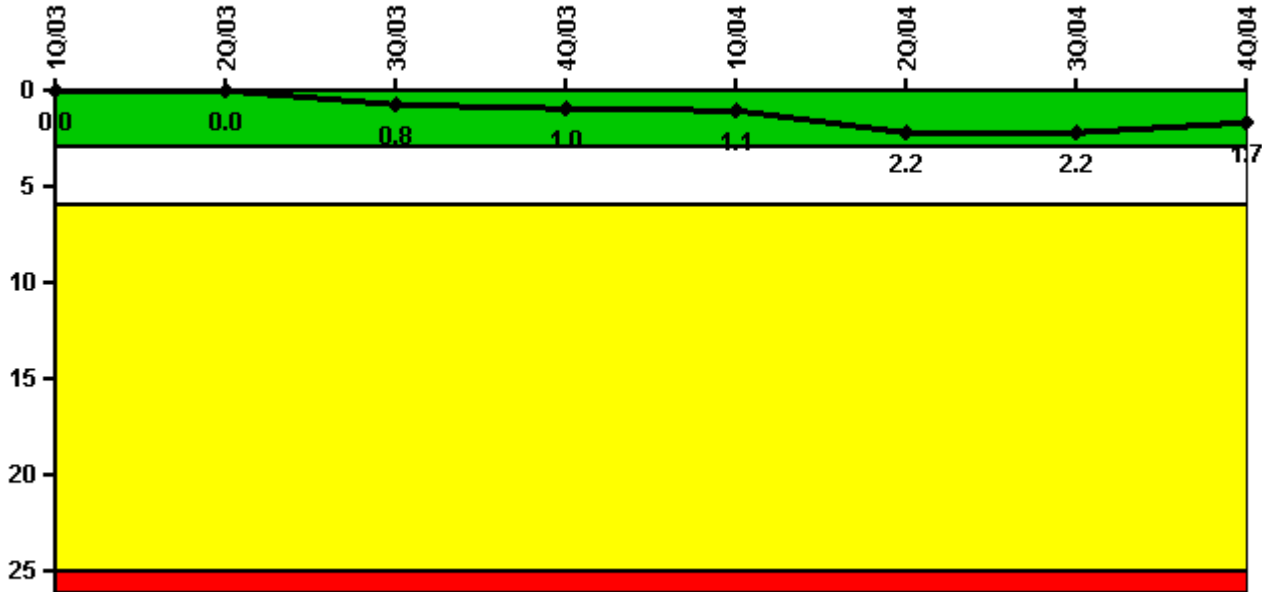


Palo Verde 2

4Q/2004 Performance Indicators

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs



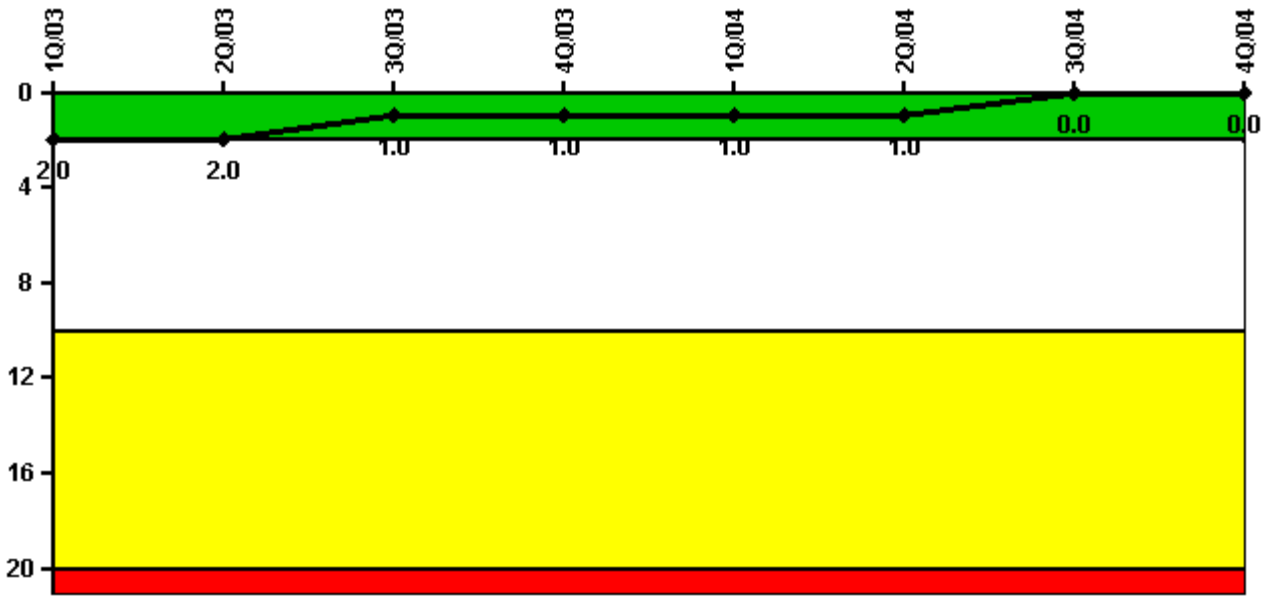
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

| Unplanned Scrams per 7000 Critical Hrs | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|--|--------|--------|--------|-------|--------|--------|--------|--------|
| Unplanned scrams | 0 | 0 | 1.0 | 0 | 0 | 1.0 | 1.0 | 0 |
| Critical hours | 2160.0 | 2184.0 | 2071.9 | 461.9 | 1751.5 | 2072.5 | 2148.4 | 2208.0 |
| Indicator value | 0 | 0 | 0.8 | 1.0 | 1.1 | 2.2 | 2.2 | 1.7 |

Licensee Comments: none

Scrams with Loss of Normal Heat Removal



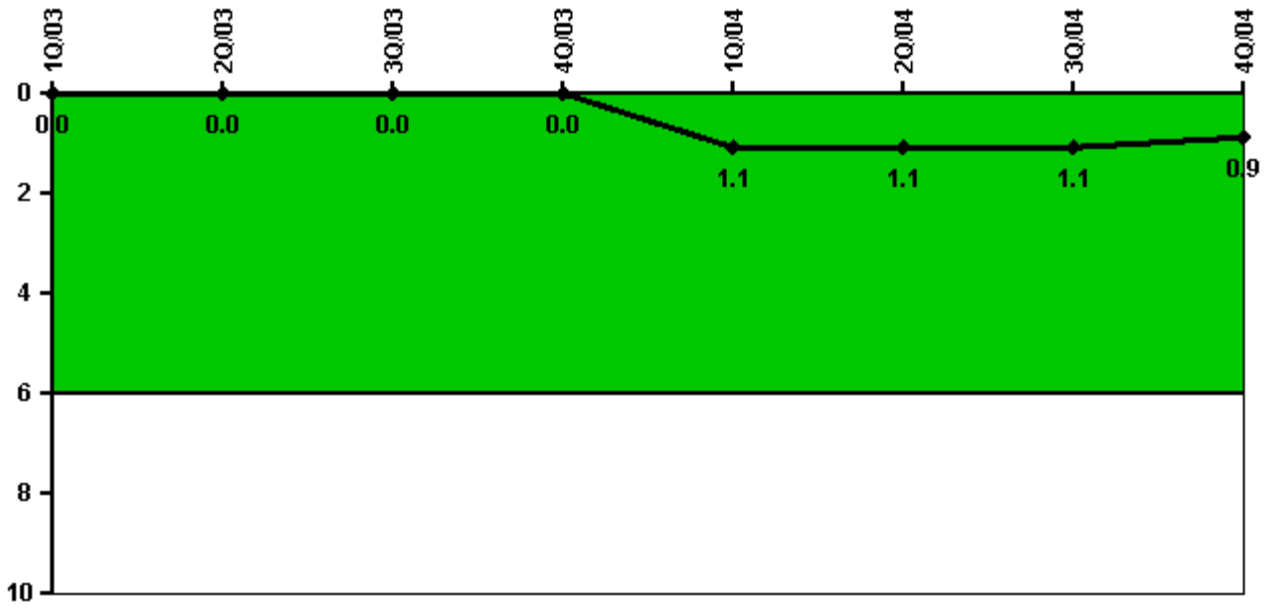
Thresholds: White > 2.0 Yellow > 10.0 Red > 20.0

Notes

| Scrams with Loss of Normal Heat Removal | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Scrams | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Indicator value | 2.0 | 2.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0 | 0 |

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



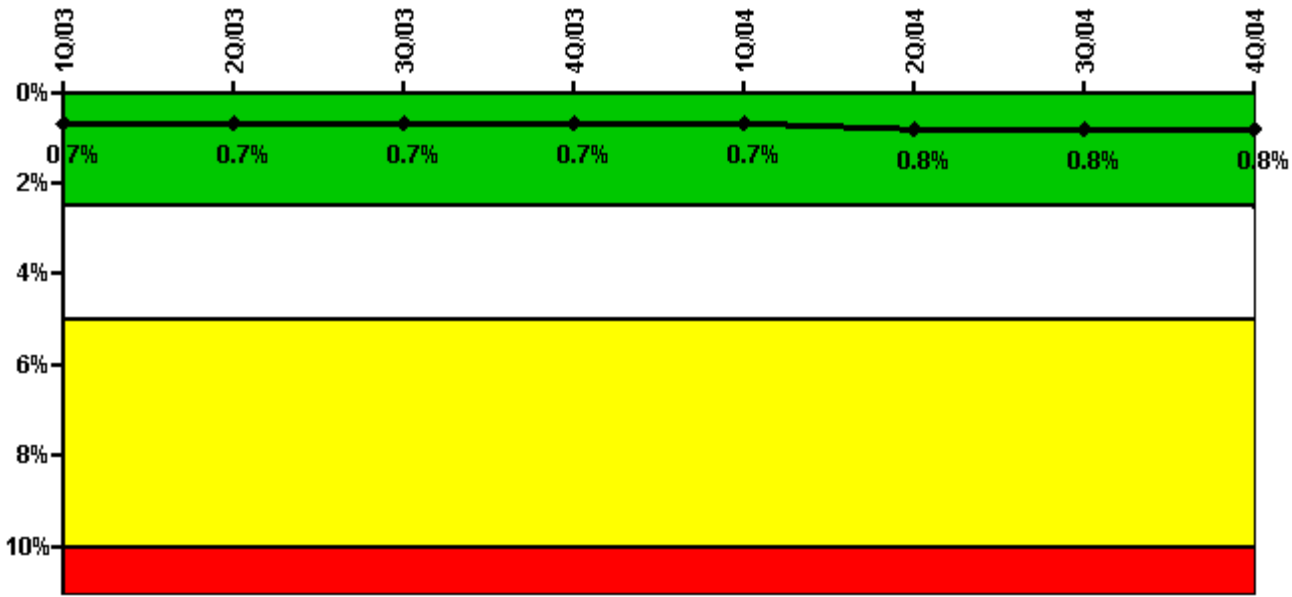
Thresholds: White > 6.0

Notes

| Unplanned Power Changes per 7000 Critical Hrs | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|---|--------|--------|--------|-------|--------|--------|--------|--------|
| Unplanned power changes | 0 | 0 | 0 | 0 | 1.0 | 0 | 0 | 0 |
| Critical hours | 2160.0 | 2184.0 | 2071.9 | 461.9 | 1751.5 | 2072.5 | 2148.4 | 2208.0 |
| Indicator value | 0 | 0 | 0 | 0 | 1.1 | 1.1 | 1.1 | 0.9 |

Licensee Comments: none

Safety System Unavailability, Emergency AC Power



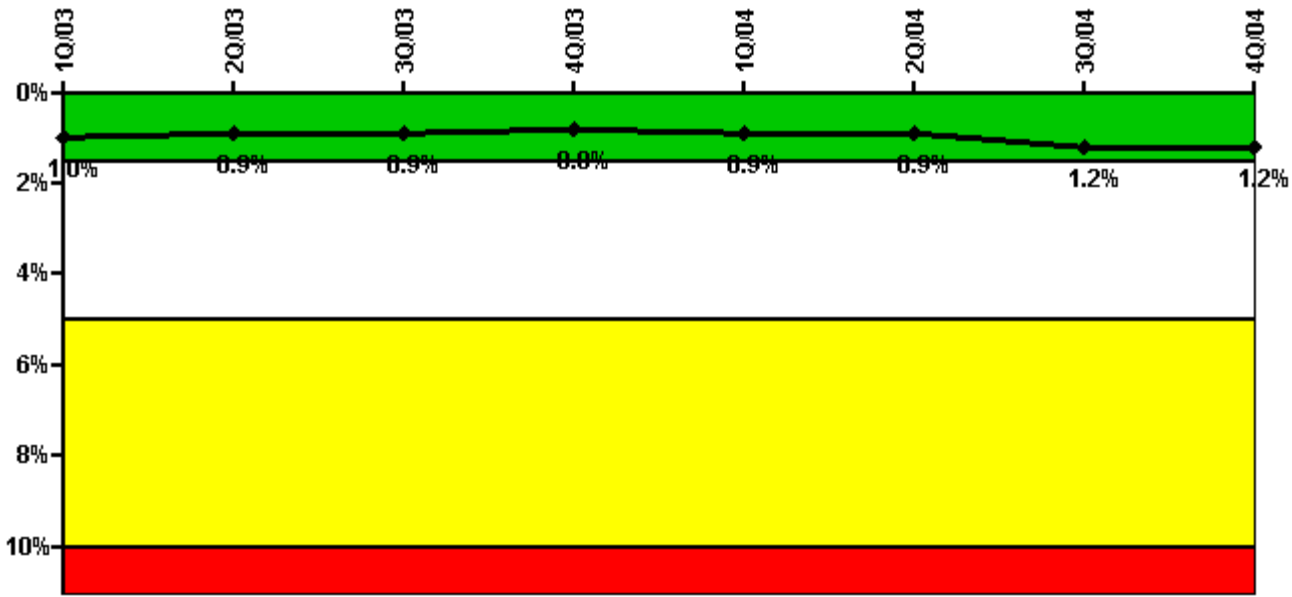
Thresholds: White > 2.5% Yellow > 5.0% Red > 10.0%

Notes

| Safety System Unavailability, Emergency AC Power | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Train 1 | | | | | | | | |
| Planned unavailable hours | 10.21 | 20.46 | 2.24 | 0.03 | 4.94 | 19.21 | 26.25 | 5.58 |
| Unplanned unavailable hours | 0.52 | 0 | 0 | 0 | 0 | 68.95 | 0 | 11.58 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 2160.00 | 2184.00 | 2208.00 | 2208.00 | 2184.00 | 2184.00 | 2208.00 | 2208.00 |
| Train 2 | | | | | | | | |
| Planned unavailable hours | 26.76 | 0.06 | 25.27 | 0.02 | 18.54 | 0.06 | 43.47 | 0.81 |
| Unplanned unavailable hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.67 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 2160.00 | 2184.00 | 2208.00 | 2208.00 | 2184.00 | 2184.00 | 2208.00 | 2208.00 |
| Indicator value | 0.7% | 0.7% | 0.7% | 0.7% | 0.7% | 0.8% | 0.8% | 0.8% |

Licensee Comments: none

Safety System Unavailability, High Pressure Injection System (HPSI)



Thresholds: White > 1.5% Yellow > 5.0% Red > 10.0%

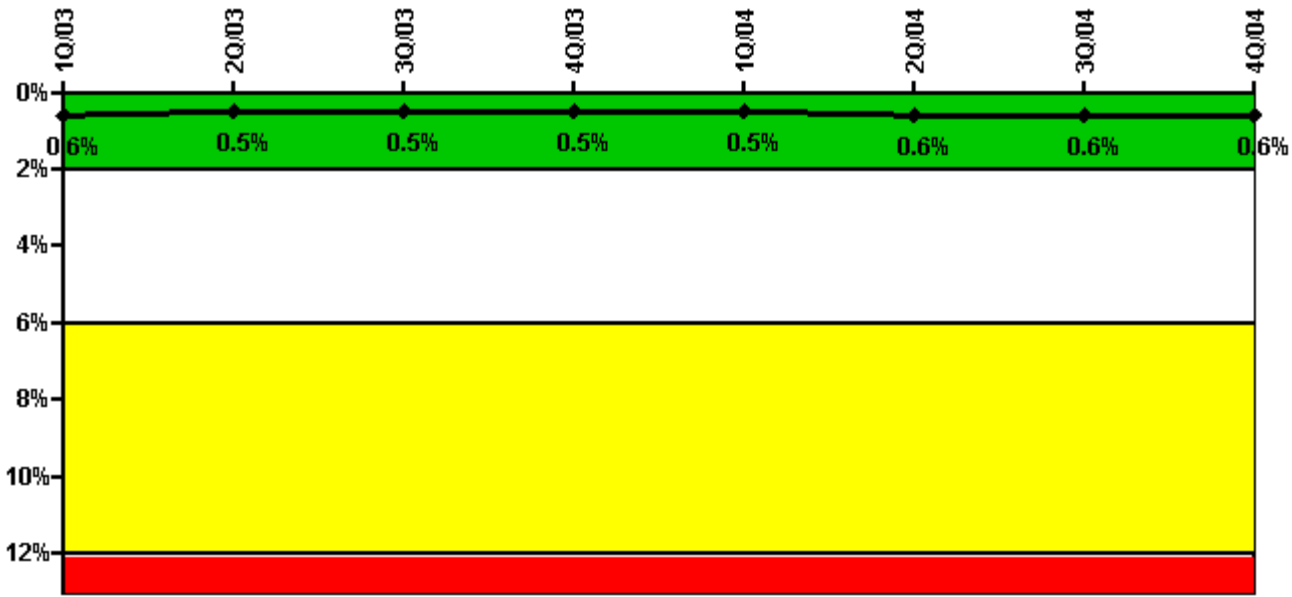
Notes

| Safety System Unavailability, High Pressure Injection System (HPSI) | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Train 1 | | | | | | | | |
| Planned unavailable hours | 18.55 | 4.49 | 6.86 | 5.67 | 21.39 | 24.01 | 105.57 | 17.77 |
| Unplanned unavailable hours | 14.45 | 0 | 0 | 0 | 0 | 6.90 | 0 | 0 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 2160.00 | 2184.00 | 2071.89 | 461.87 | 1751.46 | 2072.52 | 2148.43 | 2208.00 |
| Train 2 | | | | | | | | |
| Planned unavailable hours | 23.42 | 20.77 | 26.67 | 12.30 | 26.28 | 1.25 | 34.43 | 36.79 |
| Unplanned unavailable hours | 0 | 0 | 0 | 0 | 2.38 | 0 | 0 | 0 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 2160.00 | 2184.00 | 2071.89 | 461.87 | 1751.46 | 2072.52 | 2148.43 | 2208.00 |
| Indicator value | 1.0% | 0.9% | 0.9% | 0.8% | 0.9% | 0.9% | 1.2% | 1.2% |

Licensee Comments:

4Q/04: An engineering evaluation of HPSI unavailability due to air in the containment recirculation sump piping determined that the HPSI system may not have been able to perform its safety function in response to certain accident scenarios. The deficiency was not capable of being discovered during normal surveillance testing and as such is a design deficiency. The design deficiency has existed since initial plant operation. The condition is being evaluated under the NRC's Significance Determination Process and the associated fault exposure hours are not included in the calculation of the unavailability indicator in accordance with the provisions of NEI 99-02 "Equipment Unavailability due to Design Deficiency."

Safety System Unavailability, Heat Removal System (AFW)



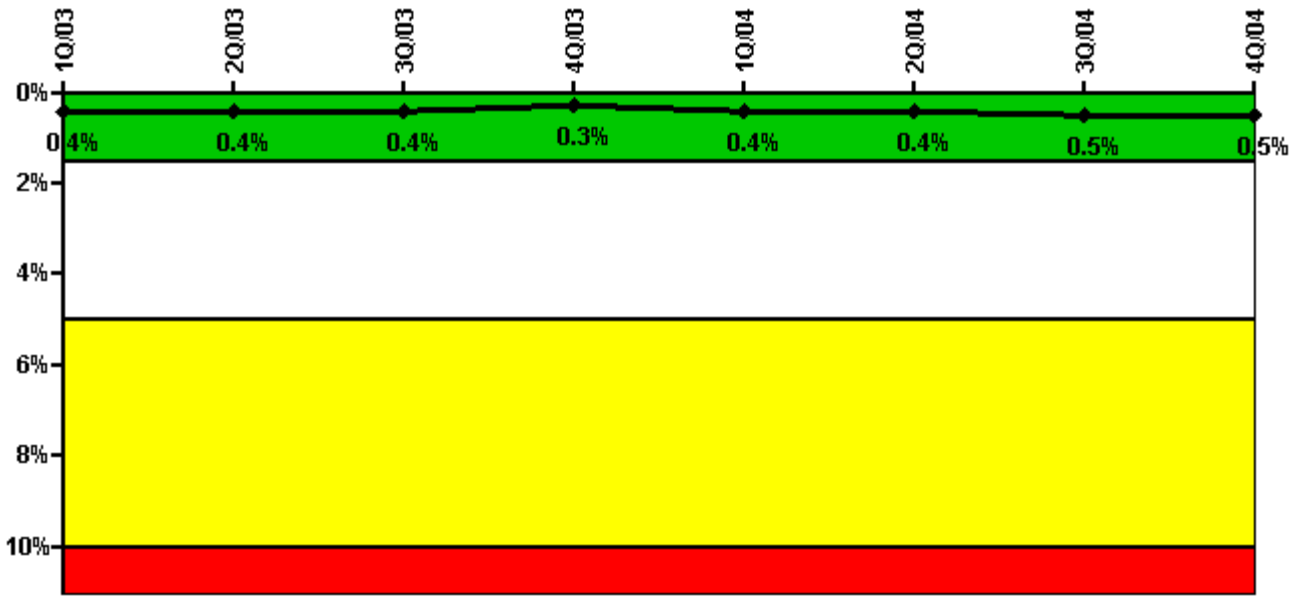
Thresholds: White > 2.0% Yellow > 6.0% Red > 12.0%

Notes

| Safety System Unavailability, Heat Removal System (AFW) | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Train 1 | | | | | | | | |
| Planned unavailable hours | 10.93 | 5.88 | 4.53 | 3.85 | 5.43 | 34.42 | 11.47 | 1.75 |
| Unplanned unavailable hours | 8.35 | 19.27 | 0 | 0 | 2.93 | 30.12 | 0 | 0 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 2160.00 | 2184.00 | 2071.89 | 461.87 | 1751.46 | 2072.52 | 2148.43 | 2208.00 |
| Train 2 | | | | | | | | |
| Planned unavailable hours | 11.15 | 1.08 | 8.23 | 0 | 11.63 | 1.23 | 16.13 | 34.43 |
| Unplanned unavailable hours | 0 | 0 | 0 | 0 | 2.38 | 0 | 0 | 0 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 2160.00 | 2184.00 | 2071.89 | 461.87 | 1751.46 | 2072.52 | 2148.43 | 2208.00 |
| Train 3 | | | | | | | | |
| Planned unavailable hours | 0.90 | 0.45 | 0.33 | 0 | 0.93 | 0.55 | 1.62 | 0.83 |
| Unplanned unavailable hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 2160.00 | 2184.00 | 2071.89 | 461.87 | 1751.46 | 2072.52 | 2148.43 | 2208.00 |
| Indicator value | 0.6% | 0.5% | 0.5% | 0.5% | 0.5% | 0.6% | 0.6% | 0.6% |

Licensee Comments: none

Safety System Unavailability, Residual Heat Removal System



Thresholds: White > 1.5% Yellow > 5.0% Red > 10.0%

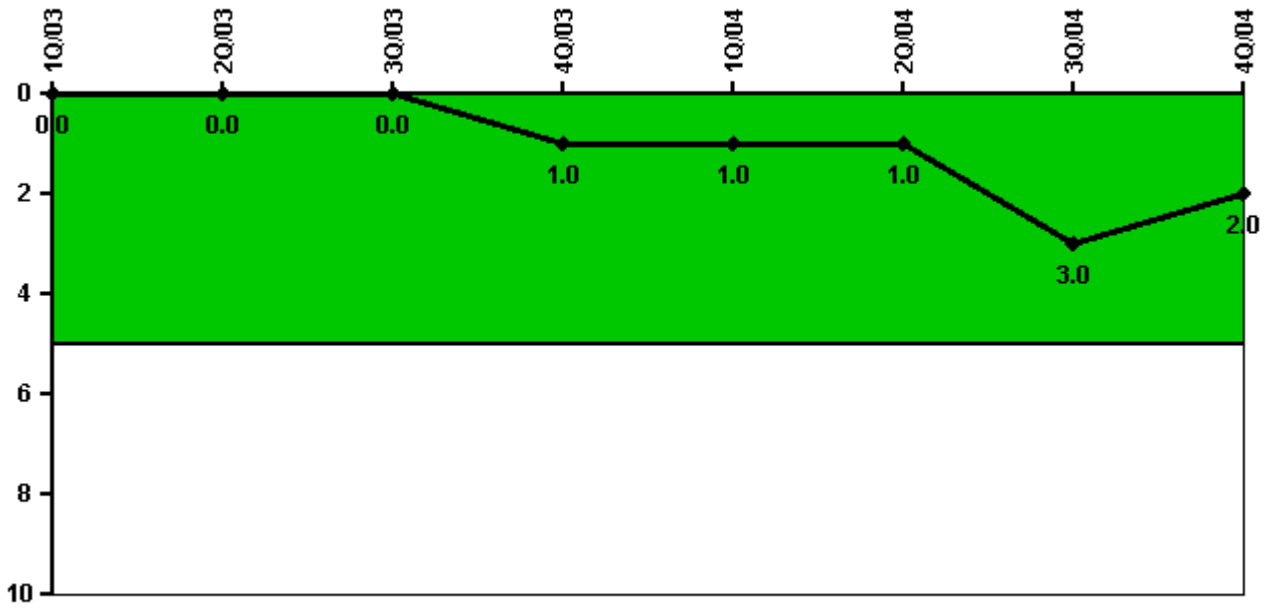
Notes

| Safety System Unavailability, Residual Heat Removal System | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Train 1 | | | | | | | | |
| Planned unavailable hours | 11.27 | 15.76 | 10.04 | 0.82 | 22.41 | 22.01 | 37.24 | 4.22 |
| Unplanned unavailable hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 2160.00 | 2184.00 | 2126.88 | 547.78 | 1818.22 | 2184.00 | 2208.00 | 2208.00 |
| Train 2 | | | | | | | | |
| Planned unavailable hours | 21.64 | 3.41 | 15.38 | 2.08 | 23.36 | 2.17 | 32.52 | 40.65 |
| Unplanned unavailable hours | 0 | 0 | 0 | 0 | 2.38 | 0 | 43.78 | 14.97 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 2160.00 | 2184.00 | 2126.88 | 547.78 | 1818.22 | 2184.00 | 2208.00 | 2208.00 |
| Train 3 | | | | | | | | |
| Planned unavailable hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Unplanned unavailable hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 0 | 0 | 81.12 | 364.45 | 284.00 | 0 | 0 | 0 |
| Train 4 | | | | | | | | |
| Planned unavailable hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Unplanned unavailable hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fault exposure hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Effective Reset hours | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Required hours | 0 | 0 | 81.12 | 330.30 | 299.63 | 0 | 0 | 0 |
| Indicator value | 0.4% | 0.4% | 0.4% | 0.3% | 0.4% | 0.4% | 0.5% | 0.5% |

Licensee Comments:

4Q/04: An engineering evaluation of RHR unavailability due to air in the containment recirculation sump piping determined that the RHR system was able to perform its intended safety function. No design deficiency existed. As such, no fault exposure hours are included in the calculation of the unavailability indicator.

Safety System Functional Failures (PWR)



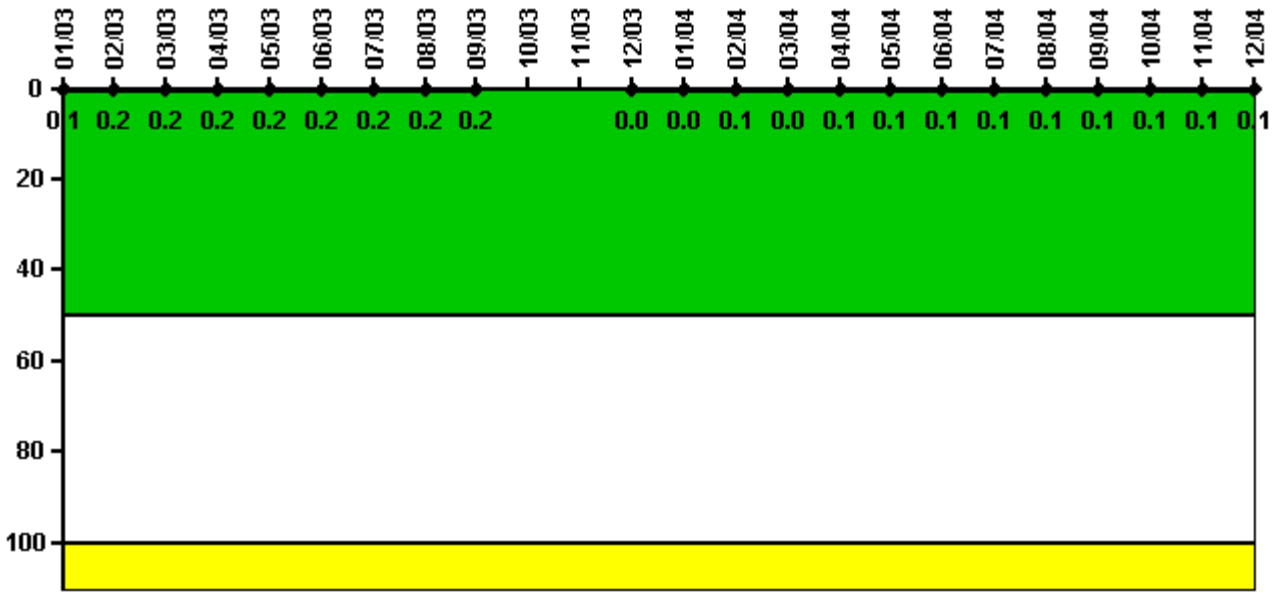
Thresholds: White > 5.0

Notes

| Safety System Functional Failures (PWR) | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Safety System Functional Failures | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 |
| Indicator value | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 2 |

Licensee Comments: none

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

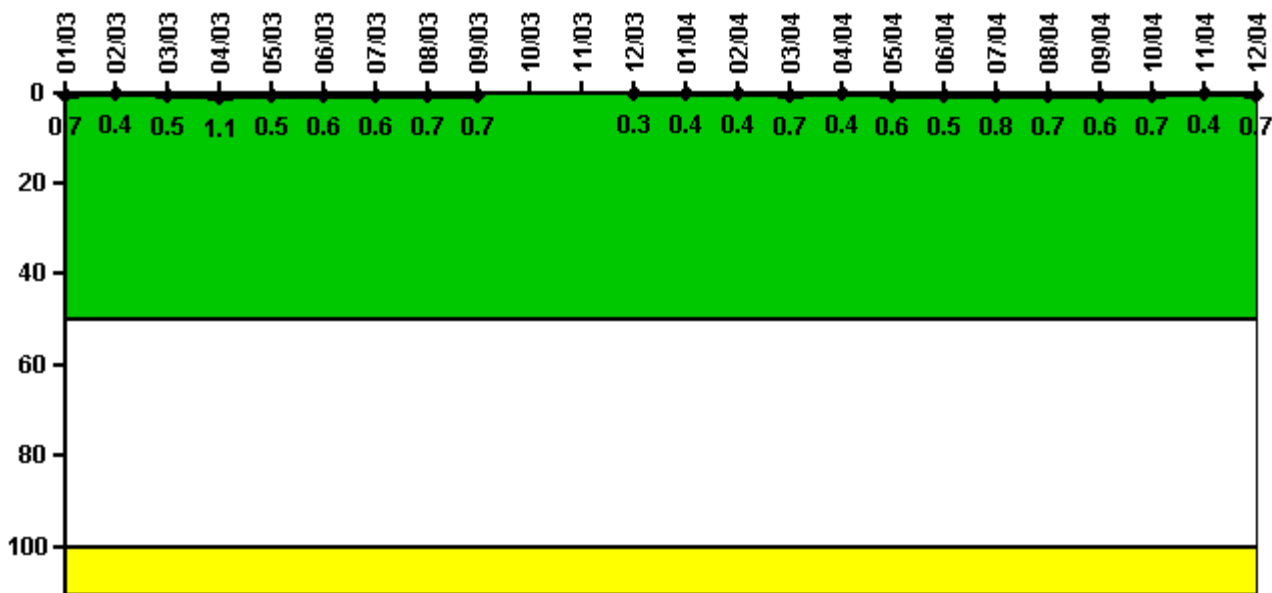
Notes

| Reactor Coolant System Activity | 1/03 | 2/03 | 3/03 | 4/03 | 5/03 | 6/03 | 7/03 | 8/03 | 9/03 | 10/03 | 11/03 | 12/03 |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|-------|----------|
| Maximum activity | 0.001000 | 0.002000 | 0.002000 | 0.002000 | 0.002000 | 0.002000 | 0.002000 | 0.002000 | 0.002000 | N/A | N/A | 0.000490 |
| Technical specification limit | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Indicator value | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | N/A | N/A | 0 |

| Reactor Coolant System Activity | 1/04 | 2/04 | 3/04 | 4/04 | 5/04 | 6/04 | 7/04 | 8/04 | 9/04 | 10/04 | 11/04 | 12/04 |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Maximum activity | 0.000449 | 0.000513 | 0.000461 | 0.000511 | 0.000543 | 0.000551 | 0.000536 | 0.000573 | 0.000598 | 0.000597 | 0.000588 | 0.000634 |
| Technical specification limit | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Indicator value | 0 | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |

Licensee Comments: none

Reactor Coolant System Leakage



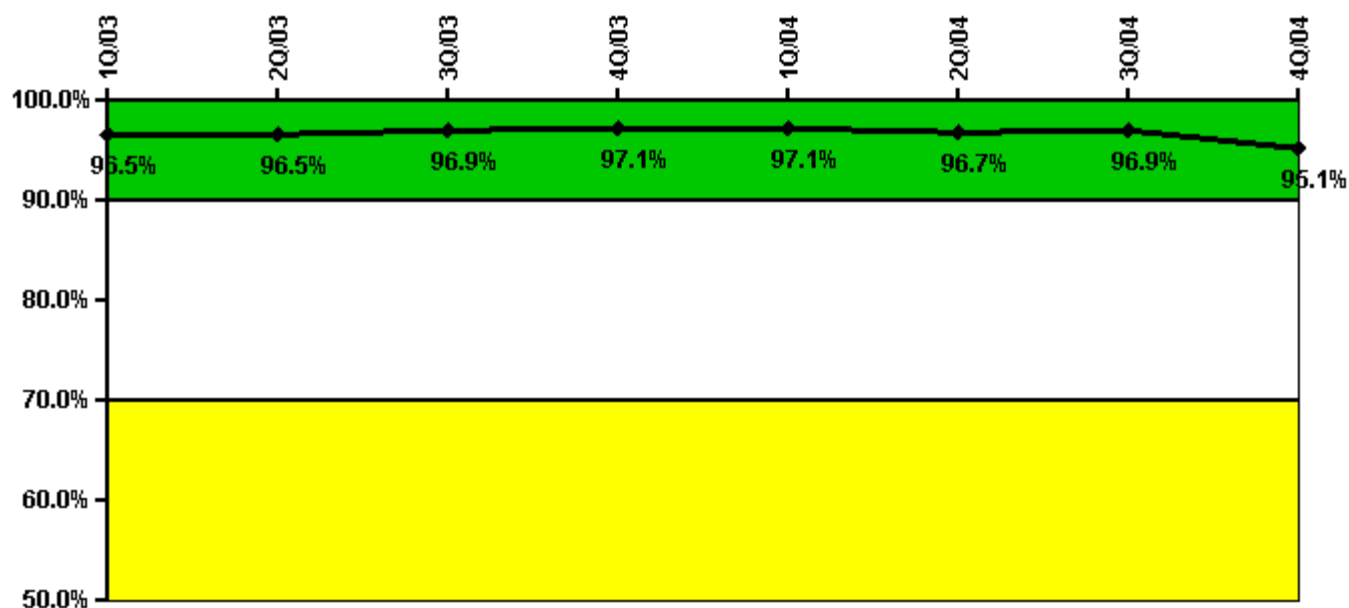
Thresholds: White > 50.0 Yellow > 100.0

Notes

| Reactor Coolant System Leakage | 1/03 | 2/03 | 3/03 | 4/03 | 5/03 | 6/03 | 7/03 | 8/03 | 9/03 | 10/03 | 11/03 | 12/03 |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum leakage | 0.071 | 0.037 | 0.045 | 0.108 | 0.049 | 0.055 | 0.064 | 0.066 | 0.069 | N/A | N/A | 0.028 |
| Technical specification limit | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Indicator value | 0.7 | 0.4 | 0.5 | 1.1 | 0.5 | 0.6 | 0.6 | 0.7 | 0.7 | N/A | N/A | 0.3 |
| Reactor Coolant System Leakage | 1/04 | 2/04 | 3/04 | 4/04 | 5/04 | 6/04 | 7/04 | 8/04 | 9/04 | 10/04 | 11/04 | 12/04 |
| Maximum leakage | 0.039 | 0.043 | 0.069 | 0.042 | 0.056 | 0.054 | 0.080 | 0.074 | 0.061 | 0.068 | 0.038 | 0.067 |
| Technical specification limit | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Indicator value | 0.4 | 0.4 | 0.7 | 0.4 | 0.6 | 0.5 | 0.8 | 0.7 | 0.6 | 0.7 | 0.4 | 0.7 |

Licensee Comments: none

Drill/Exercise Performance



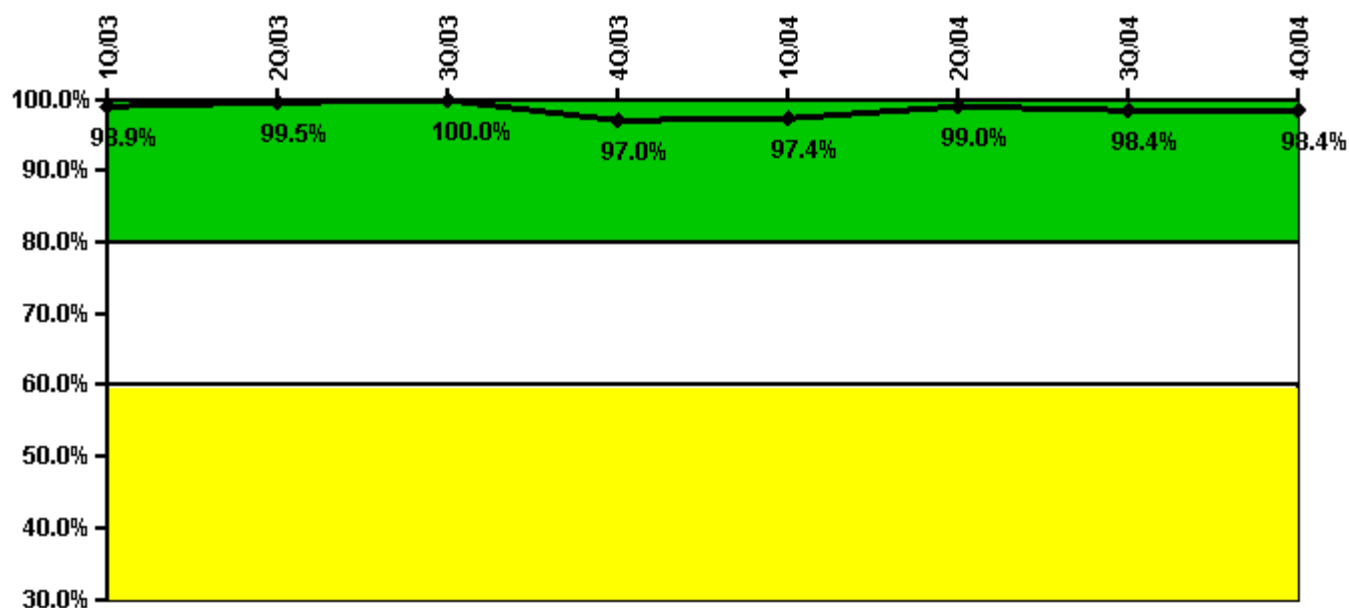
Thresholds: White < 90.0% Yellow < 70.0%

Notes

| Drill/Exercise Performance | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Successful opportunities | 14.0 | 8.0 | 280.0 | 38.0 | 19.0 | 14.0 | 111.0 | 97.0 |
| Total opportunities | 18.0 | 8.0 | 287.0 | 38.0 | 20.0 | 17.0 | 112.0 | 111.0 |
| Indicator value | 96.5% | 96.5% | 96.9% | 97.1% | 97.1% | 96.7% | 96.9% | 95.1% |

Licensee Comments: none

ERO Drill Participation



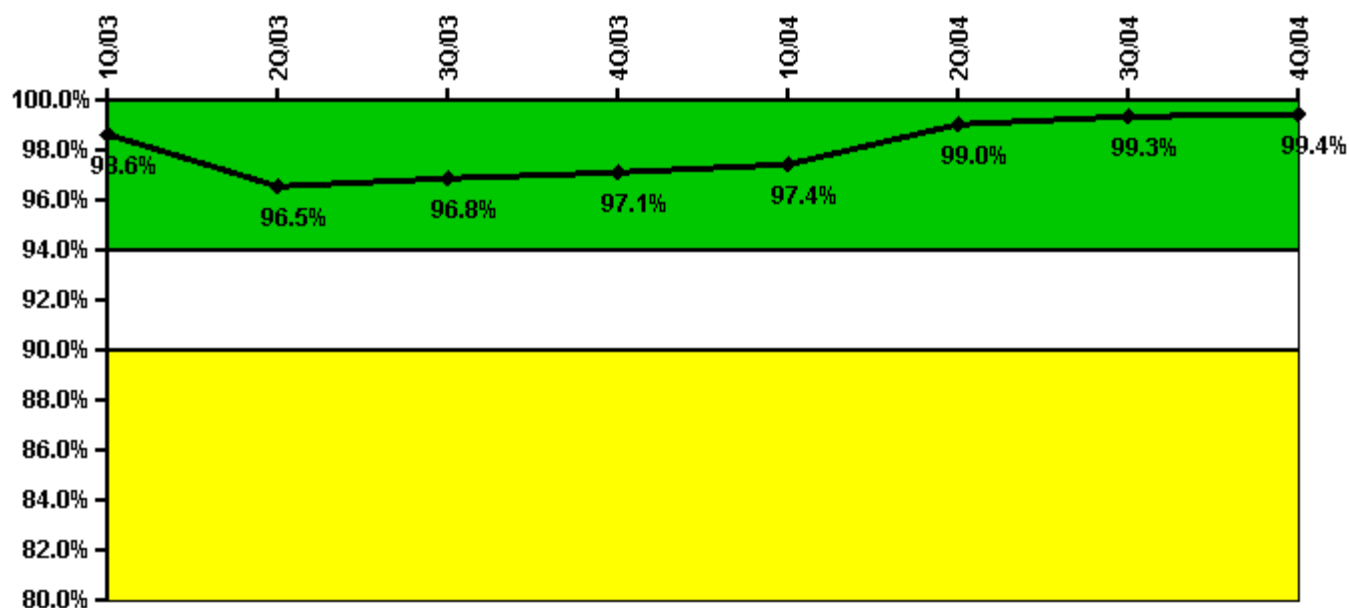
Thresholds: White < 80.0% Yellow < 60.0%

Notes

| ERO Drill Participation | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|-----------------------------|-------|-------|--------|-------|-------|-------|-------|-------|
| Participating Key personnel | 181.0 | 181.0 | 182.0 | 194.0 | 189.0 | 193.0 | 188.0 | 188.0 |
| Total Key personnel | 183.0 | 182.0 | 182.0 | 200.0 | 194.0 | 195.0 | 191.0 | 191.0 |
| Indicator value | 98.9% | 99.5% | 100.0% | 97.0% | 97.4% | 99.0% | 98.4% | 98.4% |

Licensee Comments: none

Alert & Notification System



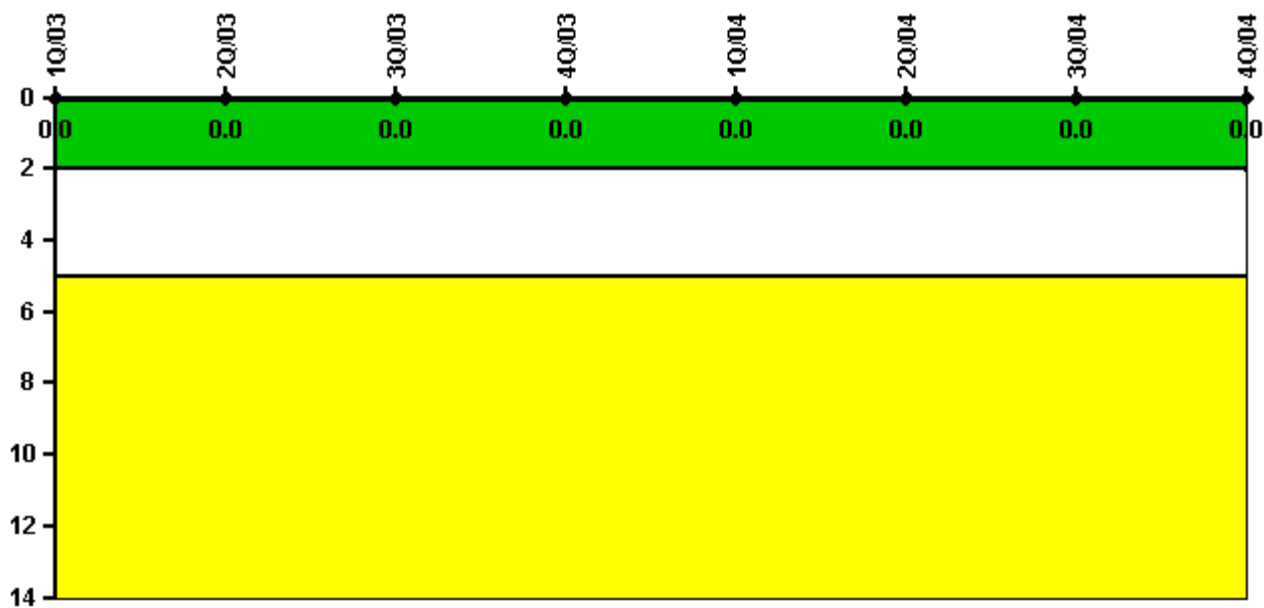
Thresholds: White < 94.0% Yellow < 90.0%

Notes

| Alert & Notification System | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Successful siren-tests | 349 | 503 | 700 | 867 | 712 | 798 | 792 | 872 |
| Total sirens-tests | 349 | 546 | 714 | 882 | 714 | 798 | 798 | 882 |
| Indicator value | 98.6% | 96.5% | 96.8% | 97.1% | 97.4% | 99.0% | 99.3% | 99.4% |

Licensee Comments: none

Occupational Exposure Control Effectiveness



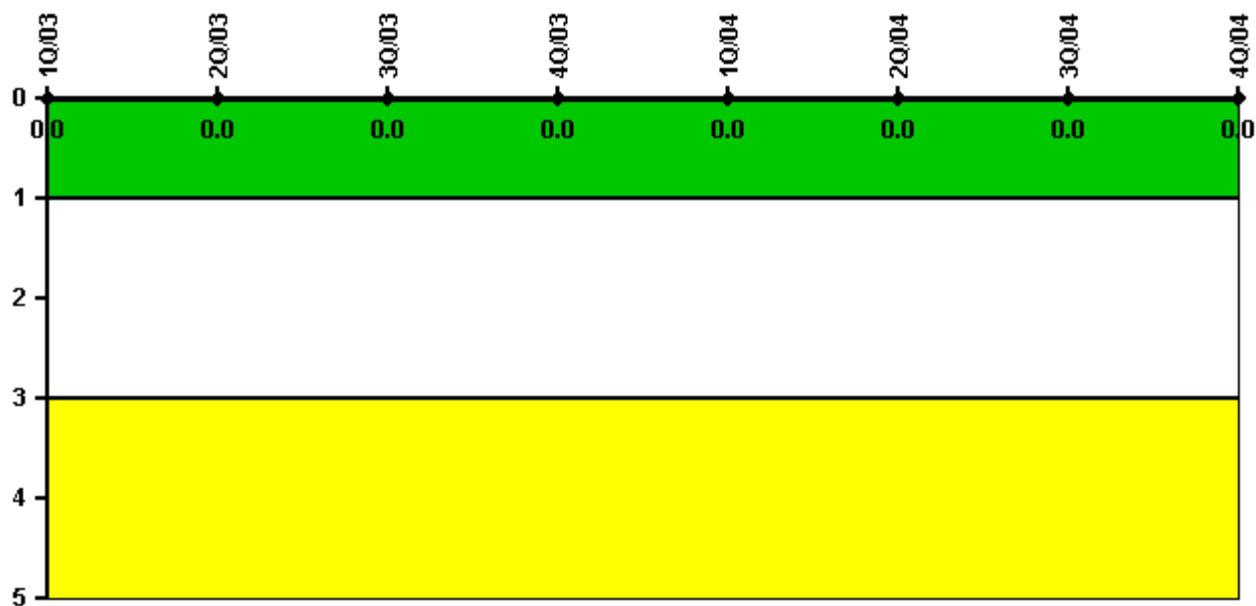
Thresholds: White > 2.0 Yellow > 5.0

Notes

| Occupational Exposure Control Effectiveness | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| High radiation area occurrences | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Very high radiation area occurrences | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Unintended exposure occurrences | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Indicator value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Licensee Comments: none

RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

Notes

| RETS/ODCM Radiological Effluent | 1Q/03 | 2Q/03 | 3Q/03 | 4Q/03 | 1Q/04 | 2Q/04 | 3Q/04 | 4Q/04 |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| RETS/ODCM occurrences | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Indicator value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Licensee Comments: none

[Physical Protection](#) information not publicly available.

▲ [Action Matrix Summary](#) | [Inspection Findings Summary](#) | [PI Summary](#) | [Reactor Oversight Process](#)

Last Modified: March 9, 2005