

QA CONDITION 1

DUKE POWER COMPANY  
OCONEE 1 CYCLE 13  
CORE OPERATING LIMITS REPORT  
REVISION 0  
JANUARY 15, 1990

REFERENCE OSC-3727

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Oconee Nuclear Station  
Unit 1 Cycle 13  
Core Operating Limits Report  
Revision 0

REVISION LOG

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## 1.0 Core Operating Limits

This Core Operating Limits Report for 01C13 has been prepared in accordance with the requirements of Technical Specification 6.9. The core operating limits have been developed using NRC-approved methodology (Reference 1) and are documented in Reference 2. The Reactor Coolant System design flow used in Reference 2 for 01C13 is 108.5% (of 88,000 gpm per RCP).

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

- 1) RPS Safety Limits.
- 2) Steady State Operating Band,
- 3) Operational power-imbalance limits, and
- 4) Operational and shutdown margin-limited control rod position limits.

## 1.1 References

1. Duke Power Company, Oconee Nuclear Station, Reload Design Methodology II, DPC-NE-1002A, October 1985.
2. 01C13 Maneuvering Analysis, Duke Power Company calculational file, OSC-3727, Revision 0, January 1990.

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RPS Safety Limit Breakpoints

|        | POWER<br>% OF 2568MW | IMBALANCE<br>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              |
|        | 72.9                 | -48.00              |
|        | 84.9                 | -31.10              |
|        | 84.9                 | 31.10               |
|        | 72.9                 | 48.00               |
|        | 0.0                  | 48.00               |

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Steady State Operating Band

| RI, %WD |     | APSR, %WD |     |
|---------|-----|-----------|-----|
| MIN     | MAX | MIN       | MAX |
| ---     | --- | ---       | --- |
| 292     | 300 | 30        | 40  |

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Operational Power Imbalance Breakpoints

|        | POWER<br>% OF 2568MW | IMBALANCE<br>LIMITS |
|--------|----------------------|---------------------|
| 4 PUMP | 0.0                  | -31.56              |
|        | 80.0                 | -31.56              |
|        | 90.0                 | -28.31              |
|        | 102.0                | -18.28              |
|        | 102.0                | 30.18               |
|        | 90.0                 | 31.28               |
|        | 80.0                 | 32.29               |
|        | 0.0                  | 32.29               |
| 3 PUMP | 0.0                  | -31.56              |
|        | 77.0                 | -31.56              |
|        | 77.0                 | 32.29               |
|        | 0.0                  | 32.29               |

Referred to by Tech. Spec. 3.5.2.6

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ROD INDEX OPERATIONAL LIMITS

0 EFPD to EOC

|        | POWER<br>% OF 2568MW | RI, %WD |       |
|--------|----------------------|---------|-------|
|        |                      | MIN     | MAX   |
| 4 PUMP | 102                  | 260.0   | 300.0 |
|        | 90                   | 260.0   | 300.0 |
|        | 80                   | 240.0   | 300.0 |
|        | 50                   | 200.0   | 300.0 |
|        | 15                   | 90.0    | 300.0 |
|        | 5                    | 0.0     | 300.0 |
| 3 PUMP | 77                   | 236.0   | 300.0 |
|        | 50                   | 200.0   | 300.0 |
|        | 15                   | 90.0    | 300.0 |
|        | 5                    | 0.0     | 300.0 |
|        |                      |         |       |

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

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ROD INDEX SHUTDOWN MARGIN LIMITS

0 EFPD to EOC

|        | POWER<br>% OF 2568MW | RI, %WD |       |
|--------|----------------------|---------|-------|
|        |                      | MIN     | MAX   |
| 4 PUMP | 102                  | 220.0   | 300.0 |
|        | 50                   | 160.0   | 300.0 |
|        | 15                   | 90.0    | 300.0 |
|        | 5                    | 0.0     | 300.0 |
| 3 PUMP | 77                   | 210.0   | 300.0 |
|        | 50                   | 160.0   | 300.0 |
|        | 15                   | 90.0    | 300.0 |
|        | 5                    | 0.0     | 300.0 |

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