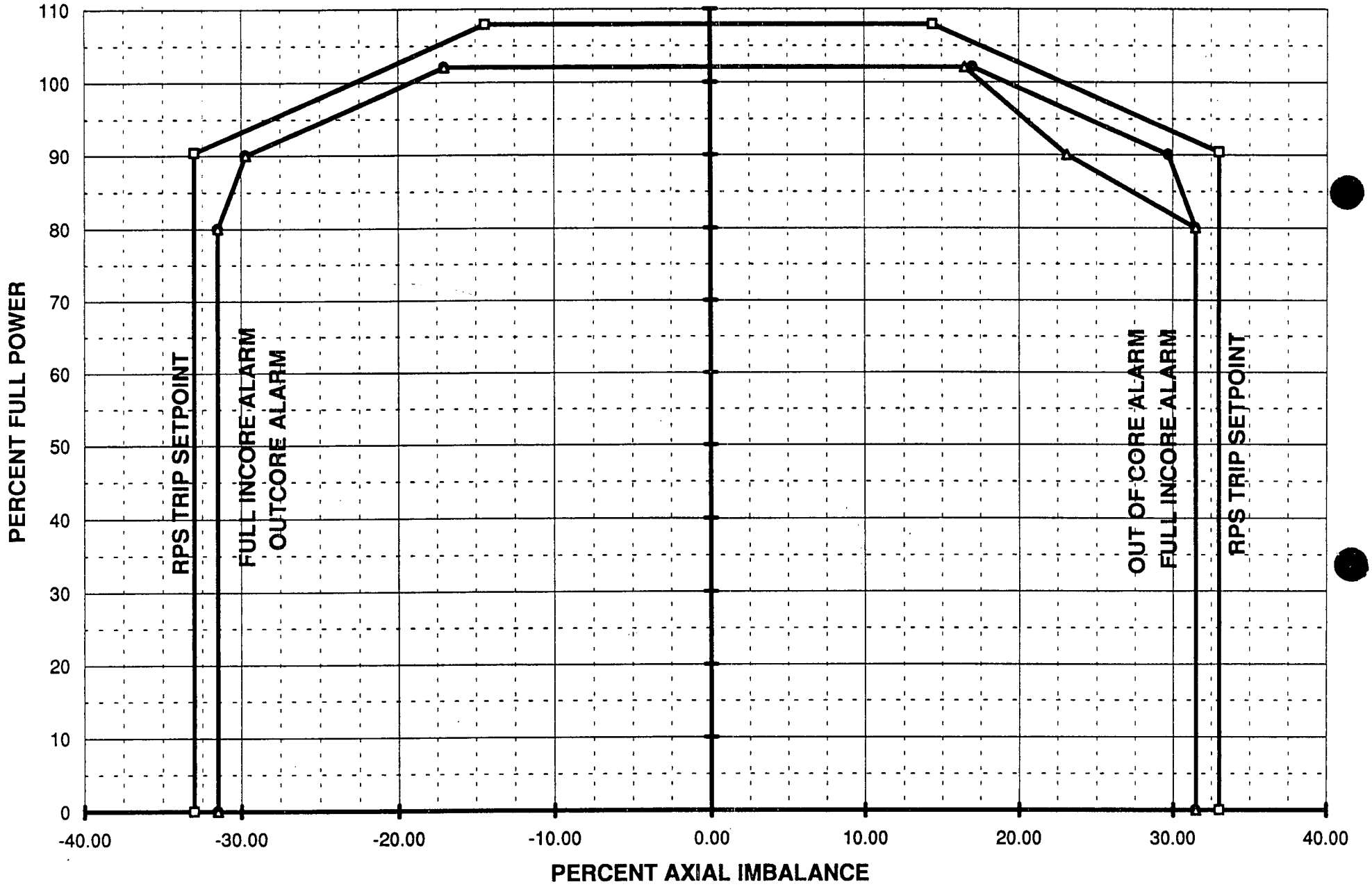
	POWER % OF 2568 MW	RI, %WD		
		MIN		MAX
		0 INOP ROD	1 INOP ROD	
4 PUMP	102	223.8	264.2	300.0
	100	221.5	261.4	300.0
	48	161.5	186.5	300.0
	13	91.5	116.5	300.0
	3.0	-	51.5	300.0
	2.8	0.0	-	300.0
	0.0	0.0	32.0	300.0
3 PUMP	77	215.5	267.1	300.0
	75	211.5	261.5	300.0
	48	161.5	186.5	300.0
	13	91.5	116.5	300.0
	3.0	-	51.5	300.0
	2.8	0.0	-	300.0
	0.0	0.0	32.0	300.0

OCONEE 3 CYCLE 16 IMBALANCE SETPOINTS

4 PUMP OPERATION BOC TO EOC

PERCENT OF FULL POWER	RPS TRIP		FULL INCORE ALARM		OUTCORE ALARM	
107.9	-14.40	14.40				
107	-15.36	15.36				
106	-16.42	16.42				
105	-17.48	17.48				
104	-18.55	18.55				
103	-19.61	19.61				
102	-20.67	20.67	-17.00	17.00	-17.00	16.49
101	-21.73	21.73	-18.06	18.06	-18.06	17.04
100	-22.80	22.80	-19.12	19.12	-19.12	17.60
99	-23.86	23.86	-20.18	20.18	-20.18	18.15
98	-24.92	24.92	-21.23	21.23	-21.23	18.70
97	-25.99	25.99	-22.29	22.29	-22.29	19.26
96	-27.05	27.05	-23.35	23.35	-23.35	19.81
95	-28.11	28.11	-24.41	24.41	-24.41	20.36
94	-29.17	29.17	-25.47	25.47	-25.47	20.92
93	-30.24	30.24	-26.53	26.53	-26.53	21.47
92	-31.30	31.30	-27.58	27.58	-27.58	22.02
91	-32.36	32.36	-28.64	28.64	-28.64	22.58
90.4	-33.00	33.00	-29.28	29.28	-29.28	22.91
90.0	-33.00	33.00	-29.70	29.70	-29.70	23.13
89	-33.00	33.00	-29.88	29.88	-29.88	23.97
88	-33.00	33.00	-30.06	30.06	-30.06	24.80
87	-33.00	33.00	-30.24	30.24	-30.24	25.64
86	-33.00	33.00	-30.42	30.42	-30.42	26.48
85	-33.00	33.00	-30.60	30.60	-30.60	27.32
84	-33.00	33.00	-30.78	30.78	-30.78	28.15
83	-33.00	33.00	-30.96	30.96	-30.96	28.99
82	-33.00	33.00	-31.14	31.14	-31.14	29.83
81	-33.00	33.00	-31.32	31.32	-31.32	30.66
80	-33.00	33.00	-31.50	31.50	-31.50	31.50
79	-33.00	33.00	-31.50	31.50	-31.50	31.50
78	-33.00	33.00	-31.50	31.50	-31.50	31.50
77	-33.00	33.00	-31.50	31.50	-31.50	31.50
76	-33.00	33.00	-31.50	31.50	-31.50	31.50
75	-33.00	33.00	-31.50	31.50	-31.50	31.50
0	-33.00	33.00	-31.50	31.50	-31.50	31.50
PERCENT OF FULL POWER	RPS TRIP		FULL INCORE ALARM		OUTCORE ALARM	

OCONEE 3 CYCLE 16 IMBALANCE SETPOINTS
4 PUMP OPERATION -- BOC TO EOC

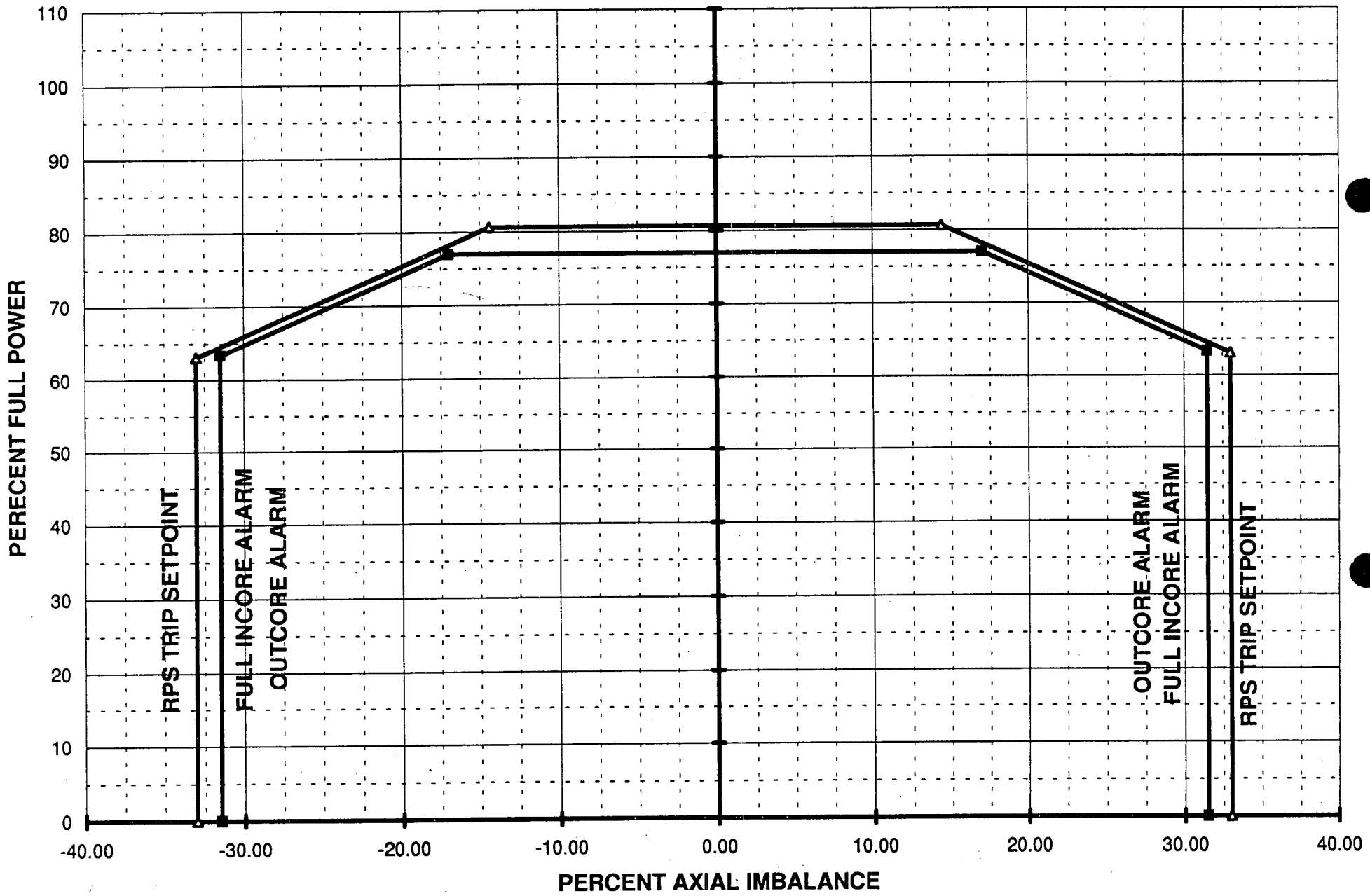


OCONEE 3 CYCLE 16 IMBALANCE SETPOINTS

3 PUMP OPERATION BOC TO EOC

PERCENT OF FULL POWER	RPS TRIP		FULL INCORE ALARM		OUTCORE ALARM	
80.6	-14.40	14.40				
80	-15.04	15.04				
79	-16.10	16.10				
78	-17.16	17.16				
77.0	-18.23	18.23	-17.00	17.00	-17.00	17.00
76	-19.29	19.29	-18.06	18.06	-18.06	18.06
75	-20.35	20.35	-19.12	19.12	-19.12	19.12
74	-21.41	21.41	-20.18	20.18	-20.18	20.18
73	-22.48	22.48	-21.23	21.23	-21.23	21.23
72	-23.54	23.54	-22.29	22.29	-22.29	22.29
71	-24.60	24.60	-23.35	23.35	-23.35	23.35
70	-25.67	25.67	-24.41	24.41	-24.41	24.41
69	-26.73	26.73	-25.47	25.47	-25.47	25.47
68	-27.79	27.79	-26.53	26.53	-26.53	26.53
67	-28.85	28.85	-27.58	27.58	-27.58	27.58
66	-29.92	29.92	-28.64	28.64	-28.64	28.64
65	-30.98	30.98	-29.70	29.70	-29.70	29.70
64	-32.04	32.04	-30.76	30.76	-30.76	30.76
63.3	-32.79	32.79	-31.50	31.50	-31.50	31.50
63.1	-33.00	33.00	-31.50	31.50	-31.50	31.50
63	-33.00	33.00	-31.50	31.50	-31.50	31.50
62	-33.00	33.00	-31.50	31.50	-31.50	31.50
61	-33.00	33.00	-31.50	31.50	-31.50	31.50
60	-33.00	33.00	-31.50	31.50	-31.50	31.50
0	-33.00	33.00	-31.50	31.50	-31.50	31.50
PERCENT OF FULL POWER	RPS TRIP		FULL INCORE ALARM		OUTCORE ALARM	

OCONEE 3 CYCLE 16 IMBALANCE SETPOINTS
3 PUMP OPERATION -- BOC TO EOC



OCONEE 3 CYCLE 16 ERROR ADJUSTED ROD INDEX SETPOINTS

4 PUMP OPERATION BOC TO EOC
RI = 300 IS WITHDRAWAL LIMIT AT ALL POWER LEVELS
0 INOPERABLE CONTROL RODS

PERCENT OF	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		
FULL POWER	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
102	100	99.4	24.4	100	100	61.5
101	100	98.8	23.8	100	100	61.5
100	100	98.2	23.2	100	100	61.5
99	100	97.7	22.7	100	100	61.5
98	100	97.1	22.1	100	100	61.5
97	100	96.5	21.5	100	100	61.5
96	100	95.9	20.9	100	100	61.5
95	100	95.4	20.4	100	100	61.5
94	100	94.8	19.8	100	100	61.5
93	100	94.2	19.2	100	100	61.5
92	100	93.6	18.6	100	100	61.5
91	100	93.1	18.1	100	100	61.5
90	100	92.5	17.5	100	100	61.5
89	100	91.9	16.9	100	100	61.5
88	100	91.3	16.3	100	100	61.5
87	100	90.8	15.8	100	100	59.5
86	100	90.2	15.2	100	100	57.5
85	100	89.6	14.6	100	100	55.5
84	100	89	14	100	100	53.5
83	100	88.4	13.4	100	100	51.5
82	100	87.9	12.9	100	100	49.5
81	100	87.3	12.3	100	100	47.5
80	100	86.7	11.7	100	100	45.5
79	100	86.1	11.1	100	100	43.5
78	100	85.6	10.6	100	100	41.5
77	100	85	10	100	100	40.2
76	100	84.4	9.4	100	100	38.8
75	100	83.8	8.8	100	100	37.5
74	100	83.2	8.2	100	100	36.2
73	100	82.7	7.7	100	100	34.8
72	100	82.1	7.1	100	100	33.5
71	100	81.5	6.5	100	100	32.2
70	100	80.9	5.9	100	100	30.8
69	100	80.4	5.4	100	100	29.5
68	100	79.8	4.8	100	100	28.2
67	100	79.2	4.2	100	100	26.8
66	100	78.6	3.6	100	100	25.5
65.6	100	78.4	3.4	100	100	25
65	100	78.1	3.1	100	99.6	24.6
64	100	77.5	2.5	100	98.9	23.9
63	100	76.9	1.9	100	98.2	23.2
62	100	76.3	1.3	100	97.6	22.6
61	100	75.8	0.8	100	96.9	21.9
60	100	75.2	0.2	100	96.2	21.2
59.7	100	75	0	100	96.1	21.1
59	100	74.2	0	100	95.6	20.6
58	100	73	0	100	94.9	19.9
57	100	71.9	0	100	94.2	19.2
56	100	70.7	0	100	93.6	18.6
55	100	69.6	0	100	92.9	17.9
54	100	68.4	0	100	92.2	17.2
53	100	67.3	0	100	91.6	16.6
52	100	66.1	0	100	90.9	15.9
51	100	65	0	100	90.2	15.2
50	100	63.8	0	100	89.6	14.6
PERCENT OF	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
FULL POWER	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		

(continued)

OCONEE 3 CYCLE 16 ERROR ADJUSTED ROD INDEX SETPOINTS

4 PUMP OPERATION BOC TO EOC
RI = 300 IS WITHDRAWAL LIMIT AT ALL POWER LEVELS
0 INOPERABLE RODS

PERCENT OF FULL POWER	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		
	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
49	100.0	62.7	0.0	100.0	88.9	13.9
48	**100.0**	**61.5**	**0.0**	**100.0**	**88.2**	**13.2**
47	100.0	59.5	0.0	100.0	86.7	11.7
46	100.0	57.5	0.0	100.0	85.1	10.1
45	100.0	55.5	0.0	100.0	83.5	8.5
44	100.0	53.5	0.0	100.0	82.0	7.0
43	100.0	51.5	0.0	100.0	80.4	5.4
42	100.0	49.5	0.0	100.0	78.8	3.8
41	100.0	47.5	0.0	100.0	77.2	2.2
40	100.0	45.5	0.0	100.0	75.7	0.7
39.6	100.0	44.6	0.0	**100.0**	**75.0**	**0.0**
39	100.0	43.5	0.0	100.0	73.2	0.0
38	100.0	41.5	0.0	100.0	70.1	0.0
37	100.0	39.5	0.0	100.0	66.9	0.0
36	100.0	37.5	0.0	100.0	63.8	0.0
35	100.0	35.5	0.0	100.0	60.6	0.0
34	100.0	33.5	0.0	100.0	57.5	0.0
33	100.0	31.5	0.0	100.0	54.4	0.0
32	100.0	29.5	0.0	100.0	51.2	0.0
31	100.0	27.5	0.0	100.0	48.1	0.0
30	100.0	25.5	0.0	100.0	44.9	0.0
29.8	**100.0**	**25.0**	**0.0**	100.0	44.1	0.0
29	99.2	24.2	0.0	100.0	41.8	0.0
28	98.2	23.2	0.0	100.0	38.6	0.0
27	97.2	22.2	0.0	100.0	35.5	0.0
26	96.2	21.2	0.0	100.0	32.4	0.0
25	95.2	20.2	0.0	100.0	29.2	0.0
24	94.2	19.2	0.0	100.0	26.1	0.0
23.7	93.9	18.9	0.0	**100.0**	**25.0**	**0.0**
23	93.2	18.2	0.0	99.0	24.0	0.0
22	92.2	17.2	0.0	97.4	22.4	0.0
21	91.2	16.2	0.0	95.8	20.8	0.0
20	90.2	15.2	0.0	94.2	19.2	0.0
19	89.2	14.2	0.0	92.7	17.7	0.0
18	88.2	13.2	0.0	91.1	16.1	0.0
17	87.2	12.2	0.0	89.5	14.5	0.0
16	86.2	11.2	0.0	88.0	13.0	0.0
15	85.2	10.2	0.0	86.4	11.4	0.0
14	84.2	9.2	0.0	84.8	9.8	0.0
13	**83.2**	**8.2**	**0.0**	**83.2**	**8.2**	**0.0**
12	78.8	3.8	0.0	78.8	3.8	0.0
11.2	**75.0**	**0.0**	**0.0**	**75.0**	**0.0**	**0.0**
11	73.6	0.0	0.0	73.6	0.0	0.0
10	64.6	0.0	0.0	64.6	0.0	0.0
9	55.6	0.0	0.0	55.6	0.0	0.0
8	46.6	0.0	0.0	46.6	0.0	0.0
7	37.7	0.0	0.0	37.7	0.0	0.0
6	28.7	0.0	0.0	28.7	0.0	0.0
5	19.7	0.0	0.0	19.7	0.0	0.0
4	10.8	0.0	0.0	10.8	0.0	0.0
3	1.8	0.0	0.0	1.8	0.0	0.0
2.8	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
2	0.0	0.0	0.0	0.0	0.0	0.0
1	0.0	0.0	0.0	0.0	0.0	0.0
0	0.0	0.0	0.0	0.0	0.0	0.0
PERCENT OF FULL POWER	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		

OCONEE 3 CYCLE 16 ERROR ADJUSTED ROD INDEX SETPOINTS

3 PUMP OPERATION BOC TO EOC
RI = 300 IS WITHDRAWAL LIMIT AT ALL POWER LEVELS
0 INOPERABLE CONTROL RODS

PERCENT OF	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		
FULL POWER	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
77	**100.0**	**95.2**	**20.2**	**100.0**	**100.0**	**40.5**
76	100.0	94.2	19.2	100.0	100.0	39.0
75	**100.0**	**93.2**	**18.2**	**100.0**	**100.0**	**37.5**
74	100.0	92.3	17.3	100.0	100.0	36.2
73	100.0	91.4	16.4	100.0	100.0	34.8
72	100.0	90.5	15.5	100.0	100.0	33.5
71	100.0	89.5	14.5	100.0	100.0	32.2
70	100.0	88.6	13.6	100.0	100.0	30.8
69	100.0	87.7	12.7	100.0	100.0	29.5
68	100.0	86.8	11.8	100.0	100.0	28.2
67	100.0	85.8	10.8	100.0	100.0	26.8
66	100.0	84.9	9.9	100.0	100.0	25.5
65.6	100.0	84.6	9.6	**100.0**	**100.0**	**25.0**
65	100.0	84.0	9.0	100.0	99.6	24.6
64	100.0	83.1	8.1	100.0	98.9	23.9
63	100.0	82.1	7.1	100.0	98.2	23.2
62	100.0	81.2	6.2	100.0	97.6	22.6
61	100.0	80.3	5.3	100.0	96.9	21.9
60	100.0	79.4	4.4	100.0	96.2	21.2
59	100.0	78.4	3.4	100.0	95.6	20.6
58	100.0	77.5	2.5	100.0	94.9	19.9
57	100.0	76.6	1.6	100.0	94.2	19.2
56	100.0	75.7	0.7	100.0	93.6	18.6
55.3	**100.0**	**75.0**	**0.0**	100.0	93.1	18.1
55	100.0	74.5	0.0	100.0	92.9	17.9
54	100.0	72.6	0.0	100.0	92.2	17.2
53	100.0	70.8	0.0	100.0	91.6	16.6
52	100.0	68.9	0.0	100.0	90.9	15.9
51	100.0	67.1	0.0	100.0	90.2	15.2
50	100.0	65.2	0.0	100.0	89.6	14.6
49	100.0	63.4	0.0	100.0	88.9	13.9
48	**100.0**	**61.5**	**0.0**	**100.0**	**88.2**	**13.2**
47	100.0	59.5	0.0	100.0	86.7	11.7
46	100.0	57.5	0.0	100.0	85.1	10.1
45	100.0	55.5	0.0	100.0	83.5	8.5
44	100.0	53.5	0.0	100.0	82.0	7.0
43	100.0	51.5	0.0	100.0	80.4	5.4
42	100.0	49.5	0.0	100.0	78.8	3.8
41	100.0	47.5	0.0	100.0	77.2	2.2
40	100.0	45.5	0.0	100.0	75.7	0.7
39.6	100.0	44.6	0.0	**100.0**	**75.0**	**0.0**
39	100.0	43.5	0.0	100.0	73.2	0.0
38	100.0	41.5	0.0	100.0	70.1	0.0
37	100.0	39.5	0.0	100.0	66.9	0.0
36	100.0	37.5	0.0	100.0	63.8	0.0
35	100.0	35.5	0.0	100.0	60.6	0.0
34	100.0	33.5	0.0	100.0	57.5	0.0
33	100.0	31.5	0.0	100.0	54.4	0.0
32	100.0	29.5	0.0	100.0	51.2	0.0
31	100.0	27.5	0.0	100.0	48.1	0.0
30	100.0	25.5	0.0	100.0	44.9	0.0
29.8	**100.0**	**25.0**	**0.0**	100.0	44.1	0.0
29	99.2	24.2	0.0	100.0	41.8	0.0
28	98.2	23.2	0.0	100.0	38.6	0.0
27	97.2	22.2	0.0	100.0	35.5	0.0
PERCENT OF	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
FULL POWER	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		

(continued)

OCONEE 3 CYCLE 16 ERROR ADJUSTED ROD INDEX SETPOINTS

3 PUMP OPERATION BOC TO EOC
RI = 300 IS WITHDRAWAL LIMIT AT ALL POWER LEVELS
0 INOPERABLE RODS

PERCENT OF FULL POWER	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		
	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
26	96.2	21.2	0.0	100.0	32.4	0.0
25	95.2	20.2	0.0	100.0	29.2	0.0
24	94.2	19.2	0.0	100.0	26.1	0.0
23.7	93.9	18.9	0.0	**100.0**	**25.0**	**0.0**
23	93.2	18.2	0.0	99.0	24.0	0.0
22	92.2	17.2	0.0	97.4	22.4	0.0
21	91.2	16.2	0.0	95.8	20.8	0.0
20	90.2	15.2	0.0	94.2	19.2	0.0
19	89.2	14.2	0.0	92.7	17.7	0.0
18	88.2	13.2	0.0	91.1	16.1	0.0
17	87.2	12.2	0.0	89.5	14.5	0.0
16	86.2	11.2	0.0	88.0	13.0	0.0
15	85.2	10.2	0.0	86.4	11.4	0.0
14	84.2	9.2	0.0	84.8	9.8	0.0
13	**83.2**	**8.2**	**0.0**	**83.2**	**8.2**	**0.0**
12	78.8	3.8	0.0	78.8	3.8	0.0
11.2	**75.0**	**0.0**	**0.0**	**75.0**	**0.0**	**0.0**
11	73.6	0.0	0.0	73.6	0.0	0.0
10	64.6	0.0	0.0	64.6	0.0	0.0
9	55.6	0.0	0.0	55.6	0.0	0.0
8	46.6	0.0	0.0	46.6	0.0	0.0
7	37.7	0.0	0.0	37.7	0.0	0.0
6	28.7	0.0	0.0	28.7	0.0	0.0
5	19.7	0.0	0.0	19.7	0.0	0.0
4	10.8	0.0	0.0	10.8	0.0	0.0
3	1.8	0.0	0.0	1.8	0.0	0.0
2.8	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
2	0.0	0.0	0.0	0.0	0.0	0.0
1	0.0	0.0	0.0	0.0	0.0	0.0
0	0.0	0.0	0.0	0.0	0.0	0.0
PERCENT OF FULL POWER	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		

OCONEE 3 CYCLE 16 ERROR ADJUSTED ROD INDEX SETPOINTS

4 PUMP OPERATION BOC TO EOC
RI = 300 IS WITHDRAWAL LIMIT AT ALL POWER LEVELS
1 INOPERABLE CONTROL ROD

PERCENT OF FULL POWER	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		
	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
102	100.0	100.0	64.2	100.0	100.0	64.2
101	100.0	100.0	62.8	100.0	100.0	64.0
100	100.0	100.0	61.4	100.0	100.0	63.8
99	100.0	100.0	60.0	100.0	100.0	63.6
98	100.0	100.0	58.6	100.0	100.0	63.4
97	100.0	100.0	57.2	100.0	100.0	63.2
96	100.0	100.0	55.8	100.0	100.0	63.0
95	100.0	100.0	54.4	100.0	100.0	62.9
94	100.0	100.0	52.9	100.0	100.0	62.7
93	100.0	100.0	51.5	100.0	100.0	62.5
92	100.0	100.0	50.1	100.0	100.0	62.3
91	100.0	100.0	48.7	100.0	100.0	62.1
90	100.0	100.0	47.3	100.0	100.0	61.9
89	100.0	100.0	45.9	100.0	100.0	61.7
88	100.0	100.0	44.5	100.0	100.0	61.5
87	100.0	100.0	43.0	100.0	100.0	60.0
86	100.0	100.0	41.5	100.0	100.0	58.5
85	100.0	100.0	40.0	100.0	100.0	57.0
84	100.0	100.0	38.5	100.0	100.0	55.5
83	100.0	100.0	37.0	100.0	100.0	54.0
82	100.0	100.0	35.5	100.0	100.0	52.5
81	100.0	100.0	34.0	100.0	100.0	51.0
80	100.0	100.0	32.5	100.0	100.0	49.5
79	100.0	100.0	31.0	100.0	100.0	48.0
78	100.0	100.0	29.5	100.0	100.0	46.5
77	100.0	100.0	28.1	100.0	100.0	45.0
76	100.0	100.0	26.6	100.0	100.0	43.5
75	100.0	100.0	25.2	100.0	100.0	42.0
74.9	100.0	100.0	25.0	100.0	100.0	41.8
74	100.0	99.4	24.4	100.0	100.0	40.5
73	100.0	98.7	23.7	100.0	100.0	39.0
72	100.0	97.9	22.9	100.0	100.0	37.5
71	100.0	97.2	22.2	100.0	100.0	36.0
70	100.0	96.5	21.5	100.0	100.0	34.5
69	100.0	95.8	20.8	100.0	100.0	33.0
68	100.0	95.1	20.1	100.0	100.0	31.5
67	100.0	94.4	19.4	100.0	100.0	30.0
66	100.0	93.7	18.7	100.0	100.0	28.5
65	100.0	92.9	17.9	100.0	100.0	27.0
64	100.0	92.2	17.2	100.0	100.0	25.5
63.7	100.0	92.0	17.0	100.0	100.0	25.0
63	100.0	91.5	16.5	100.0	99.5	24.5
62	100.0	90.8	15.8	100.0	98.8	23.8
61	100.0	90.1	15.1	100.0	98.0	23.0
60	100.0	89.3	14.3	100.0	97.2	22.2
59	100.0	88.6	13.6	100.0	96.5	21.5
58	100.0	87.9	12.9	100.0	95.8	20.8
57	100.0	87.2	12.2	100.0	95.0	20.0
56	100.0	86.5	11.5	100.0	94.2	19.2
55	100.0	85.8	10.8	100.0	93.5	18.5
54	100.0	85.1	10.1	100.0	92.8	17.8
53	100.0	84.3	9.3	100.0	92.0	17.0
52	100.0	83.6	8.6	100.0	91.2	16.2
51	100.0	82.9	7.9	100.0	90.5	15.5
50	100.0	82.2	7.2	100.0	89.8	14.8
PERCENT OF FULL POWER	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		

(continued)

OCONEE 3 CYCLE 16 ERROR ADJUSTED ROD INDEX SETPOINTS

4 PUMP OPERATION BOC TO EOC
RI = 300 IS WITHDRAWAL LIMIT AT ALL POWER LEVELS
1 INOPERABLE ROD

PERCENT OF FULL POWER	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		
	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
49	100.0	81.5	6.5	100.0	89.0	14.0
48	**100.0**	**80.8**	**6.8**	**100.0**	**88.2**	**13.2**
47	100.0	79.8	4.8	100.0	87.0	12.0
46	100.0	78.8	3.8	100.0	85.8	10.8
45	100.0	77.8	2.8	100.0	84.6	9.6
44	100.0	76.8	1.8	100.0	83.4	8.4
43	100.0	75.8	0.8	100.0	82.2	7.2
42.2	**100.0**	**75.0**	**0.0**	100.0	81.3	6.3
42	100.0	74.5	0.0	100.0	81.0	6.0
41	100.0	72.5	0.0	100.0	79.8	4.8
40	100.0	70.5	0.0	100.0	78.5	3.5
39	100.0	68.5	0.0	100.0	77.3	2.3
38	100.0	66.5	0.0	100.0	76.1	1.1
37.1	100.0	64.7	0.0	**100.0**	**75.0**	**0.0**
37	100.0	64.5	0.0	100.0	74.8	0.0
36	100.0	62.5	0.0	100.0	72.4	0.0
35	100.0	60.5	0.0	100.0	69.9	0.0
34	100.0	58.5	0.0	100.0	67.5	0.0
33	100.0	56.5	0.0	100.0	65.1	0.0
32	100.0	54.5	0.0	100.0	62.6	0.0
31	100.0	52.5	0.0	100.0	60.2	0.0
30	100.0	50.5	0.0	100.0	57.8	0.0
29	100.0	48.5	0.0	100.0	55.4	0.0
28	100.0	46.5	0.0	100.0	52.9	0.0
27	100.0	44.5	0.0	100.0	50.5	0.0
26	100.0	42.5	0.0	100.0	48.1	0.0
25	100.0	40.5	0.0	100.0	45.6	0.0
24	100.0	38.5	0.0	100.0	43.2	0.0
23	100.0	36.5	0.0	100.0	40.8	0.0
22	100.0	34.5	0.0	100.0	38.4	0.0
21	100.0	32.5	0.0	100.0	35.9	0.0
20	100.0	30.5	0.0	100.0	33.5	0.0
19	100.0	28.5	0.0	100.0	31.1	0.0
18	100.0	26.5	0.0	100.0	28.6	0.0
17.2	**100.0**	**25.0**	**0.0**	100.0	26.8	0.0
17	99.8	24.8	0.0	100.0	26.2	0.0
16.5	99.2	24.2	0.0	**100.0**	**25.0**	**0.0**
16	98.8	23.8	0.0	99.4	24.4	0.0
15	97.8	22.8	0.0	98.2	23.2	0.0
14	96.8	21.8	0.0	97.0	22.0	0.0
13	**95.8**	**20.8**	**0.0**	**95.8**	**20.8**	**0.0**
12	92.5	17.5	0.0	92.5	17.5	0.0
11	89.2	14.2	0.0	89.2	14.2	0.0
10	86.0	11.0	0.0	86.0	11.0	0.0
9	82.8	7.8	0.0	82.8	7.8	0.0
8	79.5	4.5	0.0	79.5	4.5	0.0
7	76.2	1.2	0.0	76.2	1.2	0.0
6.6	**75.0**	**0.0**	**0.0**	**75.0**	**0.0**	**0.0**
6	71.0	0.0	0.0	71.0	0.0	0.0
5	64.5	0.0	0.0	64.5	0.0	0.0
4	58.0	0.0	0.0	58.0	0.0	0.0
3	**51.5**	**0.0**	**0.0**	**51.5**	**0.0**	**0.0**
2	45.0	0.0	0.0	45.0	0.0	0.0
1	38.5	0.0	0.0	38.5	0.0	0.0
0	32.0	0.0	0.0	32.0	0.0	0.0
PERCENT OF FULL POWER	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		

OCONEE 3 CYCLE 16 ERROR ADJUSTED ROD INDEX SETPOINTS

3 PUMP OPERATION BOC TO EOC
RI = 300 IS WITHDRAWAL LIMIT AT ALL POWER LEVELS
1 INOPERABLE CONTROL ROD

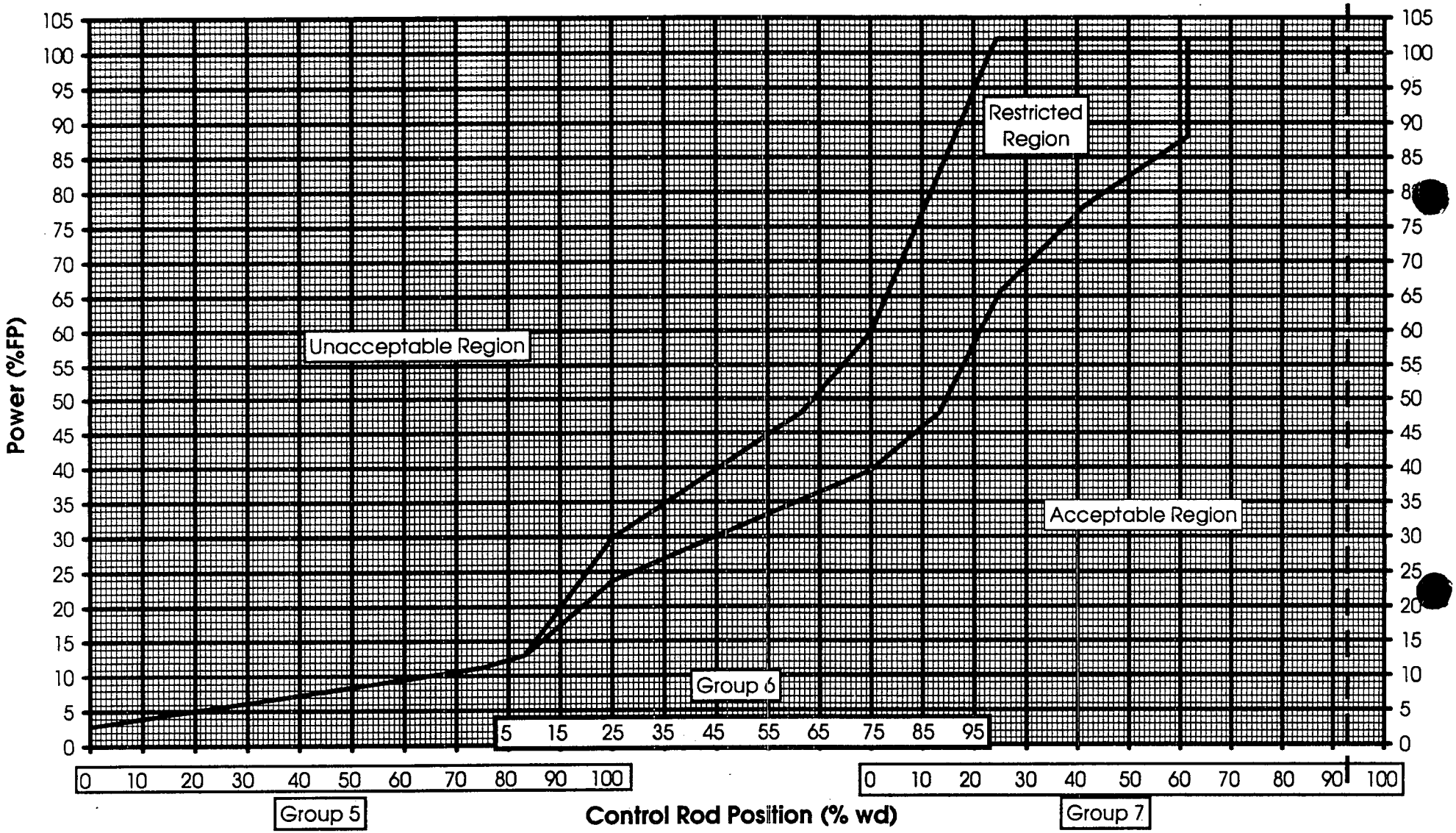
PERCENT OF FULL POWER	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		
	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
77	**100.0**	**100.0**	**67.1**	**100.0**	**100.0**	**67.1**
76	100.0	100.0	64.3	100.0	100.0	64.3
75	**100.0**	**100.0**	**61.5**	**100.0**	**100.0**	**61.5**
74	100.0	100.0	58.7	100.0	100.0	59.3
73	100.0	100.0	55.9	100.0	100.0	57.1
72	100.0	100.0	53.2	100.0	100.0	54.8
71	100.0	100.0	50.4	100.0	100.0	52.6
70	100.0	100.0	47.6	100.0	100.0	50.4
69	100.0	100.0	44.8	100.0	100.0	48.2
68	100.0	100.0	42.1	100.0	100.0	45.9
67	100.0	100.0	39.3	100.0	100.0	43.7
66	100.0	100.0	36.5	100.0	100.0	41.5
65	100.0	100.0	33.7	100.0	100.0	39.3
64	100.0	100.0	30.9	100.0	100.0	37.1
63	100.0	100.0	28.2	100.0	100.0	34.8
62	100.0	100.0	25.4	100.0	100.0	32.6
61.9	**100.0**	**100.0**	**25.0**	100.0	100.0	32.3
61	100.0	98.8	23.8	100.0	100.0	30.4
60	100.0	97.4	22.4	100.0	100.0	28.2
59	100.0	96.0	21.0	100.0	100.0	25.9
58.6	100.0	95.4	20.4	**100.0**	**100.0**	**25.0**
58	100.0	94.6	19.6	100.0	99.4	24.4
57	100.0	93.2	18.2	100.0	98.2	23.2
56	100.0	91.9	16.9	100.0	97.1	22.1
55	100.0	90.5	15.5	100.0	96.0	21.0
54	100.0	89.1	14.1	100.0	94.9	19.9
53	100.0	87.7	12.7	100.0	93.8	18.8
52	100.0	86.3	11.3	100.0	92.7	17.7
51	100.0	84.9	9.9	100.0	91.6	16.6
50	100.0	83.5	8.5	100.0	90.5	15.5
49	100.0	82.1	7.1	100.0	89.4	14.4
48	**100.0**	**80.8**	**5.8**	**100.0**	**88.2**	**13.2**
47	100.0	79.8	4.8	100.0	87.0	12.0
46	100.0	78.8	3.8	100.0	85.8	10.8
45	100.0	77.8	2.8	100.0	84.6	9.6
44	100.0	76.8	1.8	100.0	83.4	8.4
43	100.0	75.8	0.8	100.0	82.2	7.2
42.2	**100.0**	**75.0**	**0.0**	100.0	81.3	6.3
42	100.0	74.5	0.0	100.0	81.0	6.0
41	100.0	72.5	0.0	100.0	79.8	4.8
40	100.0	70.5	0.0	100.0	78.5	3.5
39	100.0	68.5	0.0	100.0	77.3	2.3
38	100.0	66.5	0.0	100.0	76.1	1.1
37.1	100.0	64.7	0.0	**100.0**	**75.0**	**0.0**
37	100.0	64.5	0.0	100.0	74.8	0.0
36	100.0	62.5	0.0	100.0	72.4	0.0
35	100.0	60.5	0.0	100.0	69.9	0.0
34	100.0	58.5	0.0	100.0	67.5	0.0
33	100.0	56.5	0.0	100.0	65.1	0.0
32	100.0	54.5	0.0	100.0	62.6	0.0
31	100.0	52.5	0.0	100.0	60.2	0.0
PERCENT OF FULL POWER	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		

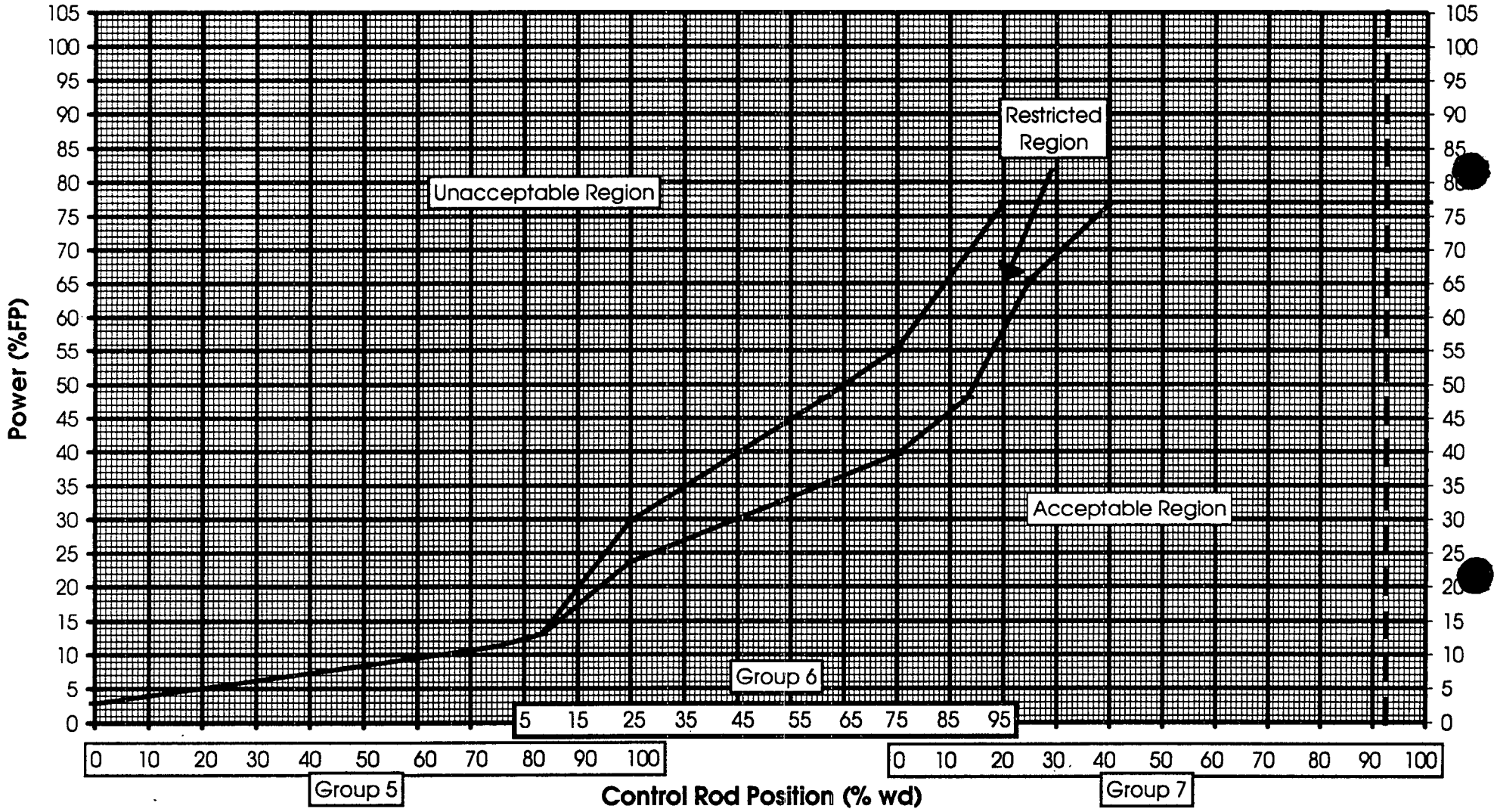
(continued)

OCONEE 3 CYCLE 16 ERROR ADJUSTED ROD INDEX SETPOINTS

3 PUMP OPERATION BOC TO EOC
RI = 300 IS WITHDRAWAL LIMIT AT ALL POWER LEVELS
1 INOPERABLE ROD

PERCENT OF FULL POWER	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		
	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
30	100.0	50.5	0.0	100.0	57.8	0.0
29	100.0	48.5	0.0	100.0	55.4	0.0
28	100.0	46.5	0.0	100.0	52.9	0.0
27	100.0	44.5	0.0	100.0	50.5	0.0
26	100.0	42.5	0.0	100.0	48.1	0.0
25	100.0	40.5	0.0	100.0	45.6	0.0
24	100.0	38.5	0.0	100.0	43.2	0.0
23	100.0	36.5	0.0	100.0	40.8	0.0
22	100.0	34.5	0.0	100.0	38.4	0.0
21	100.0	32.5	0.0	100.0	35.9	0.0
20	100.0	30.5	0.0	100.0	33.5	0.0
19	100.0	28.5	0.0	100.0	31.1	0.0
18	100.0	26.5	0.0	100.0	28.6	0.0
17.2	**100.0**	**25.0**	**0.0**	100.0	26.8	0.0
17	99.8	24.8	0.0	100.0	26.2	0.0
16.5	99.2	24.2	0.0	**100.0**	**25.0**	**0.0**
16	98.8	23.8	0.0	99.4	24.4	0.0
15	97.8	22.8	0.0	98.2	23.2	0.0
14	96.8	21.8	0.0	97.0	22.0	0.0
13	**95.8**	**20.8**	**0.0**	**95.8**	**20.8**	**0.0**
12	92.5	17.5	0.0	92.5	17.5	0.0
11	89.2	14.2	0.0	89.2	14.2	0.0
10	86.0	11.0	0.0	86.0	11.0	0.0
9	82.8	7.8	0.0	82.8	7.8	0.0
8	79.5	4.5	0.0	79.5	4.5	0.0
7	76.2	1.2	0.0	76.2	1.2	0.0
6.6	**75.0**	**0.0**	**0.0**	**75.0**	**0.0**	**0.0**
6	71.0	0.0	0.0	71.0	0.0	0.0
5	64.5	0.0	0.0	64.5	0.0	0.0
4	58.0	0.0	0.0	58.0	0.0	0.0
3	**51.5**	**0.0**	**0.0**	**51.5**	**0.0**	**0.0**
2	45.0	0.0	0.0	45.0	0.0	0.0
1	38.5	0.0	0.0	38.5	0.0	0.0
0	32.0	0.0	0.0	32.0	0.0	0.0
PERCENT OF FULL POWER	CRGP 5	CRGP 6	CRGP 7	CRGP 5	CRGP 6	CRGP 7
	SHUTDOWN MARGIN INSERTION SETPOINT			OPERATIONAL ALARM INSERTION SETPOINT		


Power (%FP)
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Unacceptable Region
Restricted Region
Acceptable Region
Group 6
5 15 25 35 45 55 65 75 85 95
0 10 20 30 40 50 60 70 80 90 100
Group 5
0 10 20 30 40 50 60 70 80 90 100
Group 7
Control Rod Position (% wd)


Power (%FP)
105
100
95
90
85
80
75
70
65
60
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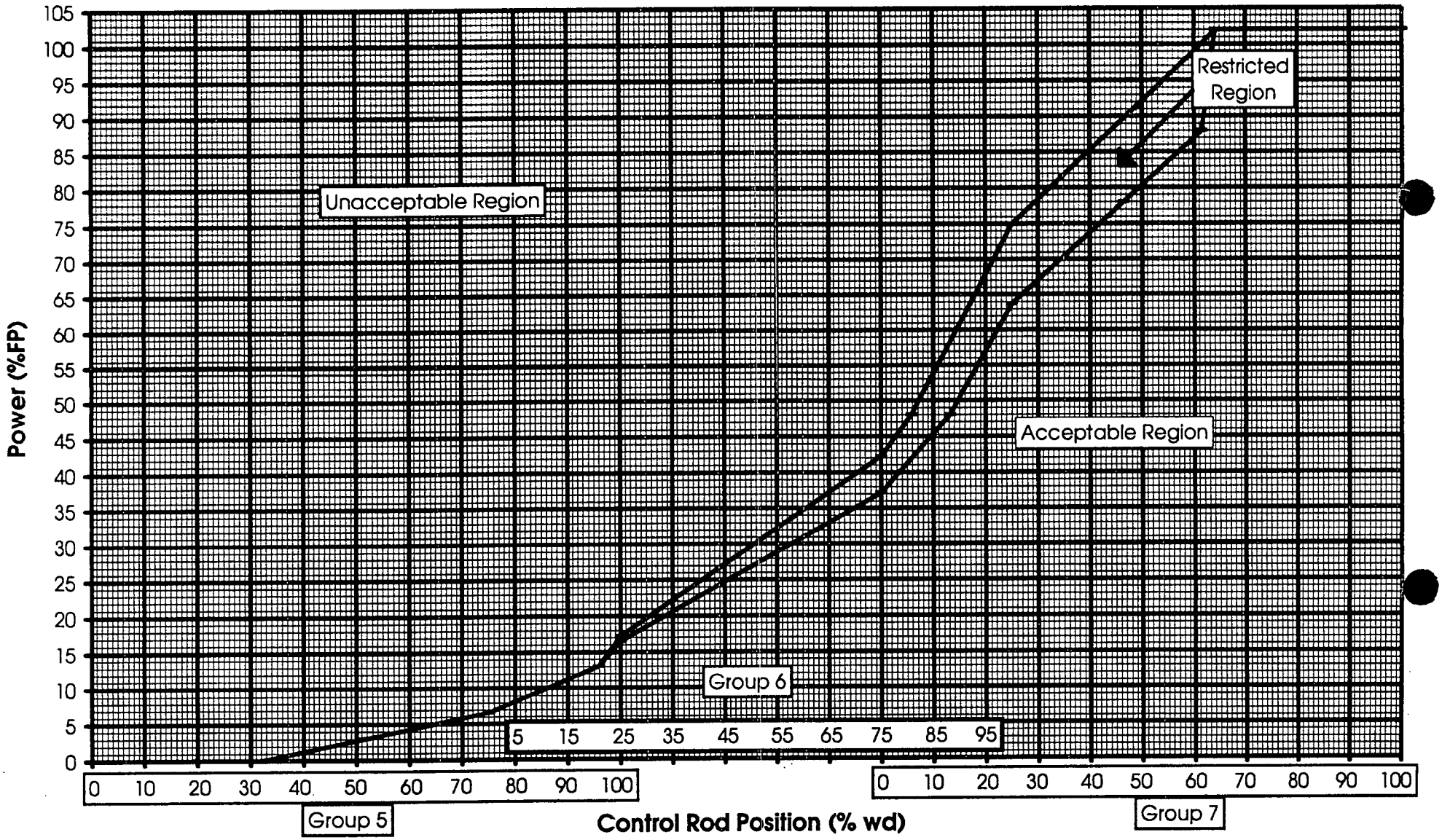
45
40
35
30
25
20
15
10
5
0
Restricted Region
Unacceptable Region
Acceptable Region
Group 6
5 15 25 35 45 55 65 75 85 95
0 10 20 30 40 50 60 70 80 90 100
Group 5
0 10 20 30 40 50 60 70 80 90 100
Group 7
Control Rod Position (% wd)


Power (%FP)
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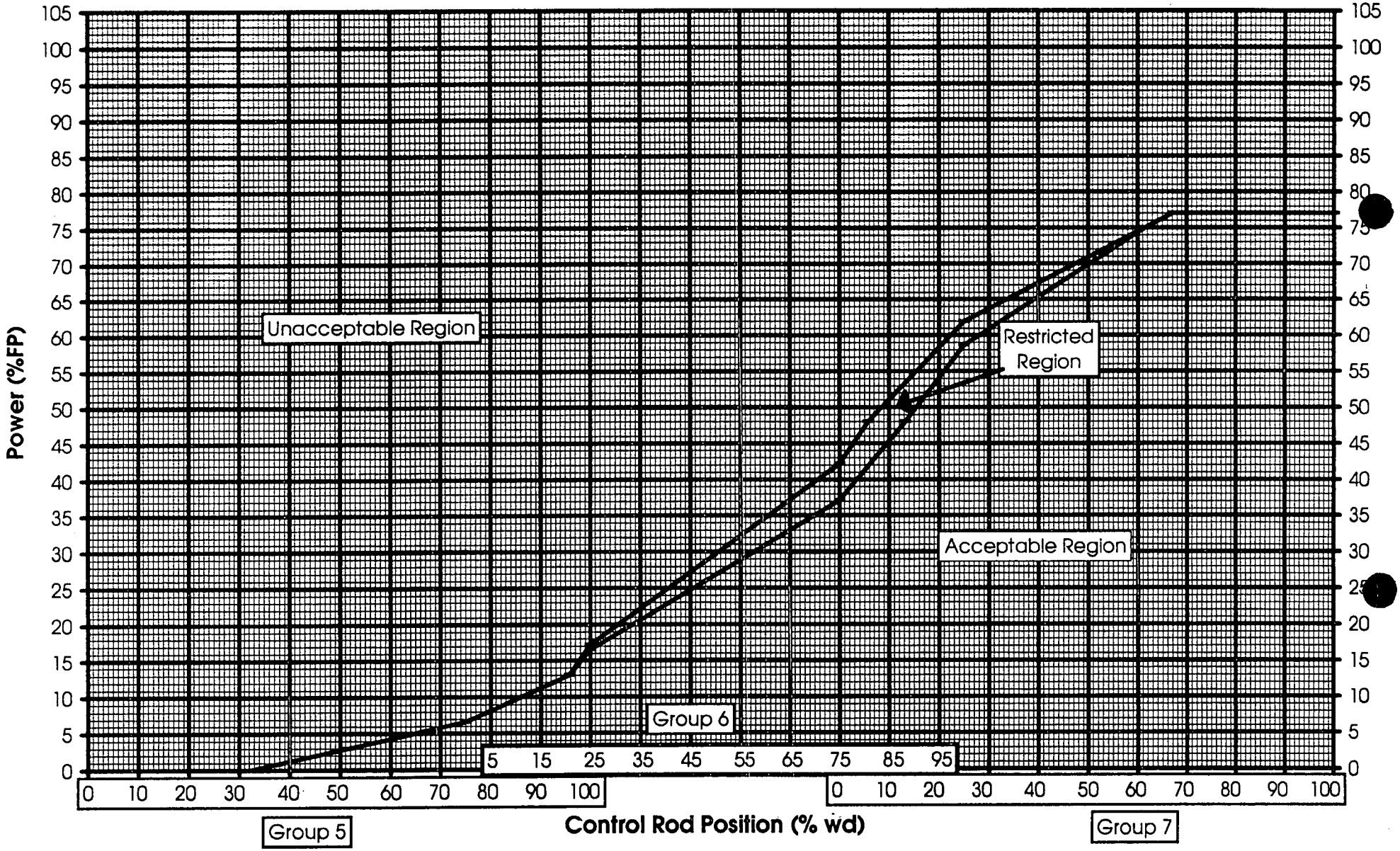
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Unacceptable Region
Restricted Region
Acceptable Region
Group 6
5 15 25 35 45 55 65 75 85 95
0 10 20 30 40 50 60 70 80 90 100
Group 5
0 10 20 30 40 50 60 70 80 90 100
Group 7
Control Rod Position (% wd)


Power (%FP)
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Unacceptable Region
Restricted Region
Acceptable Region
Group 6
5 15 25 35 45 55 65 75 85 95
0 10 20 30 40 50 60 70 80 90 100
0 10 20 30 40 50 60 70 80 90 100
Group 5
Control Rod Position (% wd)
Group 7

2.0 CORE OPERATING LIMITS (NOT ERROR-ADJUSTED)

The following cycle-specific core operating limits are included in this report. All computations performed in setting these limits used the approved SIMULATE methodology.

1) RPS protective limits (Figure 2.1 and table),

2) Quadrant power tilt operational limits,

3) Power-imbalance operational limits and,

4) Rod index operational alarm and shutdown margin-restricted limits.

2.1 REFERENCES

1) DPCo, Nuclear Design Methodology Using CASMO-3 / SIMULATE-3P, DPC-NE-1004A, November 1992.

2) DPCo, Oconee Nuclear Station, Reload Design Methodology II, DPC-NE-1002A, October 1985.

3) DPCo, Oconee Nuclear Station, Reload Design Methodology, NFS-1001A, April 1984.

4) DPC-NE-2003A, Oconee Nuclear Station Core Thermal Hydraulic Methodology Using VIPRE-01, July 1989.

5) O3C16 Maneuvering Analysis, DPCo calculational file, OSC-5839, Rev. 1, May 1995.

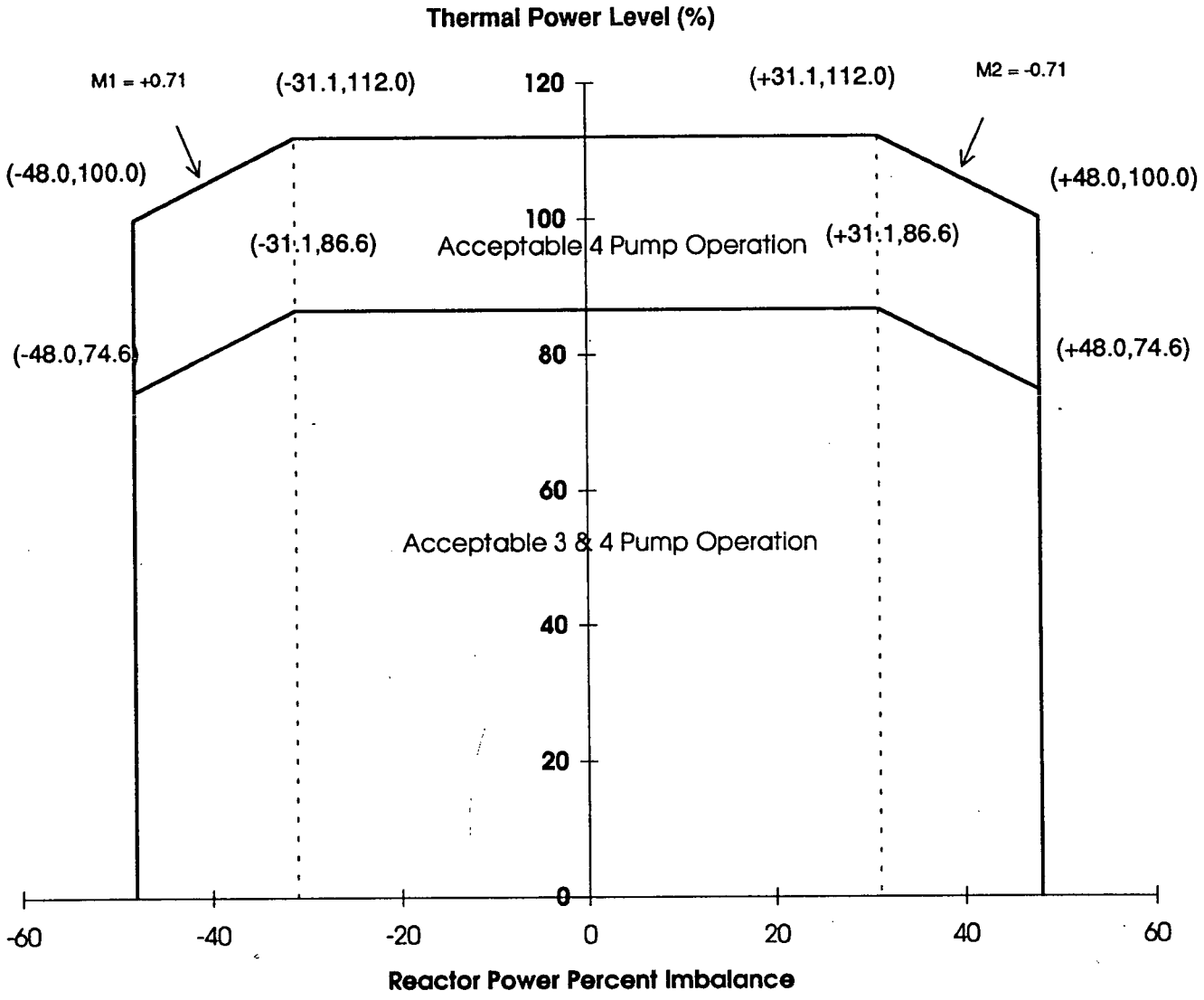
6) Variable Low Pressure Safety Limit, DPCo calculational file, OSC-4048, Revision 0, July 1990.

7) Power-Imbalance Safety Limits and Tech. Spec. Setpoints Using Error-Adjusted Flux-Flow Ratio of 1.094, DPCo calculational file, OSC-5604, Revision 0, November 1993.

8) O3C16 Thermal-Hydraulic Evaluation, DPCo calculational file, OSC-5848, Revision 0, August 1994.

Figure 2.1. Axial Power Imbalance RPS Protective Limits

NOT FOR PLANT USE – SEE PAGE 7



Referred to by Tech Spec 2.1

Oconee 3 Cycle 16

RPS POWER-IMBALANCE PROTECTIVE LIMITS*

***NOT FOR PLANT USE -- SEE PAGE 12**

	POWER % OF 2568 MW	IMBALANCE LIMITS
4 PUMP	0.0	-48.00
	100.0	-48.00
	112.0	-31.10
	112.0	31.10
	100.0	48.00
	0.0	48.00
3 PUMP	0.0	-48.00
	74.6	-48.00
	86.6	-31.10
	86.6	31.10
	74.6	48.00
	0.0	48.00

* -- These limits have not been error-adjusted and **are not for plant use**. Refer to Section 1, page 12 of this Report for the error-adjusted setpoints.

Referred to by Tech. Spec. 2.1

Oconee 3 Cycle 16

QUADRANT POWER TILT OPERATIONAL LIMITS*

***NOT FOR PLANT USE – SEE PAGE 11**

STEADY STATE		TRANSIENT		MAXIMUM
30 - 100 % FP	0 - 30 % FP	30 - 100 % FP	0 - 30 % FP	0 - 100 % FP
5.25	10.00	9.44	12.00	20.00

The Steady State, Transient, and Maximum Limits tabulated above define quadrant tilt ranges that impose different restrictions on power operation, and time intervals within which specific action may be required. Refer to the Technical Specification Sections listed below for more detailed information.

Referred to by Tech. Spec.
3.5.2.4.a
3.5.2.4.b
3.5.2.4.d
3.5.2.4.e
3.5.2.4.f

Oconee 3 Cycle 16

POWER-IMBALANCE OPERATIONAL LIMITS*

***NOT FOR PLANT USE -- SEE PAGE 13**

	POWER % OF 2568 MW	IMBALANCE LIMITS
4 PUMP	0.0	-50.9
	80.0	-50.9
	90.0	-48.4
	102.0	-36.4
	102.0	+27.0
	90.0	+34.2
	80.0	+47.2
	0.0	+47.2
3 PUMP	0.0	-50.9
	77.0	-50.9
	77.0	+47.2
	0.0	+47.2

* -- These limits have not been error-adjusted and **are not for plant use.** Refer to Section 1 of this Report for the error-adjusted setpoints.

Referred to by Tech. Spec. 3.5.2.6

Oconee 3 Cycle 16

ROD INDEX OPERATIONAL LIMITS*

***NOT FOR PLANT USE -- SEE PAGE 14**

0 EFPD to EOC

	POWER % OF 2568 MW	RI, %WD		
		MIN		MAX
		0 INOP ROD	1 INOP ROD	
4 PUMP	102	260.0	260.0	300.0
	90	260.0	260.0	300.0
	80	240.0	245.0	300.0
	50	200.0	200.0	300.0
	15	90.0	115.0	300.0
	5	0.0	50.0	300.0
3 PUMP	77	236.0	260.0	300.0
	50	200.0	200.0	300.0
	15	90.0	115.0	300.0
	5	0.0	50.0	300.0

* -- These limits have not been error-adjusted and **are not for plant use.** Refer to Section 1 of this Report for the error-adjusted setpoints.

Referred to by Tech. Spec.
3.1.3.5
3.1.11
3.5.2.1.b
3.5.2.2.d.2.c
3.5.2.3
3.5.2.5.c

Oconee 3 Cycle 16

ROD INDEX SHUTDOWN MARGIN LIMITS*

***NOT FOR PLANT USE -- SEE PAGE 15**

0 EFPD to EOC

	POWER % OF 2568 MW	RI, %WD		
		MIN		MAX
		0 INOP ROD	1 INOP ROD	
4 PUMP	102	220.0	260.0	300.0
	50	160.0	185.0	300.0
	15	90.0	115.0	300.0
	5	0.0	50.0	300.0
3 PUMP	77	210.0	260.0	300.0
	50	160.0	185.0	300.0
	15	90.0	115.0	300.0
	5	0.0	50.0	300.0

* -- These limits have not been error-adjusted and **are not for plant use.** Refer to Section 1 of this Report for the error-adjusted setpoints.

Referred to by Tech. Spec.:
3.1.3.5
3.1.11
3.5.2.1.b
3.5.2.2.d.2.c
3.5.2.3
3.5.2.5.c