

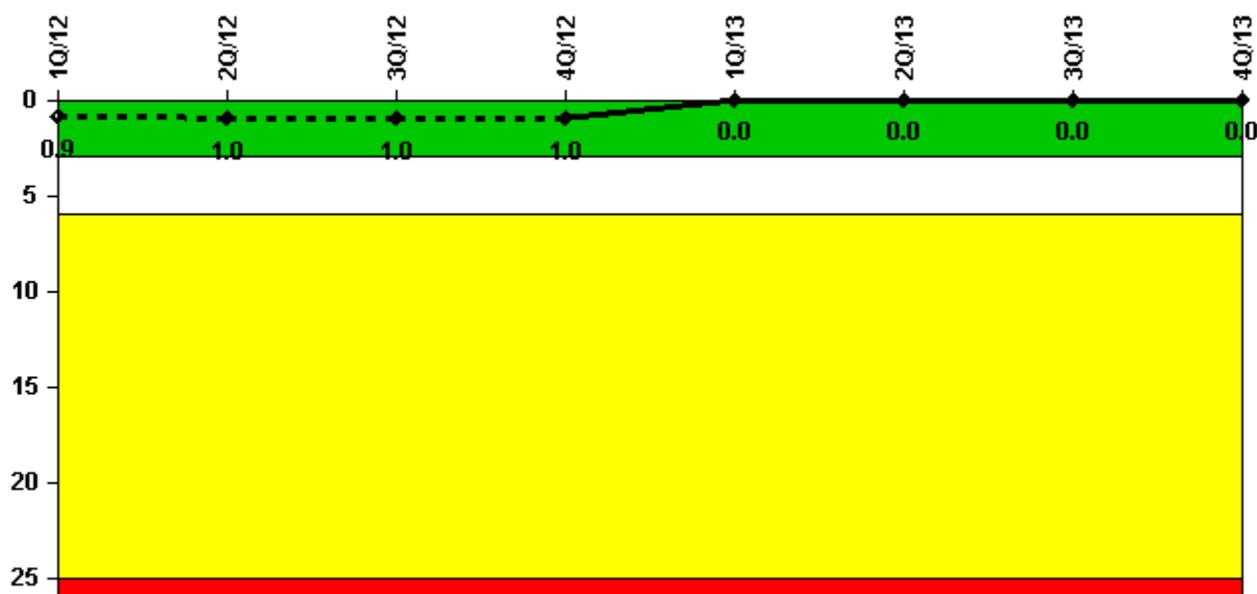
Brunswick 1

4Q/2013 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

Unplanned Scrams per 7000 Critical Hrs



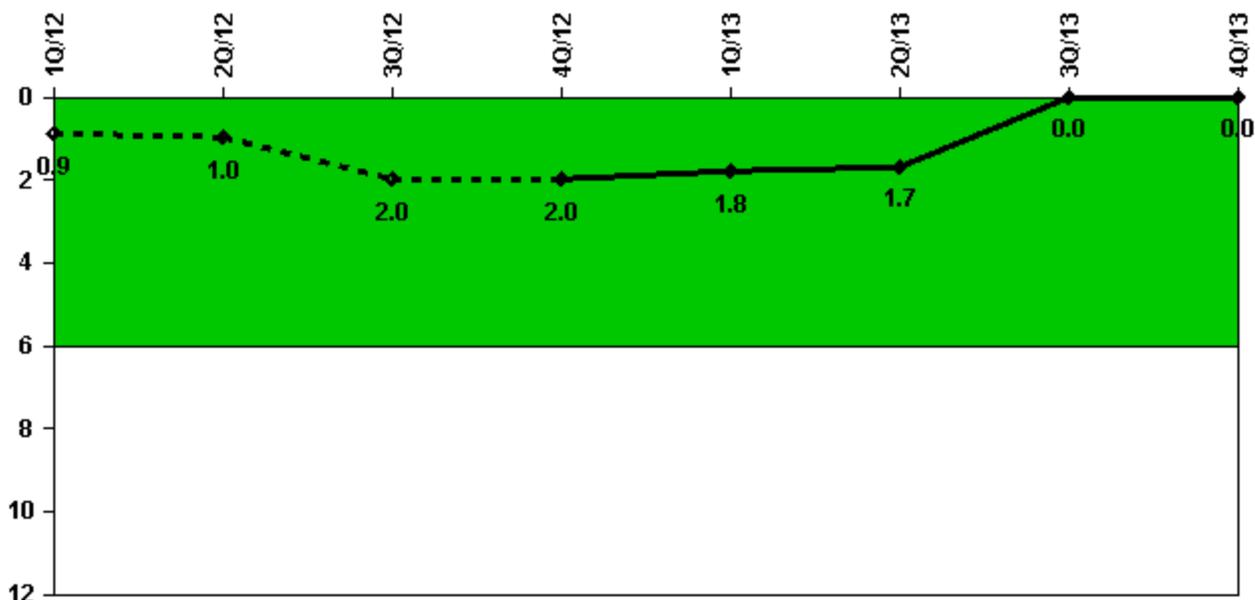
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Unplanned scrams	1.0	0	0	0	0	0	0	0
Critical hours	1271.3	1502.0	1941.4	2209.0	2159.0	1935.3	2208.0	2209.0
Indicator value	0.9	1.0	1.0	1.0	0	0	0	0

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

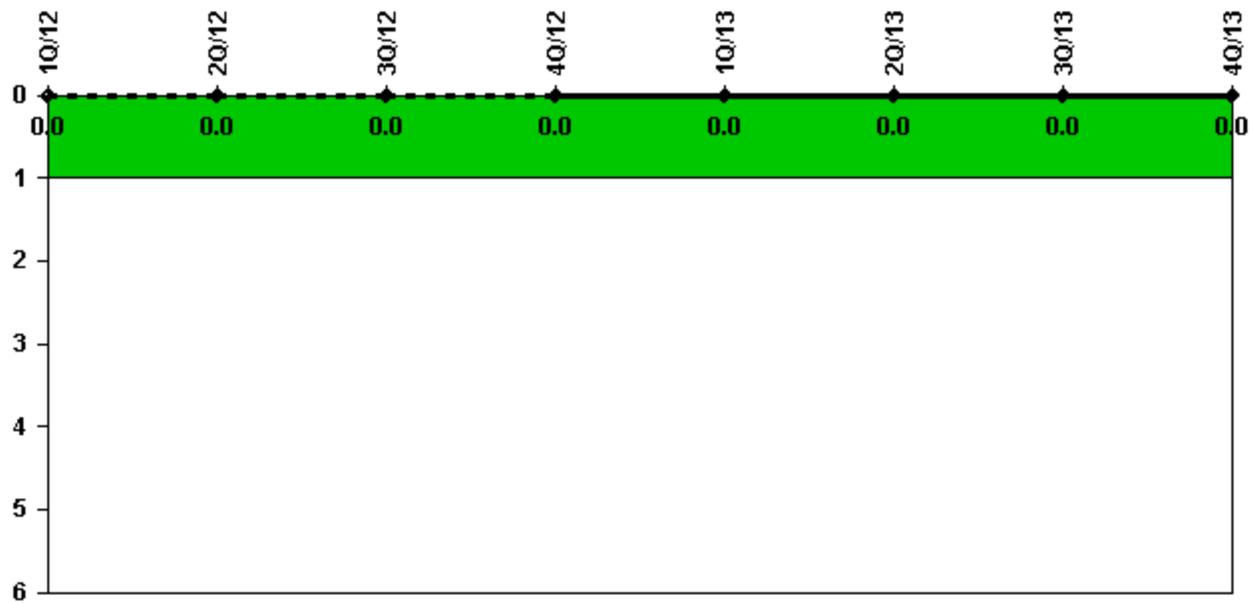
Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Unplanned power changes	0	0	2.0	0	0	0	0	0
Critical hours	1271.3	1502.0	1941.4	2209.0	2159.0	1935.3	2208.0	2209.0
Indicator value	0.9	1.0	2.0	2.0	1.8	1.7	0	0

Licensee Comments:

2Q/13: On April 15, 2013, Brunswick submitted to the NRC a request for a notice of enforcement discretion (NOED) for Unit 1. Unit 2 was in a refueling outage, and a degraded condition was identified on an emergency bus (E8) power transformer, requiring its replacement. This put the operating Unit (Unit 1) into multiple 7-day LCO's. Associated work and subsequent testing put these LCO Completion Times at risk. Later on April 15, 2013 (and documented via letter dated April 17), the NRC verbally granted the NOED for Unit 1. The required work and testing was eventually completed within the allowed Completion Time plus the applicable Required Action Completion Time. Though the additional time granted by the NOED was never used, it more than likely resulted in the plant not commencing a power change greater than 20%. Operations may have taken action to begin the downpower during this time, had the NOED not been in place.

Unplanned Scrams with Complications



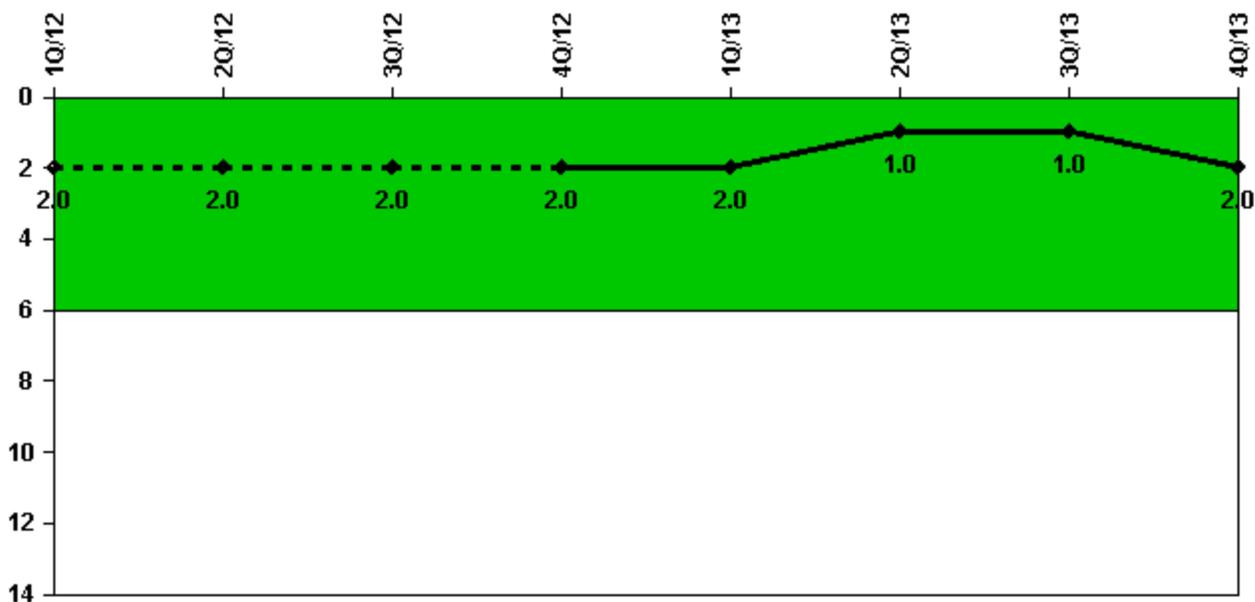
Thresholds: White > 1.0

Notes

Unplanned Scrams with Complications	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Scrams with complications	0	0	0	0	0	0	0	0
Indicator value	0.0							

Licensee Comments: none

Safety System Functional Failures (BWR)



Thresholds: White > 6.0

Notes

Safety System Functional Failures (BWR)	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Safety System Functional Failures	1	1	0	0	1	0	0	1
Indicator value	2	2	2	2	2	1	1	2

Licensee Comments:

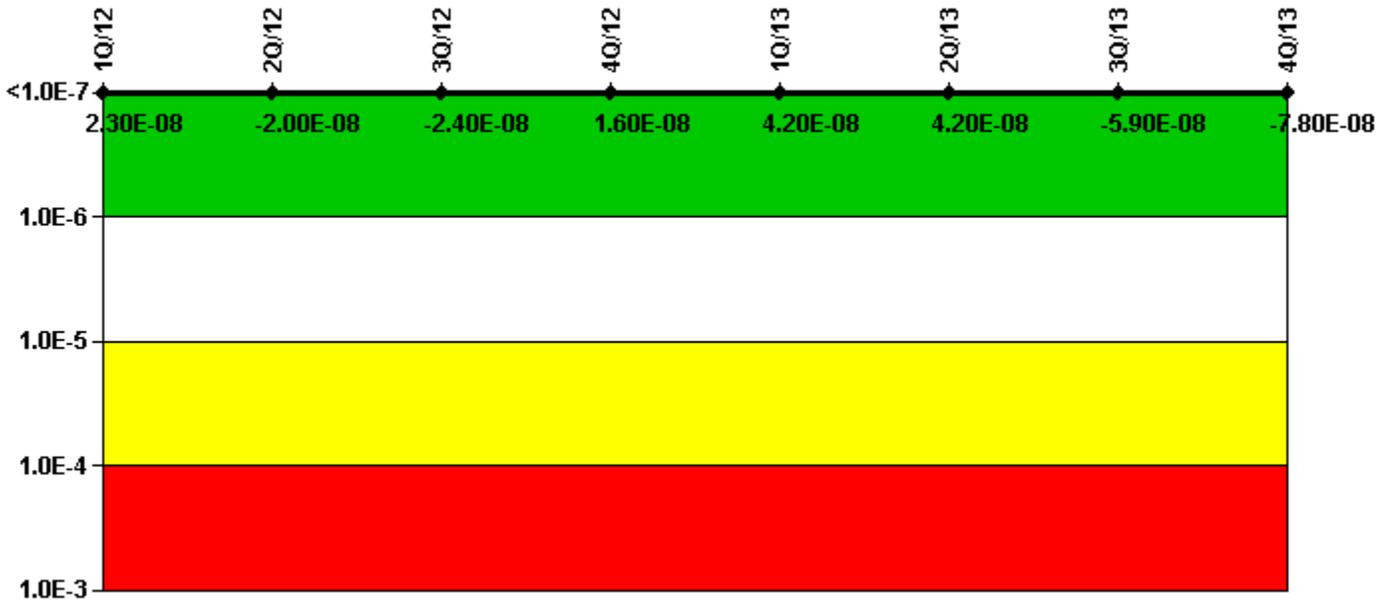
4Q/13: LER 1-02013-003 was submitted on 11/14/2013 for operation prohibited by Tech Specs when past operability evaluation determined that the Service Water system for both Unit 1 and Unit 2 may have not been able to perform its safety function due to postulated flooding.

1Q/13: LER 1-2012-007 was submitted on February 12, 2013, for an MSPI Safety System Functional Failure (SSFF) that occurred on Unit 1 and Unit 2 for the loss of Control Room Emergency Ventilation (CREV). The loss of CREV occurred due to a human performance error during implementation of a plant modification. It is applicable to both Units since Brunswick has a shared control room.

2Q/12: LER 1-2012-004 was submitted on 06/29/2012 for HPCI inoperability, as an event that could have prevented the fulfillment of a safety function.

1Q/12: LER 1-2011-003 was submitted on January 30, 2012, for loss of Control Room Air Conditioning and Emergency Ventilation (CREV) due to failure of the control building instrument air dryer.

Mitigating Systems Performance Index, Emergency AC Power System



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

Notes

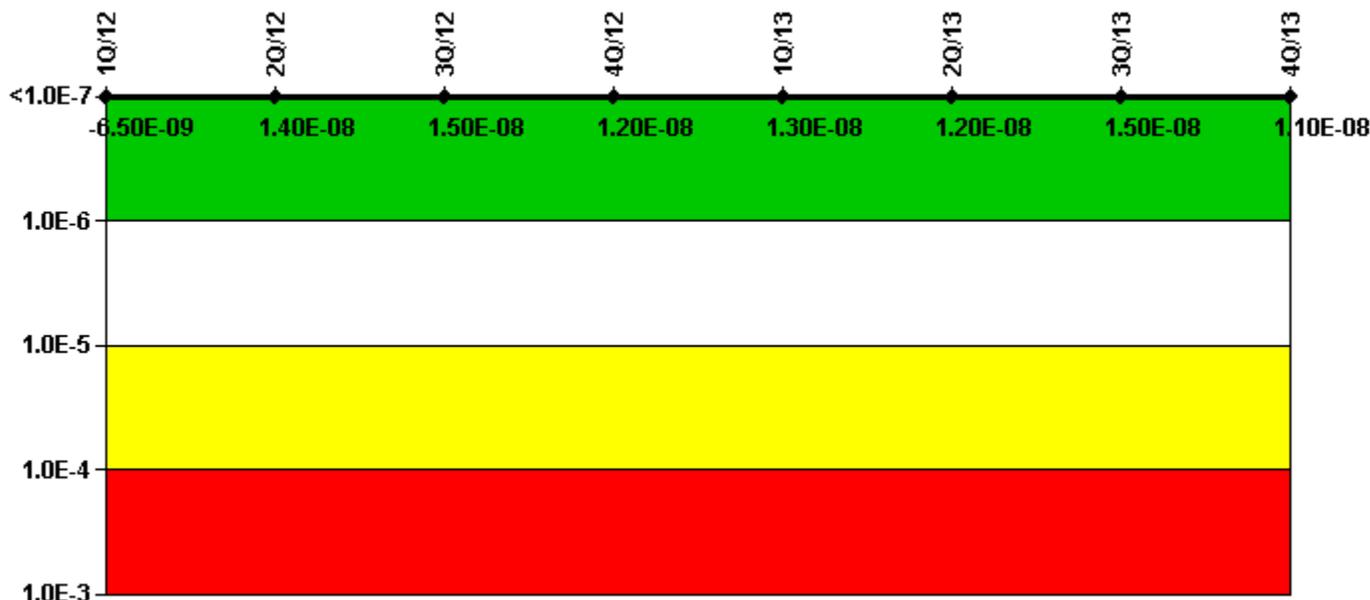
Mitigating Systems Performance Index, Emergency AC Power System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (Δ CDF)	8.70E-09	9.03E-10	-6.65E-09	-4.51E-09	2.03E-08	1.82E-08	1.33E-08	4.55E-08
URI (Δ CDF)	1.40E-08	-2.09E-08	-1.74E-08	2.08E-08	2.21E-08	2.34E-08	-7.21E-08	-1.24E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.30E-08	-2.00E-08	-2.40E-08	1.60E-08	4.20E-08	4.20E-08	-5.90E-08	-7.80E-08

Licensee Comments:

4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

1Q/12: The emergency diesel generators run time hours were revised to incorporate NRC approved FAQ 480. The run time hours decreased, and were entered as estimated beginning in the first quarter of 2012. The Brunswick MSPI Basis Document was revised in the 4th quarter of 2011.

Mitigating Systems Performance Index, High Pressure Injection System



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

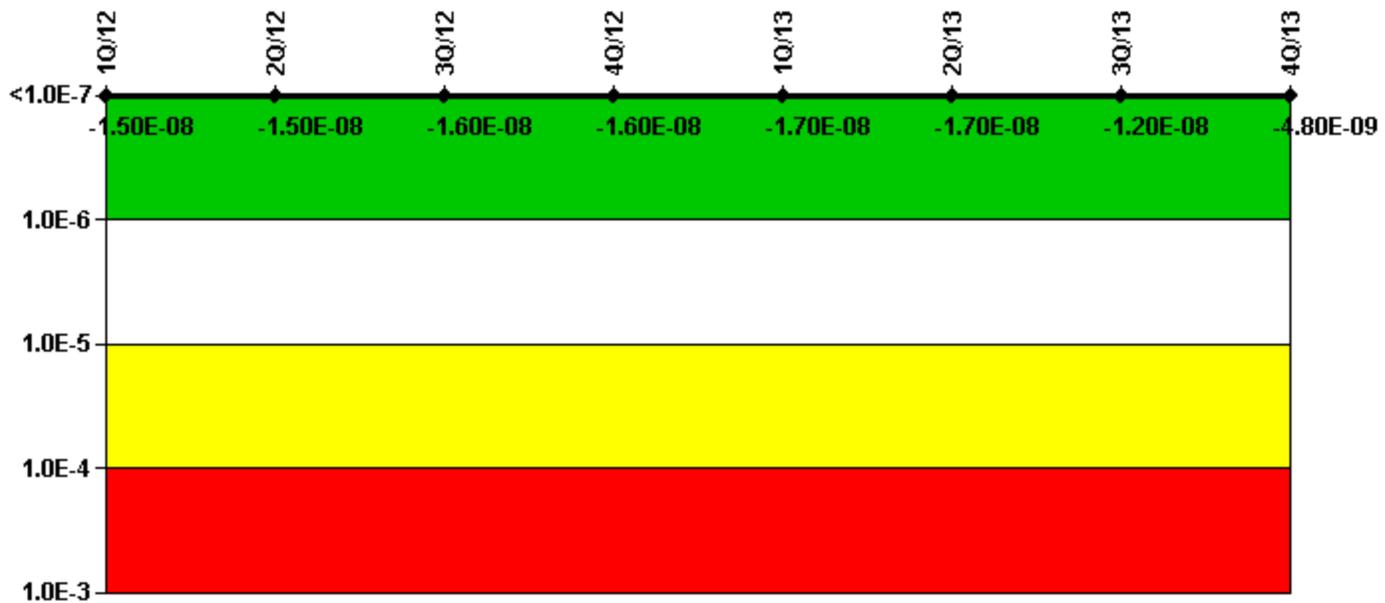
Notes

Mitigating Systems Performance Index, High Pressure Injection System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (Δ CDF)	2.07E-09	4.67E-09	5.29E-09	2.83E-09	3.58E-09	2.91E-09	5.12E-09	3.44E-09
URI (Δ CDF)	-8.57E-09	9.54E-09	9.54E-09	9.54E-09	9.54E-09	9.54E-09	9.54E-09	7.25E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-6.50E-09	1.40E-08	1.50E-08	1.20E-08	1.30E-08	1.20E-08	1.50E-08	1.10E-08

Licensee Comments:

4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

Mitigating Systems Performance Index, Heat Removal System



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

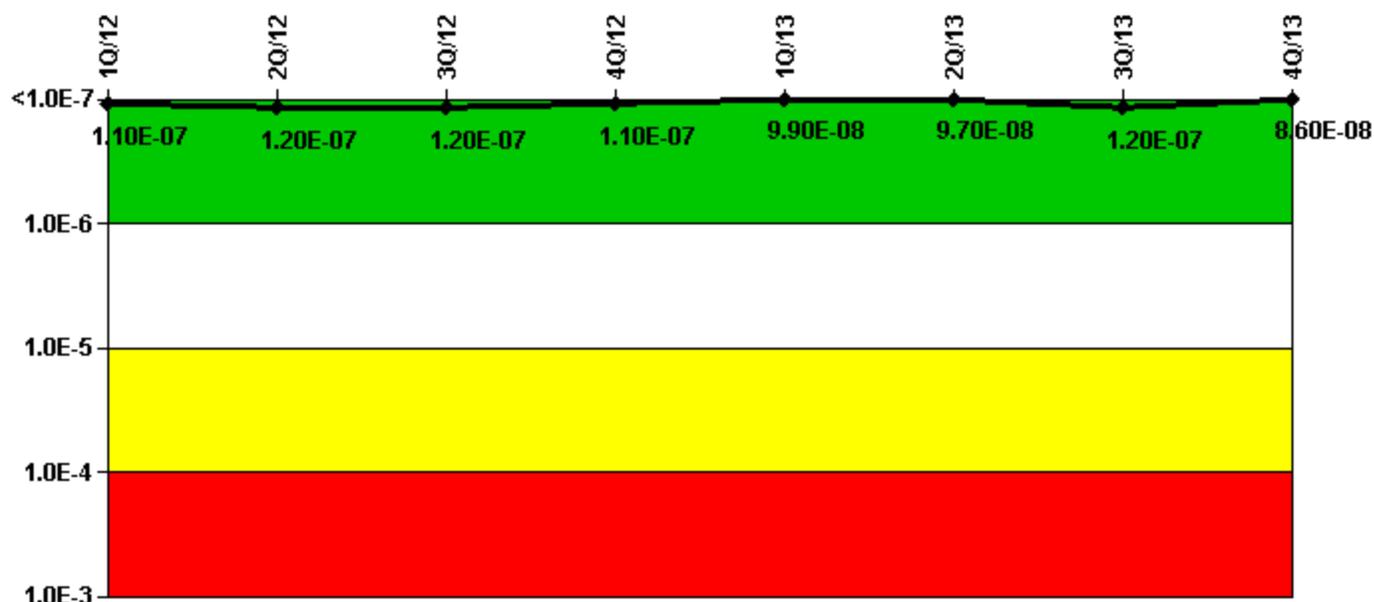
Notes

Mitigating Systems Performance Index, Heat Removal System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (Δ CDF)	-8.24E-10	-1.11E-09	-1.78E-09	-1.88E-09	-2.31E-09	-3.07E-09	1.95E-09	5.38E-09
URI (Δ CDF)	-1.42E-08	-1.02E-08						
PLE	NO							
Indicator value	-1.50E-08	-1.50E-08	-1.60E-08	-1.60E-08	-1.70E-08	-1.70E-08	-1.20E-08	-4.80E-09

Licensee Comments:

4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

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/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (Δ CDF)	4.52E-08	5.08E-08	4.52E-08	3.74E-08	2.42E-08	2.20E-08	4.25E-08	1.46E-08
URI (Δ CDF)	6.63E-08	6.92E-08	7.22E-08	7.52E-08	7.52E-08	7.52E-08	7.52E-08	7.17E-08
PLE	NO							
Indicator value	1.10E-07	1.20E-07	1.20E-07	1.10E-07	9.90E-08	9.70E-08	1.20E-07	8.60E-08

Licensee Comments:

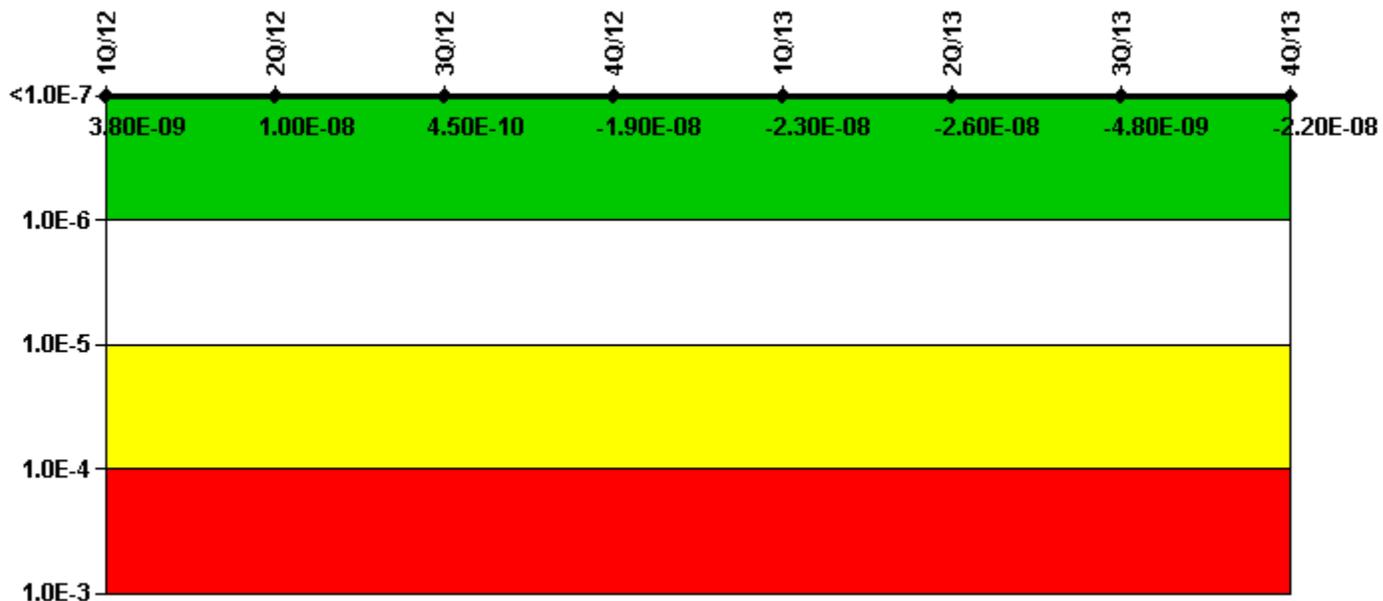
4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

2Q/13: Changed PRA Parameter(s).

1Q/13: Changed PRA Parameter(s). The Unit 1 Planned Baseline Unavailability (UABLP) for RHR was revised effective the first quarter of 2013. The UABLP was reduced due to the removal of hours that were added in the first quarter of 2010 for an infrequent planned maintenance activity to perform chemical decontamination on both A Loop and B Loop of RHR. Per NEI 99-02, these hours are to be removed after 12 quarters.

1Q/12: Changed PRA Parameter(s). The planned baseline unavailability hours were revised to include a chemical decontamination of the Unit 1 RHR system (an infrequent activity). These hours shall be removed beginning in the first quarter of 2013. The Brunswick MSPI Basis Document was revised in the 4th quarter of 2011, incorporating these changes.

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/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (Δ CDF)	3.63E-09	9.96E-09	2.64E-10	-1.91E-08	-1.89E-08	-2.18E-08	-9.98E-10	3.13E-09
URI (Δ CDF)	2.04E-10	1.98E-10	1.91E-10	1.84E-10	-4.21E-09	-3.81E-09	-3.82E-09	-2.49E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.80E-09	1.00E-08	4.50E-10	-1.90E-08	-2.30E-08	-2.60E-08	-4.80E-09	-2.20E-08

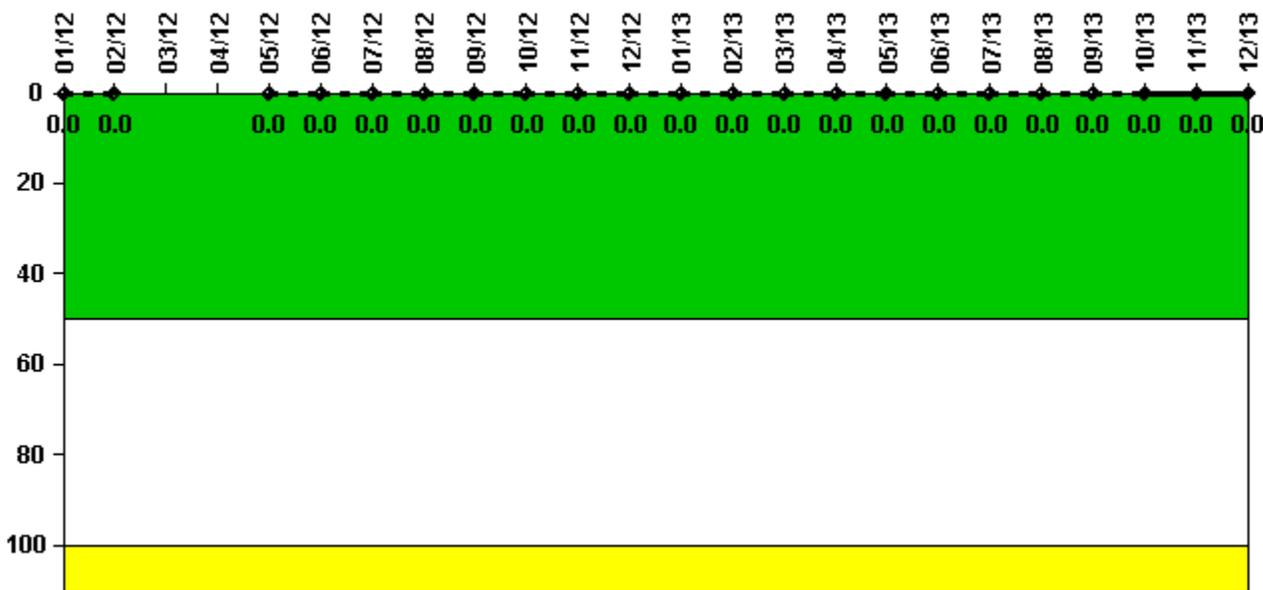
Licensee Comments:

4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

2Q/12: A revision to previously submitted data was made in the 2nd quarter of 2012 for the Unit 1 Cooling Water system. The change was negligible to the overall MSPI, and did not affect the color of the indicator. The revised data, found during an engineering review of system unavailability, found that the total Unplanned Unavailable hours for October and September of 2010 was incorrect for one train. The total Unplanned hours for the 1A NSW train increased from 7.05 hours to 14.74 hours total between the two months (Sept-Oct 2010). A Change File will

be submitted in the 2nd quarter 2012.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

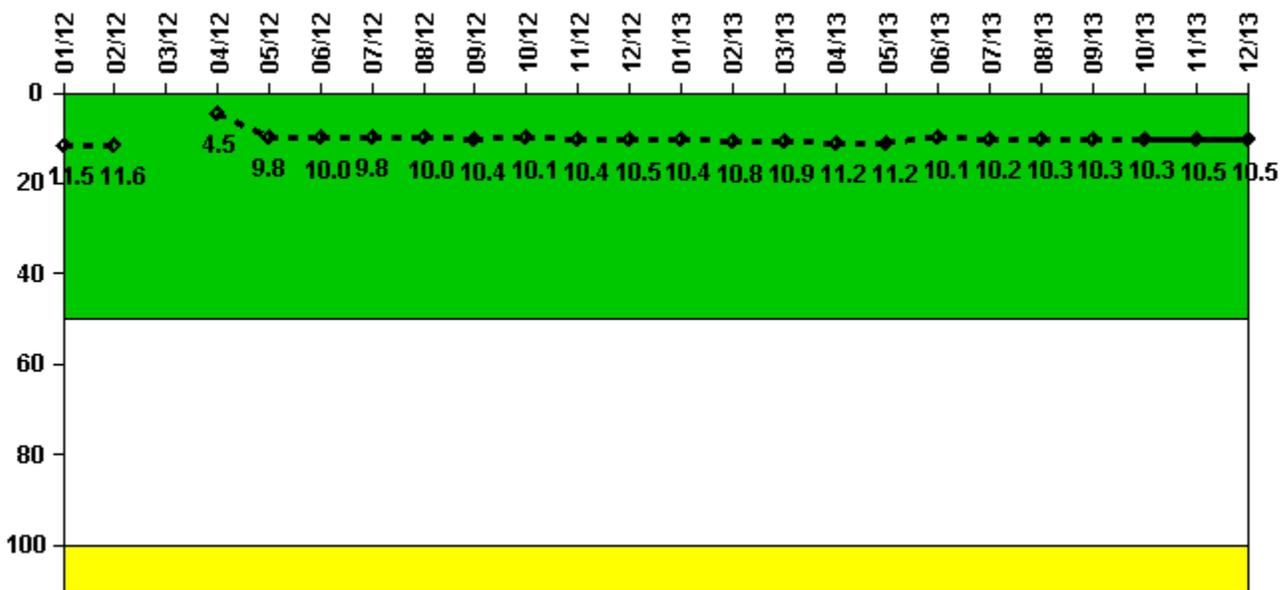
Notes

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	0.000061	0.000067	N/A	N/A	0.000038	0.000047	0.000043	0.000049	0.000046	0.000045	0.000050	0.000045
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	0	0	N/A	N/A	0	0	0	0	0	0	0	0

Reactor Coolant System Activity	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13
Maximum activity	0.000049	0.000049	0.000056	0.000052	0.000052	0.000048	0.000056	0.000048	0.000046	0.000052	0.000047	0.000047
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	0	0	0	0	0	0	0	0	0	0	0	0

Licensee Comments: none

Reactor Coolant System Leakage



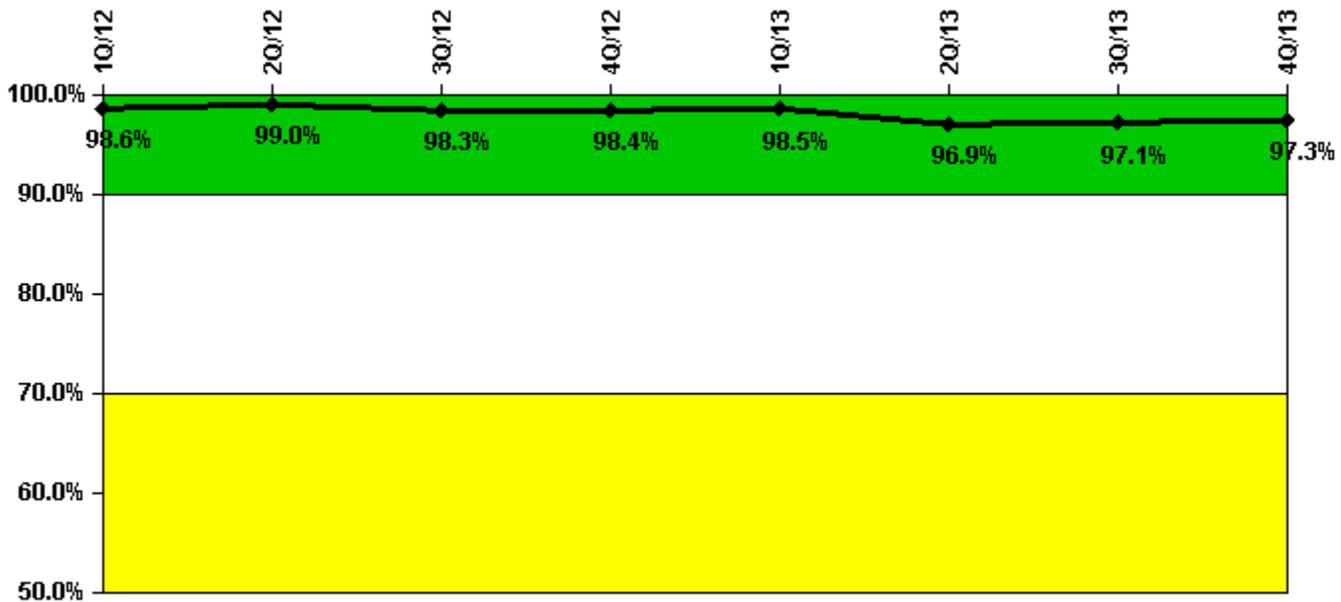
Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Leakage	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12
Maximum leakage	2.870	2.900	N/A	1.130	2.440	2.490	2.460	2.500	2.600	2.530	2.600	2.630
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	11.5	11.6	N/A	4.5	9.8	10.0	9.8	10.0	10.4	10.1	10.4	10.5
Reactor Coolant System Leakage	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13
Maximum leakage	2.610	2.700	2.730	2.790	2.810	2.530	2.560	2.580	2.583	2.579	2.624	2.633
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	10.4	10.8	10.9	11.2	11.2	10.1	10.2	10.3	10.3	10.3	10.5	10.5

Licensee Comments: none

Drill/Exercise Performance



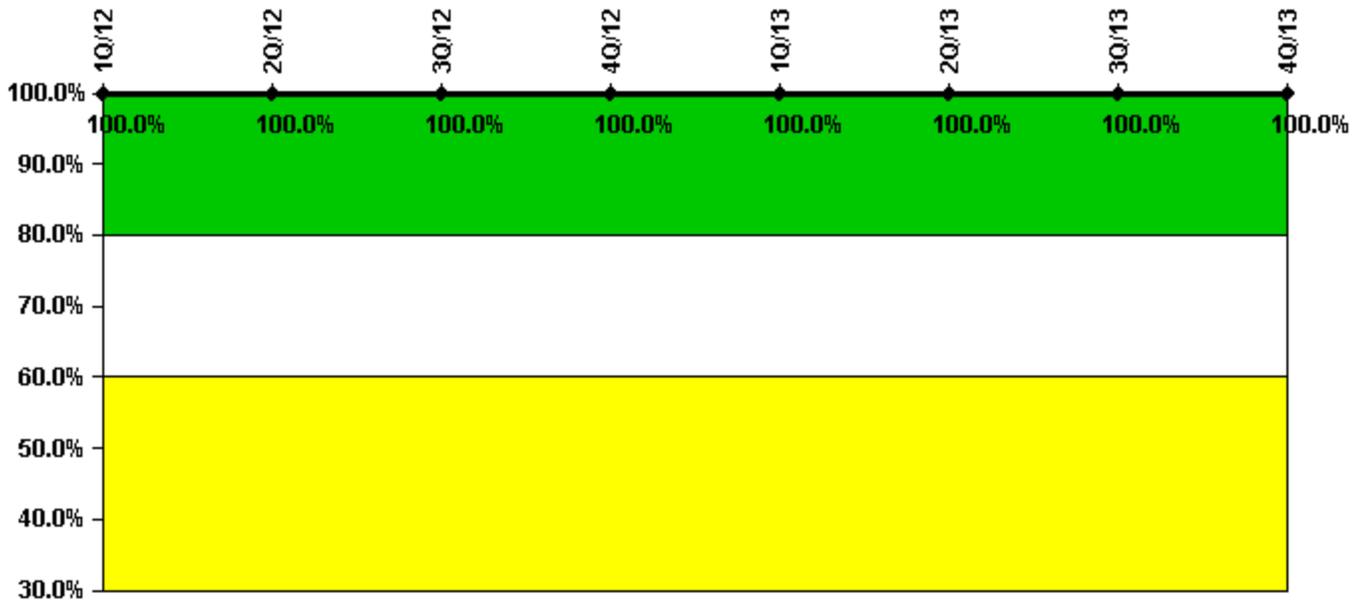
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Successful opportunities	8.0	17.0	26.0	46.0	22.0	25.0	18.0	54.0
Total opportunities	8.0	18.0	27.0	47.0	22.0	28.0	18.0	54.0
Indicator value	98.6%	99.0%	98.3%	98.4%	98.5%	96.9%	97.1%	97.3%

Licensee Comments: none

ERO Drill Participation



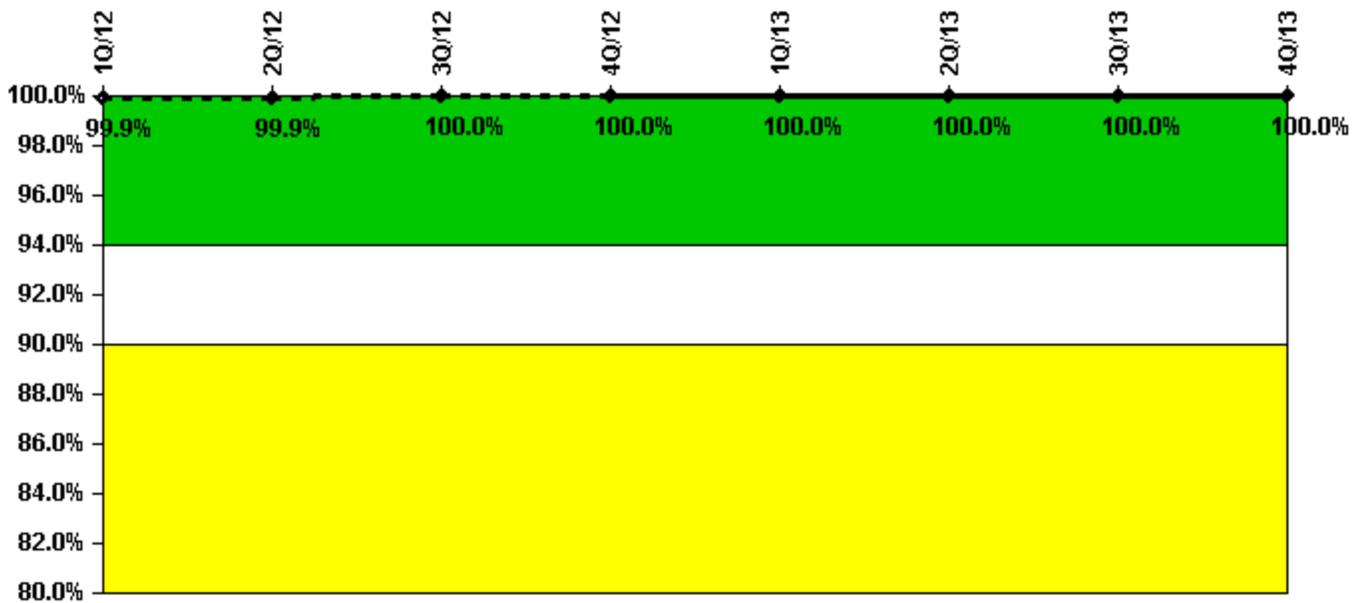
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Participating Key personnel	103.0	103.0	100.0	97.0	98.0	94.0	95.0	98.0
Total Key personnel	103.0	103.0	100.0	97.0	98.0	94.0	95.0	98.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Alert & Notification System



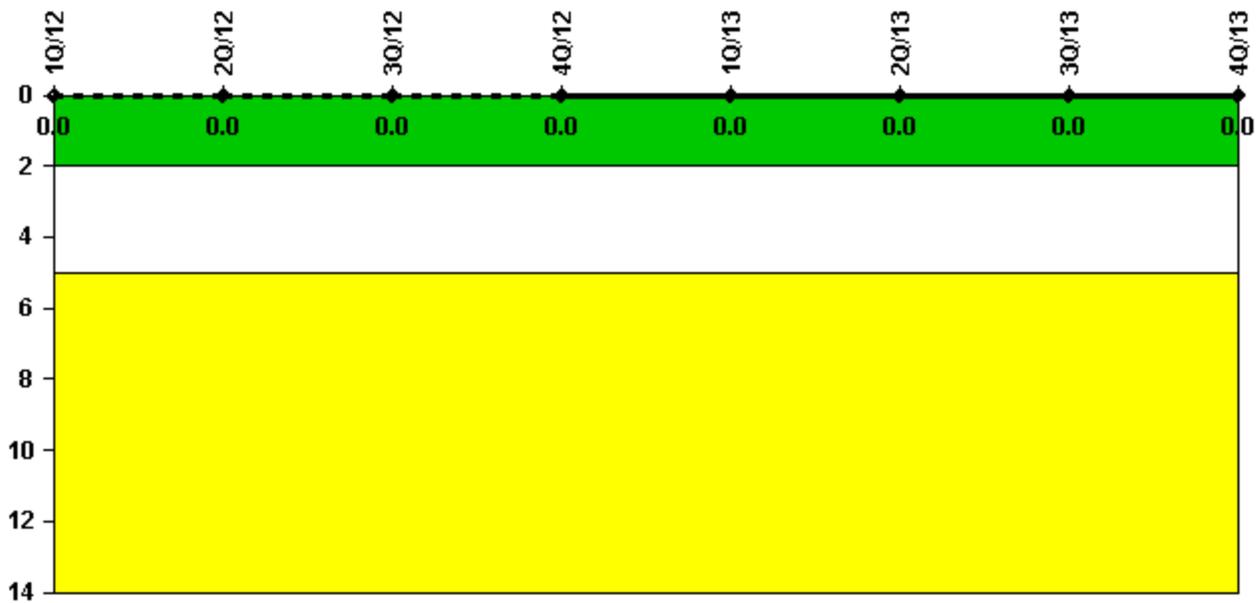
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Successful siren-tests	532	532	531	570	532	532	532	608
Total sirens-tests	532	532	532	570	532	532	532	608
Indicator value	99.9%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Occupational Exposure Control Effectiveness



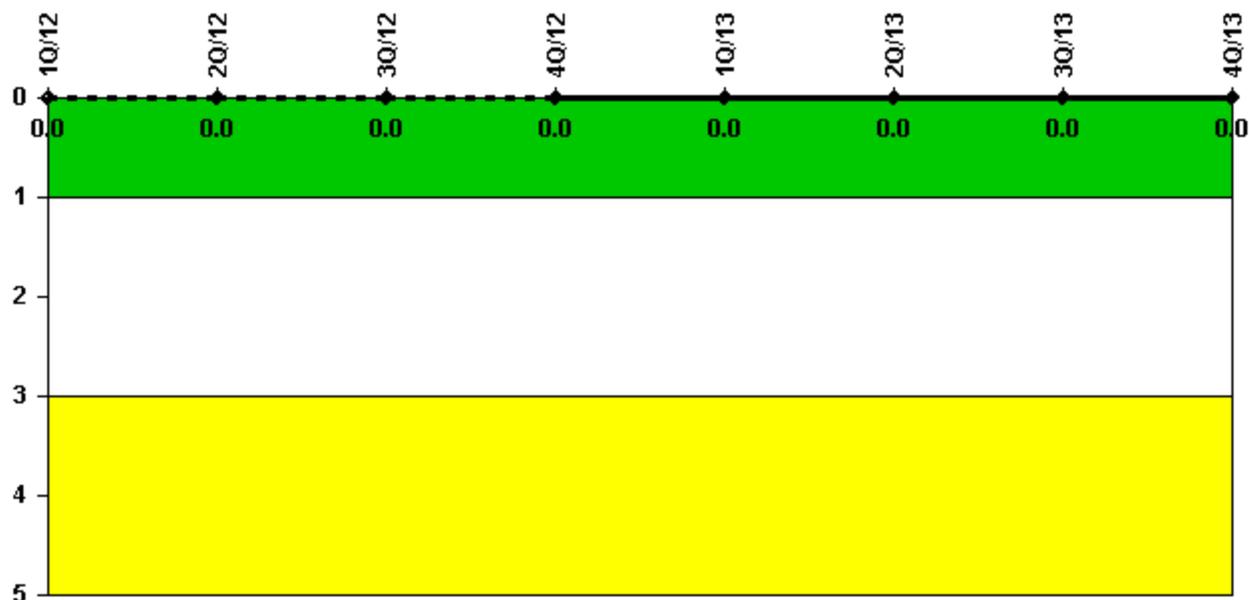
Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
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							

Licensee Comments: none

RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

Notes

RETS/ODCM Radiological Effluent	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
RETS/ODCM occurrences	0	0	0	0	0	0	0	0
Indicator value	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 22, 2014