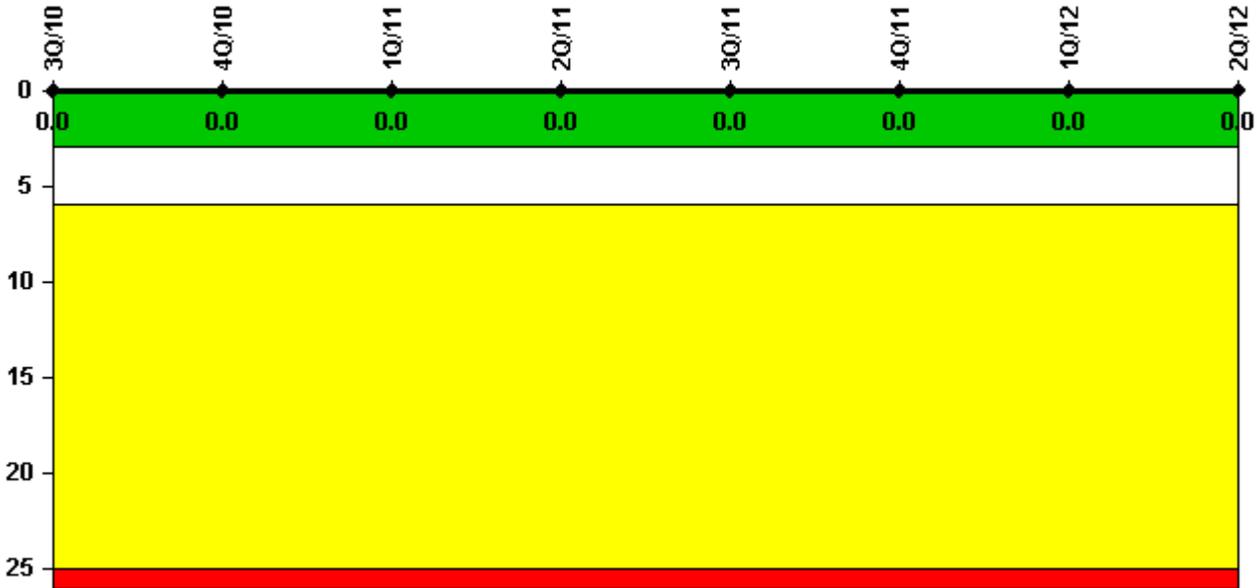


# Callaway

## 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

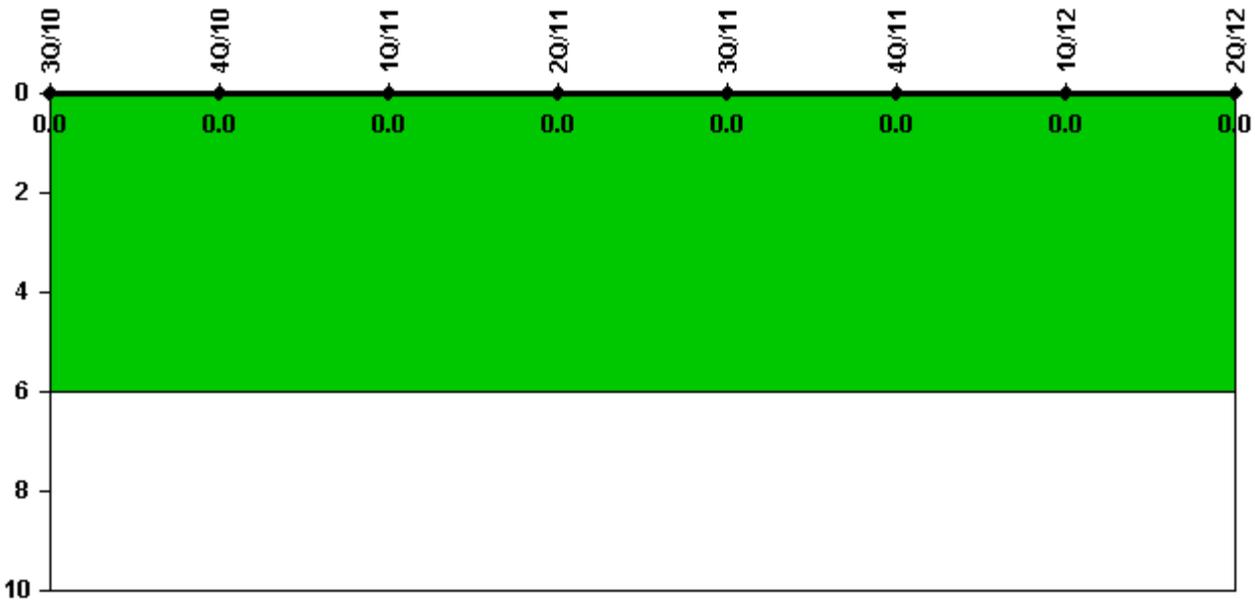
### Notes

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	2159.0	2184.0	2208.0	1233.2	2183.0	2184.0
Indicator value	0	0	0	0	0	0	0	0

Licensee Comments: none

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## Unplanned Power Changes per 7000 Critical Hrs



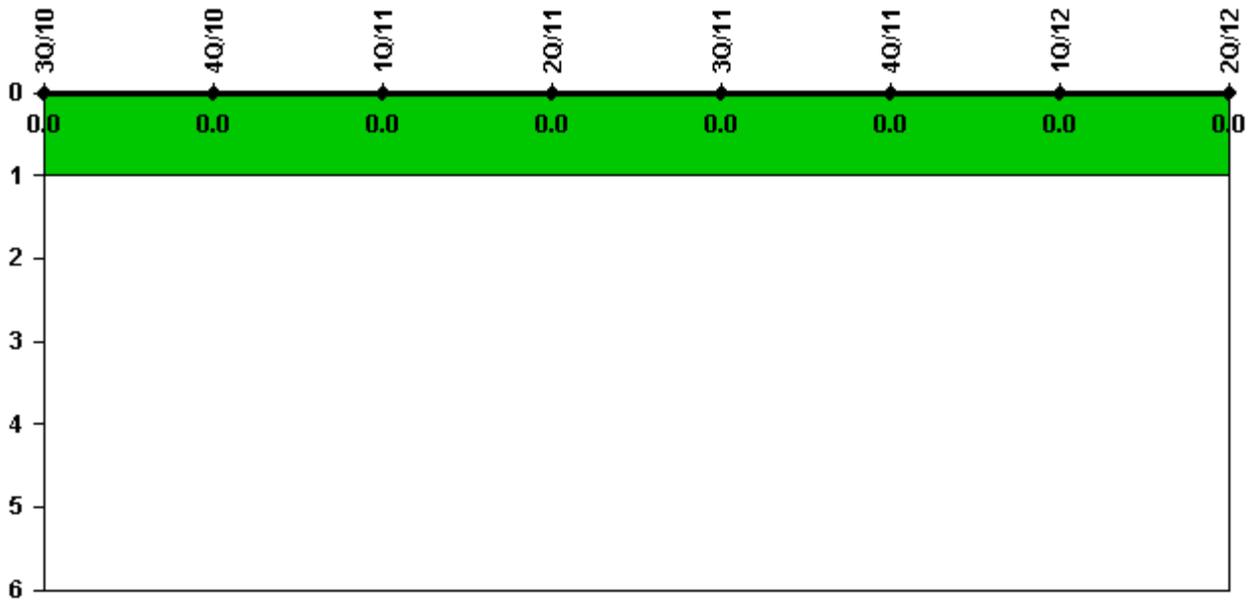
Thresholds: White > 6.0

### Notes

Unplanned Power Changes per 7000 Critical Hrs	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	2208.0	2209.0	2159.0	2184.0	2208.0	1233.2	2183.0	2184.0
Indicator value	0	0	0	0	0	0	0	0

Licensee Comments: none

## Unplanned Scrams with Complications



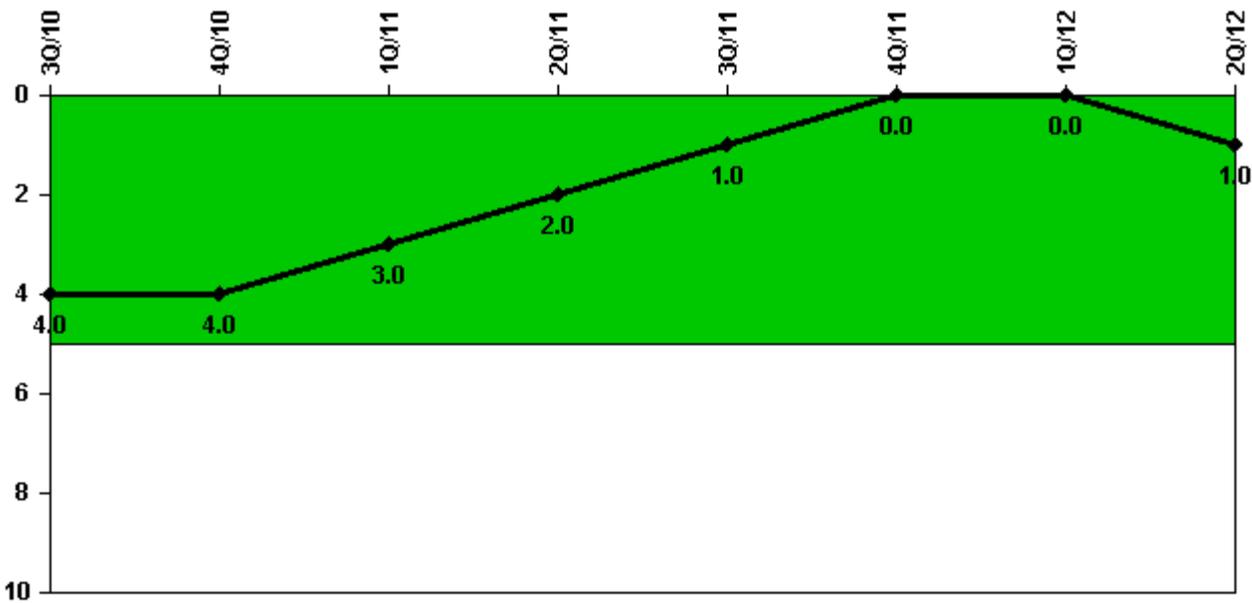
Thresholds: White > 1.0

### Notes

Unplanned Scrams with Complications	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	1	1	0	0	0	0	0	1
Indicator value	4	4	3	2	1	0	0	1

Licensee Comments:

2Q/12: LER 2012-001-00 was submitted 2012.05.23 as a SSFF.

3Q/11: The count of Safety System Functional Failures submitted for 1Q2011 was changed from "1" to "0". The SSFF corresponding to LER 2010-009-00, originally submitted on 27 January 2011, was subsequently retracted by LER 2010-009-01 dated 16 September 2011. This does not result in a color change for MS05 in this period.

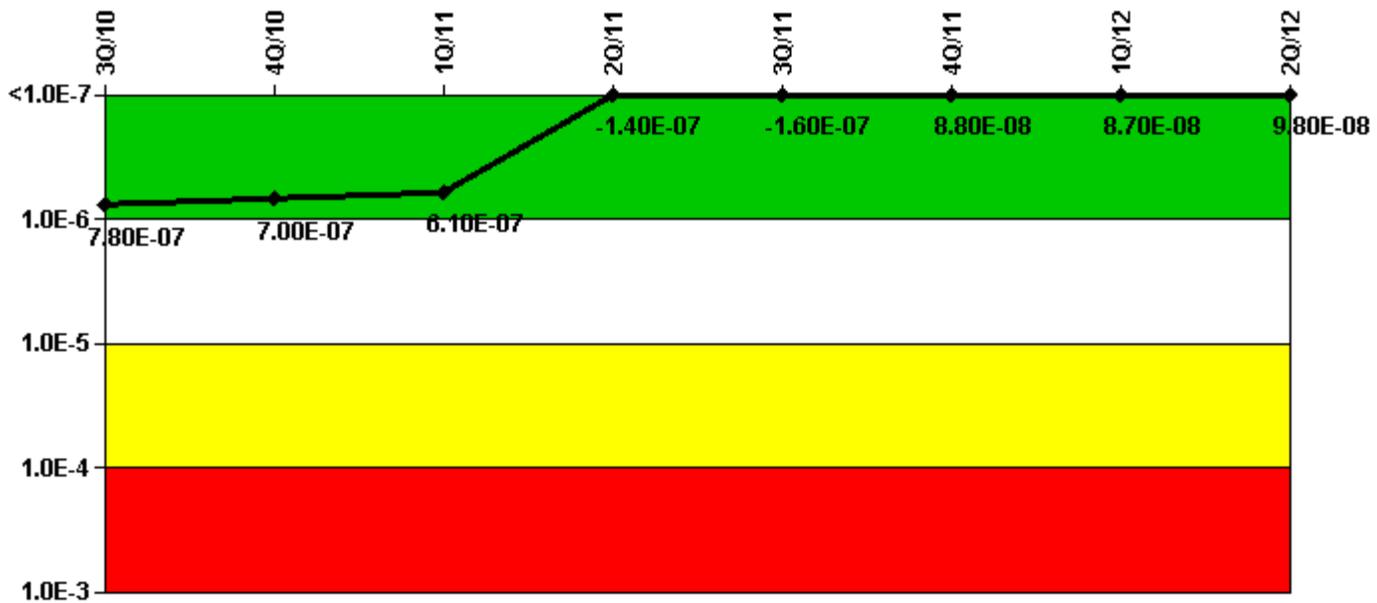
1Q/11: LER 2010-009-00, High Energy Line Break (HELB) Program Deficiencies, was submitted January 27, 2011 as a SSFF.

1Q/11: LER 2010-009-00, High Energy Line Break (HELB) Program Deficiencies, was submitted January 27, 2011 as a SSFF. This SSFF report was subsequently retracted by LER 2010-009-01, submitted September 16, 2011.

4Q/10: LER 2010-008-00, Inadequate Analysis Results in a Component Cooling Water Train Declared Inoperable, was submitted 2010.11.22.

3Q/10: Submitted LER 2009-005-01 (ASD inoperability) as a safety system functional failure on September 29, 2010.

# 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 ( $\Delta$ CDF)	3.41E-07	2.55E-07	1.71E-07	1.03E-07	8.31E-08	8.70E-08	8.43E-08	9.44E-08
URI ( $\Delta$ CDF)	4.41E-07	4.41E-07	4.41E-07	-2.47E-07	-2.47E-07	1.44E-09	2.49E-09	3.58E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	7.80E-07	7.00E-07	6.10E-07	-1.40E-07	-1.60E-07	8.80E-08	8.70E-08	9.80E-08

## Licensee Comments:

1Q/12: MSPI evaluations from events in November 2011 that were not able to be completed for the 4Q2011 data submittal have now been finalized. Based on the results of these evaluations, the data for 4Q2011 now reflects one MSPI failure (changed from zero failures). This did not result in a PI color change. Additionally, an evaluation for an event in February 2012 that could affect the Emergency AC Power MSPI indicator has not yet been completed. The final results of this pending evaluation are not expected to affect PI color.

4Q/11: MSPI evaluations from events in November 2011 that were not able to be completed for the 4Q2011 data submittal were finalized for the 1Q2012 data submittal. Based on the results of these evaluations, the data for 4Q2011 now reflects one MSPI failure (changed from zero failures). This change does not result in a PI color change.

4Q/11: Two engineering evaluations that could affect MS06 have yet to be completed. The events under evaluation involve the following: 1) Emergency Diesel Generator (EDG) performance during maintenance testing on 9 November 2011, and 2) EDG Lube Oil Keep Warm Pump performance on 11 November 2011.

4Q/11: Two engineering evaluations that could affect MS06 have yet to be completed. The events under evaluation involve the following: 1) Emergency Diesel Generator (EDG) performance during maintenance testing on 9 November 2011, and 2) EDG Lube Oil Keep Warm Pump performance on 11 November 2011. The data initially submitted for this indicator reflected a status of "undetermined" for these two evaluations. However, in order to properly calculate a value for this indicator, the data was re-submitted to indicate preliminary results of "not an MSPI failure" for these evaluations until such time that the evaluations can be completed. This indicator is not projected to change color from Green regardless of whether either of these events is ultimately evaluated to be an

MSPI failure.

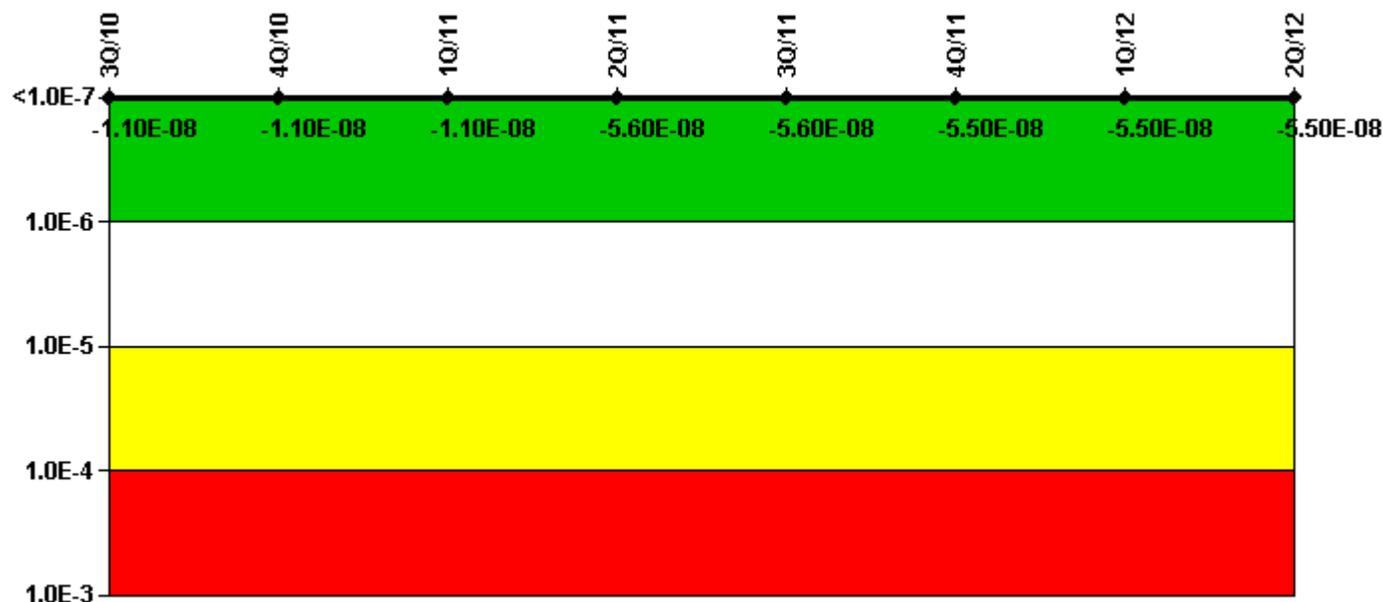
2Q/11: Changed PRA Parameter(s). A change was made to the MSPI Basis Document that affected the PRA parameters for all MSPI systems for 2Q2011 forward. This change to the Basis Document reflects the installation of an alternate emergency power system.

1Q/11: Risk Cap Invoked.

4Q/10: Risk Cap Invoked. Two accounting methods have been used historically for summing MSPI unavailability time at Callaway. When a consistent accounting method was applied to previous reporting periods, minor changes to existing data were discovered. As a result, unavailability data for some months (beginning 1Q2008) were changed to ensure consistent data reporting. These changes are small and do not result in a PI color change.

3Q/10: Risk Cap Invoked.

### 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 ( $\Delta$ CDF)	-1.50E-09	-1.47E-09	-1.54E-09	-6.33E-09	-6.33E-09	-6.33E-09	-6.33E-09	-6.33E-09
URI ( $\Delta$ CDF)	-9.29E-09	-9.29E-09	-9.29E-09	-4.92E-08	-4.92E-08	-4.91E-08	-4.91E-08	-4.91E-08
PLE	NO							
Indicator value	-1.10E-08	-1.10E-08	-1.10E-08	-5.60E-08	-5.60E-08	-5.50E-08	-5.50E-08	-5.50E-08

Licensee Comments:

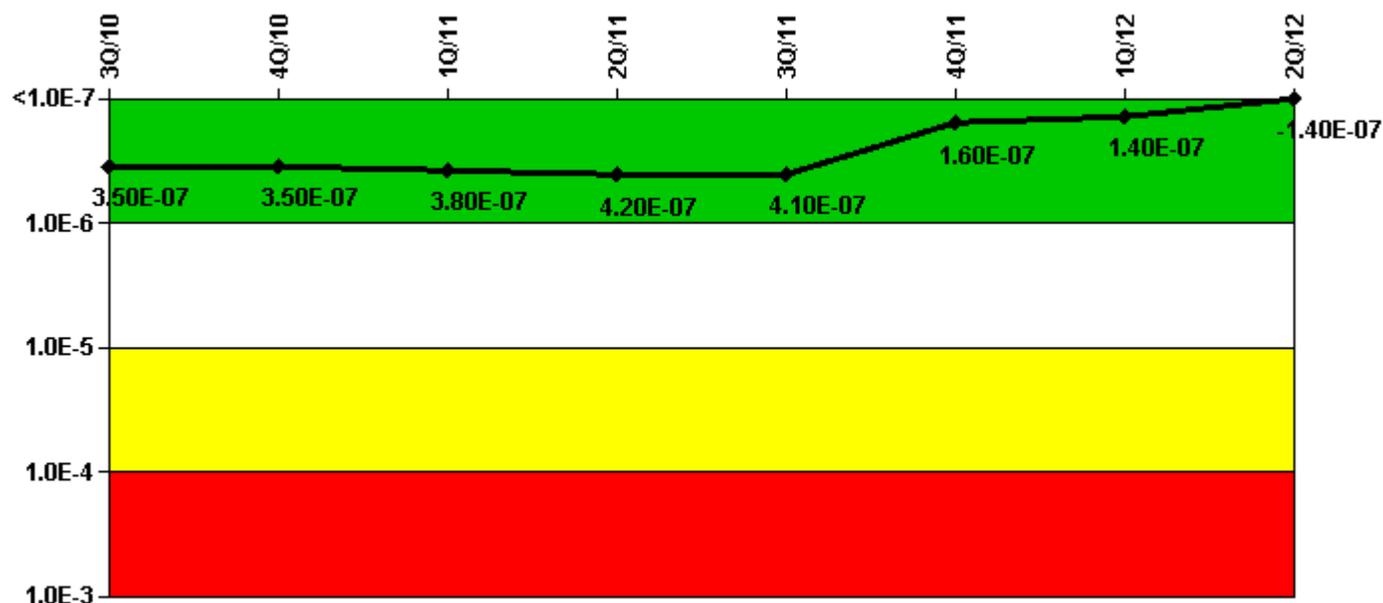
2Q/11: Changed PRA Parameter(s). A change was made to the MSPI Basis Document that affected the PRA parameters for all MSPI systems for 2Q2011 forward. This change to the Basis Document reflects the installation of an alternate emergency power system.

1Q/11: Valve demand estimates for the MSPI High Pressure Injection System were changed based on revised interpretation of the NEI guidance following industry benchmarking. These revised estimates are applied from 2007Q4 forward. A change to the MSPI basis document in 2011Q1 includes these demand estimate revisions. This change does not result in a PI color change.

4Q/10: Two accounting methods have been used historically for summing MSPI unavailability time at Callaway. When a consistent accounting method was applied to previous reporting periods, minor changes to existing data were discovered. As a result, unavailability data for some months (beginning 1Q2008) were changed to ensure consistent data reporting. These changes are small and do not result in a PI color change.

4Q/10: Two accounting methods have been used historically for summing MSPI unavailability time at Callaway. When a consistent accounting method was applied to previous reporting periods, minor changes to existing data were discovered. As a result, unavailability data for some months (beginning 1Q2008) were changed to ensure consistent data reporting. These changes are small and do not result in a PI color change.

### 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 ( $\Delta$ CDF)	7.28E-09	1.55E-08	3.94E-08	3.22E-08	3.12E-08	3.79E-08	1.77E-08	4.63E-08
URI ( $\Delta$ CDF)	3.38E-07	3.38E-07	3.38E-07	3.83E-07	3.83E-07	1.22E-07	1.22E-07	-1.83E-07
PLE	NO							
Indicator value	3.50E-07	3.50E-07	3.80E-07	4.20E-07	4.10E-07	1.60E-07	1.40E-07	-1.40E-07

Licensee Comments:

2Q/11: Changed PRA Parameter(s). A change was made to the MSPI Basis Document that affected the PRA parameters for all MSPI systems for 2Q2011 forward. This change to the Basis Document reflects the installation of an alternate emergency power system.

1Q/11: Valve demand estimates for the MSPI Heat Removal System were changed based on revised interpretation of the NEI guidance following industry benchmarking. These revised estimates are applied from 2007Q4 forward. A change to the MSPI basis document in 2011Q1 includes these demand estimate revisions. This change does not result in a PI color change.

4Q/10: Two accounting methods have been used historically for summing MSPI unavailability time at Callaway. When a consistent accounting method was applied to previous reporting periods, minor changes to existing data were discovered. As a result, unavailability data for some months (beginning 3Q2007) were changed to ensure consistent data reporting. Additional minor reductions in previously reported MS08 unavailability time were made when periods of overconservatism were identified in historical data beginning 4Q2007. In these cases, unavailability time was unnecessarily counted for periods when MSPI functions remained intact. These changes are small and do not result in a PI color change.

4Q/10: Two accounting methods have been used historically for summing MSPI unavailability time at Callaway. When a consistent accounting method was applied to previous reporting periods, minor changes to existing data were discovered. As a result, unavailability data for some months (beginning 3Q2007) were changed to ensure consistent data reporting. Additional minor reductions in previously reported MS08 unavailability time were made when periods of overconservatism were identified in historical data beginning 4Q2007. In these cases, unavailability time was unnecessarily counted for periods when MSPI functions remained intact. These changes are small and do not result in a PI color change.

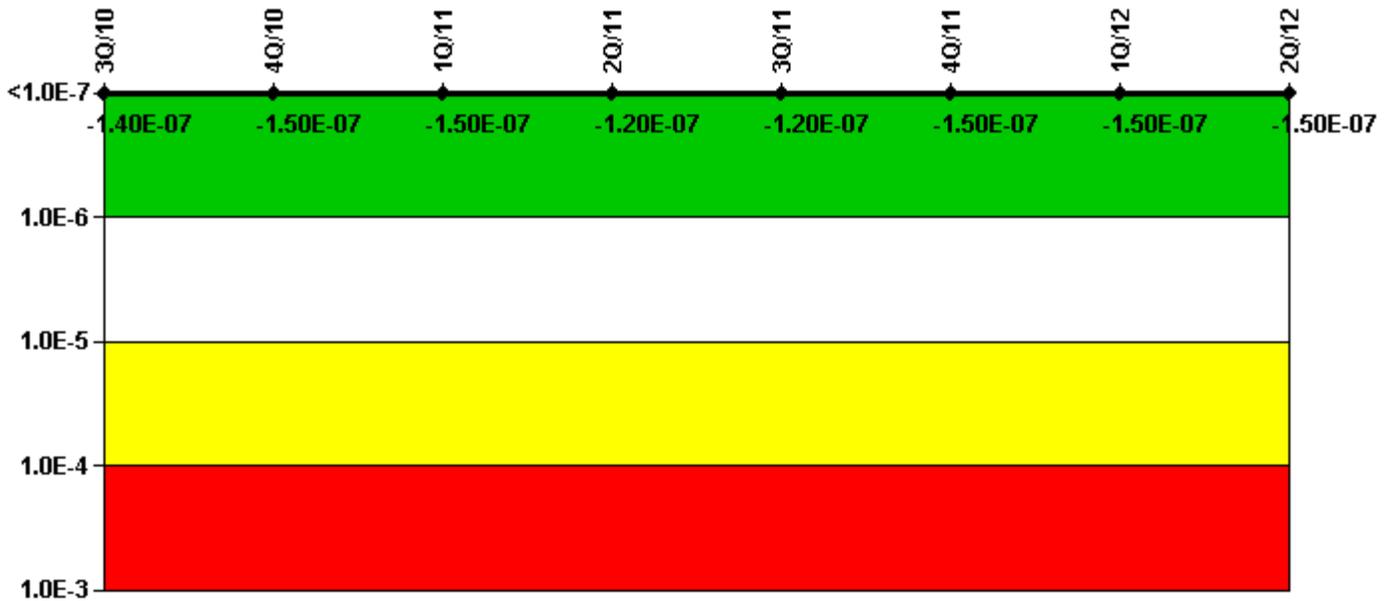
3Q/10: A correction was made to the Sept 2007 estimated demands and hours for MS08. This update was inadvertently not included in the corrections made in the 2Q2010 submittal. This data revision affects MS08 results from Sept 2007 forward but does not result in a PI color change. Additionally, an FAQ has been submitted by Callaway regarding the cascading of unavailability of a system that supports the MSPI Heat Removal System. The outcome of this FAQ may impact previously submitted data for MS08.

3Q/10: A correction was made to the Sept 2007 estimated demands and hours for MS08. This update was inadvertently not included in the corrections made in the 2Q2010 submittal. This data revision affects MS08 results from Sept 2007 forward but does not result in a PI color change. Additionally, an FAQ has been submitted by Callaway regarding the cascading of unavailability of a system that supports the MSPI Heat Removal System. The outcome of this FAQ may impact previously submitted data for MS08.

3Q/10: A correction was made to the Sept 2007 estimated demands and hours for MS08. This update was inadvertently not included in the corrections made in the 2Q2010 submittal. This data revision affects MS08 results from Sept 2007 forward but does not result in a PI color change. Additionally, an FAQ has been submitted by Callaway regarding the cascading of unavailability of a system that supports the MSPI Heat Removal System. The outcome of this FAQ may impact previously submitted data for MS08.

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# Mitigating Systems Performance Index, Residual Heat Removal System



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

## Notes

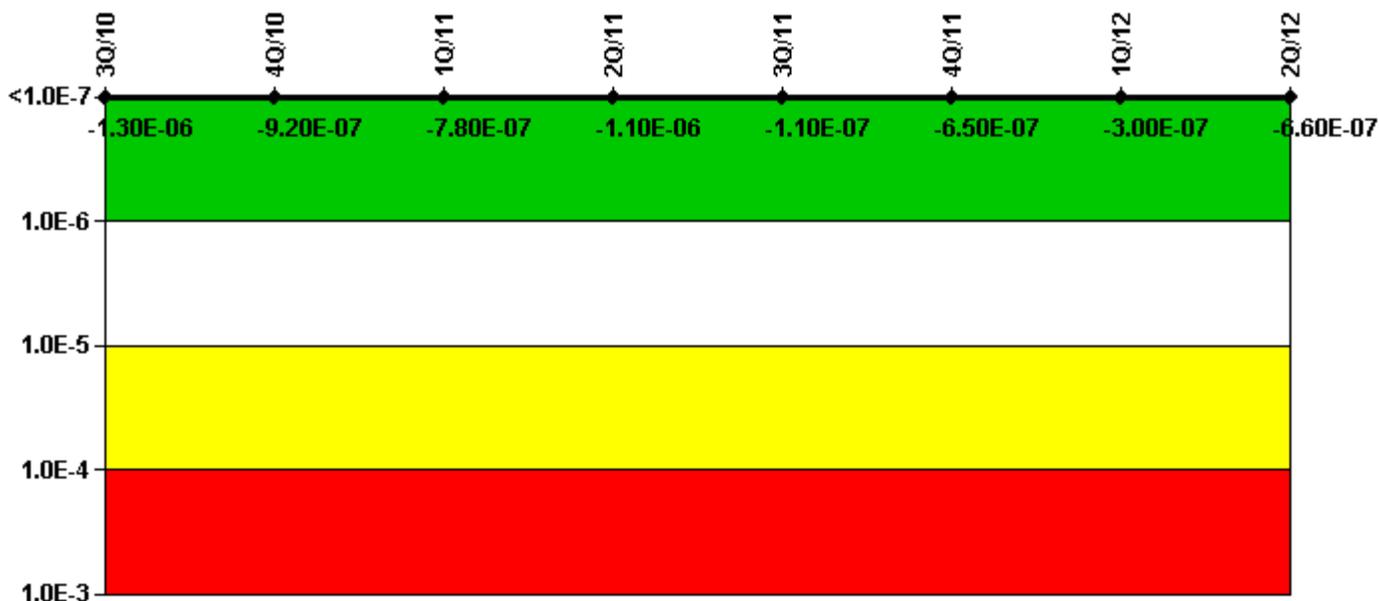
Mitigating Systems Performance Index, Residual Heat Removal System	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12
UAI ( $\Delta$ CDF)	-6.10E-09	-1.88E-08	-1.88E-08	7.64E-09	7.39E-09	-2.05E-08	-2.05E-08	-2.05E-08
URI ( $\Delta$ CDF)	-1.34E-07	-1.34E-07	-1.34E-07	-1.31E-07	-1.31E-07	-1.31E-07	-1.31E-07	-1.31E-07
PLE	NO							
Indicator value	-1.40E-07	-1.50E-07	-1.50E-07	-1.20E-07	-1.20E-07	-1.50E-07	-1.50E-07	-1.50E-07

## Licensee Comments:

2Q/11: Changed PRA Parameter(s). A change was made to the MSPI Basis Document that affected the PRA parameters for all MSPI systems for 2Q2011 forward. This change to the Basis Document reflects the installation of an alternate emergency power system.

1Q/11: Valve demand estimates for the MSPI Residual Heat Removal System were changed based on revised interpretation of the NEI guidance following industry benchmarking. These revised estimates are applied from 2007Q4 forward. A change to the MSPI basis document in 2011Q1 includes these demand estimate revisions. This change does not result in a PI color change.

## 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 ( $\Delta$ CDF)	-5.59E-07	-2.25E-07	-8.29E-08	-1.90E-07	8.08E-07	2.68E-07	6.18E-07	2.59E-07
URI ( $\Delta$ CDF)	-6.97E-07	-6.97E-07	-6.97E-07	-9.15E-07	-9.15E-07	-9.15E-07	-9.15E-07	-9.15E-07
PLE	NO							
Indicator value	-1.30E-06	-9.20E-07	-7.80E-07	-1.10E-06	-1.10E-07	-6.50E-07	-3.00E-07	-6.60E-07

Licensee Comments:

2Q/12: Risk Cap Invoked.

1Q/12: Risk Cap Invoked. An evaluation for an event in March 2012 that could affect the Cooling Water Systems MSPI indicator has not yet been completed. The final results of this pending evaluation are not expected to affect PI color.

1Q/12: Risk Cap Invoked. An evaluation for an event in March 2012 that could affect the Cooling Water Systems MSPI indicator has not yet been completed. The final results of this pending evaluation are not expected to affect PI color. (The following added in 2Q2012): The evaluation was completed during 2Q2012. The color of the PI was not affected.

4Q/11: Risk Cap Invoked.

3Q/11: Risk Cap Invoked. The MSPI Basis Document was revised in 2Q2011 (i.e., effective for the 3Q2011 reporting period) to remove a one-time extended allowed outage time for the Essential Service Water (ESW) system. This one-time allowance for additional planned unavailability was added in 2Q2008 to support replacement of ESW piping. Per the applicable guidance in NEI 99-02, this allowance must be removed within 12 quarters.

2Q/11: Risk Cap Invoked. Changed PRA Parameter(s). A change was made to the MSPI Basis Document that affected the PRA parameters for all MSPI systems for 2Q2011 forward. This change to the Basis Document reflects the installation of an alternate emergency power system.

1Q/11: MSPI planned unavailability coefficients were revised for the Component Cooling Water system because a monthly surveillance for each train no longer requires the train to be declared inoperable for the test. A change to the MSPI basis document in 2010Q4 includes these MSPI coefficient revisions. In addition, valve demand estimates for the MSPI Cooling Water System were changed based on revised interpretation of the NEI guidance following industry benchmarking. These revised estimates are applied from 2007Q4 forward. A change to the MSPI basis document in 2011Q1 includes these demand estimate revisions. These changes do not result in a PI color change.

4Q/10: Two accounting methods have been used historically for summing MSPI unavailability time at Callaway. When a consistent accounting method was applied to previous reporting periods, minor changes to existing data were discovered. As a result, unavailability data for some months (beginning 2Q2008) were changed to ensure consistent data reporting. Also, a total of 2.3 hours of planned unavailability have been added to MS10 for September 2010. These hours had been inadvertently omitted in the 3Q2010 data submittal. These changes are small and do not result in a PI color change.

4Q/10: Two accounting methods have been used historically for summing MSPI unavailability time at Callaway. When a consistent accounting method was applied to previous reporting periods, minor changes to existing data were discovered. As a result, unavailability data for some months (beginning 2Q2008) were changed to ensure consistent data reporting. Also, a total of 2.3 hours of planned unavailability have been added to MS10 for September 2010. These hours had been inadvertently omitted in the 3Q2010 data submittal. These changes are small and do not result in a PI color change.

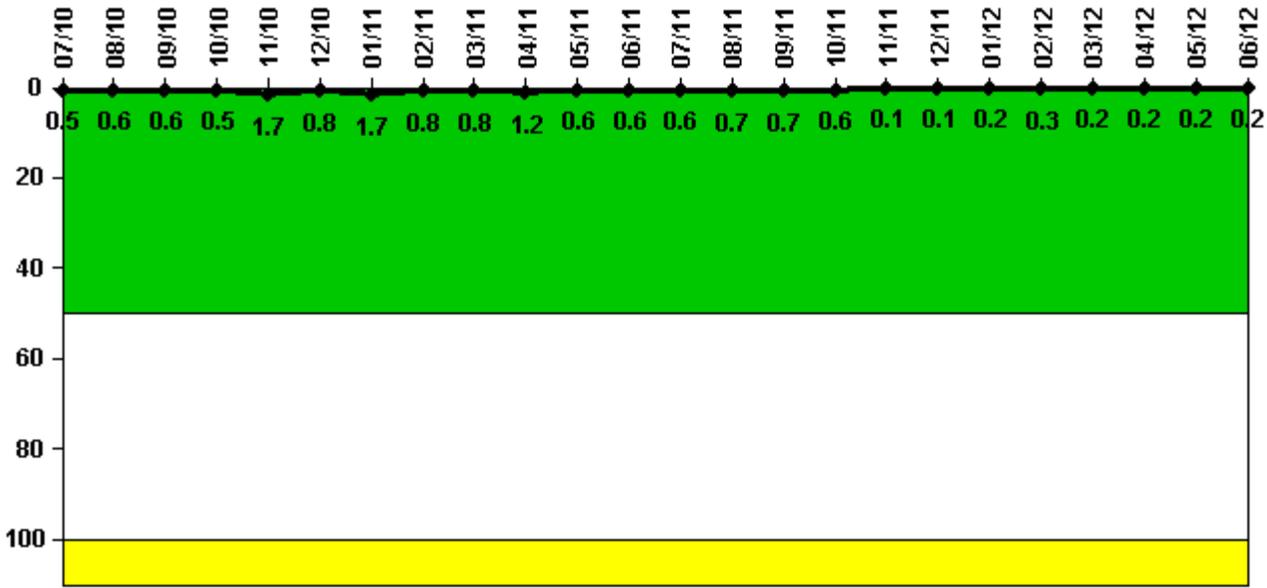
3Q/10: One engineering evaluation of a degraded component within the scope of MS10 remains outstanding for 3Q2010. Regardless of the final determination, however, the results of this evaluation will not cause a color change of this indicator.

3Q/10: One engineering evaluation of a degraded component within the scope of MS10 remains outstanding for 3Q2010. Regardless of the final determination, however, the results of this evaluation will not cause a color change of this indicator.

3Q/10: One engineering evaluation of a degraded component within the scope of MS10 remains outstanding for 3Q2010. Regardless of the final determination, however, the results of this evaluation will not cause a color change of this indicator.

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## 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	0.003410	0.004570	0.004640	0.003980	0.012500	0.005750	0.013000	0.006000	0.006000	0.012000	0.005980	0.006260
Technical specification limit	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0
Indicator value	0.5	0.6	0.6	0.5	1.7	0.8	1.7	0.8	0.8	1.2	0.6	0.6

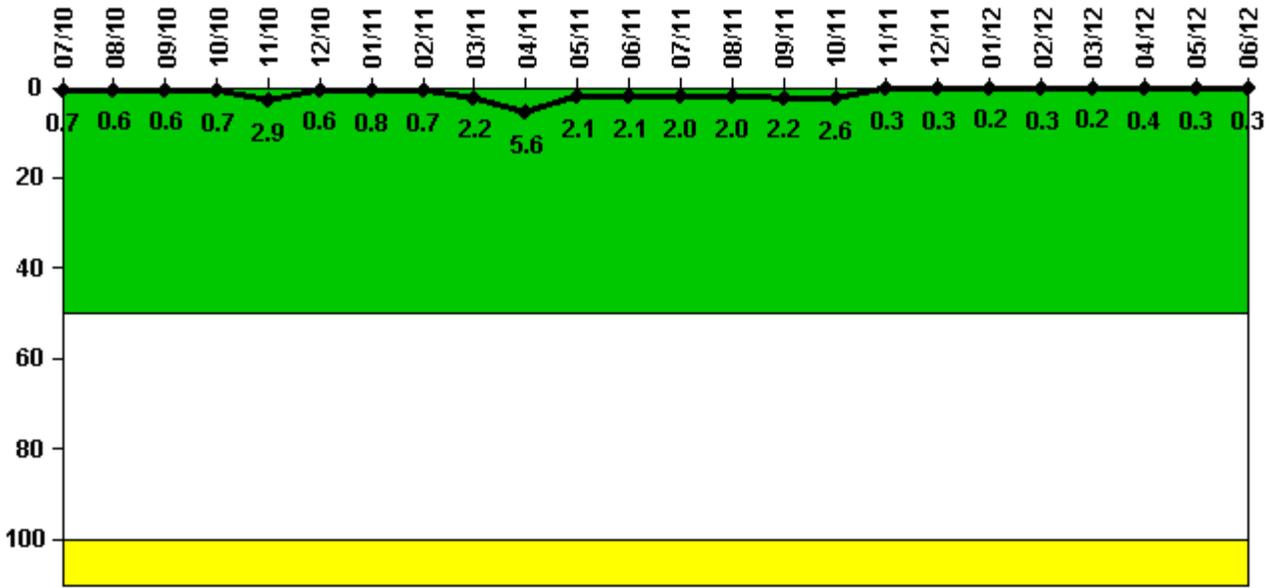
  

Reactor Coolant System Activity	7/11	8/11	9/11	10/11	11/11	12/11	1/12	2/12	3/12	4/12	5/12	6/12
Maximum activity	0.006480	0.006680	0.006810	0.006370	0.000781	0.001400	0.001530	0.002580	0.001530	0.001580	0.001550	0.001680
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0.6	0.7	0.7	0.6	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2

### Licensee Comments:

3/11: The "Technical Specification limit" value for this PI was changed from 1.0 uCi/gm to 0.75 uCi/gm dose equivalent I-131 from February 2010 through March 2011. During this period, Callaway implemented a compensatory action that imposed an administrative limit for RCS activity that was more restrictive than the Technical Specification limit. Per NEI 99-02, this more restrictive administrative limit was to be used for PI reporting purposes. This correction did not result in a PI color change. Callaway removed the administrative limit in March 2011.

## Reactor Coolant System Leakage



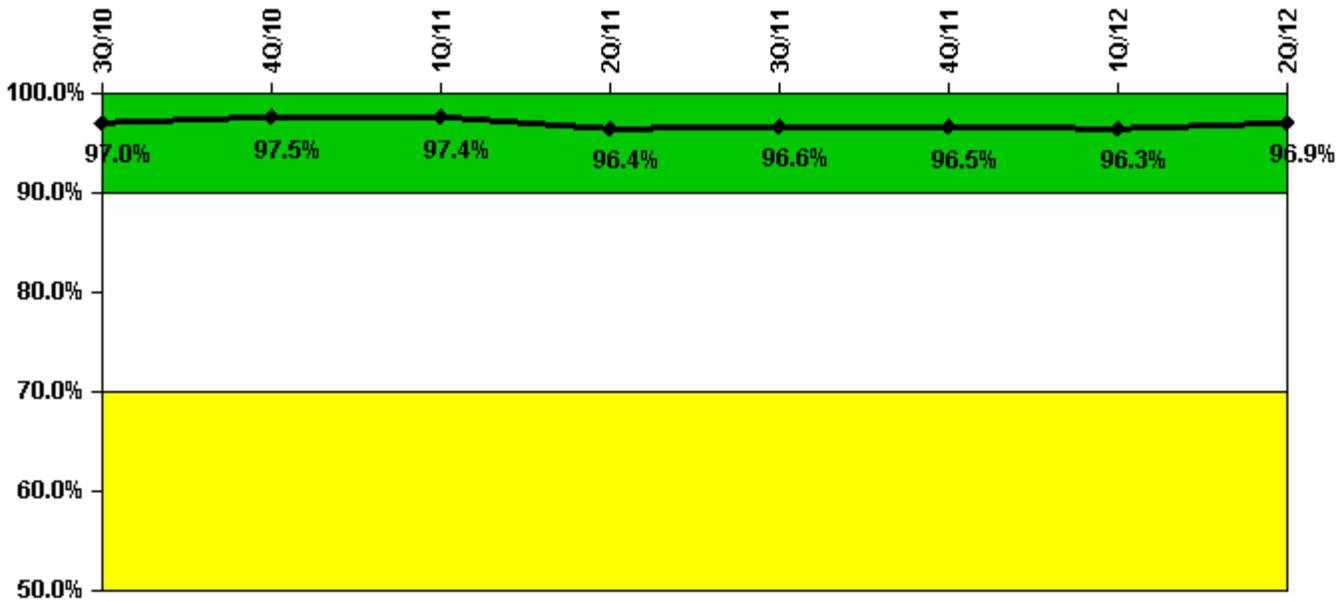
Thresholds: White > 50.0 Yellow > 100.0

### 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	0.068	0.058	0.058	0.072	0.294	0.062	0.080	0.066	0.218	0.564	0.212	0.208
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	0.6	0.6	0.7	2.9	0.6	0.8	0.7	2.2	5.6	2.1	2.1
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	0.204	0.199	0.220	0.260	0.033	0.025	0.022	0.028	0.023	0.039	0.027	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	2.0	2.0	2.2	2.6	0.3	0.3	0.2	0.3	0.2	0.4	0.3	0.3

Licensee Comments: none

## Drill/Exercise Performance



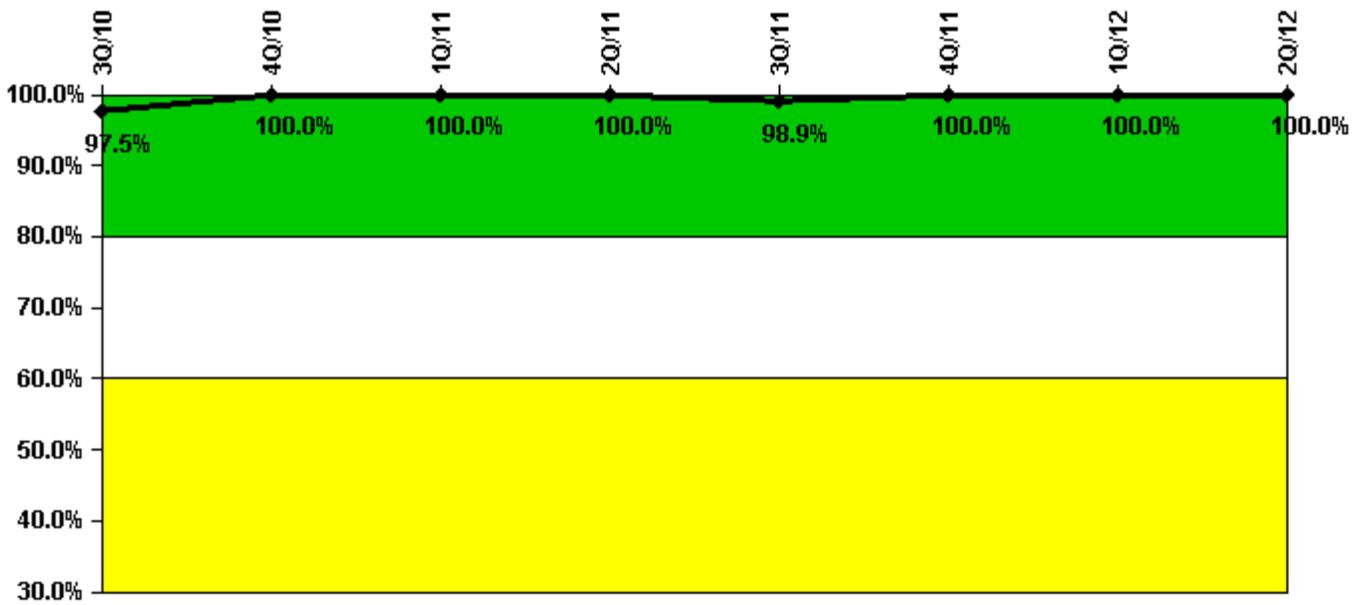
Thresholds: White < 90.0% Yellow < 70.0%

### Notes

Drill/Exercise Performance	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12
Successful opportunities	37.0	31.0	50.0	23.0	36.0	9.0	25.0	6.0
Total opportunities	39.0	32.0	50.0	24.0	37.0	10.0	26.0	6.0
Indicator value	97.0%	97.5%	97.4%	96.4%	96.6%	96.5%	96.3%	96.9%

Licensee Comments: none

## ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

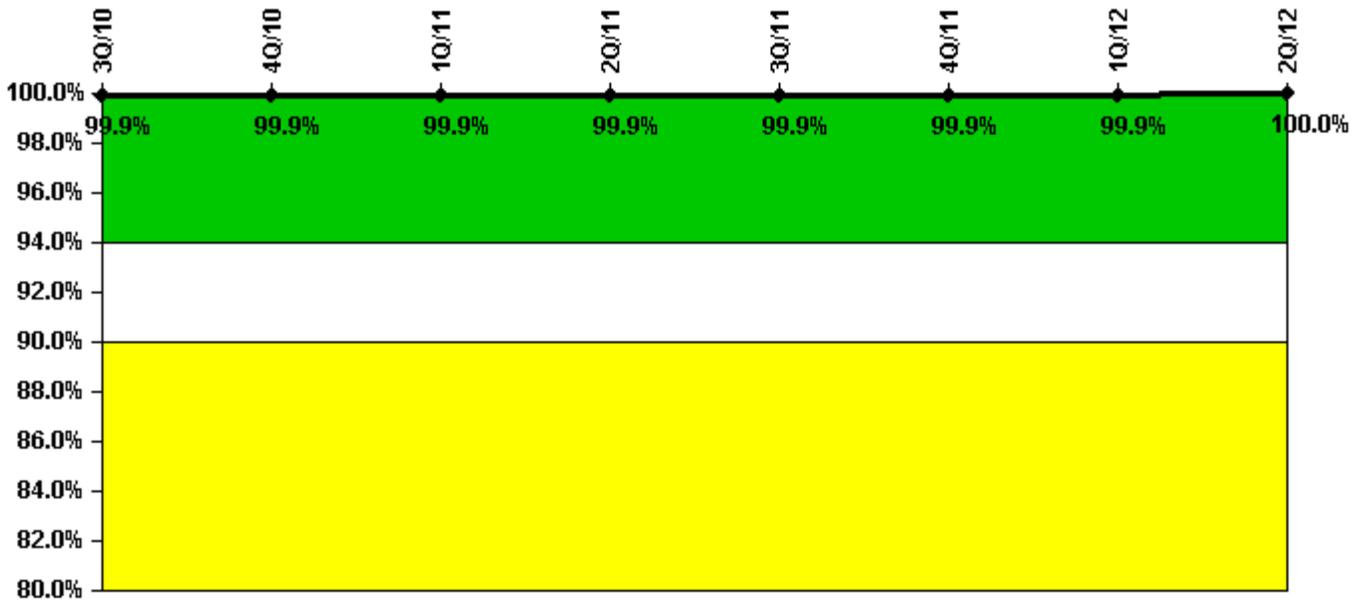
### Notes

ERO Drill Participation	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12
Participating Key personnel	115.0	113.0	90.0	93.0	94.0	97.0	94.0	89.0
Total Key personnel	118.0	113.0	90.0	93.0	95.0	97.0	94.0	89.0
Indicator value	97.5%	100.0%	100.0%	100.0%	98.9%	100.0%	100.0%	100.0%

Licensee Comments:

2Q/11: The ERO Drill Participation data for 3Q2010 was changed from 116 of 118 to 115 of 118. This change corrected an error in which one individual was inadvertently reported as having participated in an ERO drill. This error was discovered by an NRC Emergency Preparedness inspector.

# Alert & Notification System



**Thresholds: White < 94.0% Yellow < 90.0%**

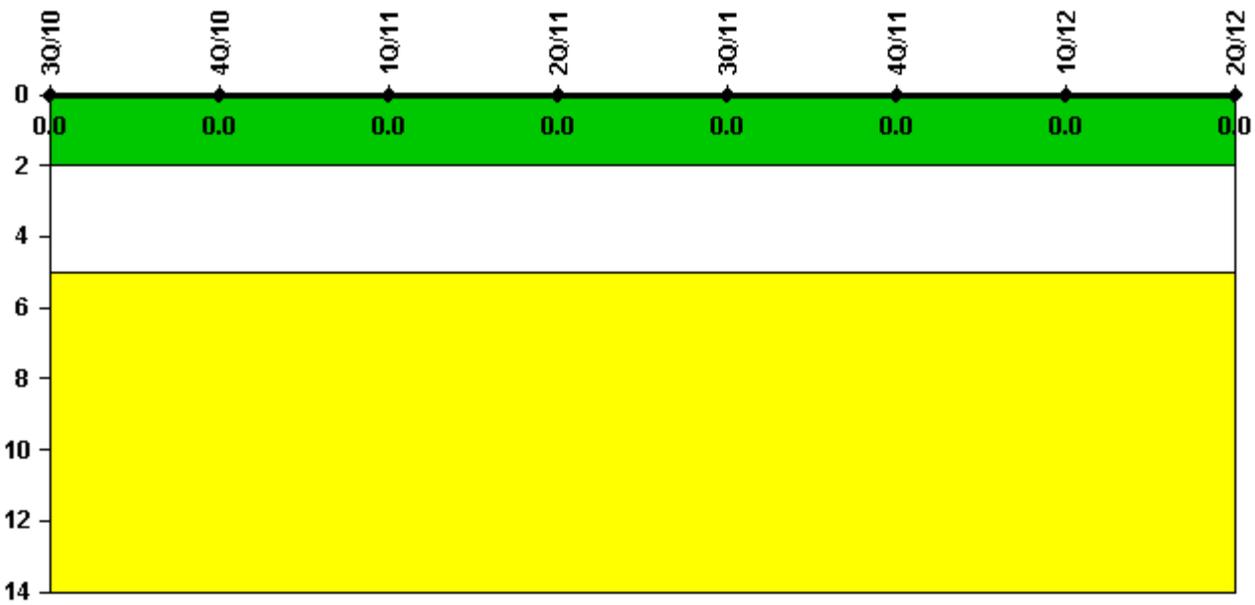
## Notes

Alert & Notification System	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12
Successful siren-tests	377	376	377	405	377	377	377	377
Total sirens-tests	377	377	377	406	377	377	377	377
Indicator value	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	100.0%

Licensee Comments: none

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## Occupational Exposure Control Effectiveness



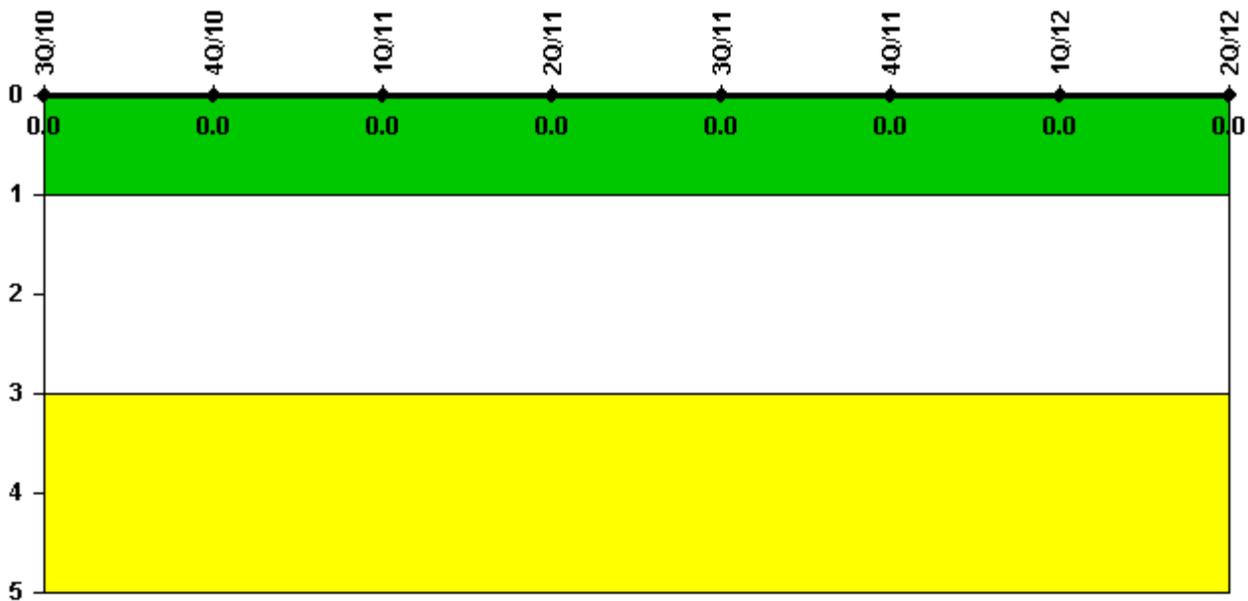
Thresholds: White > 2.0 Yellow > 5.0

### 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

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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.

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