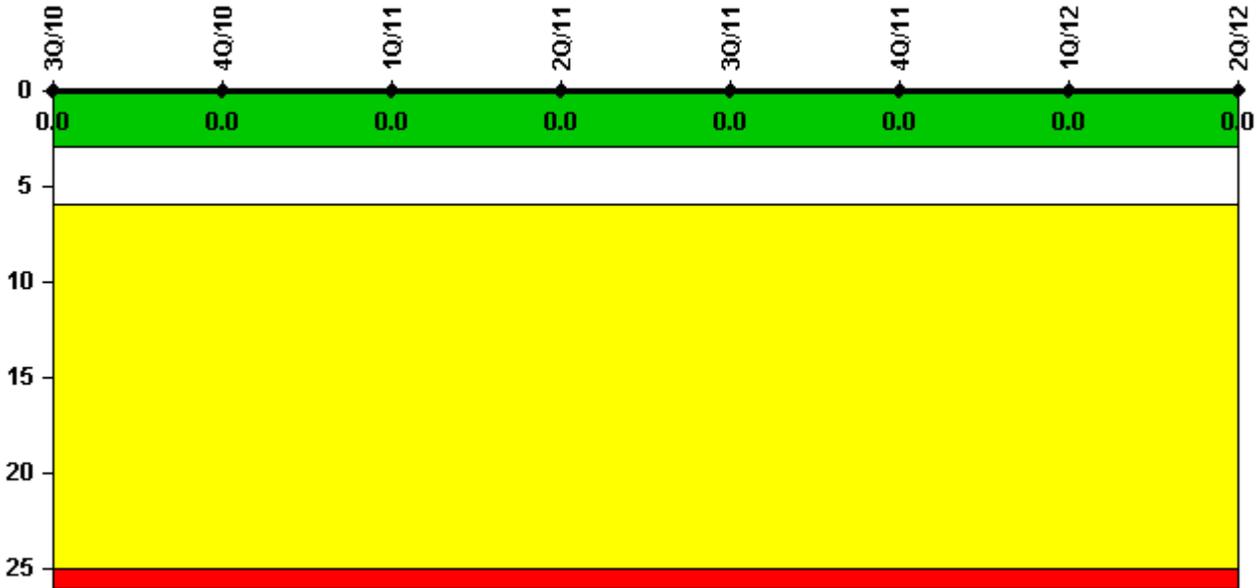


Byron 1

2Q/2012 Performance Indicators

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs



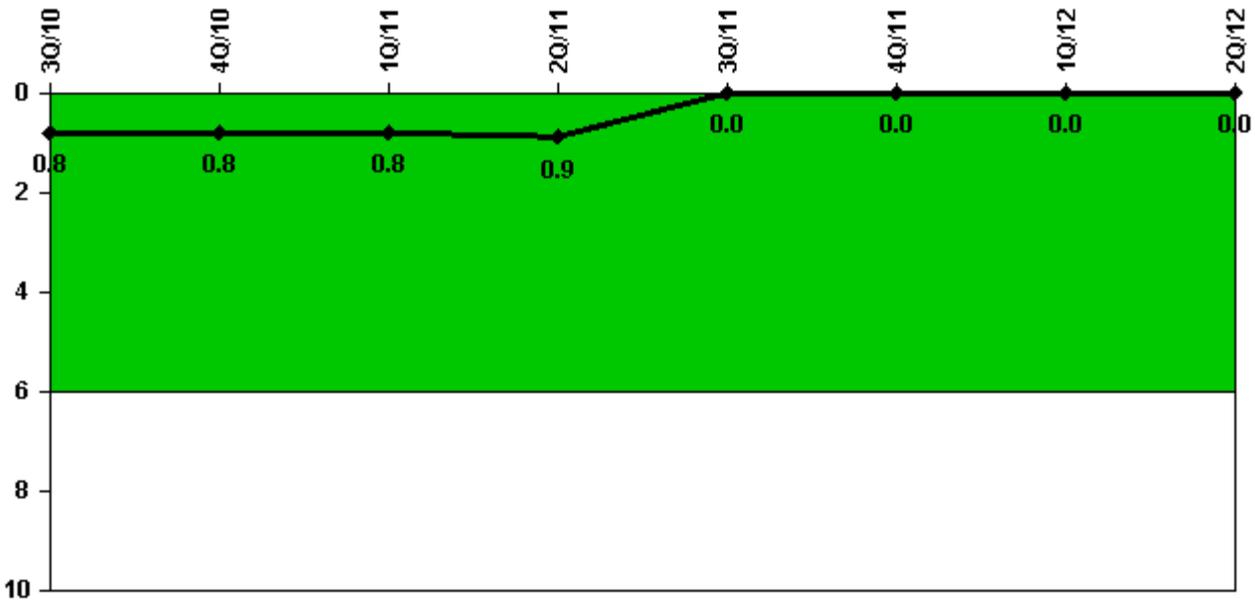
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

| Unplanned Scrams per 7000 Critical Hrs | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|
| Unplanned scrams | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Critical hours | 2208.0 | 2209.0 | 1726.0 | 1642.7 | 2208.0 | 2209.0 | 2082.9 | 2184.0 |
| Indicator value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



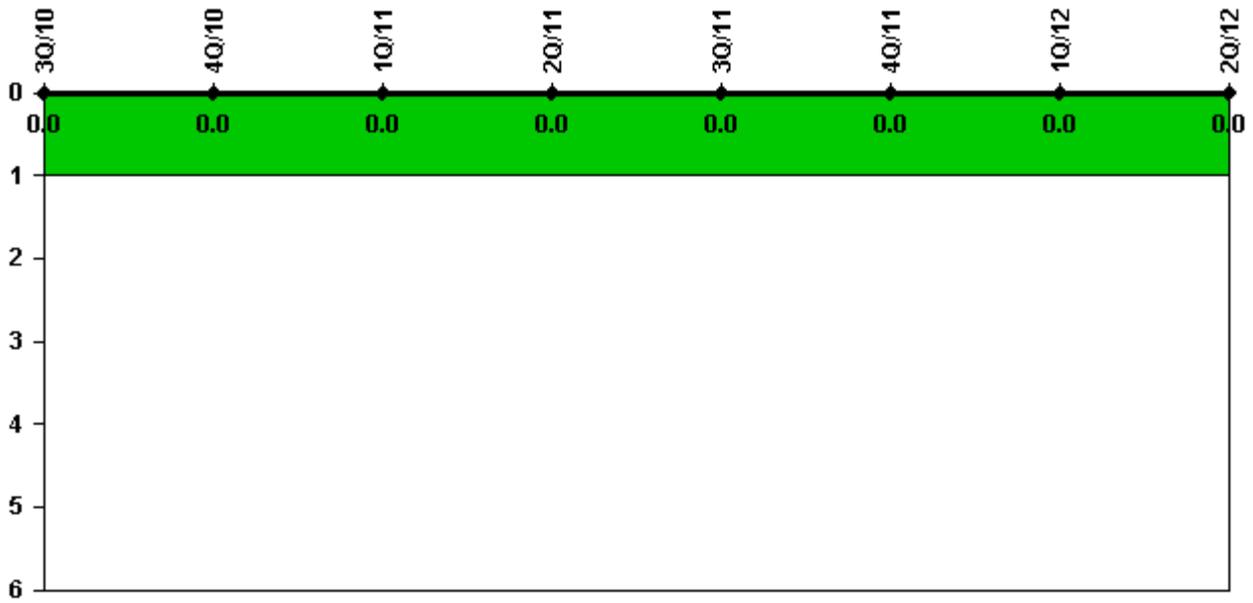
Thresholds: White > 6.0

Notes

| Unplanned Power Changes per 7000 Critical Hrs | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| Unplanned power changes | 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Critical hours | 2208.0 | 2209.0 | 1726.0 | 1642.7 | 2208.0 | 2209.0 | 2082.9 | 2184.0 |
| Indicator value | 0.8 | 0.8 | 0.8 | 0.9 | 0 | 0 | 0 | 0 |

Licensee Comments: none

Unplanned Scrams with Complications



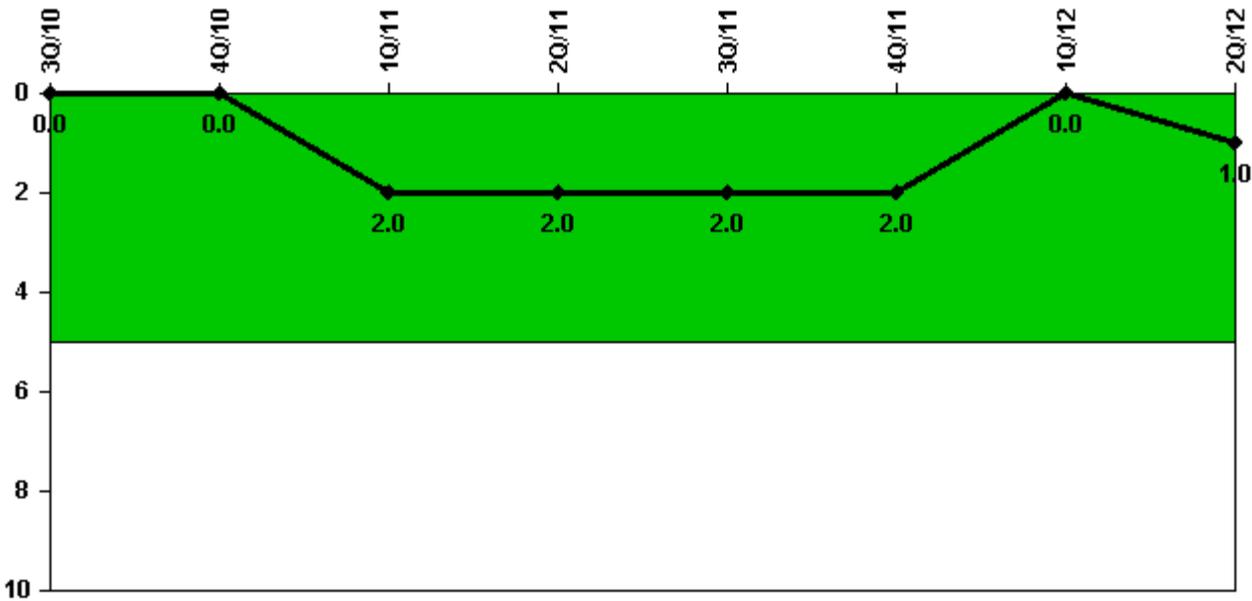
Thresholds: White > 1.0

Notes

| Unplanned Scrams with Complications | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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

Safety System Functional Failures (PWR)



Thresholds: White > 5.0

Notes

| Safety System Functional Failures (PWR) | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Safety System Functional Failures | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 |
| Indicator value | 0 | 0 | 2 | 2 | 2 | 2 | 0 | 1 |

Licensee Comments:

2Q/12: (U2 - April) LER 2012-001-00 - No SSFF (Unit 1 - May) LER 454-2012-002: One Train of Containment Cooling System Inoperable Longer Than Allowed by Technical Specifications Due to Inadequate Work Instructions

1Q/12: Licensee Event Report 2012-001-00, "Unit 2 Loss of Normal Offsite Power and Reactor Trip and Unit 1 Loss of Normal Offsite Power Due to Failure of System Auxiliary Transformer Inverted Insulators" The LER identifies the U2 LOOP as an SSFF.

4Q/11: LER 2011-002-00, "Containment Pressure Not Within Limits Longer than Allowed by Technical Specifications Due to Personnel Error"

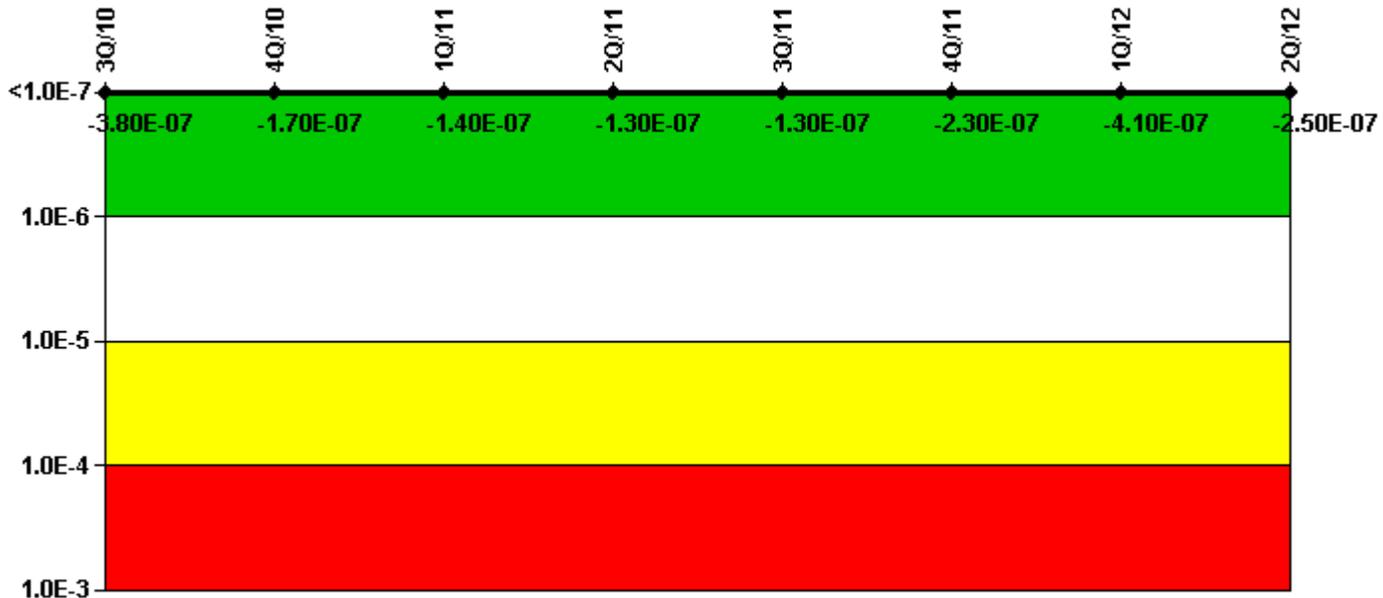
2Q/11: May LER 454-2011-003-00: Drained Sections of Piping in AF Suction Lines Result on Sys Inop Due to Inadequate Tech Eval LER retracted, SSFF removed June Supplemental LER 455-2011 -001 -01 "Unit 2 Emergency Diesel Generator Inoperable for Longer than Allowed by Technical Specifications Due to Inadequate Work" confirms SSFF previously reported.

1Q/11: January- LER 454-2010-001-00: Tech Spec AOT Extension Request for CC Contained Inaccurate Information. An SSFF could have occurred with the postulation of design basis assumptions. Mardh-LER 2011-001: Potential Loss of Residual Heat Removal System Safety Function in Mode 4 When Aligned for Shutdown Cooling Due to Potential for Flashing or Voiding of Coolant During a Shutdown Loss of Coolant Accident

3Q/10: LER 454-2010-001-00 UG Cable Vaults not vital - No SSFF.LER 455-2010-002-00 "Failed T.S. Ventilation Surv Rqmts During Surv Rqmt 3.0.3 Delay Period". The potential safety significance of the condition is still being evaluated and the results will be updated with the supplement to this LER.

3Q/10: LER 454-2010-001-00 UG Cable Vaults not vital - No SSFF.

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 | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI (Δ CDF) | 2.67E-08 | 7.32E-08 | 1.01E-07 | 1.03E-07 | 1.05E-07 | 1.02E-07 | 5.01E-08 | 1.77E-08 |
| URI (Δ CDF) | -4.04E-07 | -2.39E-07 | -2.43E-07 | -2.28E-07 | -2.39E-07 | -3.34E-07 | -4.63E-07 | -2.63E-07 |
| PLE | NO |
| Indicator value | -3.80E-07 | -1.70E-07 | -1.40E-07 | -1.30E-07 | -1.30E-07 | -2.30E-07 | -4.10E-07 | -2.50E-07 |

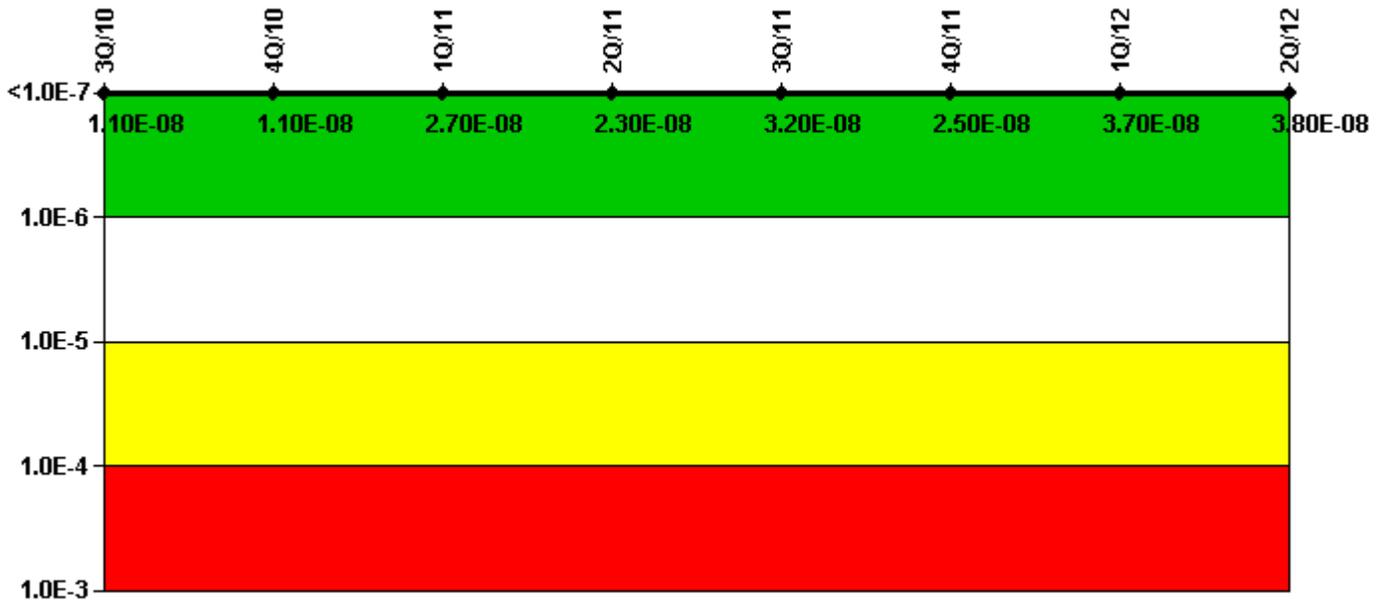
Licensee Comments:

2Q/12: Changed PRA Parameter(s). Byron PRA Model Revision No: 6BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW. Based on the previous change to the station operating procedures credit for opposite unit DG, CC and SX systems was removed.

4Q/11: Changed PRA Parameter(s). Byron PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study.

1Q/11: Due to typo on paperwork, UA for 1A DG was listed for 1B. This has been corrected.

Mitigating Systems Performance Index, High Pressure Injection System



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

Notes

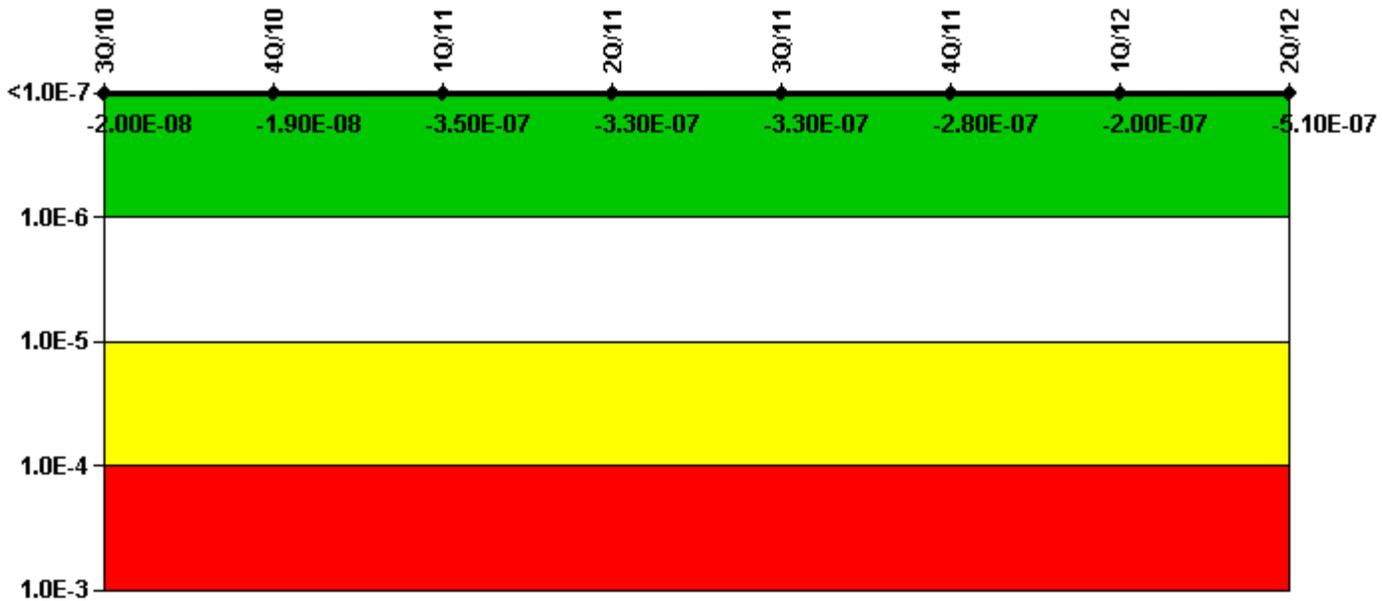
| Mitigating Systems Performance Index, High Pressure Injection System | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI (Δ CDF) | 1.38E-08 | 1.33E-08 | 2.99E-08 | 2.56E-08 | 3.41E-08 | 2.72E-08 | 3.91E-08 | 4.46E-08 |
| URI (Δ CDF) | -2.42E-09 | -2.42E-09 | -2.44E-09 | -2.38E-09 | -2.39E-09 | -1.88E-09 | -1.75E-09 | -6.18E-09 |
| PLE | NO |
| Indicator value | 1.10E-08 | 1.10E-08 | 2.70E-08 | 2.30E-08 | 3.20E-08 | 2.50E-08 | 3.70E-08 | 3.80E-08 |

Licensee Comments:

2Q/12: Changed PRA Parameter(s). Byron PRA Model Revision No: 6BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW. Based on the previous change to the station operating procedures credit for opposite unit DG, CC and SX systems was removed.

4Q/11: Changed PRA Parameter(s). Byron PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study.

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 | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI (Δ CDF) | -3.78E-08 | -4.30E-08 | -9.84E-08 | -8.24E-08 | -8.24E-08 | 3.04E-08 | 4.91E-08 | -9.20E-08 |
| URI (Δ CDF) | 1.74E-08 | 2.40E-08 | -2.53E-07 | -2.50E-07 | -2.50E-07 | -3.14E-07 | -2.50E-07 | -4.21E-07 |
| PLE | NO |
| Indicator value | -2.00E-08 | -1.90E-08 | -3.50E-07 | -3.30E-07 | -3.30E-07 | -2.80E-07 | -2.00E-07 | -5.10E-07 |

Licensee Comments:

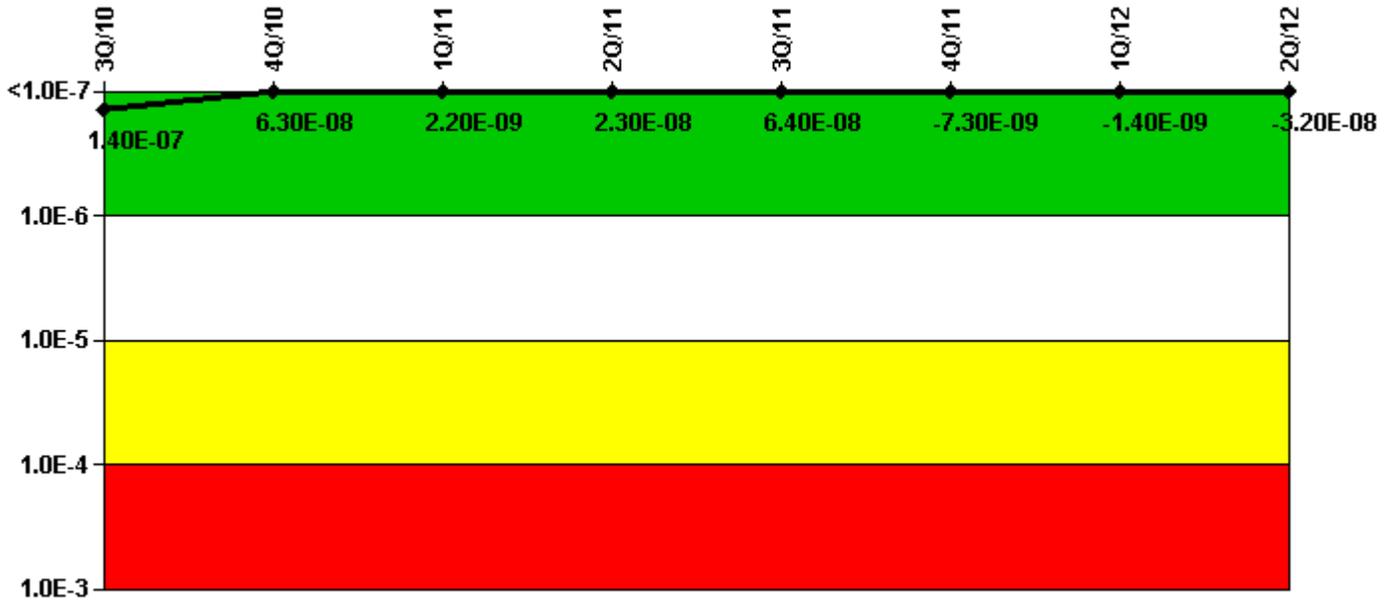
2Q/12: Changed PRA Parameter(s). Byron PRA Model Revision No: 6BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW. Based on the previous change to the station operating procedures credit for opposite unit DG, CC and SX systems was removed.

1Q/12: Prior to this quarter, planned and unplanned unavailability was counted against an AF train whenever the safety-related suction source was unavailable. After discussions with Braidwood and the corporate PRA SME, it was determined that the unavailability should not be counted if the non-safety-related suction source is available. This issue was documented in IR #1334924. Corrections to historical data for the last three years have been made are reflected in this quarters reporting.

4Q/11: Byron PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study.

4Q/11: Changed PRA Parameter(s). Byron PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study.

Mitigating Systems Performance Index, Residual Heat Removal System



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

Notes

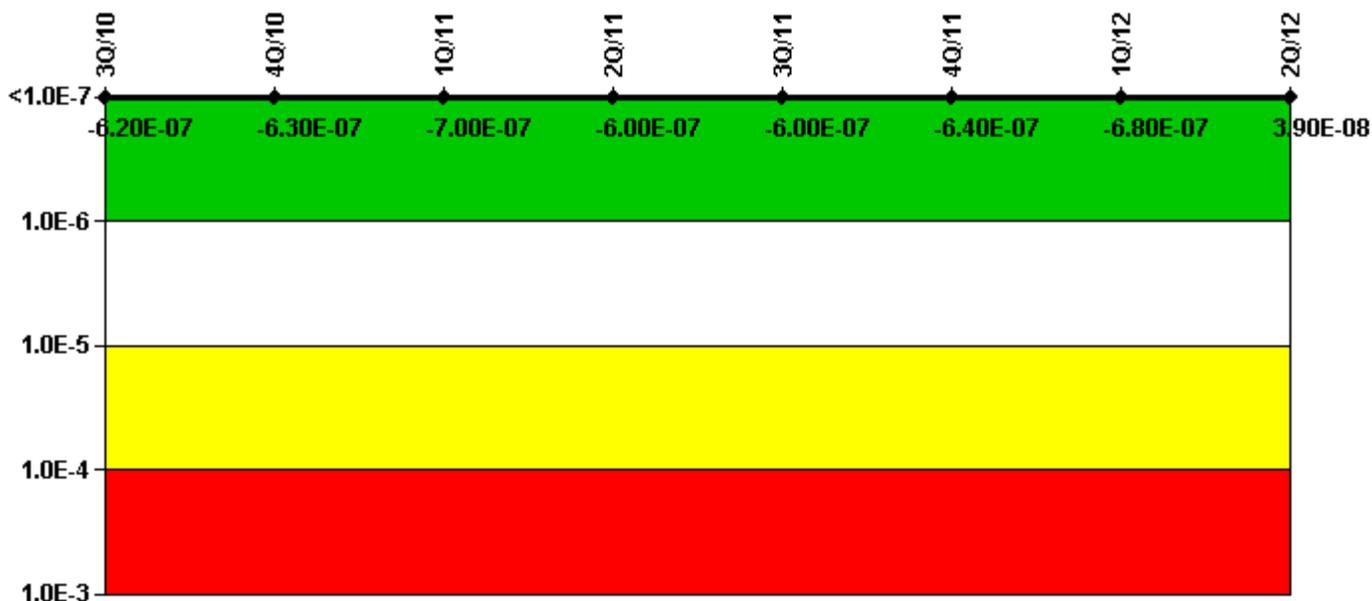
| Mitigating Systems Performance Index, Residual Heat Removal System | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI (Δ CDF) | 2.29E-07 | 1.52E-07 | 9.00E-08 | 1.04E-07 | 1.49E-07 | 1.41E-07 | 1.47E-07 | 9.87E-08 |
| URI (Δ CDF) | -9.15E-08 | -8.96E-08 | -8.78E-08 | -8.13E-08 | -8.52E-08 | -1.48E-07 | -1.48E-07 | -1.31E-07 |
| PLE | NO |
| Indicator value | 1.40E-07 | 6.30E-08 | 2.20E-09 | 2.30E-08 | 6.40E-08 | -7.30E-09 | -1.40E-09 | -3.20E-08 |

Licensee Comments:

2Q/12: Changed PRA Parameter(s). Byron PRA Model Revision No: 6BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW. Based on the previous change to the station operating procedures credit for opposite unit DG, CC and SX systems was removed.

4Q/11: Changed PRA Parameter(s). Byron PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study. 1/2RH8716A/B were removed from MSPI scoping due to Birnbaum value less than 1.0E-06.

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 | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI (Δ CDF) | 2.66E-07 | 2.59E-07 | 1.85E-07 | 2.86E-07 | 2.89E-07 | 2.97E-07 | 2.50E-07 | 3.76E-07 |
| URI (Δ CDF) | -8.89E-07 | -8.89E-07 | -8.85E-07 | -8.86E-07 | -8.92E-07 | -9.33E-07 | -9.34E-07 | -3.37E-07 |
| PLE | NO |
| Indicator value | -6.20E-07 | -6.30E-07 | -7.00E-07 | -6.00E-07 | -6.00E-07 | -6.40E-07 | -6.80E-07 | 3.90E-08 |

Licensee Comments:

2Q/12: Changed PRA Parameter(s). Byron PRA Model Revision No: 6BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW. Based on the previous change to the station operating procedures credit for opposite unit DG, CC and SX systems was removed.

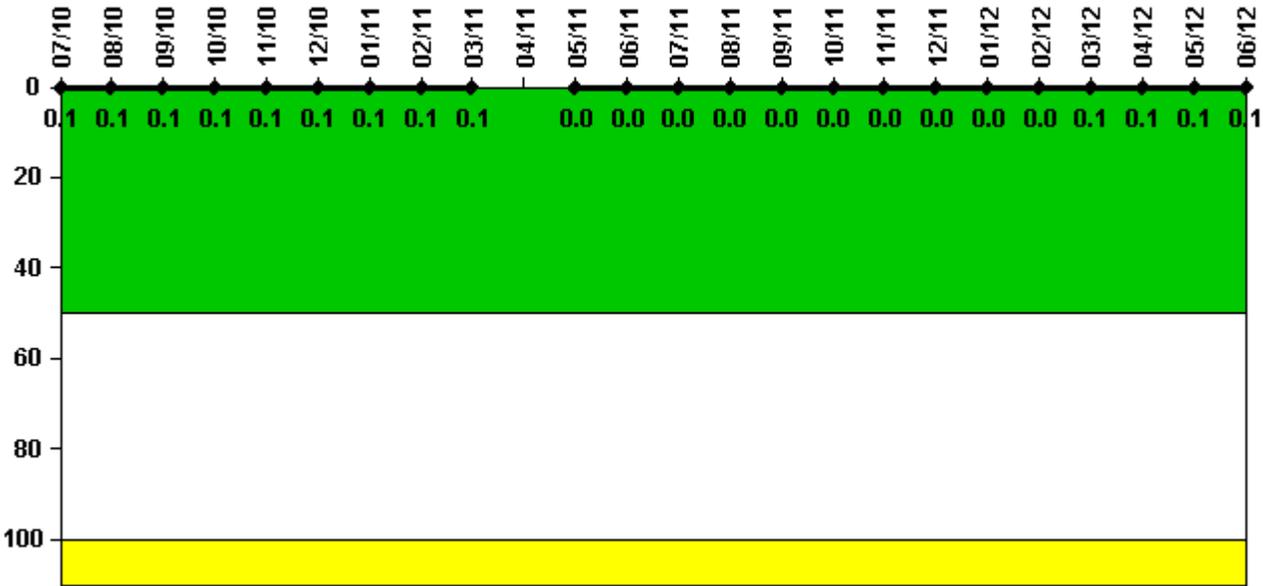
1Q/12: Changed PRA Parameter(s).

4Q/11: Changed PRA Parameter(s). Byron PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study. 1/2RH8716A/B were removed from MSPI scoping due to Birnbaum value less than 1.0E-06.

4Q/11: Changed PRA Parameter(s). Byron PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study. 1/2RH8716A/B were removed from MSPI scoping due to Birnbaum value less than 1.0E-06.

4Q/10: Changed PRA Parameter(s).

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

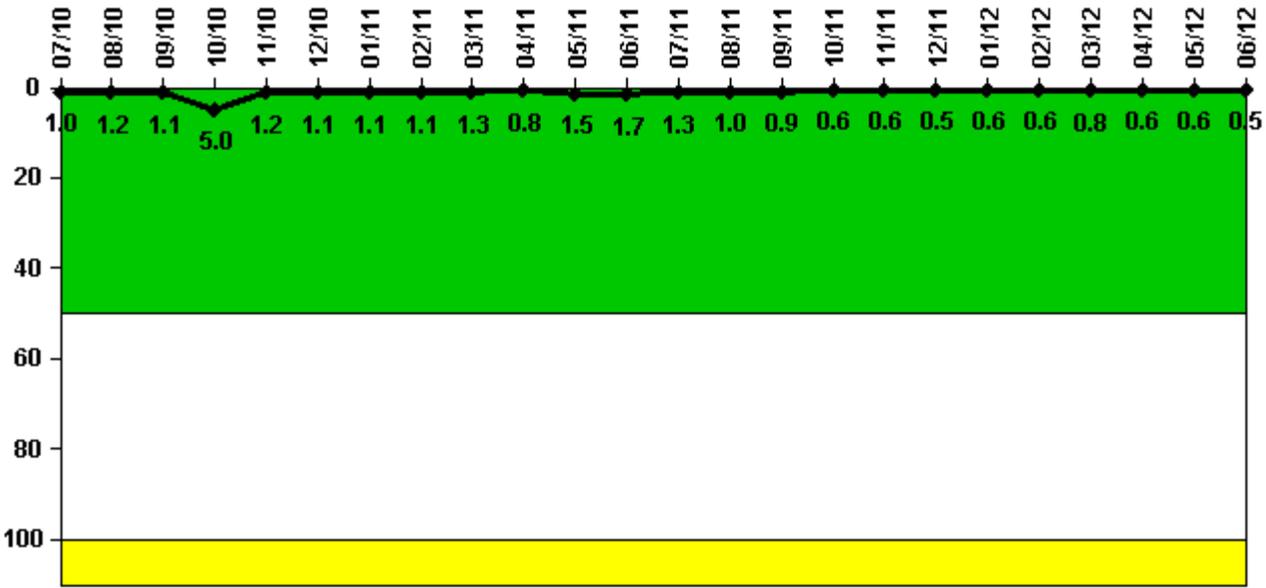
Notes

| Reactor Coolant System Activity | 7/10 | 8/10 | 9/10 | 10/10 | 11/10 | 12/10 | 1/11 | 2/11 | 3/11 | 4/11 | 5/11 | 6/11 |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------|----------|----------|
| Maximum activity | 0.000736 | 0.000785 | 0.000804 | 0.000838 | 0.000873 | 0.000926 | 0.000961 | 0.000963 | 0.001380 | N/A | 0.000301 | 0.000322 |
| 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 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | N/A | 0 | 0 |

| Reactor Coolant System Activity | 7/11 | 8/11 | 9/11 | 10/11 | 11/11 | 12/11 | 1/12 | 2/12 | 3/12 | 4/12 | 5/12 | 6/12 |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Maximum activity | 0.000341 | 0.000364 | 0.000389 | 0.000403 | 0.000423 | 0.000441 | 0.000474 | 0.000479 | 0.000509 | 0.000532 | 0.000562 | 0.000573 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.1 |

Licensee Comments: none

Reactor Coolant System Leakage



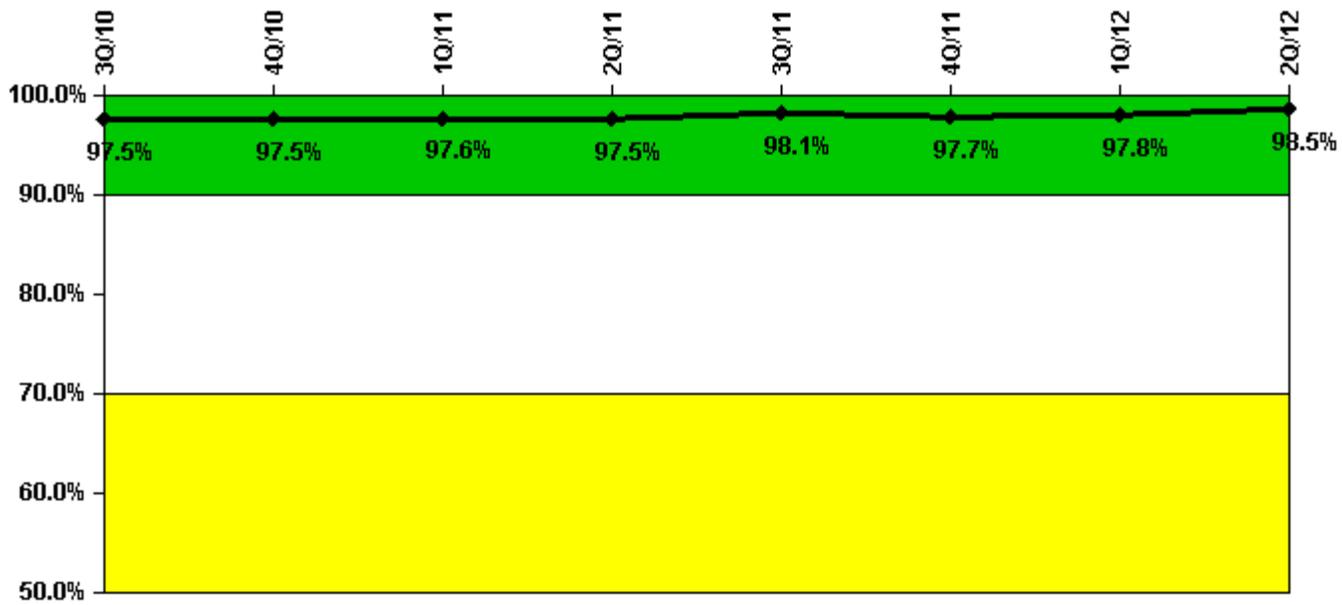
Thresholds: White > 50.0 Yellow > 100.0

Notes

| Reactor Coolant System Leakage | 7/10 | 8/10 | 9/10 | 10/10 | 11/10 | 12/10 | 1/11 | 2/11 | 3/11 | 4/11 | 5/11 | 6/11 |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum leakage | 0.100 | 0.120 | 0.110 | 0.500 | 0.120 | 0.110 | 0.110 | 0.110 | 0.130 | 0.080 | 0.150 | 0.170 |
| 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 | 1.0 | 1.2 | 1.1 | 5.0 | 1.2 | 1.1 | 1.1 | 1.1 | 1.3 | 0.8 | 1.5 | 1.7 |
| Reactor Coolant System Leakage | 7/11 | 8/11 | 9/11 | 10/11 | 11/11 | 12/11 | 1/12 | 2/12 | 3/12 | 4/12 | 5/12 | 6/12 |
| Maximum leakage | 0.130 | 0.100 | 0.090 | 0.060 | 0.060 | 0.050 | 0.060 | 0.060 | 0.080 | 0.060 | 0.060 | 0.050 |
| 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 | 1.3 | 1.0 | 0.9 | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 | 0.8 | 0.6 | 0.6 | 0.5 |

Licensee Comments: none

Drill/Exercise Performance



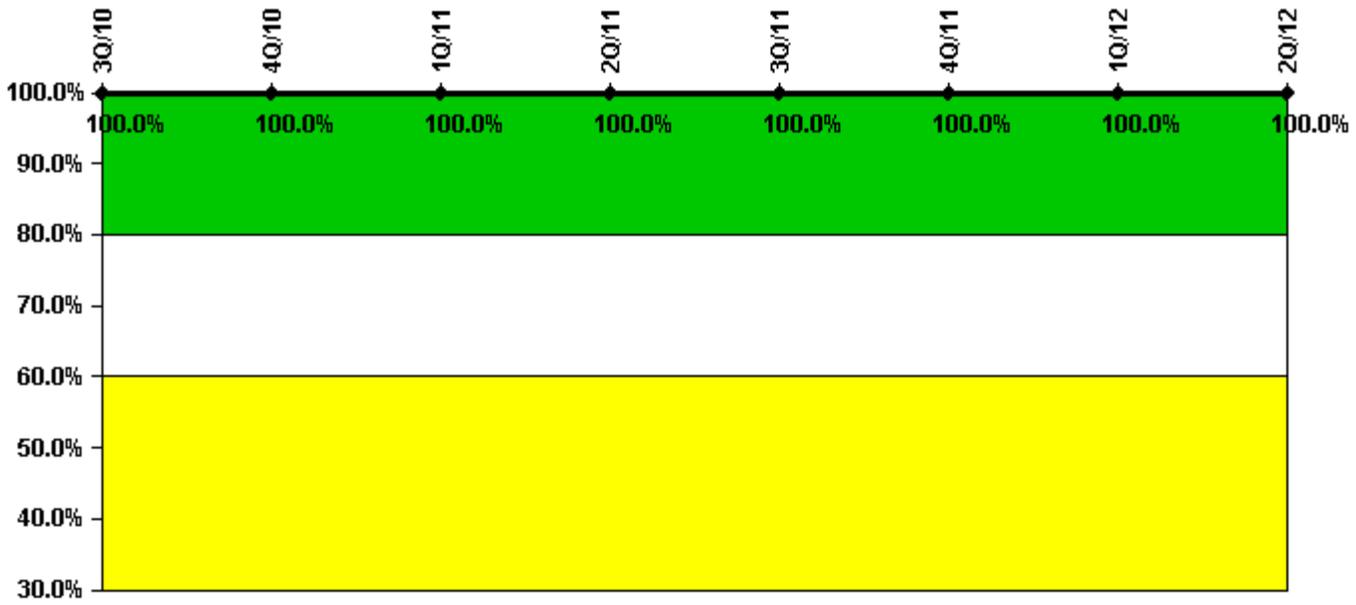
Thresholds: White < 90.0% Yellow < 70.0%

Notes

| Drill/Exercise Performance | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Successful opportunities | 58.0 | 12.0 | 51.0 | 77.0 | 62.0 | 35.0 | 96.0 | 126.0 |
| Total opportunities | 61.0 | 13.0 | 51.0 | 78.0 | 62.0 | 37.0 | 97.0 | 126.0 |
| Indicator value | 97.5% | 97.5% | 97.6% | 97.5% | 98.1% | 97.7% | 97.8% | 98.5% |

Licensee Comments: none

ERO Drill Participation



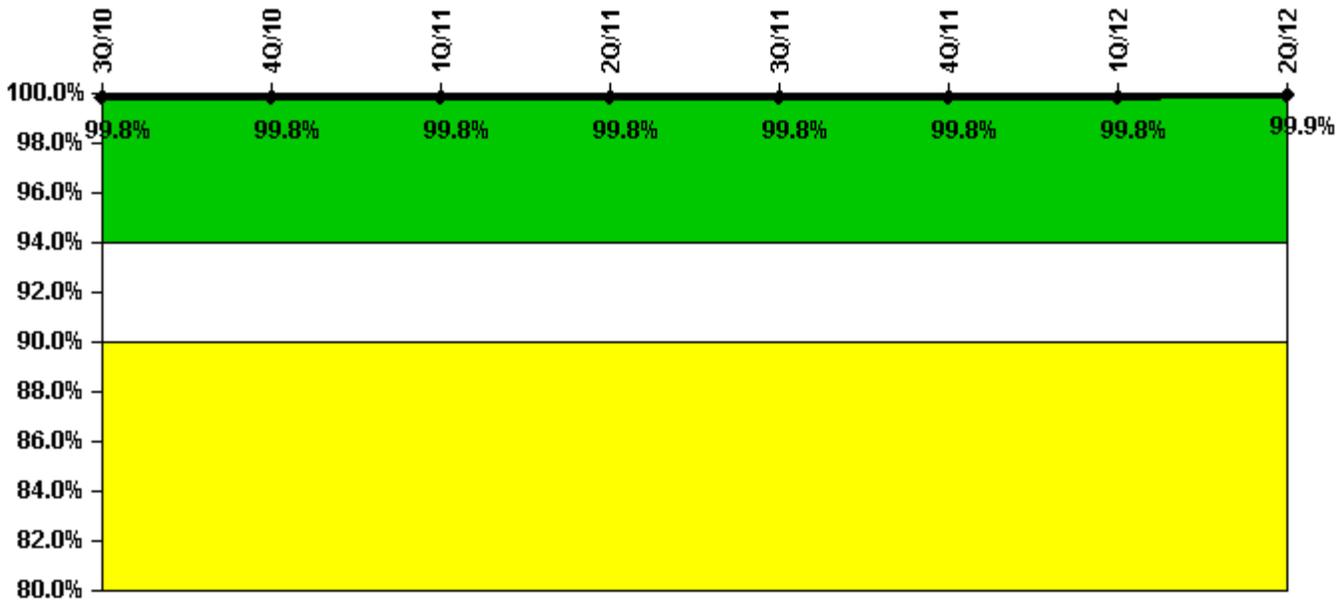
Thresholds: White < 80.0% Yellow < 60.0%

Notes

| ERO Drill Participation | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Participating Key personnel | 72.0 | 74.0 | 76.0 | 74.0 | 75.0 | 74.0 | 74.0 | 77.0 |
| Total Key personnel | 72.0 | 74.0 | 76.0 | 74.0 | 75.0 | 74.0 | 74.0 | 77.0 |
| Indicator value | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Licensee Comments: none

Alert & Notification System



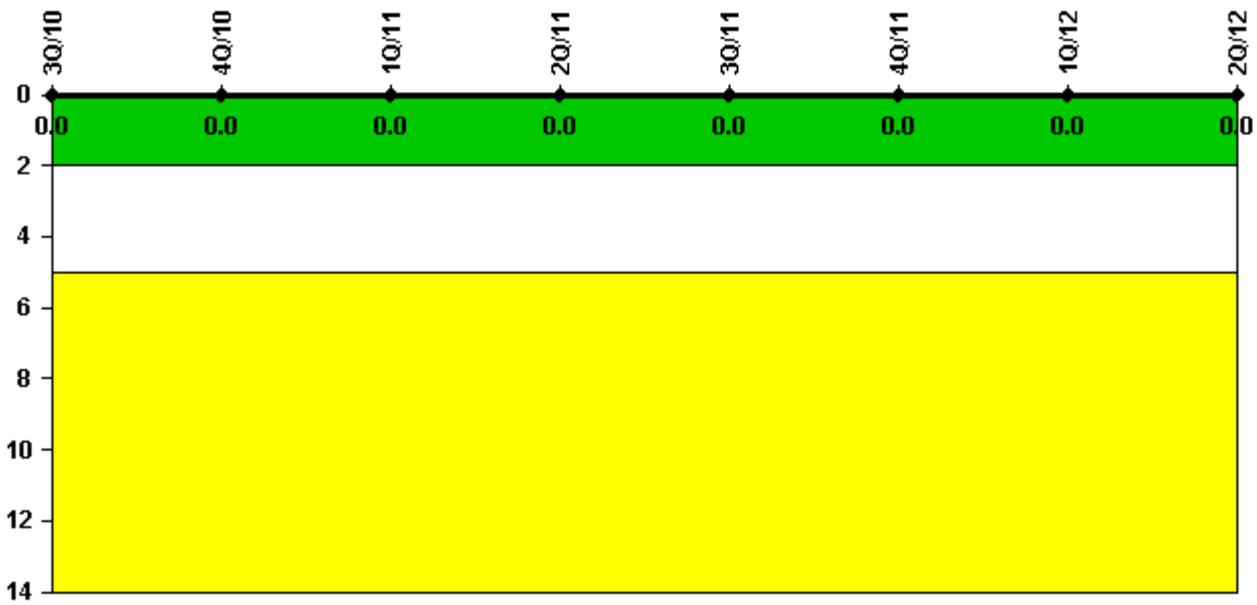
Thresholds: White < 94.0% Yellow < 90.0%

Notes

| Alert & Notification System | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Successful siren-tests | 3959 | 3956 | 3902 | 3893 | 3893 | 3903 | 3962 | 3903 |
| Total sirens-tests | 3965 | 3965 | 3904 | 3904 | 3904 | 3904 | 3965 | 3904 |
| Indicator value | 99.8% | 99.8% | 99.8% | 99.8% | 99.8% | 99.8% | 99.8% | 99.9% |

Licensee Comments: none

Occupational Exposure Control Effectiveness



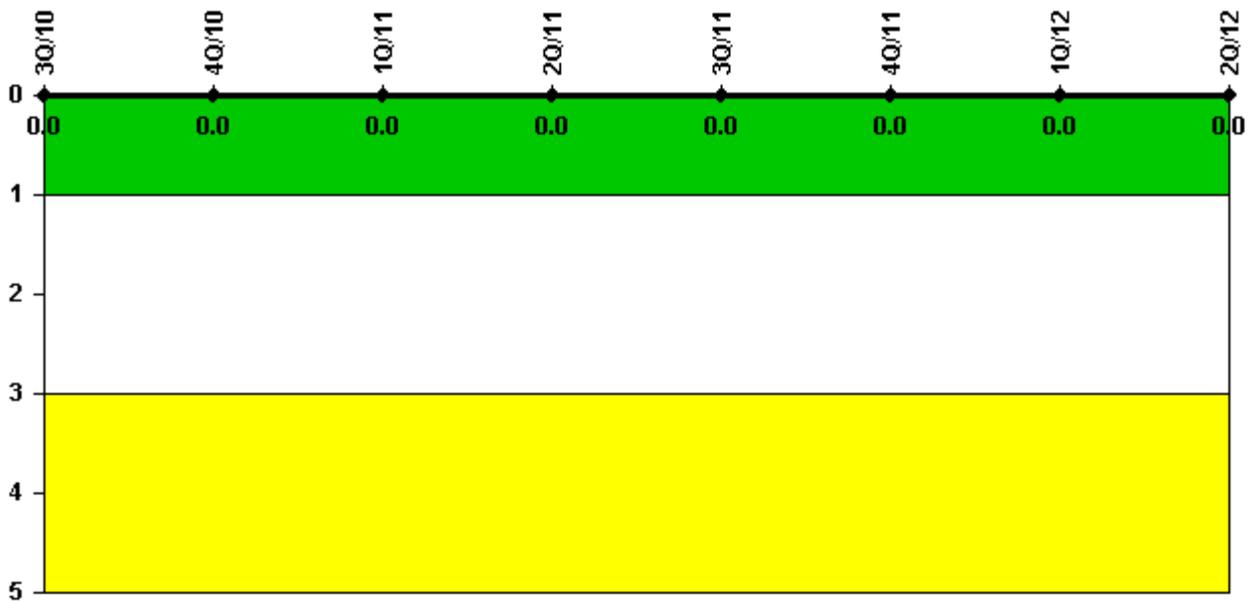
Thresholds: White > 2.0 Yellow > 5.0

Notes

| Occupational Exposure Control Effectiveness | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|
| 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 | 3Q/10 | 4Q/10 | 1Q/11 | 2Q/11 | 3Q/11 | 4Q/11 | 1Q/12 | 2Q/12 |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| RETS/ODCM occurrences | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Indicator value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Licensee Comments: none

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page.
