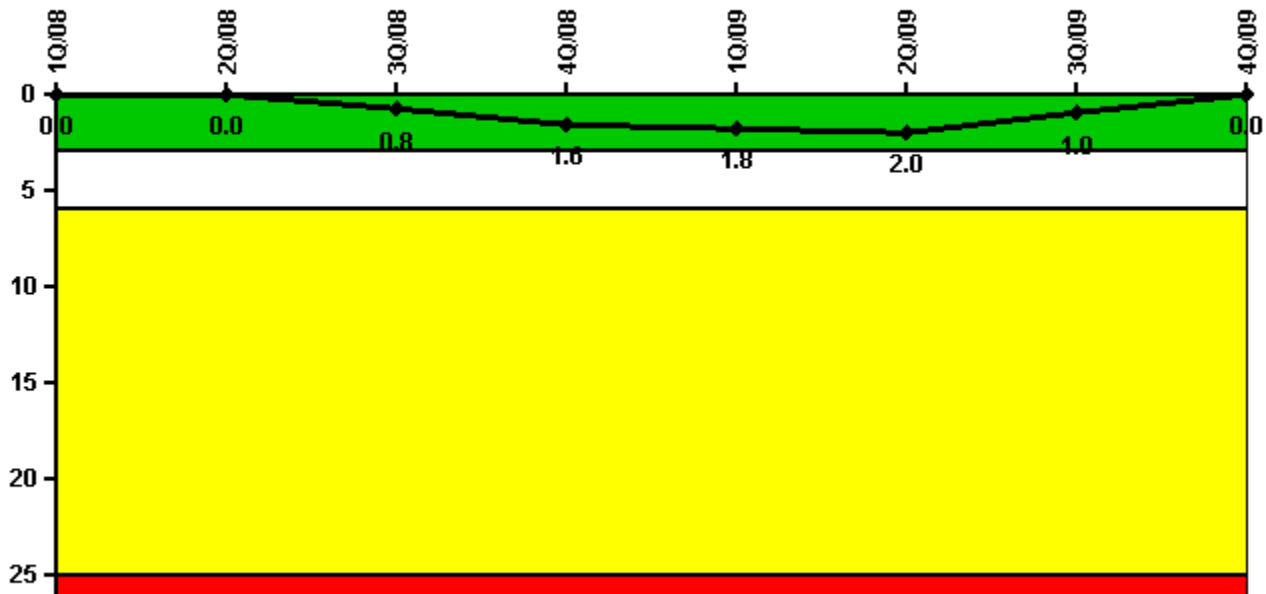


# Brunswick 2

## 4Q/2009 Performance Indicators

Licensee's General Comments: A Change File for HPCI is required due to the addition of Failure #1679, that was not reported from January 2009 (failure of HPCI barometric condenser condensate pump). This additional failure resulted in under-reporting of MSPI from 2.4E-7 to 3.8E-7 (for the worst case month). The color for HPCI remained Green over this period. A Change File for RCIC is required this quarter due to the addition of missed Unavailability hours from OPT-10.1.1, which added approximately 1 hour per quarter since the 2nd quarter 2008. The reported MSPI values for RCIC did not change over this time period and the color remained Green.

### Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

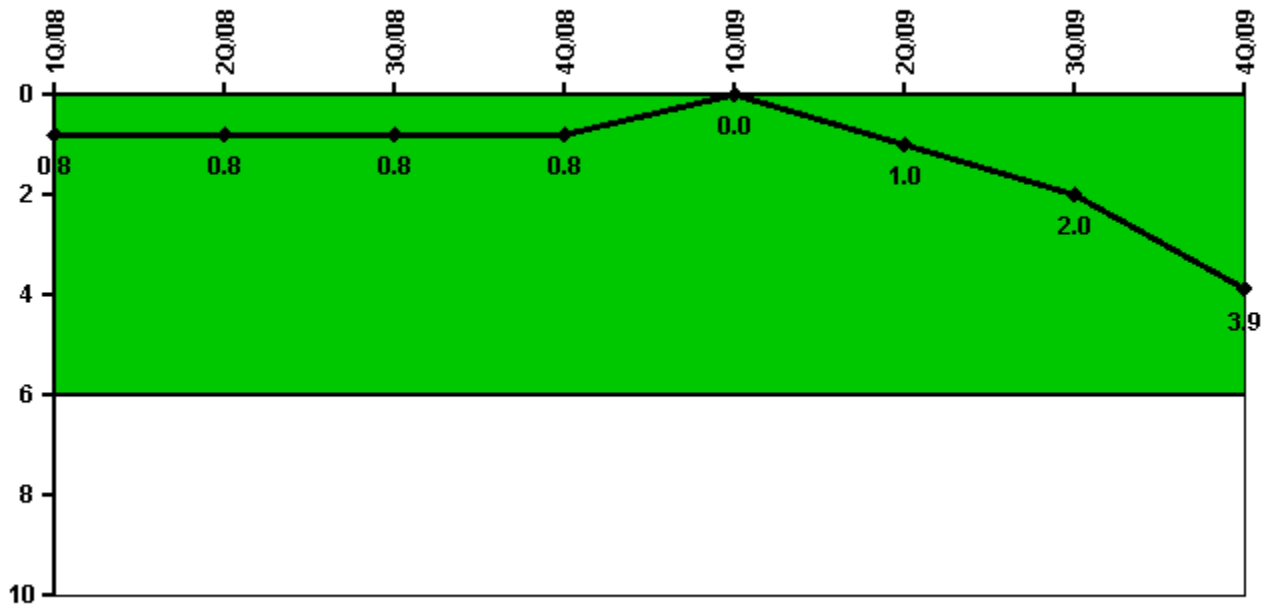
### Notes

| Unplanned Scrams per 7000 Critical Hrs | 1Q/08  | 2Q/08  | 3Q/08  | 4Q/08  | 1Q/09  | 2Q/09  | 3Q/09  | 4Q/09  |
|----------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Unplanned scrams                       | 0      | 0      | 1.0    | 1.0    | 0      | 0      | 0      | 0      |
| Critical hours                         | 2183.0 | 2184.0 | 2124.5 | 2061.5 | 1393.6 | 1572.1 | 1994.1 | 2209.0 |
|                                        |        |        |        |        |        |        |        |        |
| Indicator value                        | 0      | 0      | 0.8    | 1.6    | 1.8    | 2.0    | 1.0    | 0      |

Licensee Comments: none

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## Unplanned Power Changes per 7000 Critical Hrs



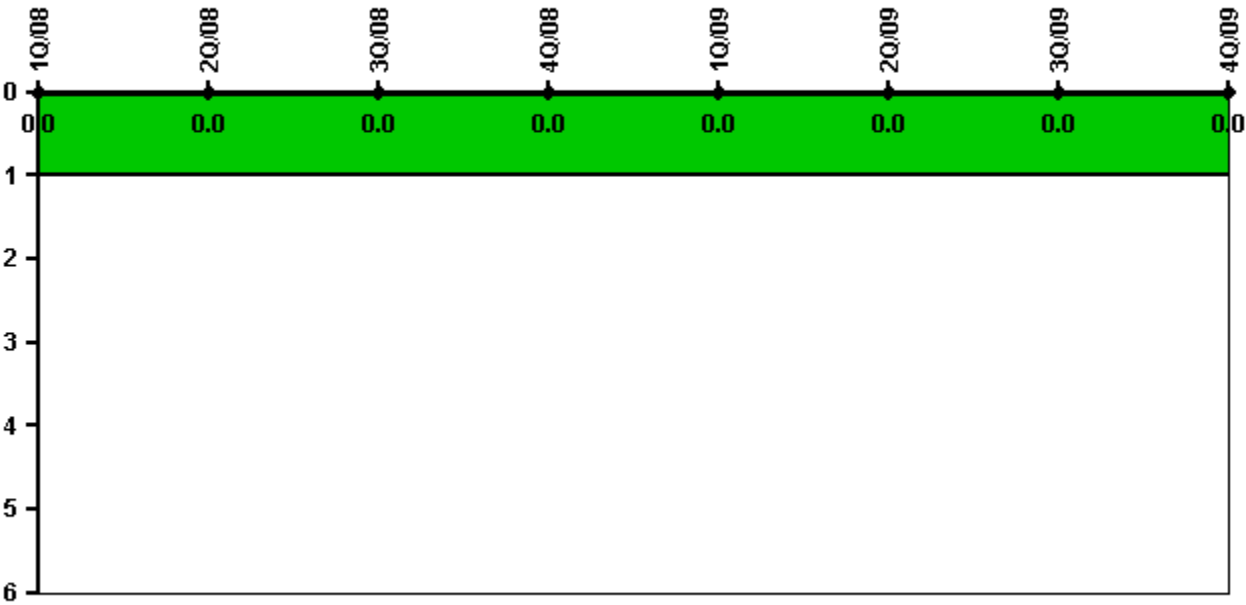
Thresholds: White > 6.0

### Notes

| Unplanned Power Changes per 7000 Critical Hrs | 1Q/08  | 2Q/08  | 3Q/08  | 4Q/08  | 1Q/09  | 2Q/09  | 3Q/09  | 4Q/09  |
|-----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Unplanned power changes                       | 1.0    | 0      | 0      | 0      | 0      | 1.0    | 1.0    | 2.0    |
| Critical hours                                | 2183.0 | 2184.0 | 2124.5 | 2061.5 | 1393.6 | 1572.1 | 1994.1 | 2209.0 |
|                                               |        |        |        |        |        |        |        |        |
| Indicator value                               | 0.8    | 0.8    | 0.8    | 0.8    | 0      | 1.0    | 2.0    | 3.9    |

Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

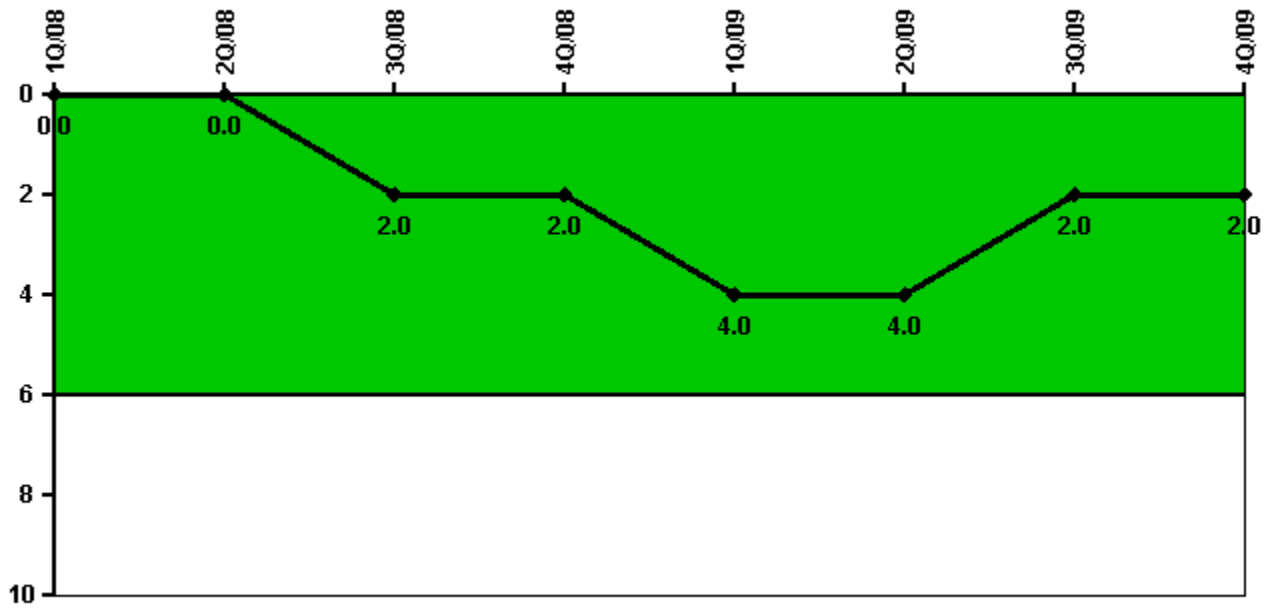
Notes

| Unplanned Scrams with Complications | 1Q / 08 | 2Q / 08 | 3Q / 08 | 4Q / 08 | 1Q / 09 | 2Q / 09 | 3Q / 09 | 4Q / 09 |
|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Scrams with complications           | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
|                                     |         |         |         |         |         |         |         |         |
|                                     |         |         |         |         |         |         |         |         |
| Indicator value                     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

Licensee Comments: none

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## Safety System Functional Failures (BWR)



Thresholds: White > 6.0

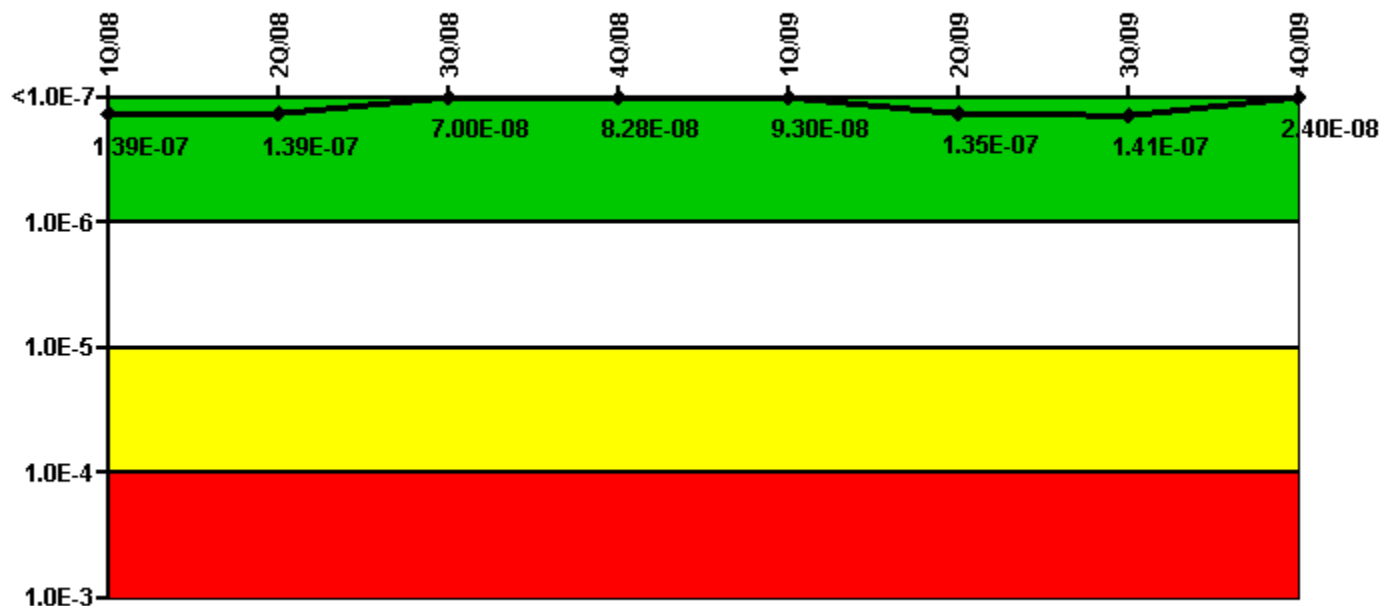
### Notes

| Safety System Functional Failures (BWR) | 1Q / 08 | 2Q / 08 | 3Q / 08 | 4Q / 08 | 1Q / 09 | 2Q / 09 | 3Q / 09 | 4Q / 09 |
|-----------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Safety System Functional Failures       | 0       | 0       | 2       | 0       | 2       | 0       | 0       | 0       |
|                                         |         |         |         |         |         |         |         |         |
| Indicator value                         | 0       | 0       | 2       | 2       | 4       | 4       | 2       | 2       |

Licensee Comments: none

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# Mitigating Systems Performance Index, Emergency AC Power System



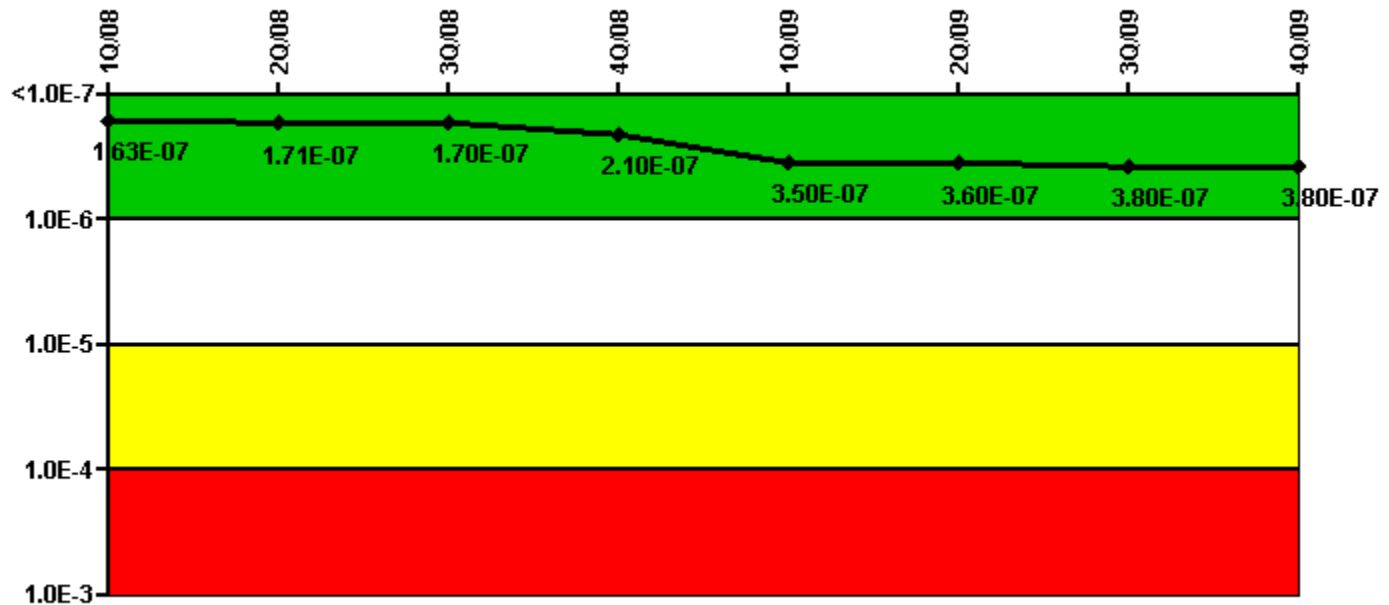
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

## Notes

| Mitigating Systems Performance Index, Emergency AC Power System | 1Q/08    | 2Q/08    | 3Q/08     | 4Q/08    | 1Q/09    | 2Q/09    | 3Q/09    | 4Q/09     |
|-----------------------------------------------------------------|----------|----------|-----------|----------|----------|----------|----------|-----------|
| UAI ( $\Delta$ CDF)                                             | 8.80E-09 | 8.90E-09 | -1.00E-08 | 3.80E-09 | 1.50E-08 | 1.50E-08 | 4.80E-08 | 4.50E-08  |
| URI ( $\Delta$ CDF)                                             | 1.30E-07 | 1.30E-07 | 8.00E-08  | 7.90E-08 | 7.80E-08 | 1.20E-07 | 9.30E-08 | -2.10E-08 |
| PLE                                                             | NO       | NO       | NO        | NO       | NO       | NO       | NO       | NO        |
|                                                                 |          |          |           |          |          |          |          |           |
| Indicator value                                                 | 1.39E-07 | 1.39E-07 | 7.00E-08  | 8.28E-08 | 9.30E-08 | 1.35E-07 | 1.41E-07 | 2.40E-08  |

Licensee Comments: none

## Mitigating Systems Performance Index, High Pressure Injection System



Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

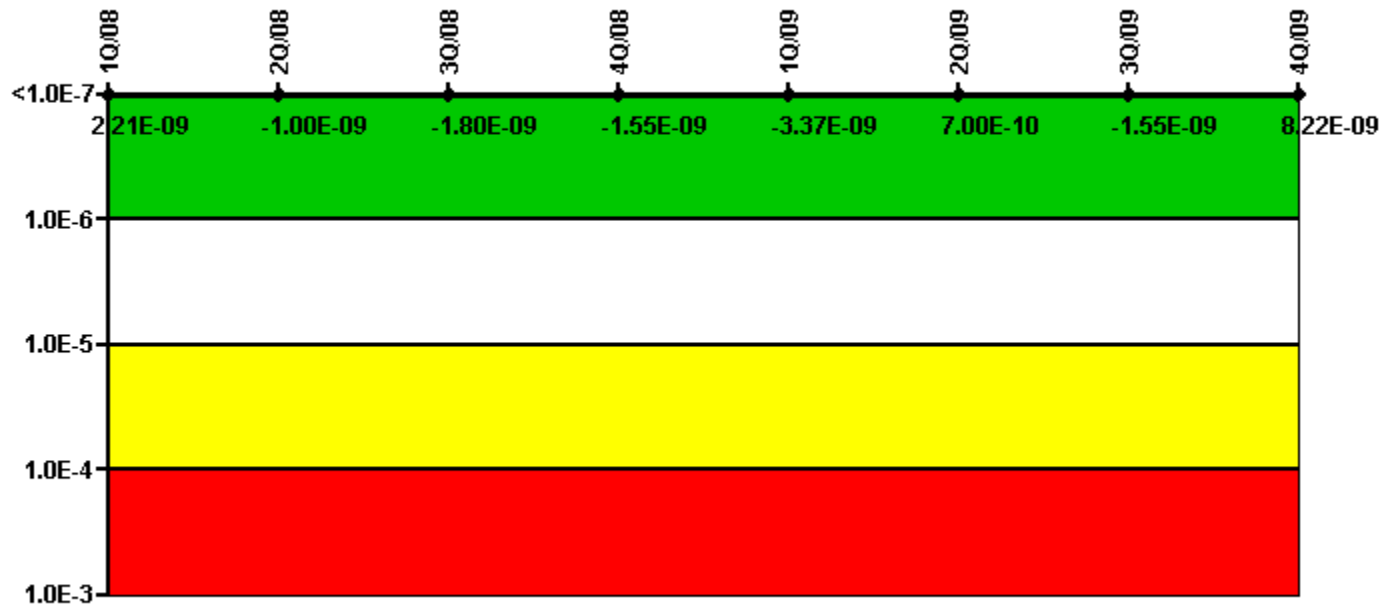
### Notes

| Mitigating Systems Performance Index, High Pressure Injection System | 1Q/08    | 2Q/08    | 3Q/08    | 4Q/08    | 1Q/09    | 2Q/09    | 3Q/09    | 4Q/09    |
|----------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| UAI (ΔCDF)                                                           | 9.20E-08 | 1.00E-07 | 1.00E-07 | 1.40E-07 | 1.40E-07 | 1.50E-07 | 1.70E-07 | 1.60E-07 |
| URI (ΔCDF)                                                           | 7.10E-08 | 7.10E-08 | 7.00E-08 | 7.00E-08 | 2.10E-07 | 2.10E-07 | 2.10E-07 | 2.20E-07 |
| PLE                                                                  | NO       | NO       | NO       | NO       | NO       | NO       | NO       | NO       |
| Indicator value                                                      | 1.63E-07 | 1.71E-07 | 1.70E-07 | 2.10E-07 | 3.50E-07 | 3.60E-07 | 3.80E-07 | 3.80E-07 |

Licensee Comments:

4Q/09: Revision to previously submitted data: A demand failure from January 27, 2009, was previously omitted and has now been classified as an MSPI failure (failure of the HPCI barometric condenser condensate pump). This change did not affect the color of the indicator and it remains Green, with greater than 60% margin remaining in the band.

## Mitigating Systems Performance Index, Heat Removal System



Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

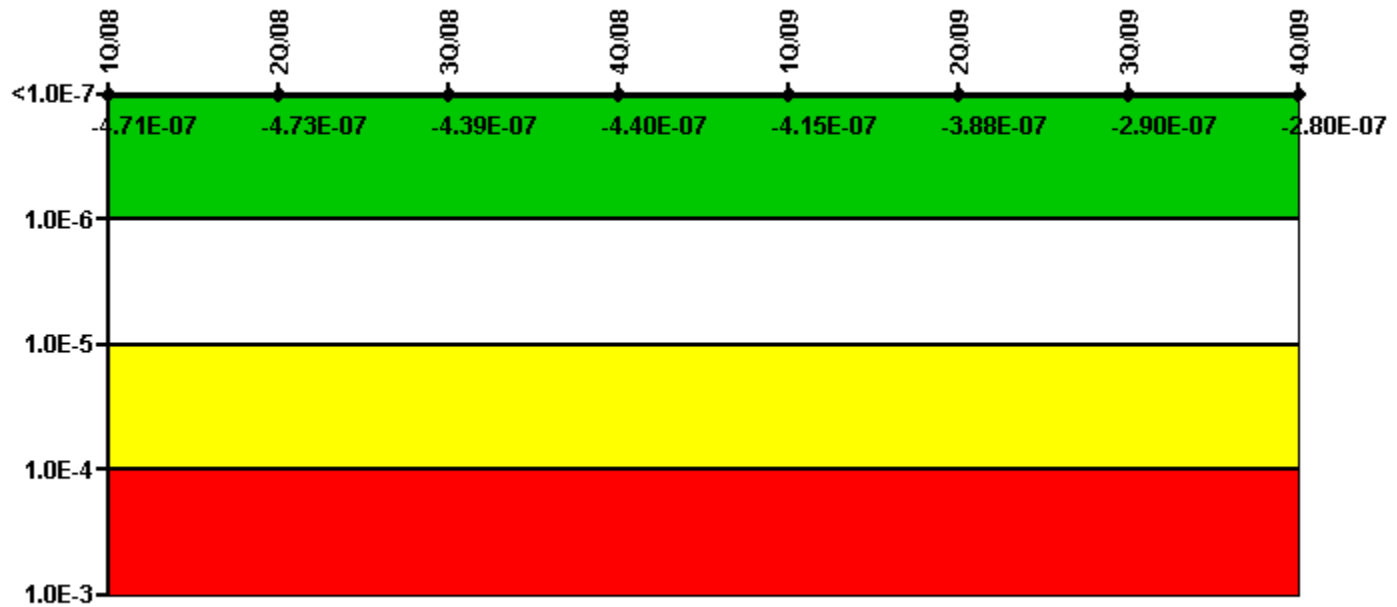
### Notes

| Mitigating Systems Performance Index, Heat Removal System | 1Q/08     | 2Q/08     | 3Q/08     | 4Q/08     | 1Q/09     | 2Q/09     | 3Q/09     | 4Q/09    |
|-----------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| UAI (ΔCDF)                                                | -9.90E-10 | -3.30E-09 | -3.20E-09 | -2.10E-09 | -3.10E-09 | 1.80E-09  | 2.50E-10  | 1.20E-10 |
| URI (ΔCDF)                                                | 3.20E-09  | 2.30E-09  | 1.40E-09  | 5.50E-10  | -2.70E-10 | -1.10E-09 | -1.80E-09 | 8.10E-09 |
| PLE                                                       | NO        | NO        | NO        | NO        | NO        | NO        | NO        | NO       |
| Indicator value                                           | 2.21E-09  | -1.00E-09 | -1.80E-09 | -1.55E-09 | -3.37E-09 | 7.00E-10  | -1.55E-09 | 8.22E-09 |

Licensee Comments:

4Q/09: Revision to previously submitted data: Unit 1 and Unit 2 RCIC required the addition of unavailable hours due to not reporting the performance of OPT-10.1.1. This added approximately 1 hour of planned unavailability per quarter beginning the 2nd quarter of 2008. This resulted in no change to the reported MSPI for this time period.

# Mitigating Systems Performance Index, Residual Heat Removal System



Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

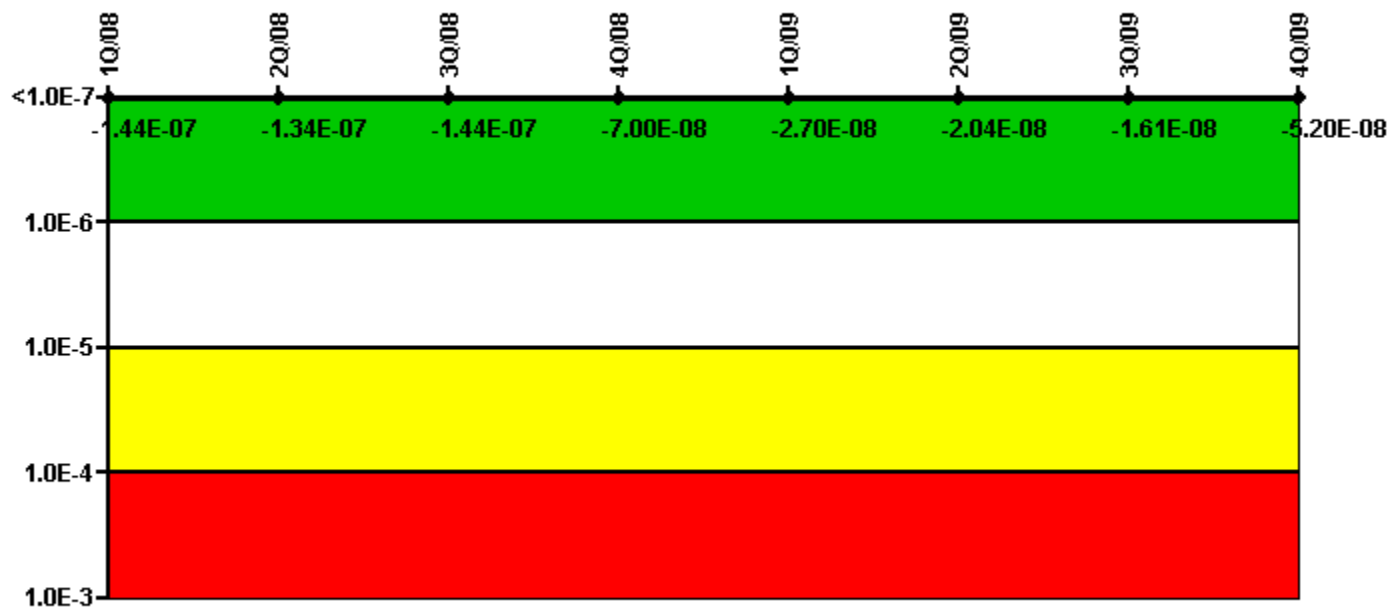
## Notes

| Mitigating Systems Performance Index, Residual Heat Removal System | 1Q/08     | 2Q/08     | 3Q/08     | 4Q/08     | 1Q/09     | 2Q/09     | 3Q/09     | 4Q/09     |
|--------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)                                                | -3.10E-08 | -3.30E-08 | -8.70E-09 | -1.00E-08 | 5.00E-09  | 3.20E-08  | 1.30E-07  | 1.30E-07  |
| URI ( $\Delta$ CDF)                                                | -4.40E-07 | -4.40E-07 | -4.30E-07 | -4.30E-07 | -4.20E-07 | -4.20E-07 | -4.20E-07 | -4.10E-07 |
| PLE                                                                | NO        | NO        | NO        | NO        | NO        | NO        | NO        | NO        |
|                                                                    |           |           |           |           |           |           |           |           |
| Indicator value                                                    | -4.71E-07 | -4.73E-07 | -4.39E-07 | -4.40E-07 | -4.15E-07 | -3.88E-07 | -2.90E-07 | -2.80E-07 |

Licensee Comments: none



# Mitigating Systems Performance Index, Cooling Water Systems



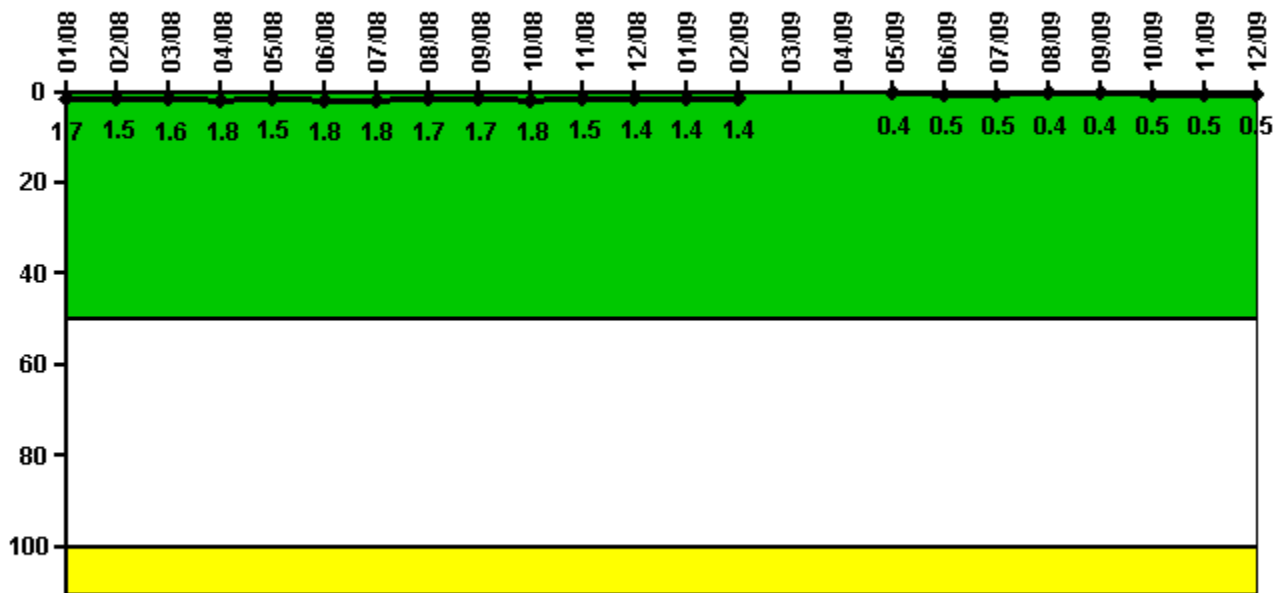
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

## Notes

| Mitigating Systems Performance Index, Cooling Water Systems | 1Q/08     | 2Q/08     | 3Q/08     | 4Q/08     | 1Q/09     | 2Q/09     | 3Q/09     | 4Q/09     |
|-------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI (ΔCDF)                                                  | -1.30E-07 | -1.20E-07 | -1.30E-07 | -5.60E-08 | -1.20E-08 | -5.40E-09 | -1.10E-10 | -3.60E-08 |
| URI (ΔCDF)                                                  | -1.40E-08 | -1.40E-08 | -1.40E-08 | -1.40E-08 | -1.50E-08 | -1.50E-08 | -1.60E-08 | -1.60E-08 |
| PLE                                                         | NO        | NO        | NO        | NO        | NO        | NO        | NO        | NO        |
|                                                             |           |           |           |           |           |           |           |           |
| Indicator value                                             | -1.44E-07 | -1.34E-07 | -1.44E-07 | -7.00E-08 | -2.70E-08 | -2.04E-08 | -1.61E-08 | -5.20E-08 |

Licensee Comments: none

## Reactor Coolant System Activity



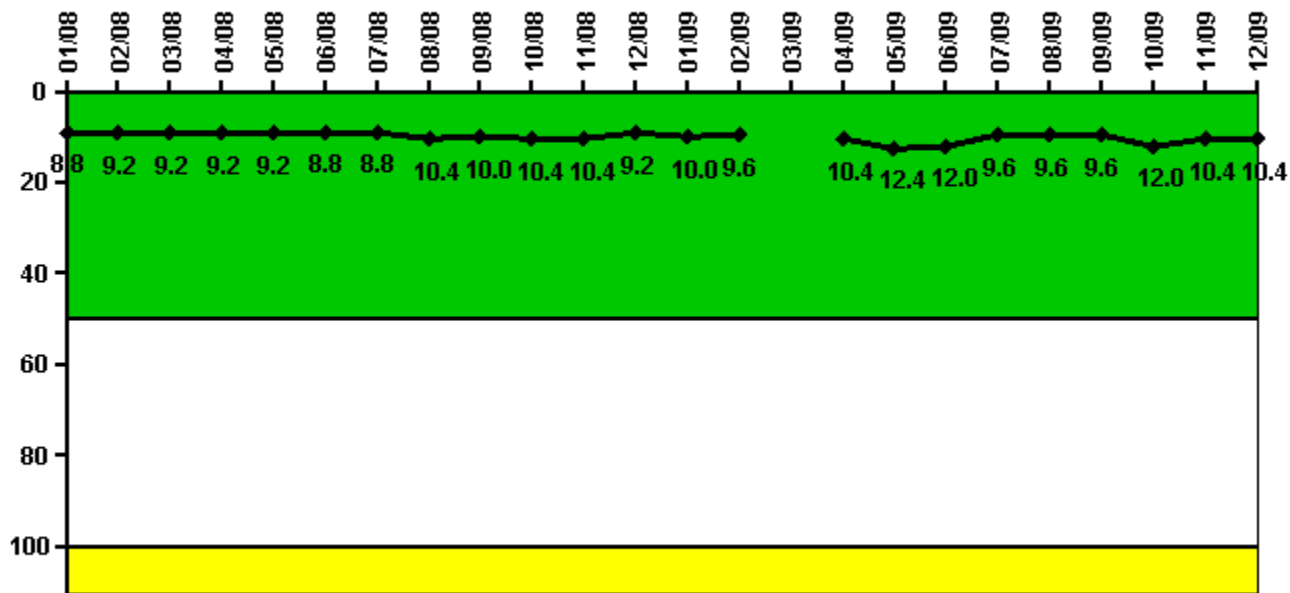
Thresholds: White > 50.0 Yellow > 100.0

### Notes

| Reactor Coolant System Activity | 1 / 08   | 2 / 08   | 3 / 08   | 4 / 08   | 5 / 08   | 6 / 08   | 7 / 08   | 8 / 08   | 9 / 08   | 10 / 08  | 11 / 08  | 12 / 08  |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Maximum activity                | 0.003301 | 0.002949 | 0.003297 | 0.003530 | 0.003078 | 0.003591 | 0.003575 | 0.003353 | 0.003459 | 0.003693 | 0.003056 | 0.002813 |
| Technical specification limit   | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      |
| Indicator value                 | 1.7      | 1.5      | 1.6      | 1.8      | 1.5      | 1.8      | 1.8      | 1.7      | 1.7      | 1.8      | 1.5      | 1.4      |
| Reactor Coolant System Activity | 1 / 09   | 2 / 09   | 3 / 09   | 4 / 09   | 5 / 09   | 6 / 09   | 7 / 09   | 8 / 09   | 9 / 09   | 10 / 09  | 11 / 09  | 12 / 09  |
| Maximum activity                | 0.002778 | 0.002810 | N/A      | N/A      | 0.000859 | 0.000967 | 0.000931 | 0.000886 | 0.000791 | 0.000905 | 0.000908 | 0.000917 |
| Technical specification limit   | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      |
| Indicator value                 | 1.4      | 1.4      | N/A      | N/A      | 0.4      | 0.5      | 0.5      | 0.4      | 0.4      | 0.5      | 0.5      | 0.5      |

Licensee Comments: none

## Reactor Coolant System Leakage



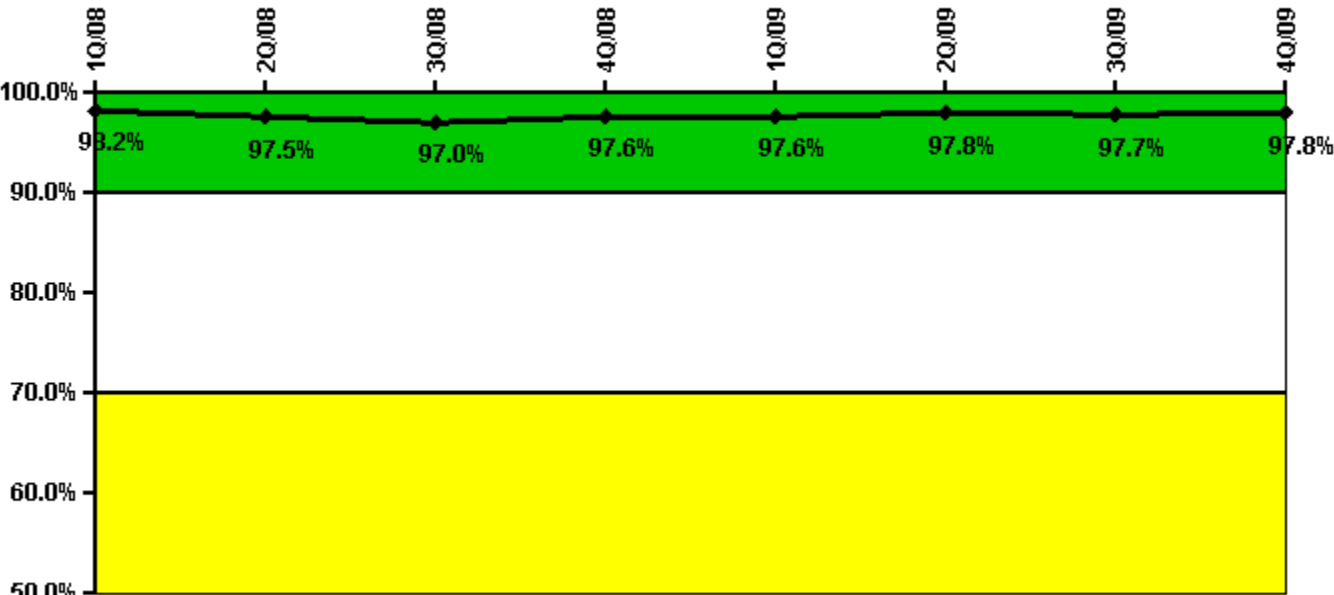
Thresholds: White > 50.0 Yellow > 100.0

### Notes

| Reactor Coolant System Leakage | 1 / 08 | 2 / 08 | 3 / 08 | 4 / 08 | 5 / 08 | 6 / 08 | 7 / 08 | 8 / 08 | 9 / 08 | 10 / 08 | 11 / 08 | 12 / 08 |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| Maximum leakage                | 2.200  | 2.300  | 2.300  | 2.300  | 2.300  | 2.200  | 2.200  | 2.600  | 2.500  | 2.600   | 2.600   | 2.300   |
| Technical specification limit  | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0    | 25.0    | 25.0    |
|                                |        |        |        |        |        |        |        |        |        |         |         |         |
| Indicator value                | 8.8    | 9.2    | 9.2    | 9.2    | 9.2    | 8.8    | 8.8    | 10.4   | 10.0   | 10.4    | 10.4    | 9.2     |
| Reactor Coolant System Leakage | 1 / 09 | 2 / 09 | 3 / 09 | 4 / 09 | 5 / 09 | 6 / 09 | 7 / 09 | 8 / 09 | 9 / 09 | 10 / 09 | 11 / 09 | 12 / 09 |
| Maximum leakage                | 2.500  | 2.400  | N/A    | 2.600  | 3.100  | 3.000  | 2.400  | 2.400  | 2.400  | 3.000   | 2.600   | 2.600   |
| Technical specification limit  | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0   | 25.0    | 25.0    | 25.0    |
|                                |        |        |        |        |        |        |        |        |        |         |         |         |
| Indicator value                | 10.0   | 9.6    | N/A    | 10.4   | 12.4   | 12.0   | 9.6    | 9.6    | 9.6    | 12.0    | 10.4    | 10.4    |

Licensee Comments: none

Drill/Exercise Performance



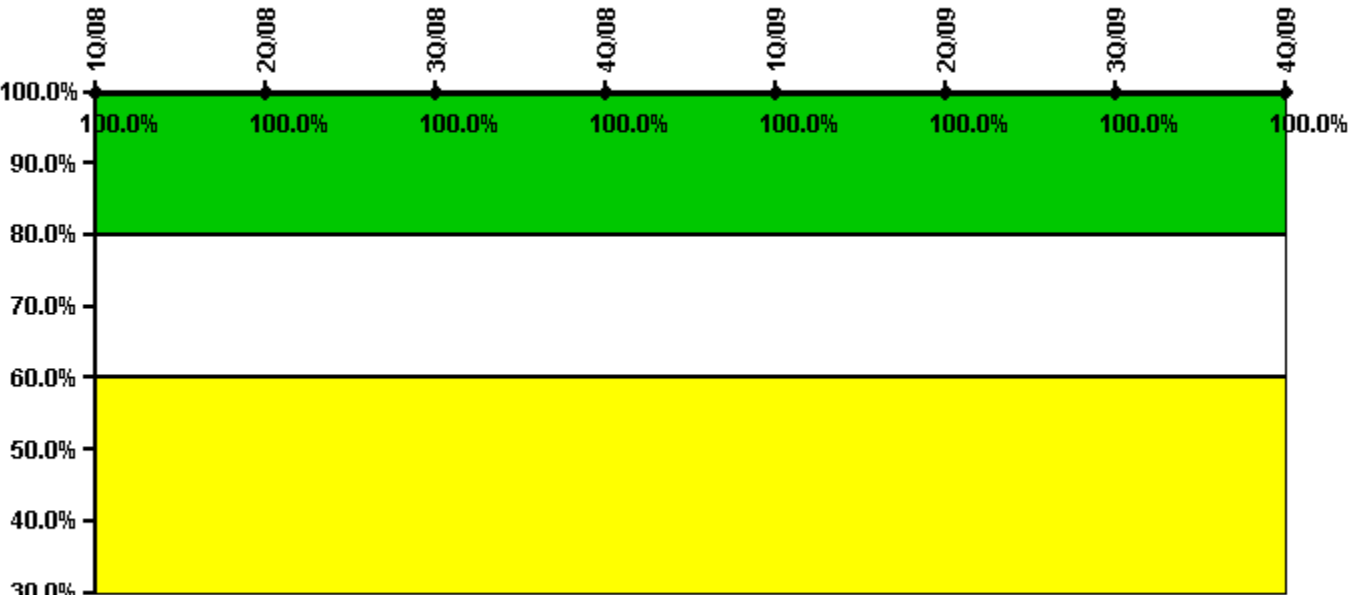
Thresholds: White < 90.0% Yellow < 70.0%

Notes

| Drill/Exercise Performance | 1Q/08  | 2Q/08  | 3Q/08  | 4Q/08  | 1Q/09  | 2Q/09  | 3Q/09  | 4Q/09  |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Successful opportunities   | 0      | 13.0   | 21.0   | 58.0   | 0      | 27.0   | 16.0   | 39.0   |
| Total opportunities        | 0      | 14.0   | 22.0   | 60.0   | 0      | 27.0   | 16.0   | 39.0   |
|                            |        |        |        |        |        |        |        |        |
| Indicator value            | 98.2 % | 97.5 % | 97.0 % | 97.6 % | 97.6 % | 97.8 % | 97.7 % | 97.8 % |

Licensee Comments: none

ERO Drill Participation



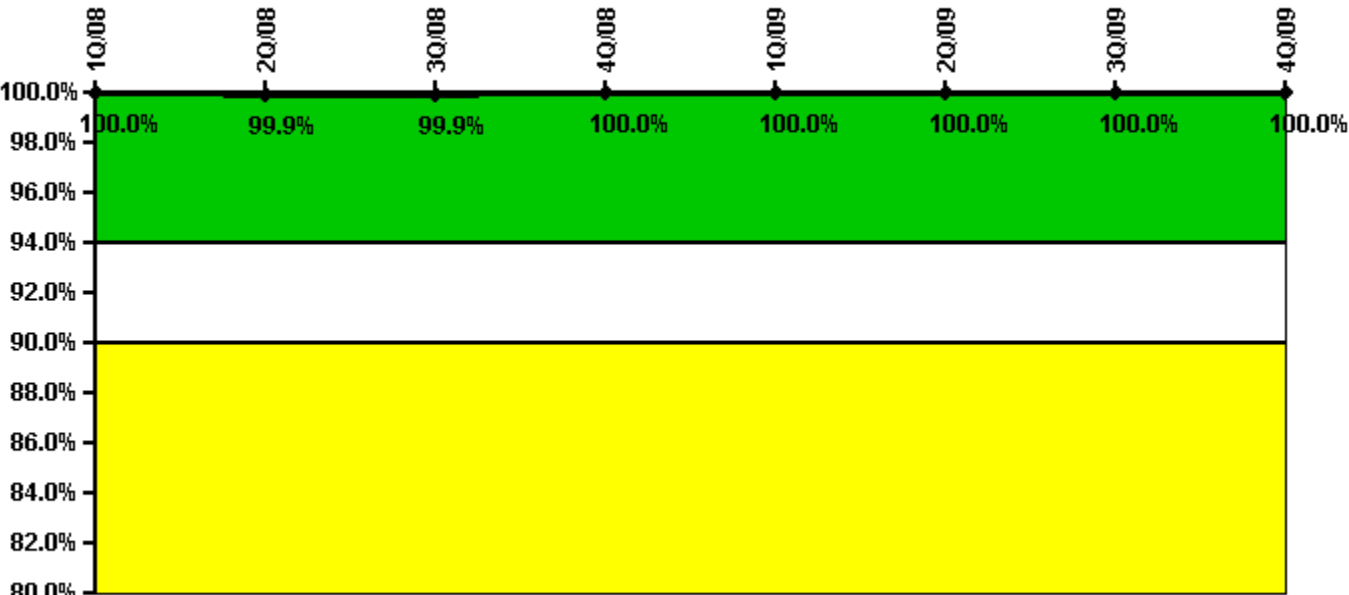
Thresholds: White < 80.0% Yellow < 60.0%

Notes

| ERO Drill Participation     | 1Q/08   | 2Q/08   | 3Q/08   | 4Q/08   | 1Q/09   | 2Q/09   | 3Q/09   | 4Q/09   |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Participating Key personnel | 97.0    | 95.0    | 93.0    | 95.0    | 92.0    | 97.0    | 102.0   | 97.0    |
| Total Key personnel         | 97.0    | 95.0    | 93.0    | 95.0    | 92.0    | 97.0    | 102.0   | 97.0    |
|                             |         |         |         |         |         |         |         |         |
| Indicator value             | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % |

Licensee Comments: none

Alert & Notification System



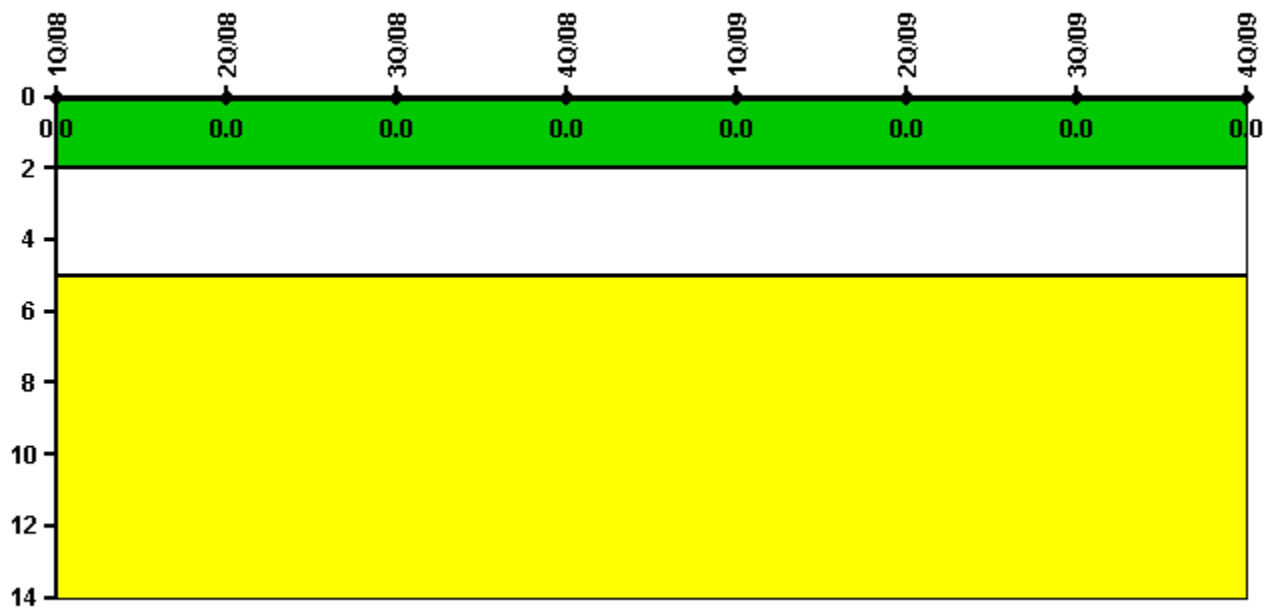
Thresholds: White < 94.0% Yellow < 90.0%

Notes

| Alert & Notification System | 1Q/08   | 2Q/08  | 3Q/08  | 4Q/08   | 1Q/09   | 2Q/09   | 3Q/09   | 4Q/09   |
|-----------------------------|---------|--------|--------|---------|---------|---------|---------|---------|
| Successful siren-tests      | 532     | 531    | 570    | 570     | 532     | 532     | 531     | 570     |
| Total sirens-tests          | 532     | 532    | 570    | 570     | 532     | 532     | 532     | 570     |
|                             |         |        |        |         |         |         |         |         |
| Indicator value             | 100.0 % | 99.9 % | 99.9 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % | 100.0 % |

Licensee Comments: none

## Occupational Exposure Control Effectiveness



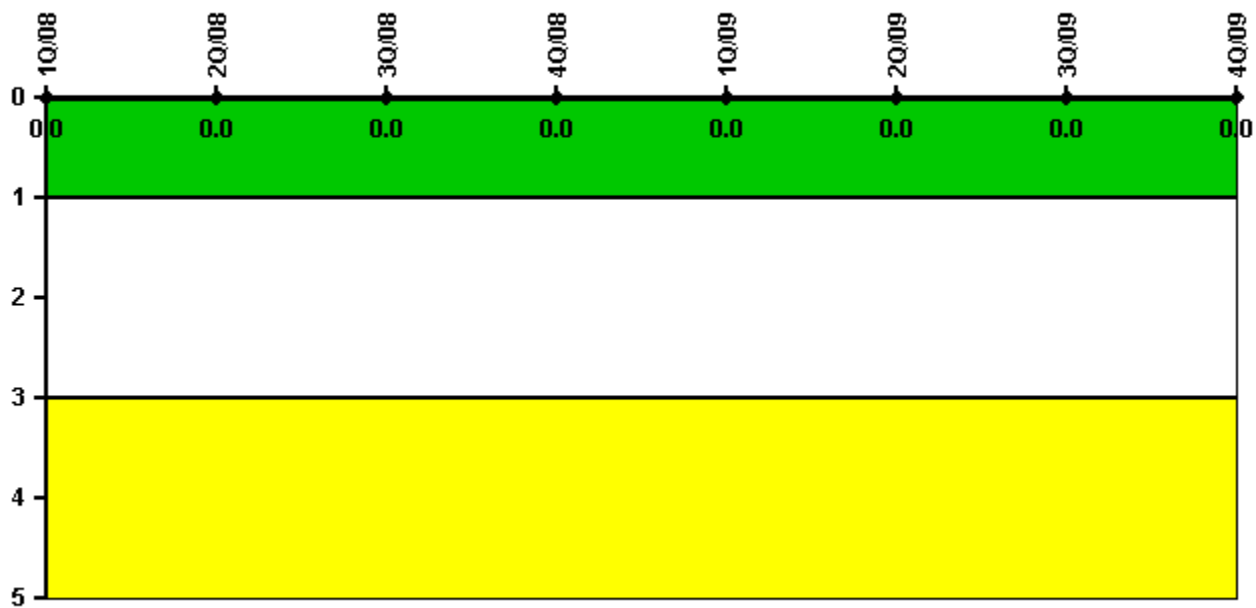
Thresholds: White > 2.0 Yellow > 5.0

### Notes

| Occupational Exposure Control Effectiveness | 1Q / 08 | 2Q / 08 | 3Q / 08 | 4Q / 08 | 1Q / 09 | 2Q / 09 | 3Q / 09 | 4Q / 09 |
|---------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 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/08 | 2Q/08 | 3Q/08 | 4Q/08 | 1Q/09 | 2Q/09 | 3Q/09 | 4Q/09 |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| RETS/ODCM occurrences           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
|                                 |       |       |       |       |       |       |       |       |
| Indicator value                 | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |

Licensee Comments: none

[Security](#) information not publicly available.