

ENTERGY OPERATIONS
ARKANSAS NUCLEAR ONE - UNIT ONE
CYCLE 12

CORE OPERATING LIMITS REPORT

1.0 CORE OPERATING LIMITS

This Core Operating Limits Report for ANO-1 Cycle 12 has been prepared in accordance with the requirements of Technical Specification 6.12.3. The core operating limits have been developed using the methodology provided in the references.

The following cycle-specific core operating limits are included in this report:

- 1) Regulating control rod position setpoints,
- 2) Reactor power imbalance setpoints,
- 3) LOCA limited maximum allowable linear heat rate limits,
- 4) Axial power shaping rod insertion limits,
- 5) Quadrant power tilt limits.

2.0 REFERENCES

1. Babcock & Wilcox, Topical Report BAW-10179P-A, "Safety Criteria and Methodology for Acceptable Cycle Reload Analysis," Lynchburg, Virginia, August 1993.

Note: For Cycle 12, the nuclear design employed the NEMO code as specified in the BAW-10179P-A topical's SER.

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Figure is referred to
by Technical Specification
3.5.2.5

Figure 1-A Rod Position Setpoints for Four-Pump Operation
From 0 to 300 ± 10 EFPD -- ANO-1 Cycle 12

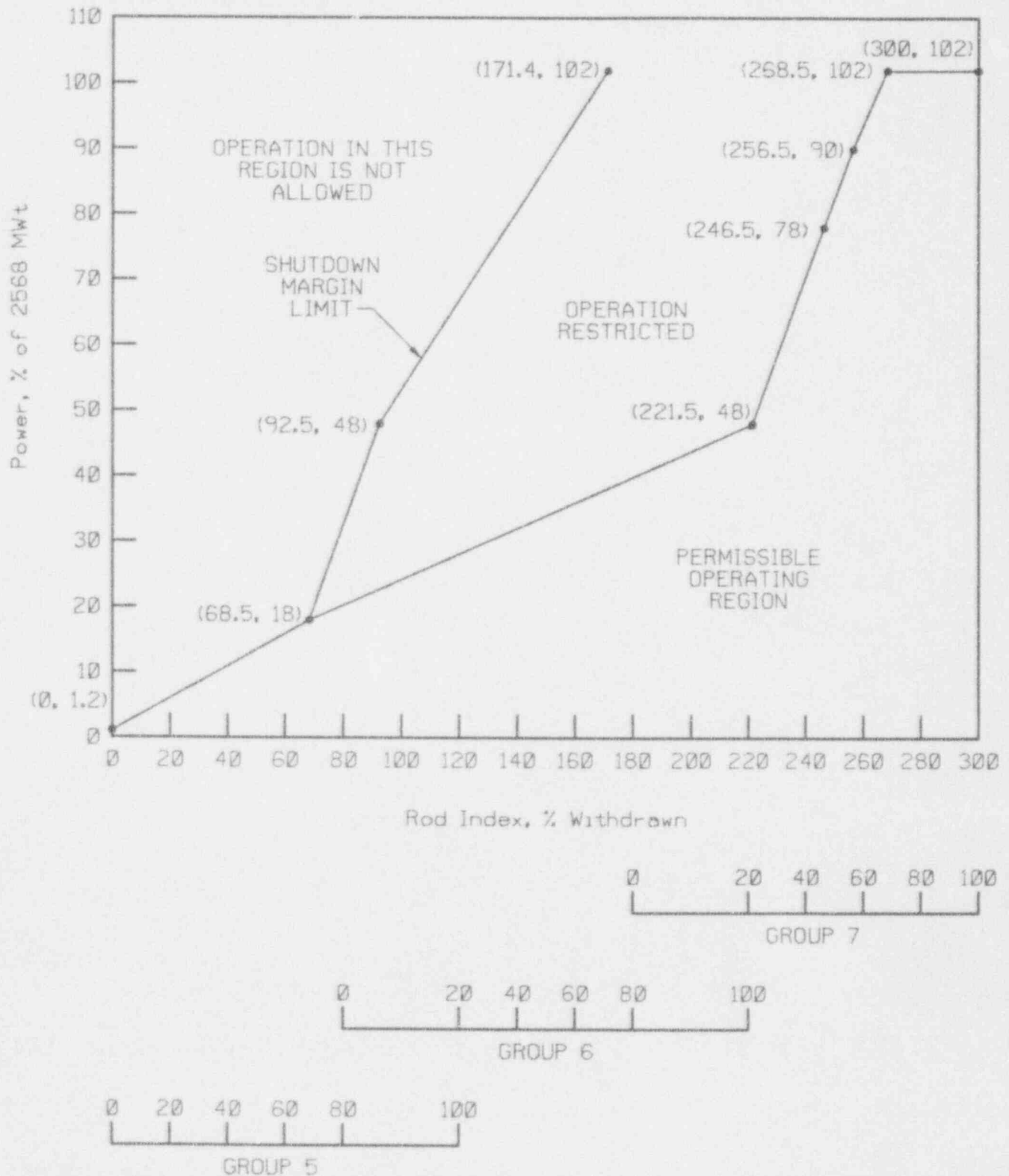


Figure is referred to
by Technical Specification
3.5.2.5

Figure 1-B Rod Position Setpoints for Four-Pump Operation
From 300 ± 10 EFPD to EOC -- ANO-1 Cycle 12

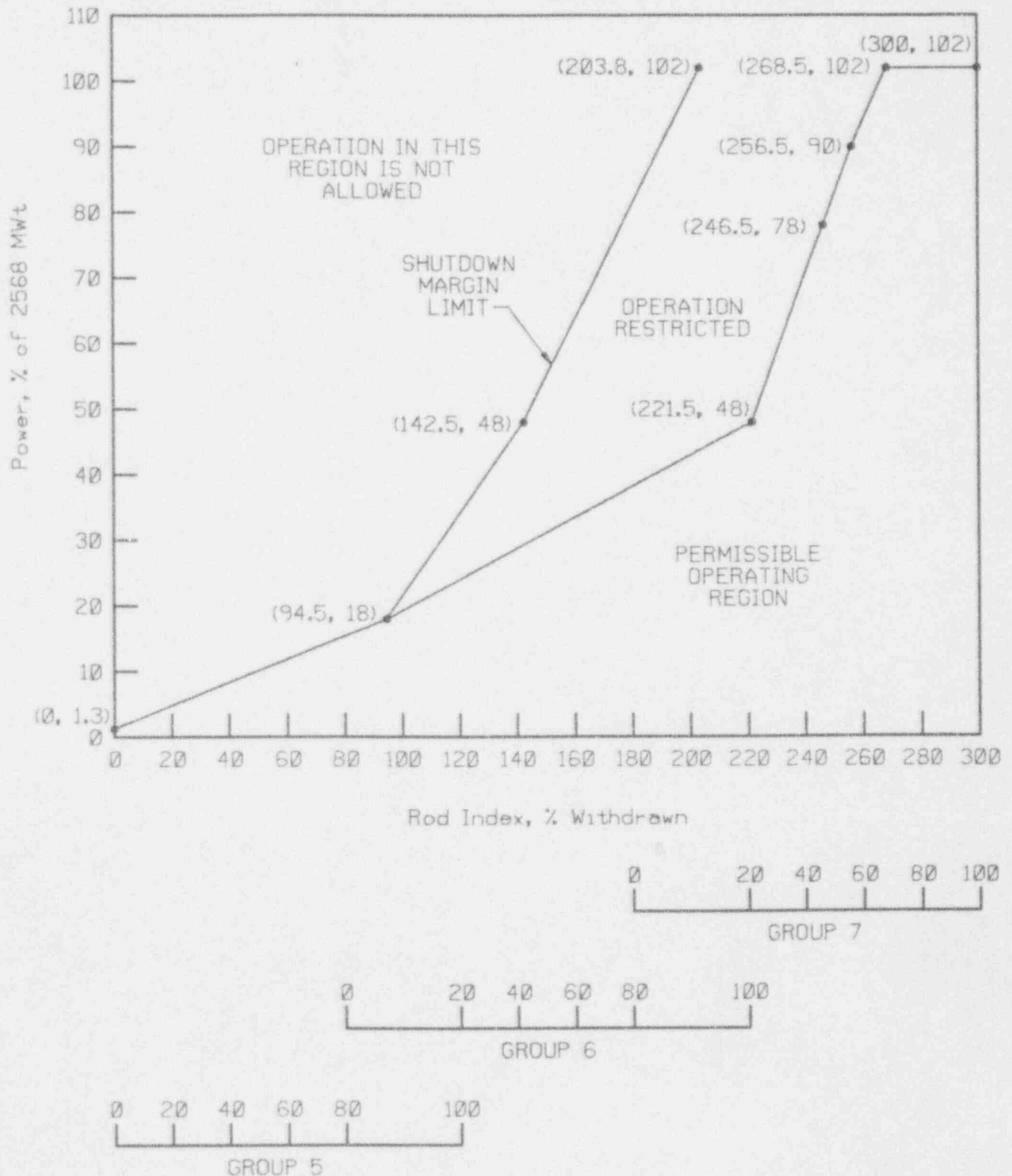


Figure is referred to
by Technical Specification
3.5.2.5

Figure 2-A Rod Position Setpoints for Three-Pump Operation
From 0 to 300±10 EFPD -- ANO-1 Cycle 12

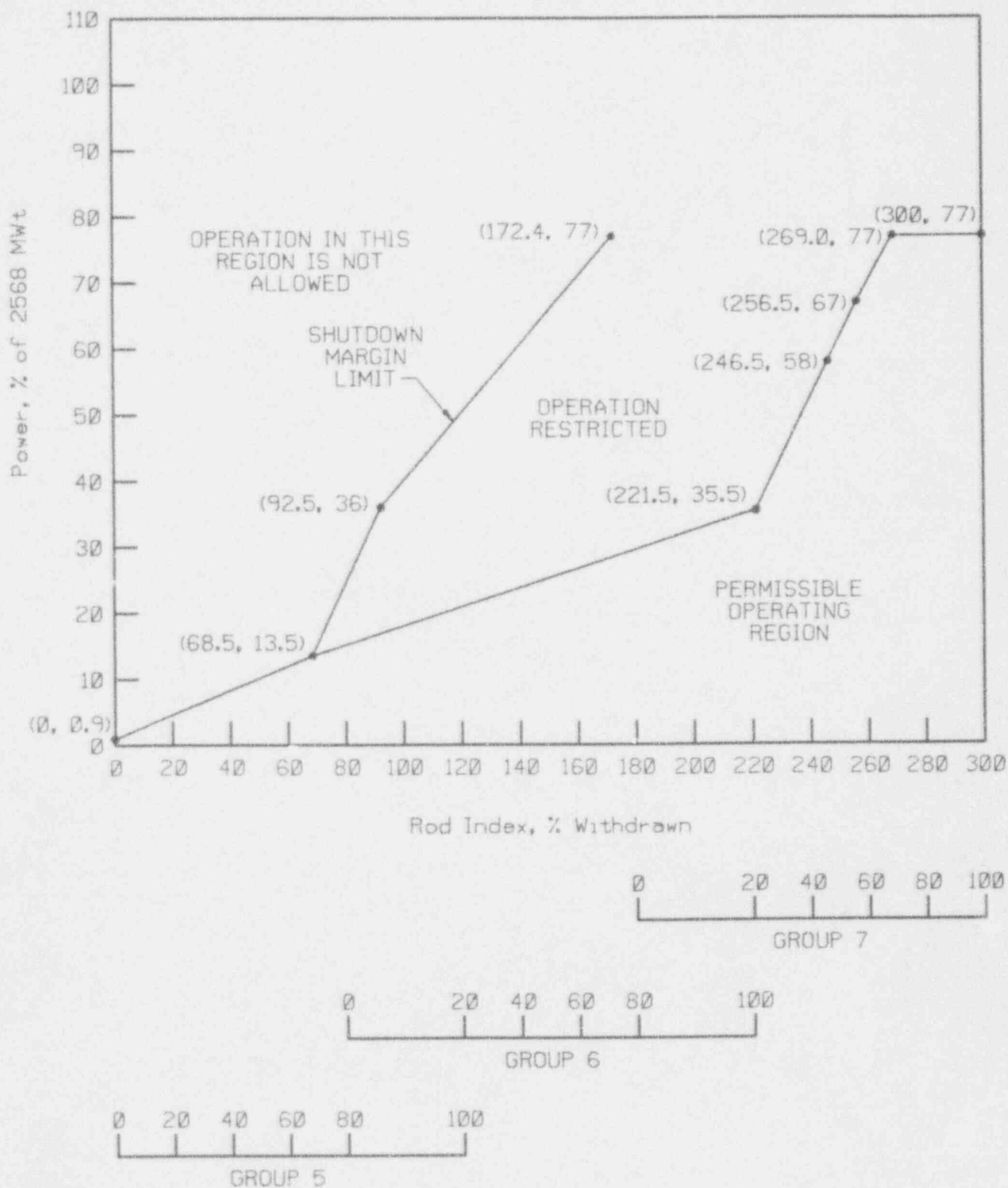


Figure is referred to
by Technical Specification
3.5.2.5

Figure 2-B Rod Position Setpoints for Three-Pump Operation
From 300 ± 10 EFPD to EOC -- ANO-1 Cycle 12

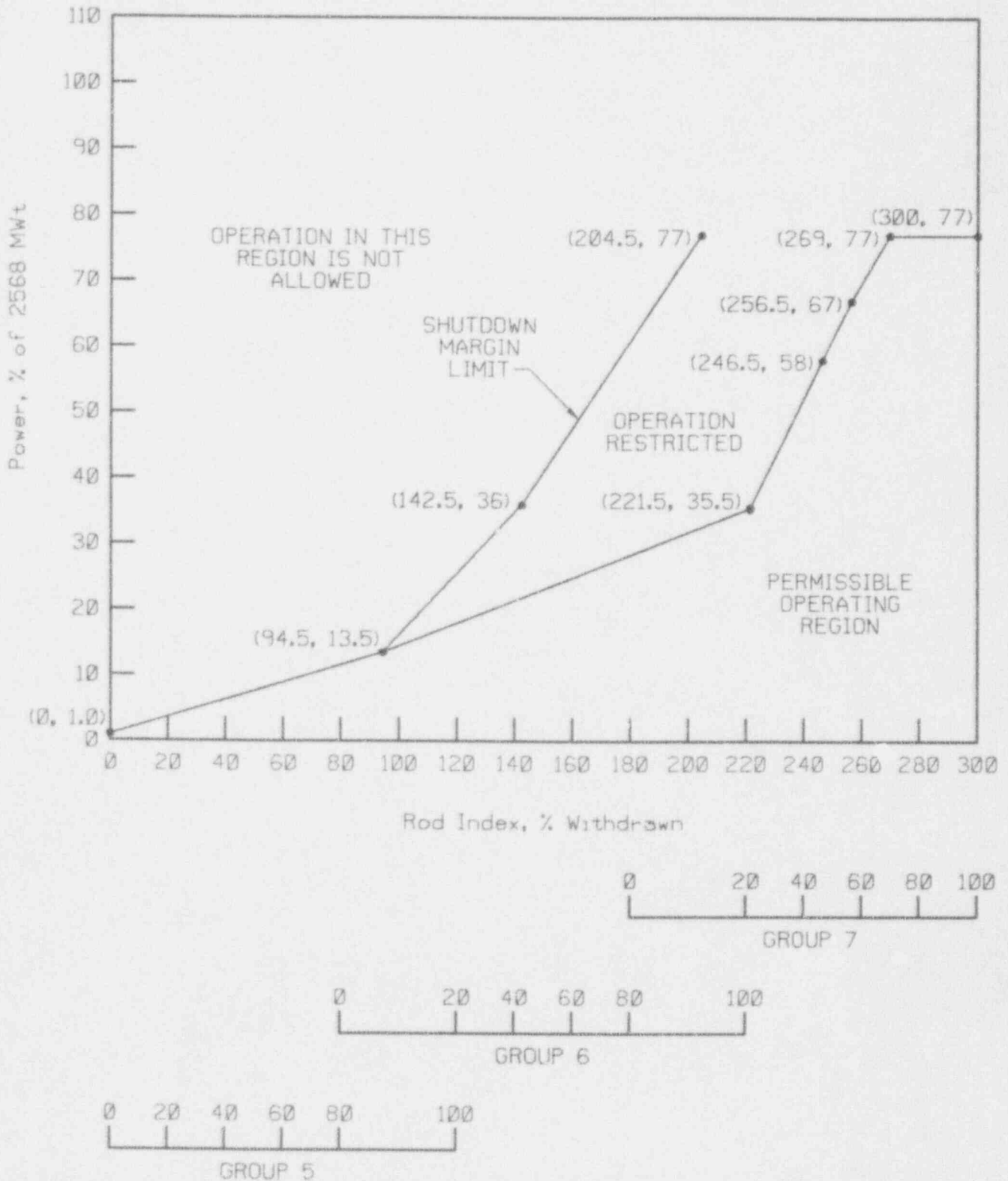


Figure is referred to
by Technical Specification
3.5.2.5

Figure 3-A Rod Position Setpoints for Two-Pump Operation
From 0 to 300±10 EFPD -- ANO-1 Cycle 12

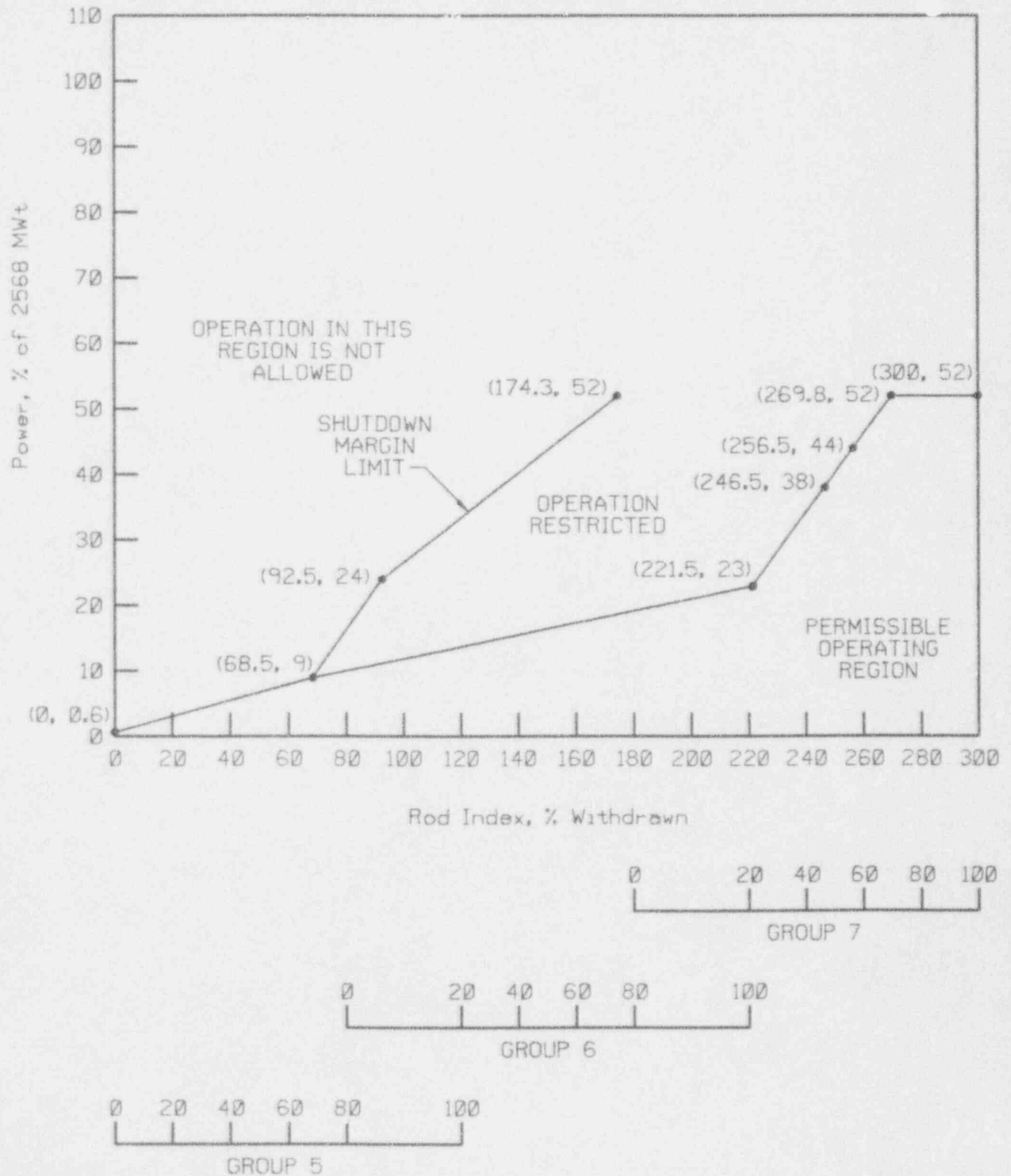


Figure is referred to
by Technical Specification
3.5.2.5

Figure 3-B Rod Position Setpoints for Two-Pump Operation
From 300 ± 10 EFPD to EOC -- ANO-1 Cycle 12

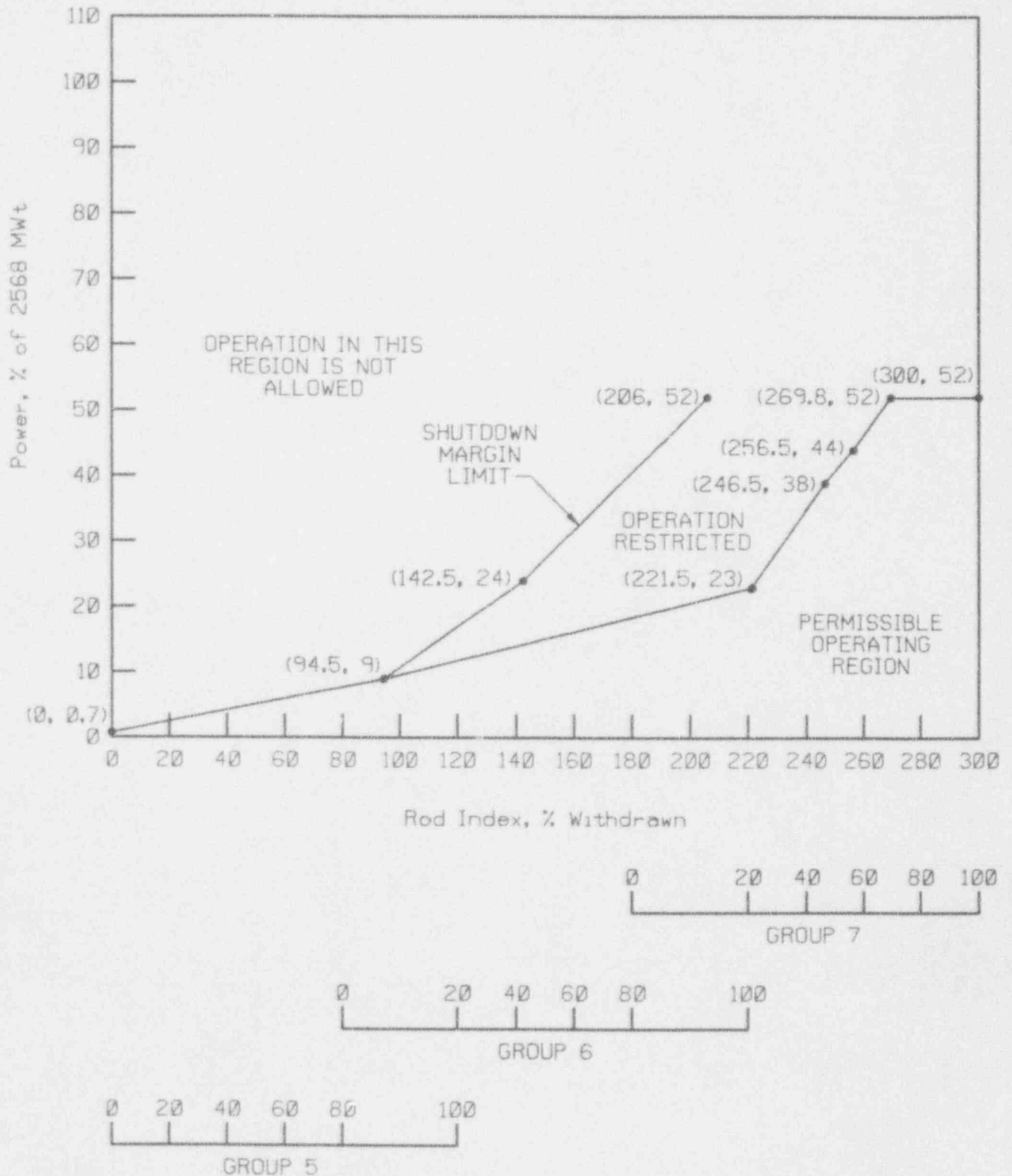


Figure is referred to
by Technical Specification
3.5.2.6

Figure 4 Operational Power Imbalance Setpoints for Four-Pump
Operation From 0 EFDP to EOC -- ANO-1 Cycle 12

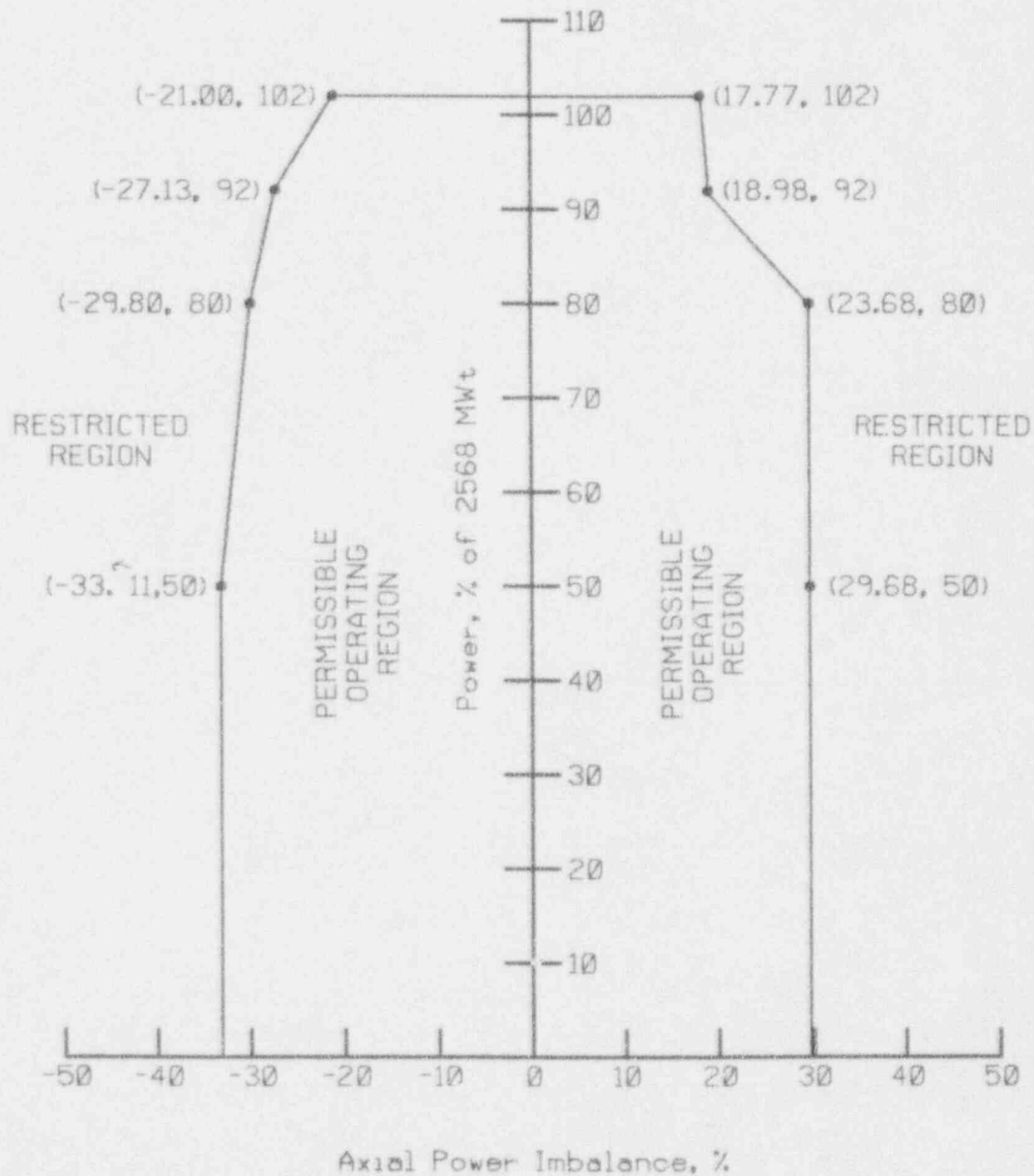


Figure is referred to
by Technical Specification
3.5.2.6

Figure 5 Operational Power Imbalance Setpoints for Three-Pump
Operation From 0 EFPD to EOC -- AND-1 Cycle 12

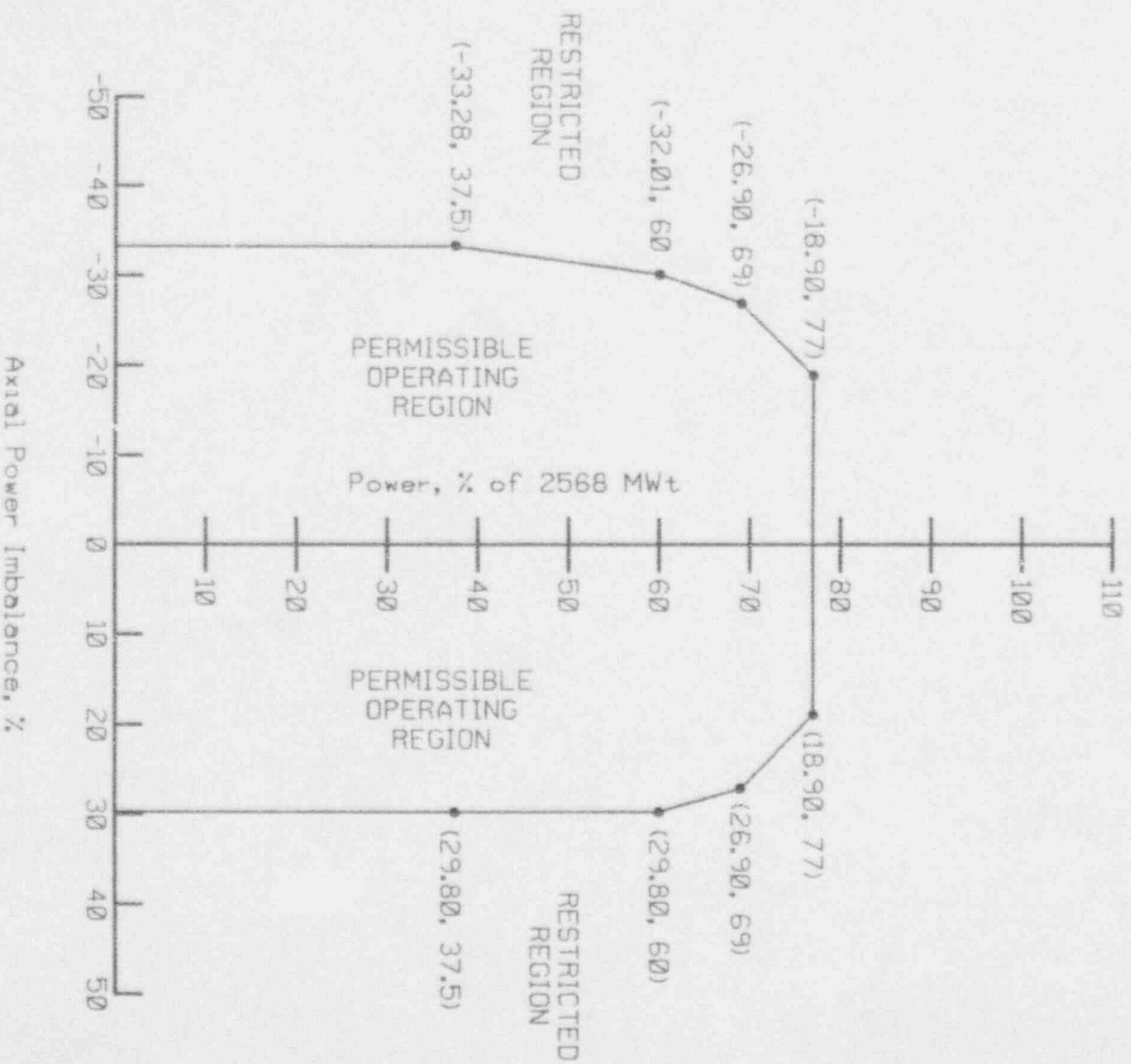


Figure is referred to
by Technical Specification
3.5.2.6

Figure 6 Operational Power Imbalance Setpoints for Two-Pump
Operation From 0 EFPD to EOC -- AND-1 Cycle 12

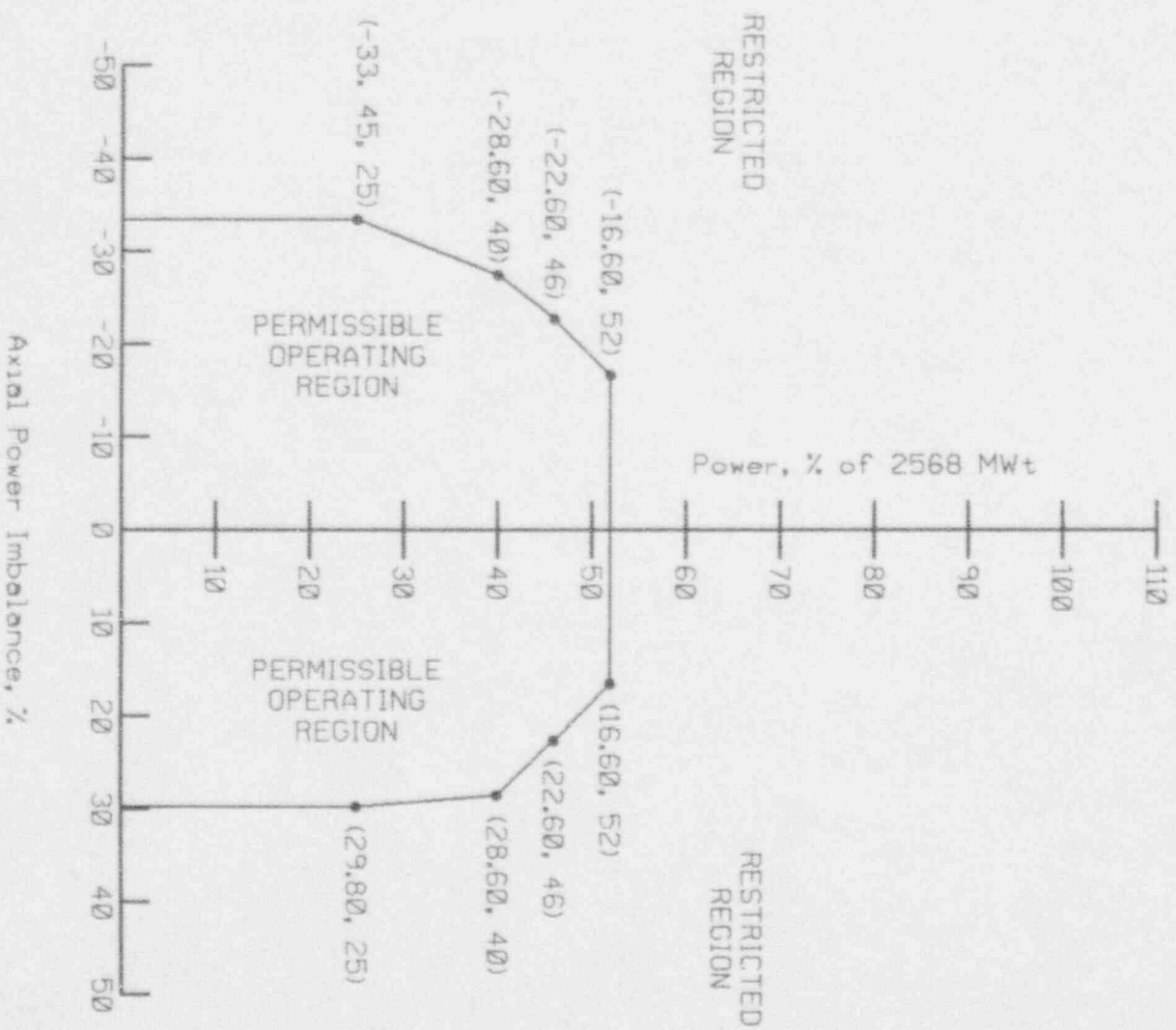


Figure is referred to
by Technical Specification
3.5.2 Bases

Figure 7-A Mk-B6/Mk-B8 LOCA Linear Heat Rate Limits

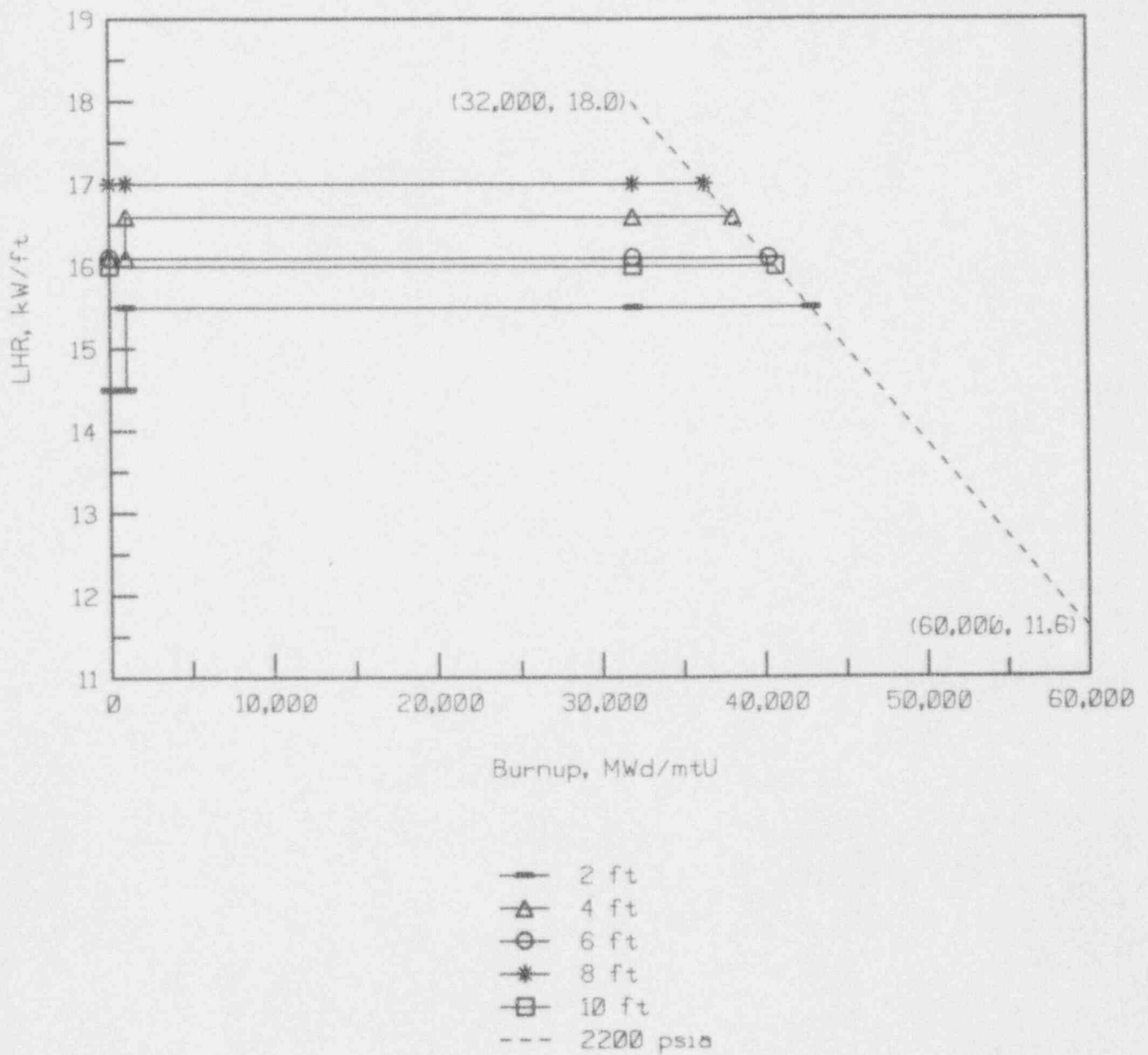
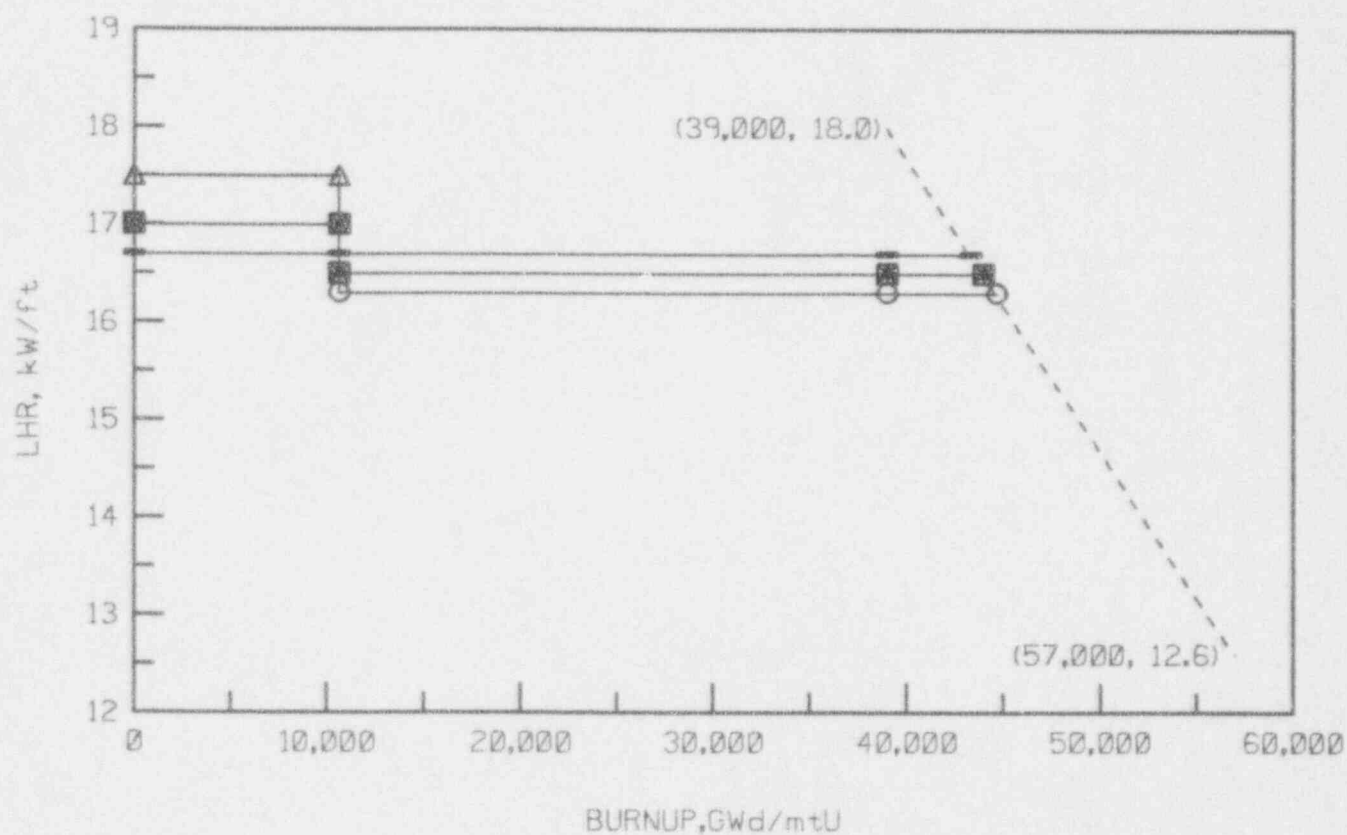


Figure is referred to
by Technical Specification
3.5.2 Bases

Figure 7-B Mk-B8ZL LOCA Linear Heat Rate Limits



- 2 ft
- △— 4 ft
- 6 ft
- *— 8 ft
- 10 ft
- 2200 psia

LIMITS ARE REFERRED TO BY
TECHNICAL SPECIFICATION 3.5.2.5.4

AXIAL POWER SHAPING ROD INSERTION LIMITS

Up to $425 +10/-10$ EFPD, the APSRs may be positioned as necessary for transient imbalance control, however, the APSRs shall be fully withdrawn by $425 +10/-10$ EFPD. After $425 +10/-10$ EFPD, the APSRs shall not be reinserted.

VALUES ARE REFERRED TO BY
TECHNICAL SPECIFICATION 3.5.2.4

ANO-1 CYCLE 12 TILT SETPOINTS

WINDOW (EFPD)	Full Incore Tilt Setpoint (%)	Maximum Setpoint (%) ^A
0 To 300 +10/-10	4.24	25
300 +10/-10 To EOC	4.14	25

WINDOW (EFPD)	Excore Tilt Setpoint (%)	Minimum Incore Tilt Setpoint (%)
0 EFPD To EOC	1.96	1.90

^A Independent of tilt measurement system.