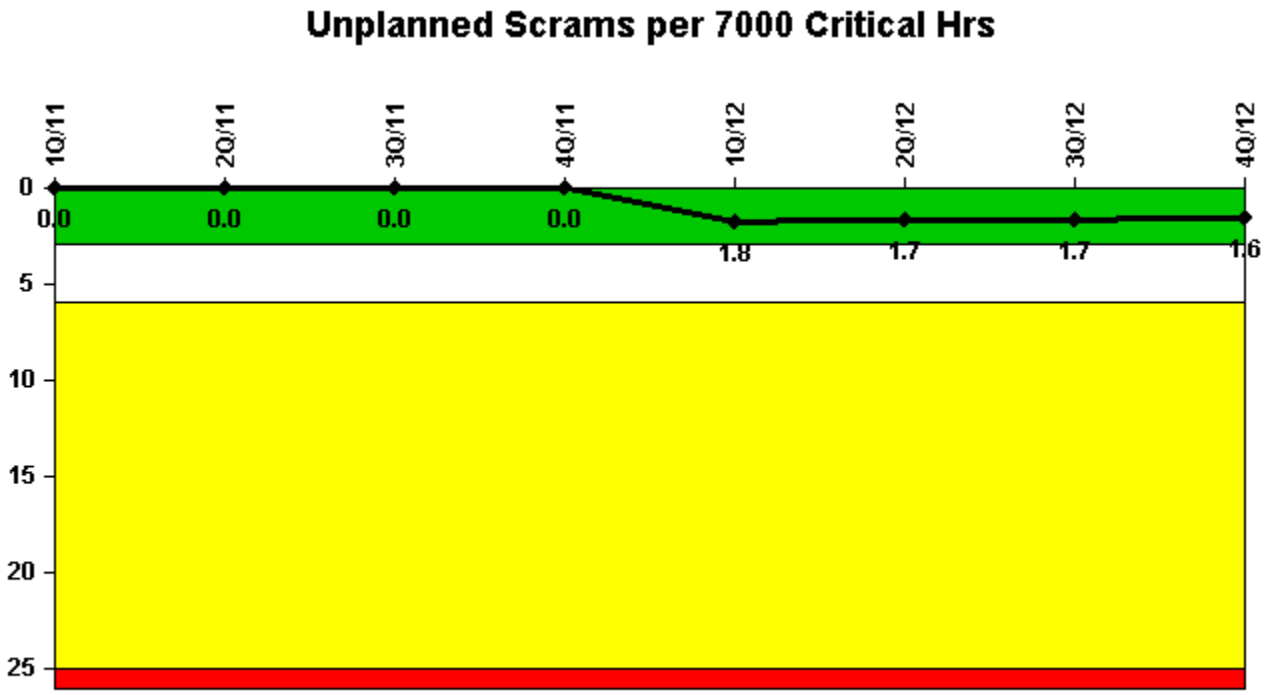
Byron 2

4Q/2012 Performance Indicators

Licensee's General Comments: none



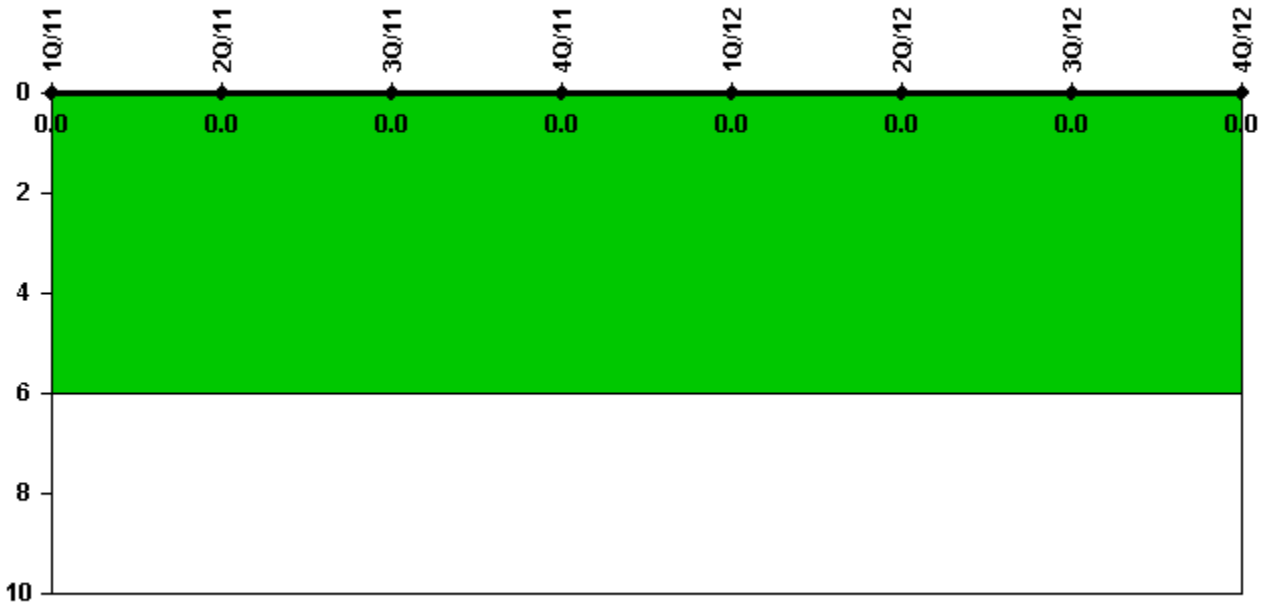
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
Unplanned scrams	0	0	0	0	2.0	0	0	0
Critical hours	2159.0	2071.5	1919.0	2004.4	2004.4	2184.0	2208.0	2209.0
Indicator value	**0**	**0**	**0**	**0**	**1.8**	**1.7**	**1.7**	**1.6**

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



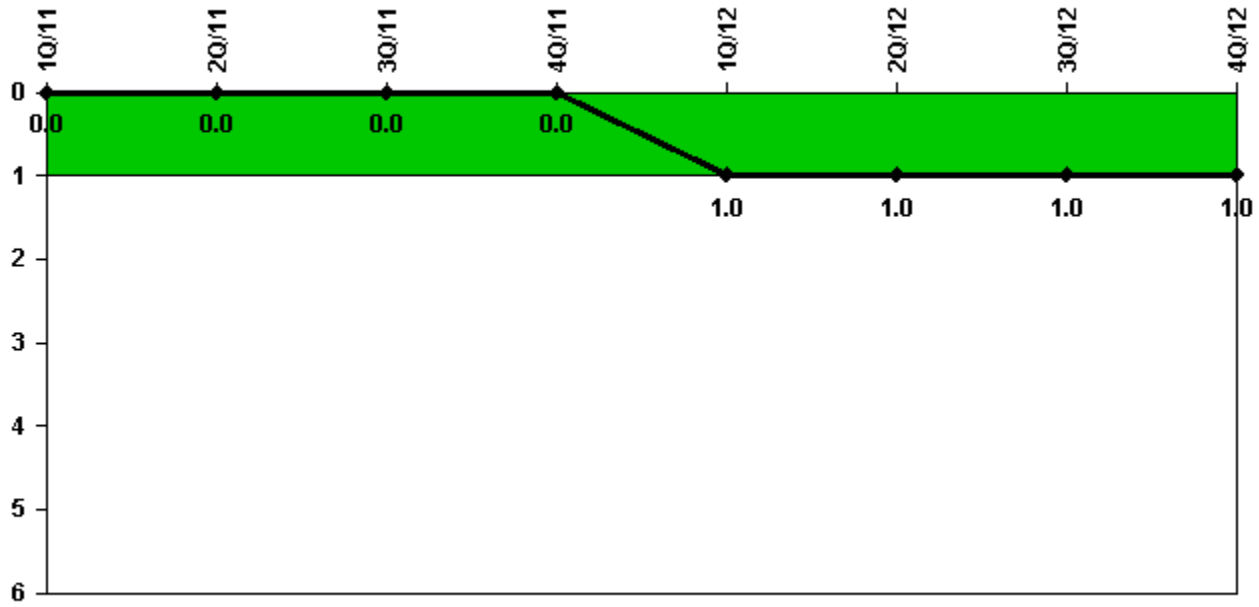
Thresholds: White > 6.0

Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	2159.0	2071.5	1919.0	2004.4	2004.4	2184.0	2208.0	2209.0
Indicator value	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Licensee Comments: none

Unplanned Scrams with Complications



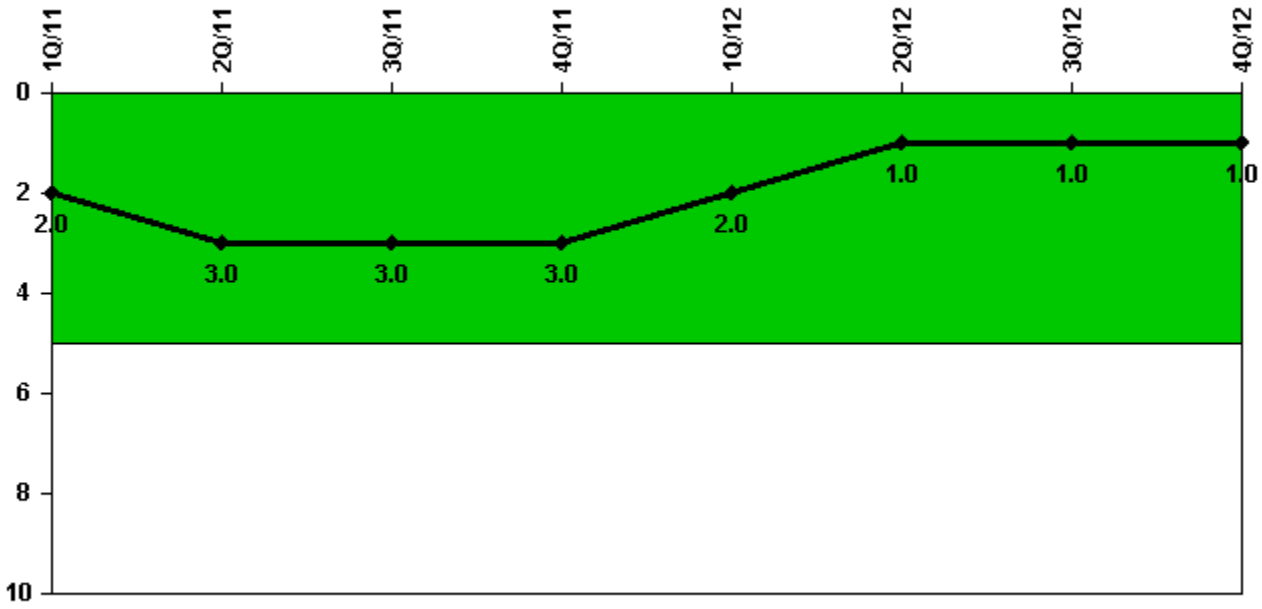
Thresholds: White > 1.0

Notes

Unplanned Scrams with Complications	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
Scrams with complications	0	0	0	0	1.0	0	0	0
Indicator value	**0.0**	**0.0**	**0.0**	**0.0**	**1.0**	**1.0**	**1.0**	**1.0**

Licensee Comments: none

Safety System Functional Failures (PWR)



Thresholds: White > 5.0

Notes

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

Licensee Comments:

3Q/12: LER 2012-001-01 issued for U2 LOOP and Rx Trip and U1 LOOP due to SAT inverted insulators. Determined to NOT be an event or condition that could prevent fulfillment of a safety function

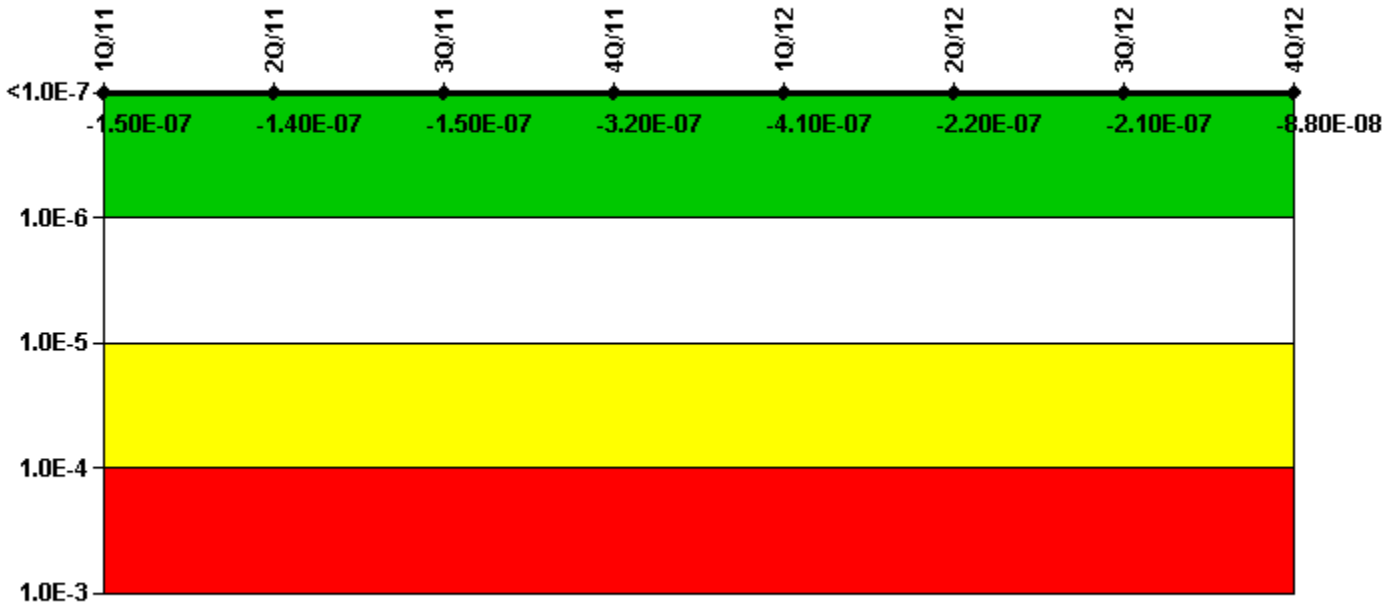
2Q/12: LER 2012-001-00 - No SSFF

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.

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/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
UAI (ΔCDF)	9.92E-08	9.47E-08	9.49E-08	1.15E-07	5.69E-08	4.09E-08	3.62E-08	4.26E-08
URI (ΔCDF)	-2.45E-07	-2.30E-07	-2.40E-07	-4.36E-07	-4.65E-07	-2.64E-07	-2.42E-07	-1.30E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-1.50E-07**	**-1.40E-07**	**-1.50E-07**	**-3.20E-07**	**-4.10E-07**	**-2.20E-07**	**-2.10E-07**	**-8.80E-08**

Licensee Comments:

4Q/12: Changed PRA Parameter(s).

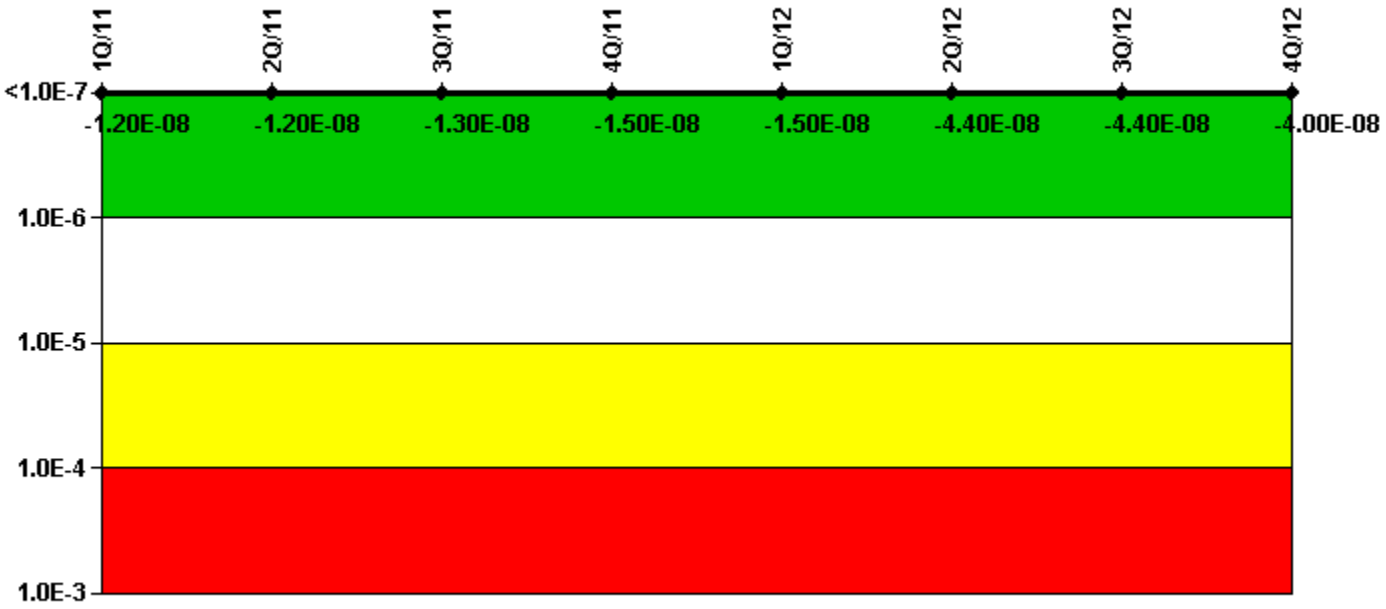
3Q/12: Changed PRA Parameter(s).

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	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
UAI (ΔCDF)	-1.00E-08	-9.86E-09	-1.09E-08	-1.30E-08	-1.30E-08	-3.85E-08	-3.81E-08	-3.08E-08
URI (ΔCDF)	-2.40E-09	-2.41E-09	-2.42E-09	-1.94E-09	-1.96E-09	-5.83E-09	-5.89E-09	-9.26E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-1.20E-08**	**-1.20E-08**	**-1.30E-08**	**-1.50E-08**	**-1.50E-08**	**-4.40E-08**	**-4.40E-08**	**-4.00E-08**

Licensee Comments:

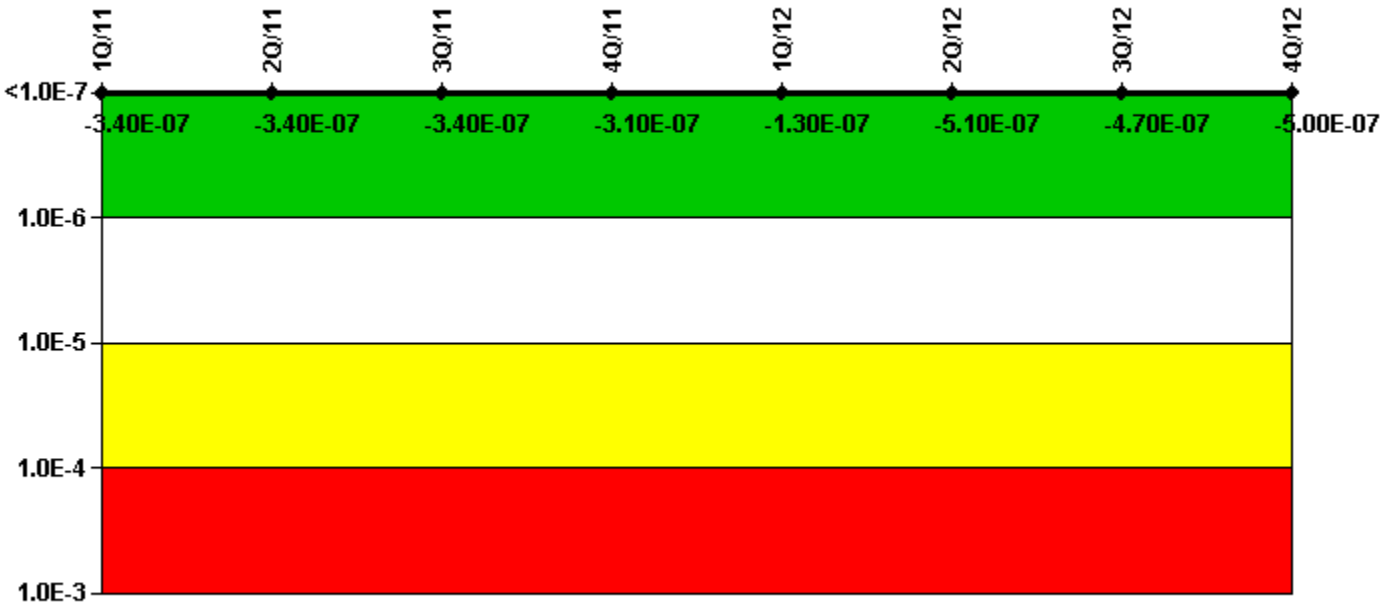
4Q/12: Changed PRA Parameter(s).

3Q/12: Changed PRA Parameter(s).

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	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
UAI (ΔCDF)	-9.66E-08	-9.66E-08	-9.65E-08	1.11E-09	1.33E-07	-8.33E-08	-4.75E-08	-8.34E-08
URI (ΔCDF)	-2.43E-07	-2.43E-07	-2.46E-07	-3.14E-07	-2.60E-07	-4.26E-07	-4.25E-07	-4.18E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-3.40E-07**	**-3.40E-07**	**-3.40E-07**	**-3.10E-07**	**-1.30E-07**	**-5.10E-07**	**-4.70E-07**	**-5.00E-07**

Licensee Comments:

4Q/12: Changed PRA Parameter(s).

3Q/12: Changed PRA Parameter(s).

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.

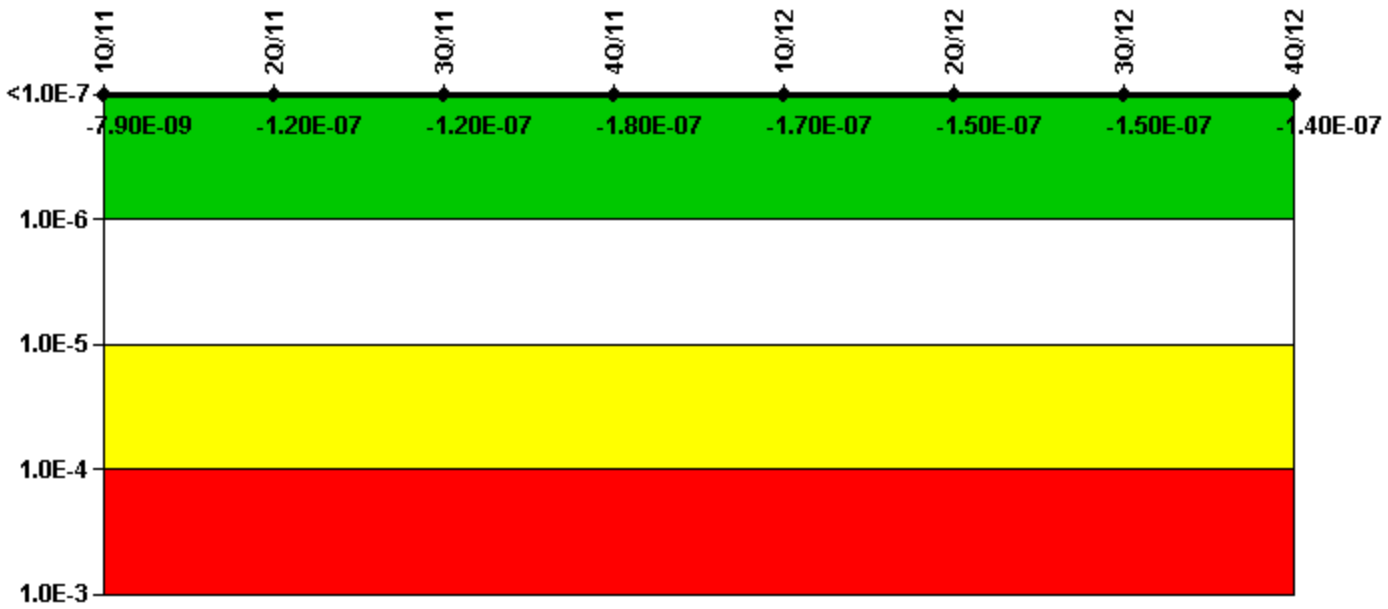
2Q/12: Byron PRA Model Revision No: 6BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW. Based 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	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
UAI (ΔCDF)	7.97E-08	-2.87E-08	-2.87E-08	-3.45E-08	-3.45E-08	-3.42E-08	-3.42E-08	-3.55E-08
URI (ΔCDF)	-8.77E-08	-9.02E-08	-9.28E-08	-1.43E-07	-1.40E-07	-1.20E-07	-1.20E-07	-1.04E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-7.90E-09**	**-1.20E-07**	**-1.20E-07**	**-1.80E-07**	**-1.70E-07**	**-1.50E-07**	**-1.50E-07**	**-1.40E-07**

Licensee Comments:

4Q/12: Changed PRA Parameter(s).

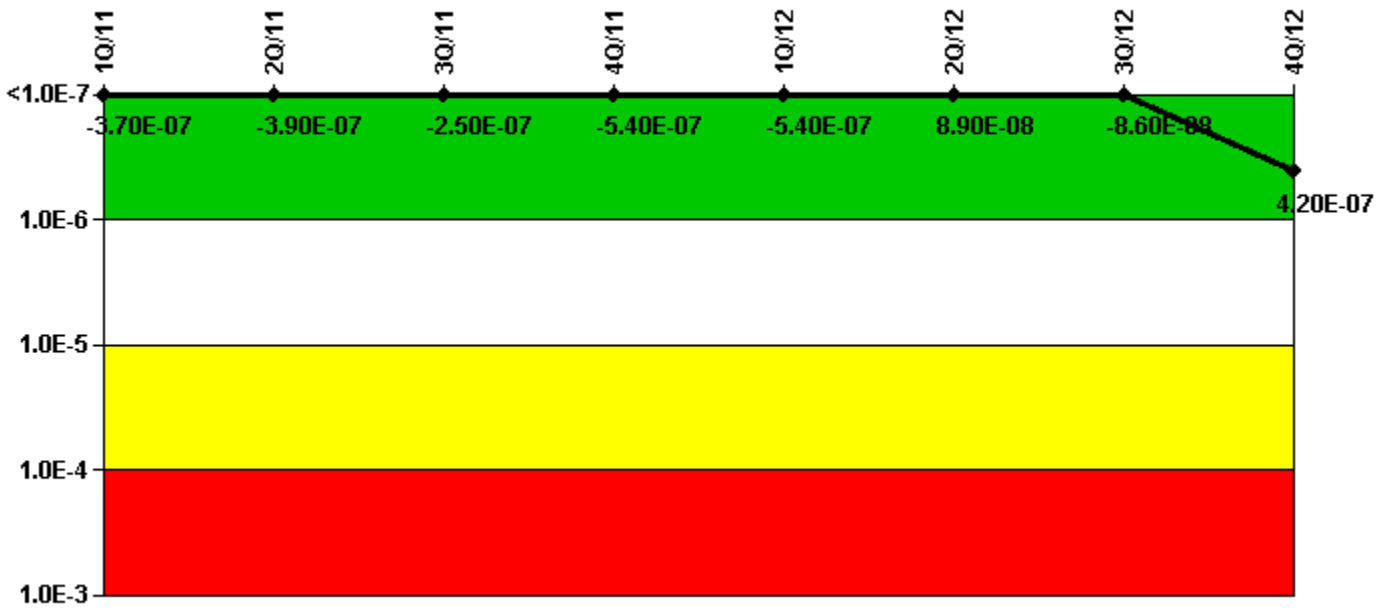
3Q/12: Changed PRA Parameter(s).

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	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
UAI (ΔCDF)	5.12E-07	4.93E-07	6.38E-07	3.97E-07	3.95E-07	4.41E-07	2.58E-07	5.55E-07
URI (ΔCDF)	-8.85E-07	-8.87E-07	-8.92E-07	-9.35E-07	-9.37E-07	-3.52E-07	-3.44E-07	-1.40E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-3.70E-07**	**-3.90E-07**	**-2.50E-07**	**-5.40E-07**	**-5.40E-07**	**8.90E-08**	**-8.60E-08**	**4.20E-07**

Licensee Comments:

4Q/12: Changed PRA Parameter(s).

3Q/12: Changed PRA Parameter(s).

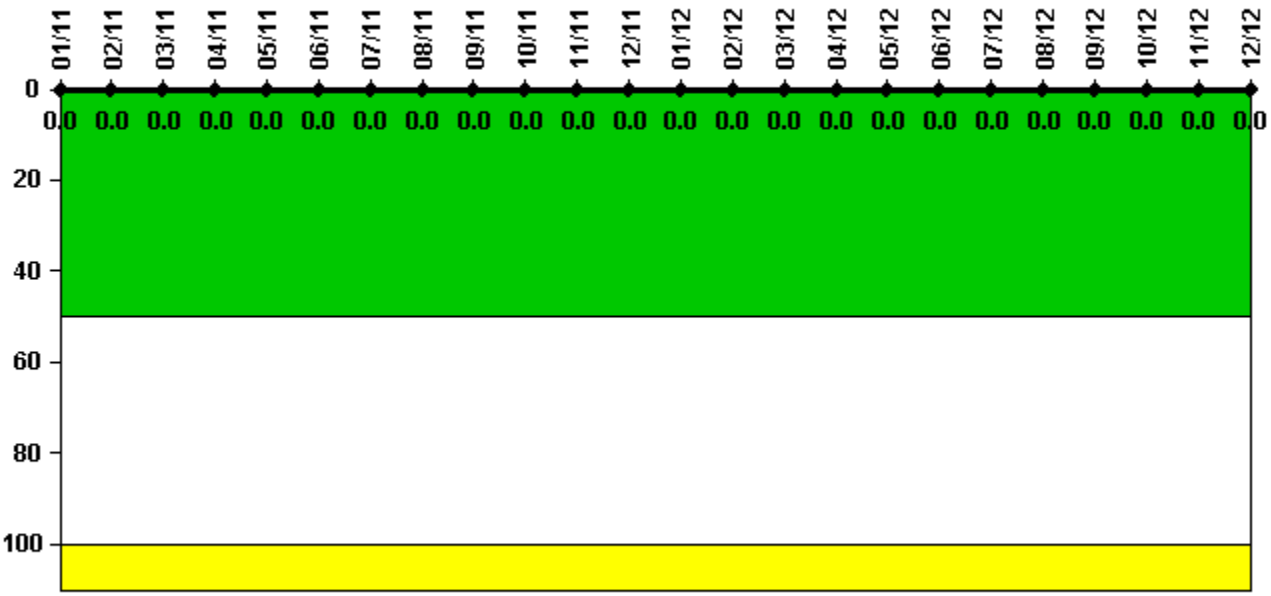
2Q/12: Changed PRA Parameter(s). Byron PRA Model Revision No: 6BB011a approved March 29, 2012, revised

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.

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.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

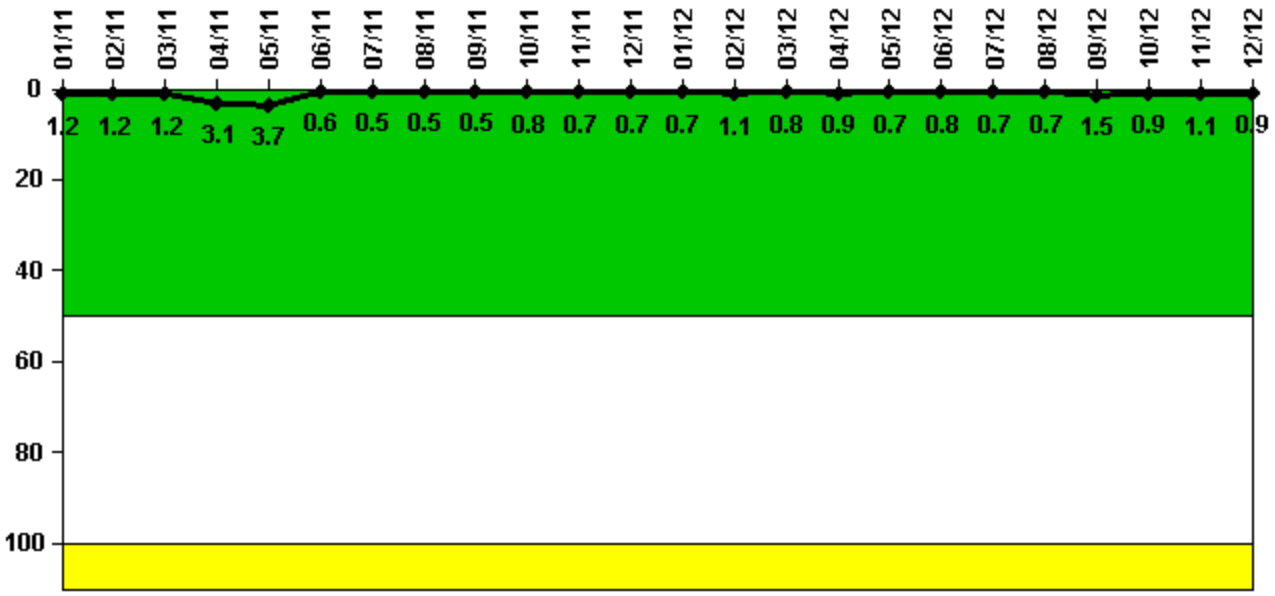
Notes

Reactor Coolant System Activity	1/11	2/11	3/11	4/11	5/11	6/11	7/11	8/11	9/11	10/11	11/11	12/11
Maximum activity	0.000142	0.000136	0.000140	0.000161	0.000324	0.000477	0.000222	0.000153	0.000224	0.000055	0.000064	0.000065
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**	**0**	**0**	**0**

Reactor Coolant System Activity	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12
Maximum activity	0.000071	0.000069	0.000081	0.000075	0.000076	0.000126	0.000129	0.000224	0.000090	0.000118	0.000091	0.000095
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**	**0**	**0**	**0**

Licensee Comments: none

Reactor Coolant System Leakage

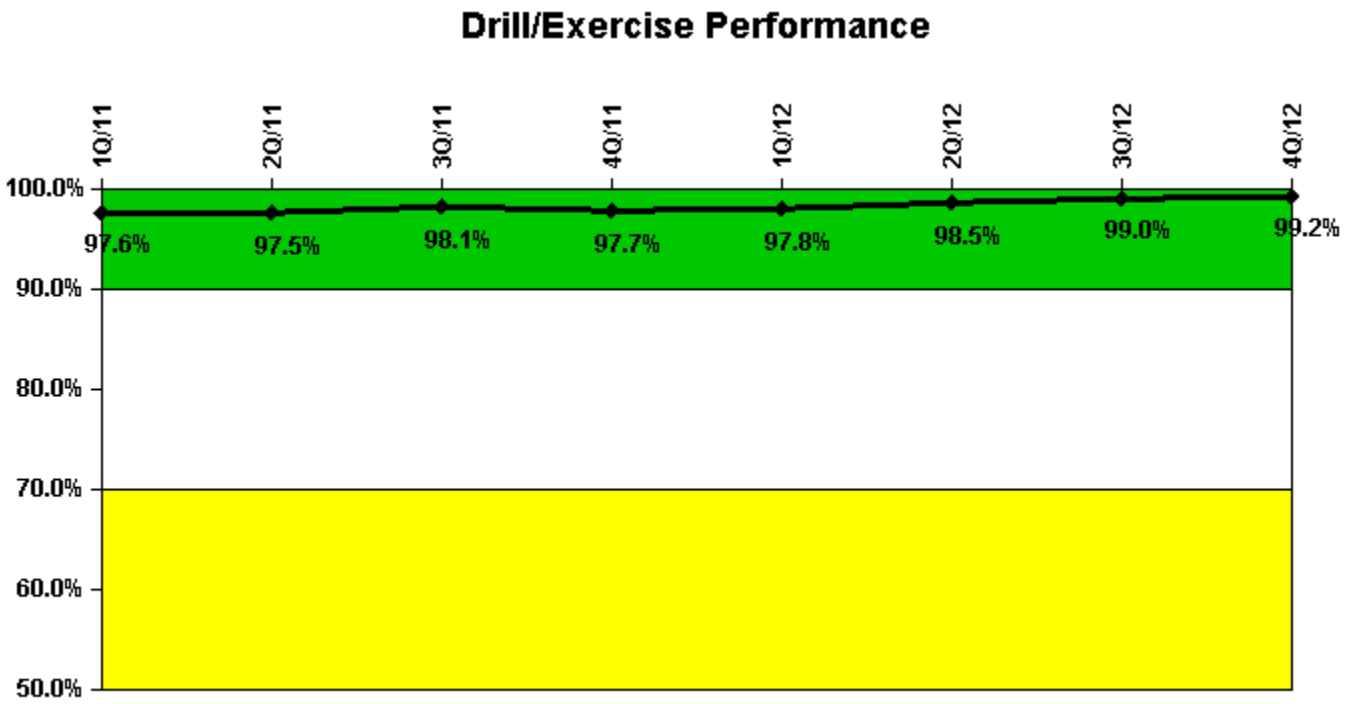


Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Leakage	1/11	2/11	3/11	4/11	5/11	6/11	7/11	8/11	9/11	10/11	11/11	12/11
Maximum leakage	0.120	0.120	0.120	0.310	0.370	0.060	0.050	0.050	0.050	0.080	0.070	0.070
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	**1.2**	**1.2**	**1.2**	**3.1**	**3.7**	**0.6**	**0.5**	**0.5**	**0.5**	**0.8**	**0.7**	**0.7**
Reactor Coolant System Leakage	**1/12**	**2/12**	**3/12**	**4/12**	**5/12**	**6/12**	**7/12**	**8/12**	**9/12**	**10/12**	**11/12**	**12/12**
Maximum leakage	0.070	0.110	0.080	0.090	0.070	0.080	0.070	0.070	0.150	0.090	0.110	0.090
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**	**1.1**	**0.8**	**0.9**	**0.7**	**0.8**	**0.7**	**0.7**	**1.5**	**0.9**	**1.1**	**0.9**

Licensee Comments: none

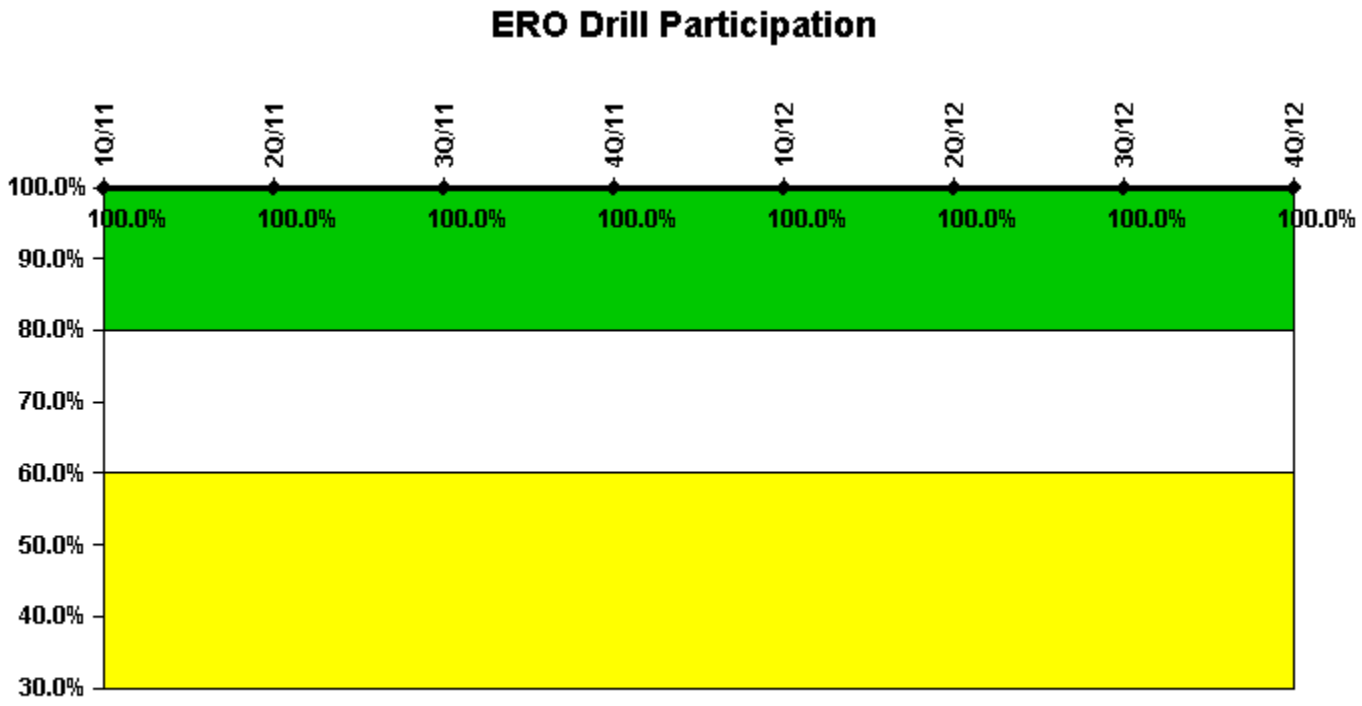


Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
Successful opportunities	51.0	77.0	62.0	35.0	96.0	126.0	24.0	3.0
Total opportunities	51.0	78.0	62.0	37.0	97.0	126.0	24.0	3.0
Indicator value	**97.6%**	**97.5%**	**98.1%**	**97.7%**	**97.8%**	**98.5%**	**99.0%**	**99.2%**

Licensee Comments: none



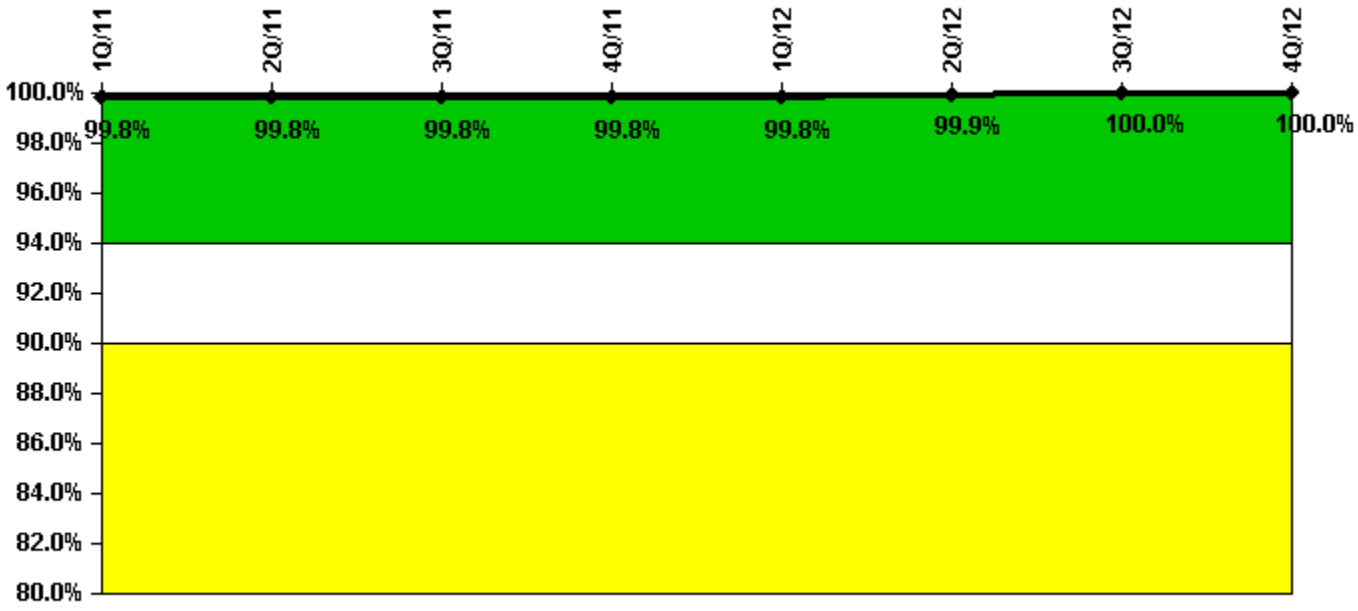
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
Participating Key personnel	76.0	74.0	75.0	74.0	74.0	77.0	78.0	78.0
Total Key personnel	76.0	74.0	75.0	74.0	74.0	77.0	78.0	78.0
Indicator value	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Licensee Comments: none

Alert & Notification System



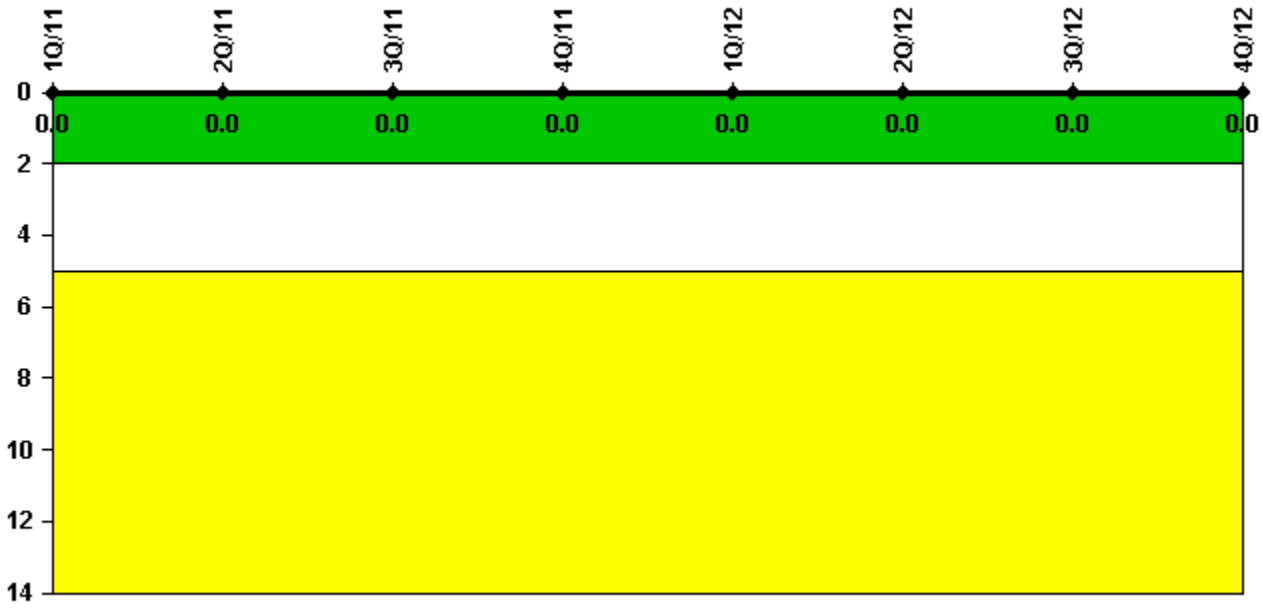
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12
Successful siren-tests	3902	3893	3893	3903	3962	3903	3841	3904
Total sirens-tests	3904	3904	3904	3904	3965	3904	3843	3904
Indicator value	**99.8%**	**99.8%**	**99.8%**	**99.8%**	**99.8%**	**99.9%**	**100.0%**	**100.0%**

Licensee Comments: none

Occupational Exposure Control Effectiveness

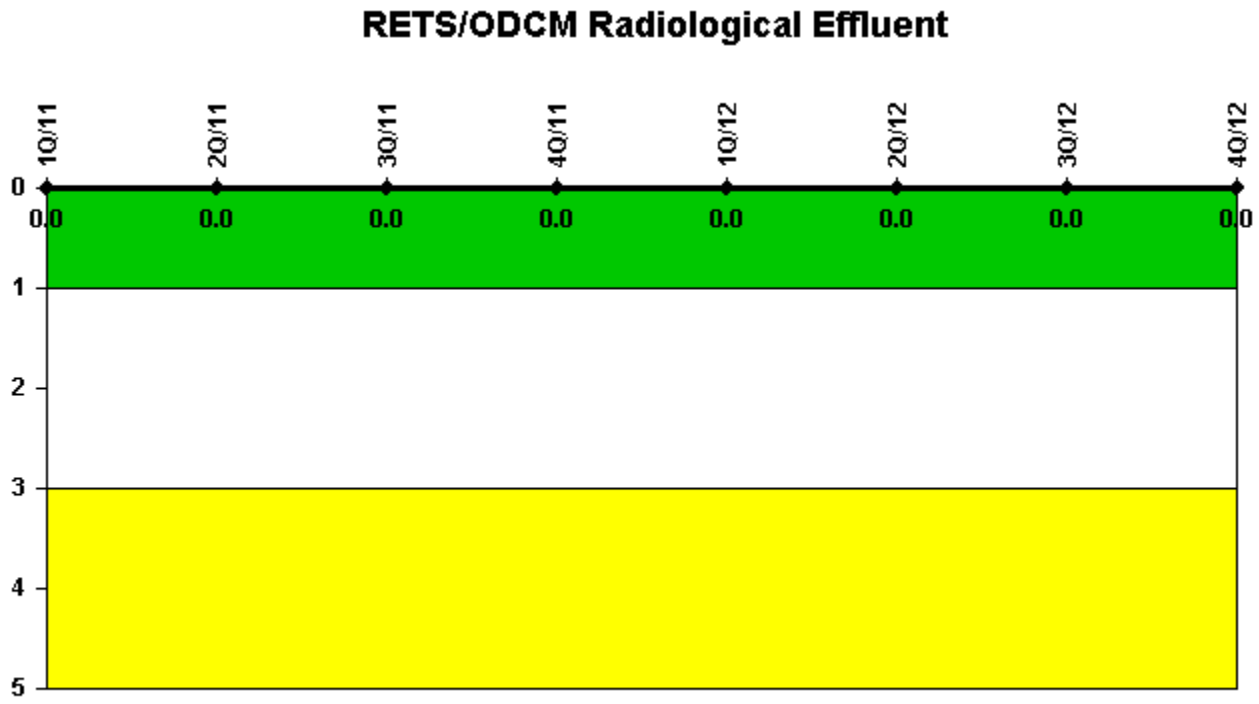


Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/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



Thresholds: White > 1.0 Yellow > 3.0

Notes

RETS/ODCM Radiological Effluent	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/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.

Action Matrix Summary | Inspection Findings Summary | PI Summary | Reactor Oversight Process

Last Modified: January 23, 2013