

## Fort Calhoun

### 1Q/2013 Performance Indicators

*Fort Calhoun has been shutdown since April 2011. Because the Unplanned Scrams with Complications (USwC) and Mitigating Systems Performance Index (MSPI) performance indicators (PIs) are heavily influenced by the operational status of the reactor, NRC staff has evaluated the validity of these PIs. Because the reactor has not been critical, there have been no recent opportunities for a scram that would count in the USwC indicator. Similarly, the MSPI values can become skewed because of a lack of critical hours. For these reasons, the staff has determined that these PIs no longer provide valid indications of performance.*

Licensee's General Comments: none

**Unplanned Scrams per 7000 Critical Hrs**



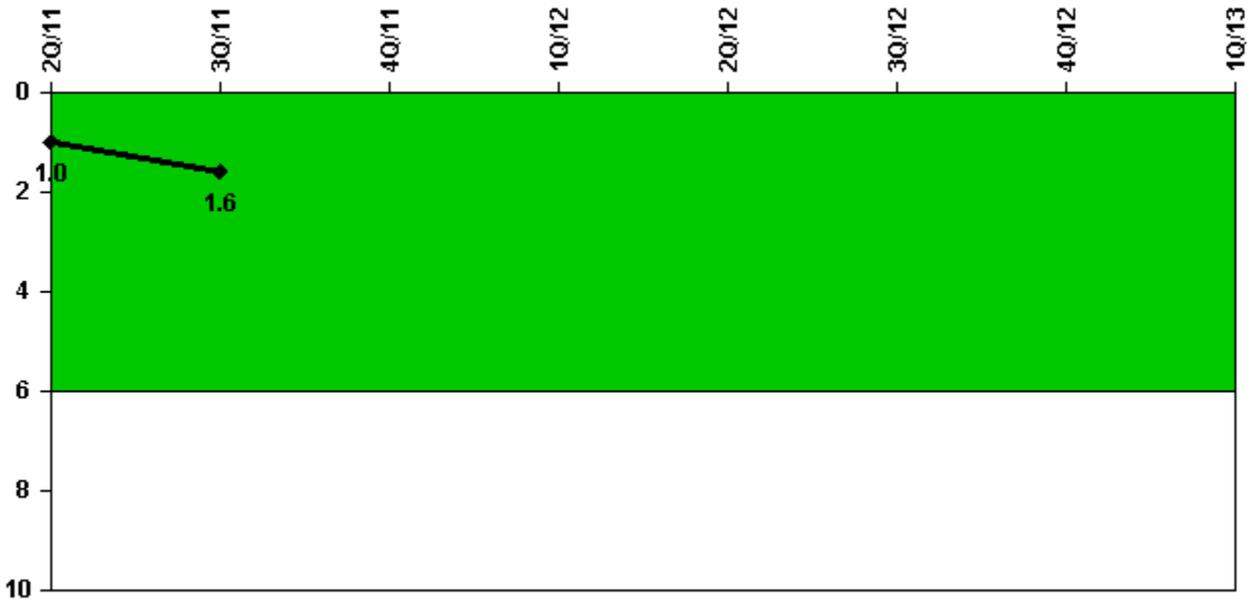
**Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0**

#### Notes

Unplanned Scrams per 7000 Critical Hrs	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	215.8	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>1.0</b>	<b>1.6</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



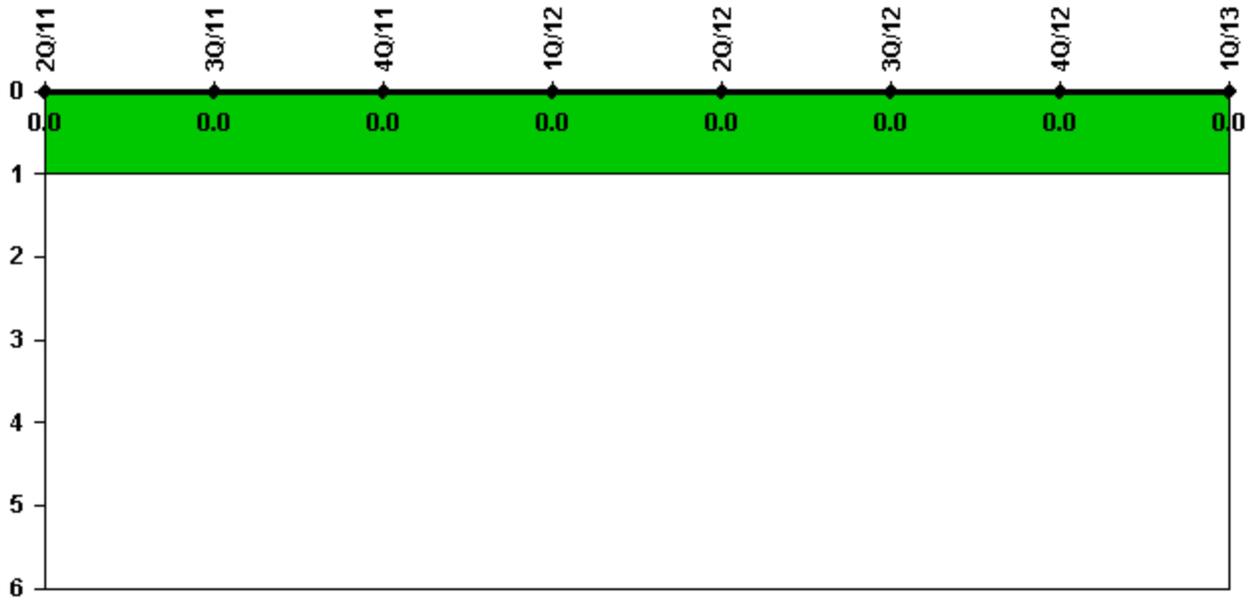
Thresholds: White > 6.0

#### Notes

Unplanned Power Changes per 7000 Critical Hrs	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	215.8	0	0	0	0	0	0	0
Indicator value	1.0	1.6	N/A	N/A	N/A	N/A	N/A	N/A

Licensee Comments: none

### Unplanned Scrams with Complications



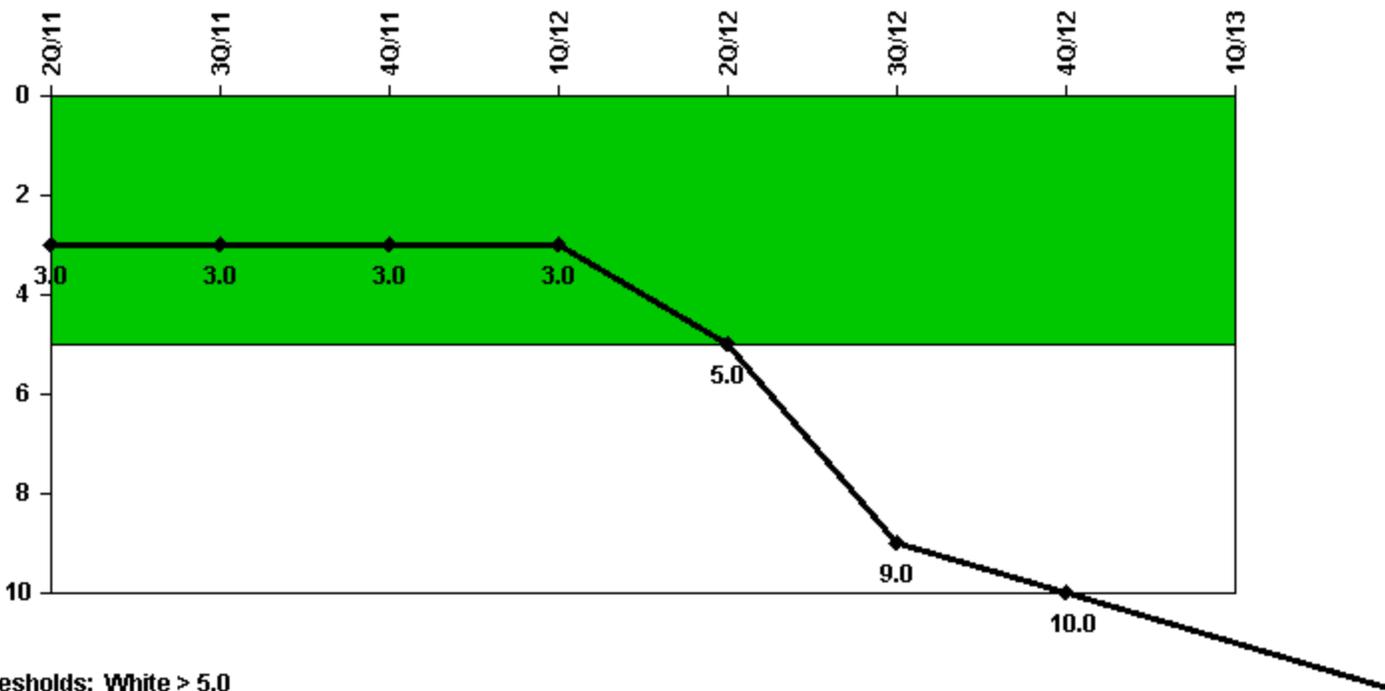
Thresholds: White > 1.0

#### Notes

Unplanned Scrams with Complications	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
Scrams with complications	0	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>0.0</b>							

Licensee Comments: none

### Safety System Functional Failures (PWR)



Thresholds: White > 5.0

#### Notes

Safety System Functional Failures (PWR)	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
Safety System Functional Failures	1	1	0	1	3	5	1	2
<b>Indicator value</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>9</b>	<b>10</b>	<b>11</b>

Licensee Comments:

1Q/13: LER 2013-002, "CVCS Class 1 & 2 Charging Supports are Unanalyzed" LER 2012-021, "HCV-2987, HPSI Alternate Header Isolation Valve"

3Q/12: LER 2012-009, "Inoperable Equipment due to Lack of Environmental Qualifications" LER 2012-011, "Emergency Diesel Inoperability Due to Bus Loads During a LOOP" LER 2012-014, "Containment Beam 22 Loading Conditions Outside of the Allowable Limits" LER 2012-015, "Electrical Equipment Impacted by High Energy Line Break Outside of Containment" LER 2012-017, "Containment Valve Actuators Design Temperature Ratings Below those Required for Design Basis Accidents" LER 2012-012, "Multiple Safety Injection Tanks Rendered Inoperable"

3Q/12: LER 2012-009, "Inoperable Equipment due to Lack of Environmental Qualifications" LER 2012-011, "Emergency Diesel Inoperability Due to Bus Loads During a LOOP(retracted)" LER 2012-014, "Containment Beam 22 Loading Conditions Outside of the Allowable Limits" LER 2012-015, "Electrical Equipment Impacted by High Energy Line Break Outside of Containment" LER 2012-017, "Containment Valve Actuators Design Temperature Ratings Below those Required for Design Basis Accidents" LER 2012-012, "Multiple Safety Injection Tanks Rendered Inoperable"

3Q/12: LER 2012-009, "Inoperable Equipment due to Lack of Environmental Qualifications" LER 2012-011, "Emergency Diesel Inoperability Due to Bus Loads During a LOOP" LER 2012-014, "Containment Beam 22 Loading Conditions Outside of the Allowable Limits" LER 2012-015, "Electrical Equipment Impacted by High Energy Line Break Outside of Containment" LER 2012-017, "Containment Valve Actuators Design Temperature Ratings Below those Required for Design Basis Accidents"

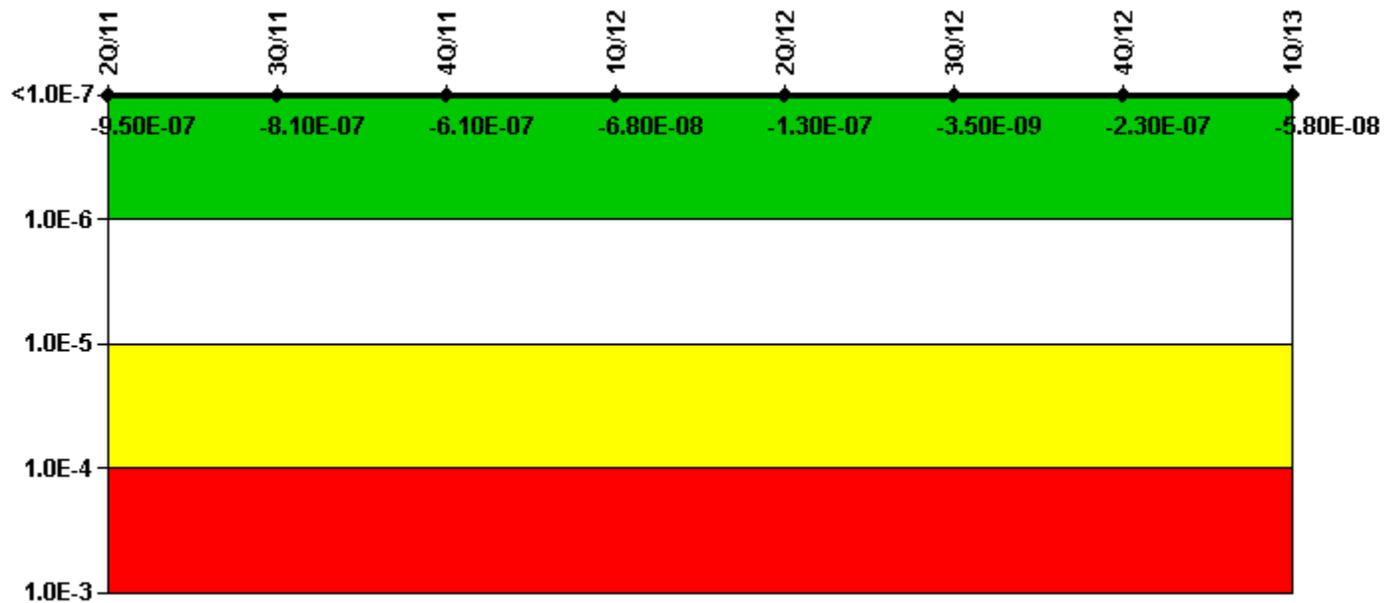
those Required for Design Basis Accidents"

2Q/12: LER 2012-001, Inadequate Flooding Protection Procedure; LER 2012-005, TS violation due to inadequate testing of DG fuel pumps; LER 2012-004, Inadequate Analysis of Drift Affects Safety Related Equipment

1Q/12: LER 2011-010, "Fire Causes a Circuit Breaker to Open Outside Design Assumptions" was issued January 2012 and LER 2011-006, "Inoperability of Both Trains of Containment Coolers Due to a Mispositioned Valve" was cancelled removing the item from earlier reporting.

3Q/11: The following information is being provided to correct an oversight in the original submittals. LER 2011-003, "Inadequate Flooding Protection Due To Ineffective Oversight," effective first quarter 2011. LER 2011-004, "Isolation of Both Trains of Safety Related Auxiliary Feedwater," effective second quarter 2011. LER 2011-006, "Inoperability of Both Trains of Containment Coolers Due to a Mispositioned Valve," effective second quarter 2011. LER 2011-008, "Fire in Safety Related 480 Volt Electrical Bus" effective third quarter 2011.

### 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	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
UAI (ΔCDF)	4.38E-08	1.14E-07	2.86E-07	3.94E-07	3.09E-07	3.71E-07	1.66E-07	3.24E-07
URI (ΔCDF)	-9.90E-07	-9.27E-07	-8.99E-07	-4.62E-07	-4.38E-07	-3.75E-07	-3.95E-07	-3.82E-07
PLE	NO							

Indicator value	-9.50E-07	-8.10E-07	-6.10E-07	-6.80E-08	-1.30E-07	-3.50E-09	-2.30E-07	-5.80E-08
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Licensee Comments:

1Q/13: Risk Cap Invoked.

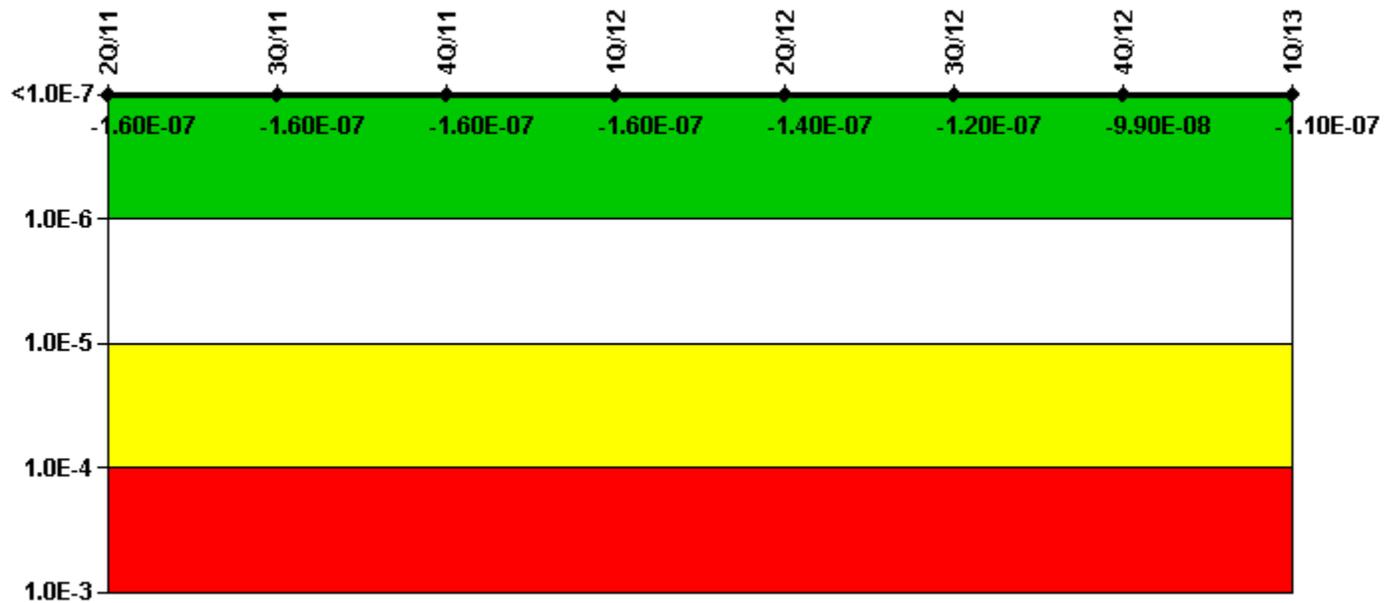
4Q/12: Risk Cap Invoked.

3Q/12: Risk Cap Invoked. Unavailability hours which were added to the MSPI Emergency AC Power System A to account for infrequent maintenance activities in Qtr 2, 2009 were removed in April 2012. This adjustment returns the unavailability coefficient to the baseline value.

2Q/12: Risk Cap Invoked.

1Q/12: Risk Cap Invoked.

### Mitigating Systems Performance Index, High Pressure Injection System



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

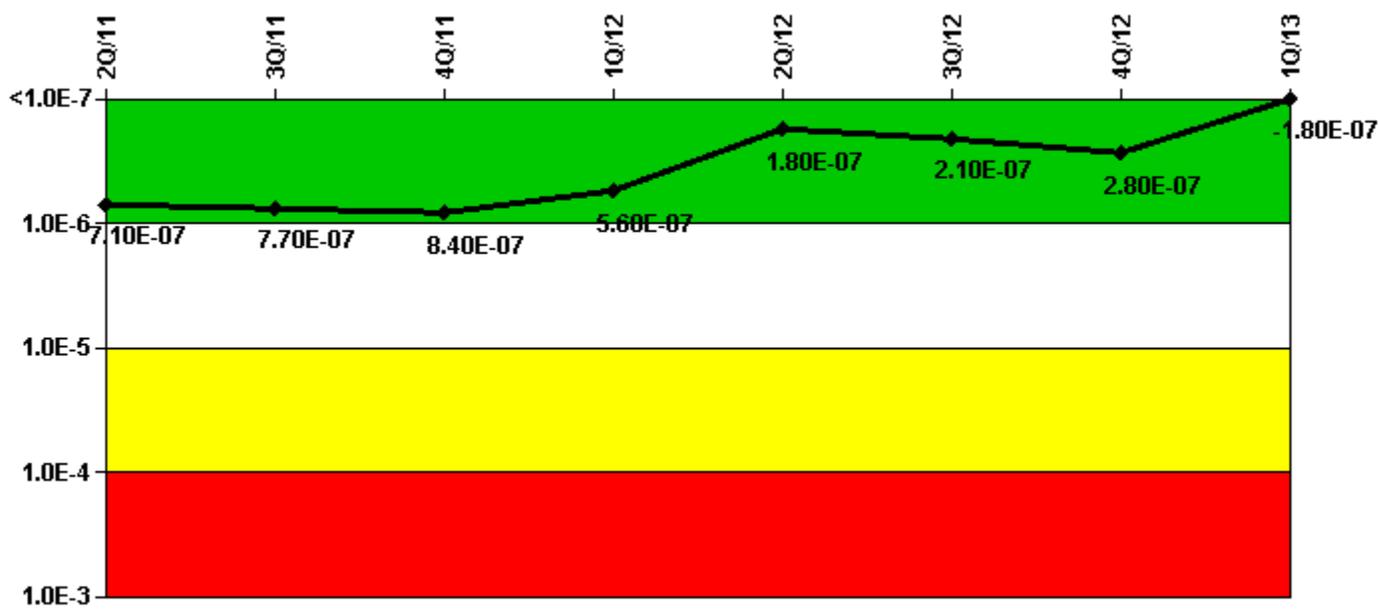
Notes

Mitigating Systems Performance Index, High Pressure Injection System	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
UAI (ΔCDF)	-6.91E-08	-7.33E-08	-7.07E-08	-7.03E-08	-5.54E-08	-2.97E-08	-3.46E-08	-3.97E-08
	-9.10E-	-9.02E-	-8.96E-	-8.93E-	-8.89E-	-8.82E-	-6.42E-	-6.67E-

URI ( $\Delta$ CDF)	08	08	08	08	08	08	08	08
PLE	NO							
<b>Indicator value</b>	<b>-1.60E-07</b>	<b>-1.60E-07</b>	<b>-1.60E-07</b>	<b>-1.60E-07</b>	<b>-1.40E-07</b>	<b>-1.20E-07</b>	<b>-9.90E-08</b>	<b>-1.10E-07</b>

Licensee Comments: none

### Mitigating Systems Performance Index, Heat Removal System



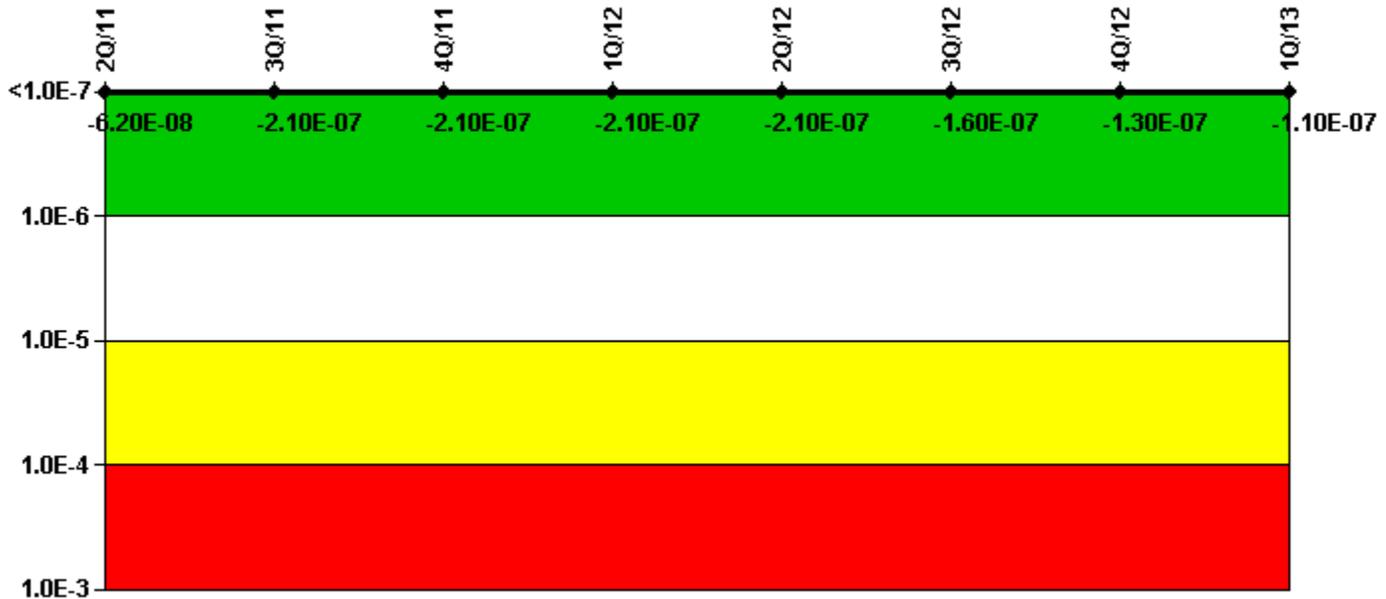
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

### Notes

Mitigating Systems Performance Index, Heat Removal System	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
UAI ( $\Delta$ CDF)	-3.47E-08	-2.78E-08	-1.58E-08	-3.05E-08	-7.37E-08	-7.37E-08	-7.37E-08	-7.37E-08
URI ( $\Delta$ CDF)	7.49E-07	7.95E-07	8.54E-07	5.92E-07	2.55E-07	2.87E-07	3.51E-07	-1.10E-07
PLE	NO							
<b>Indicator value</b>	<b>7.10E-07</b>	<b>7.70E-07</b>	<b>8.40E-07</b>	<b>5.60E-07</b>	<b>1.80E-07</b>	<b>2.10E-07</b>	<b>2.80E-07</b>	<b>-1.80E-07</b>

Licensee Comments: none

### Mitigating Systems Performance Index, Residual Heat Removal System



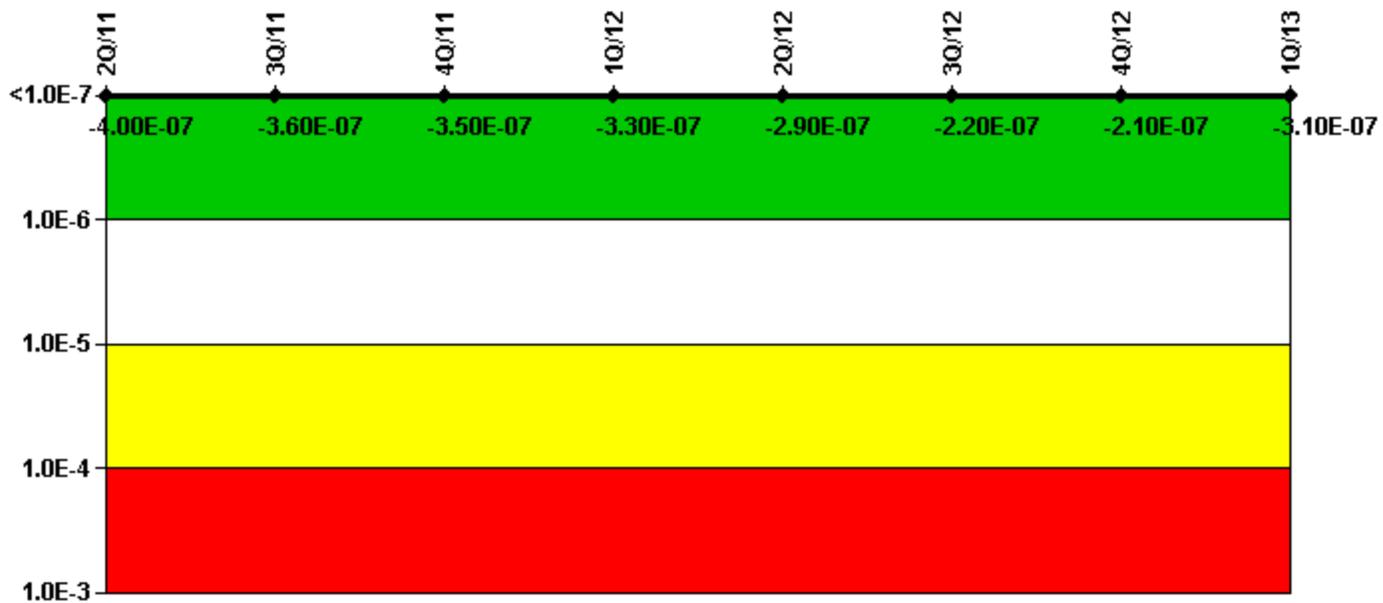
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, Residual Heat Removal System	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
UAI ( $\Delta$ CDF)	3.84E-09	-1.48E-07	-1.45E-07	-1.43E-07	-1.39E-07	-8.61E-08	-9.21E-08	-6.84E-08
URI ( $\Delta$ CDF)	-6.62E-08	-6.70E-08	-6.95E-08	-6.99E-08	-7.22E-08	-7.27E-08	-3.38E-08	-3.80E-08
PLE	NO							
Indicator value	-6.20E-08	-2.10E-07	-2.10E-07	-2.10E-07	-2.10E-07	-1.60E-07	-1.30E-07	-1.10E-07

Licensee Comments: none

### Mitigating Systems Performance Index, Cooling Water Systems



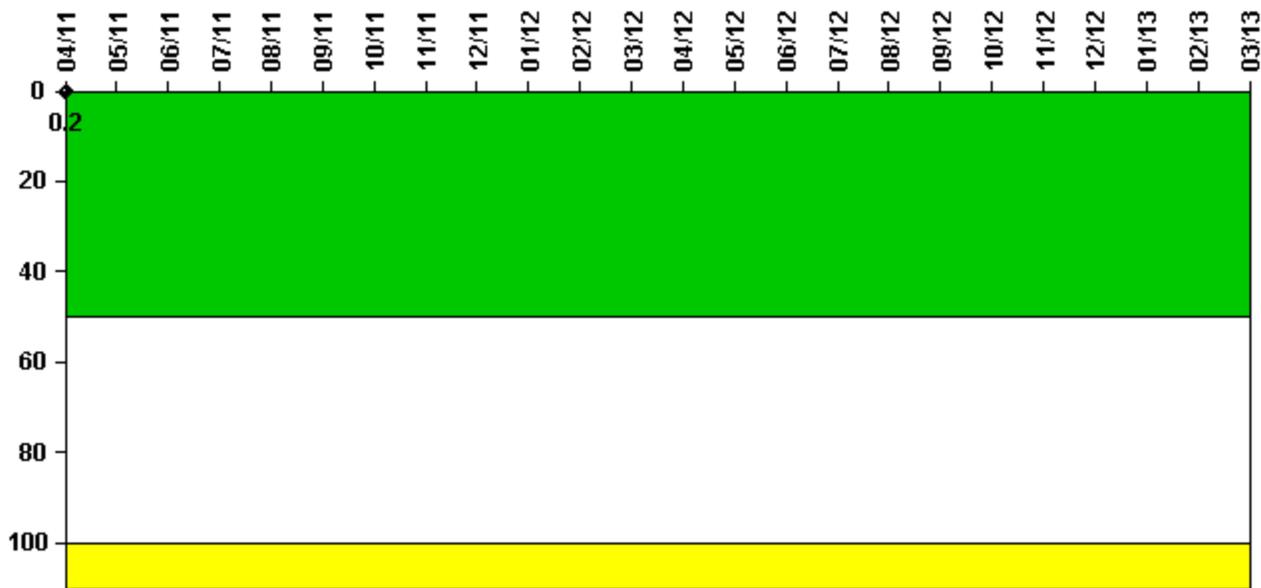
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, Cooling Water Systems	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
UAI ( $\Delta$ CDF)	-3.53E-07	-3.17E-07	-3.09E-07	-2.85E-07	-2.46E-07	-1.91E-07	-1.79E-07	-2.74E-07
URI ( $\Delta$ CDF)	-4.64E-08	-4.60E-08	-4.55E-08	-4.51E-08	-4.45E-08	-3.37E-08	-3.26E-08	-3.16E-08
PLE	NO							
Indicator value	-4.00E-07	-3.60E-07	-3.50E-07	-3.30E-07	-2.90E-07	-2.20E-07	-2.10E-07	-3.10E-07

Licensee Comments: none

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

**Notes**

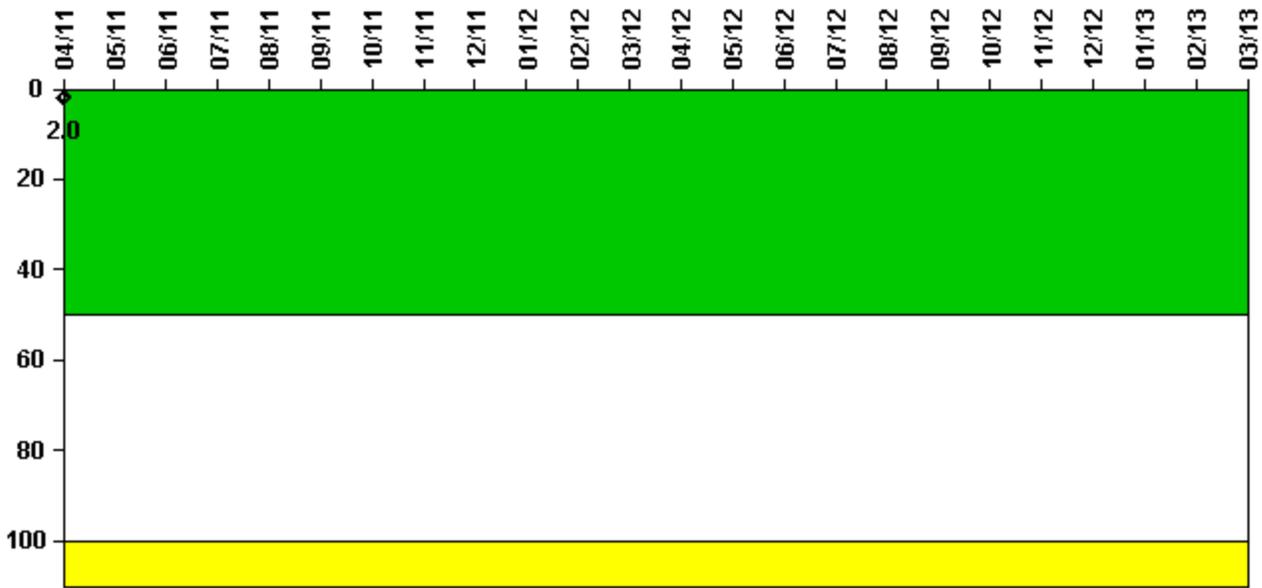
Reactor Coolant System Activity	4/11	5/11	6/11	7/11	8/11	9/11	10/11	11/11	12/11	1/12	2/12	3/12
Maximum activity	0.002090	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Reactor Coolant System Activity	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12	1/13	2/13	3/13
Maximum activity	N/A	N/A	N/A	N/A	N/A	N/A						
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	N/A	N/A	N/A	N/A	N/A	N/A						

Licensee Comments: none

### Reactor Coolant System Leakage



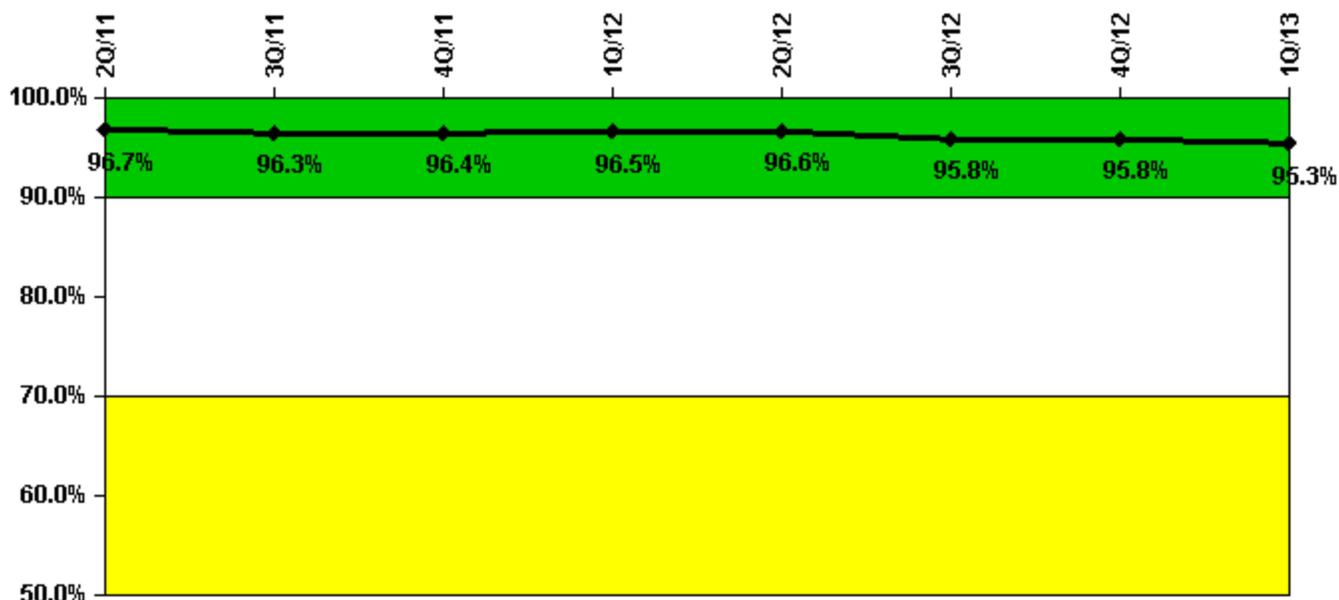
Thresholds: White > 50.0 Yellow > 100.0

#### Notes

Reactor Coolant System Leakage	4/11	5/11	6/11	7/11	8/11	9/11	10/11	11/11	12/11	1/12	2/12	3/12
Maximum leakage	0.196	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reactor Coolant System Leakage	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12	1/13	2/13	3/13
Maximum leakage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Licensee Comments: none

### Drill/Exercise Performance



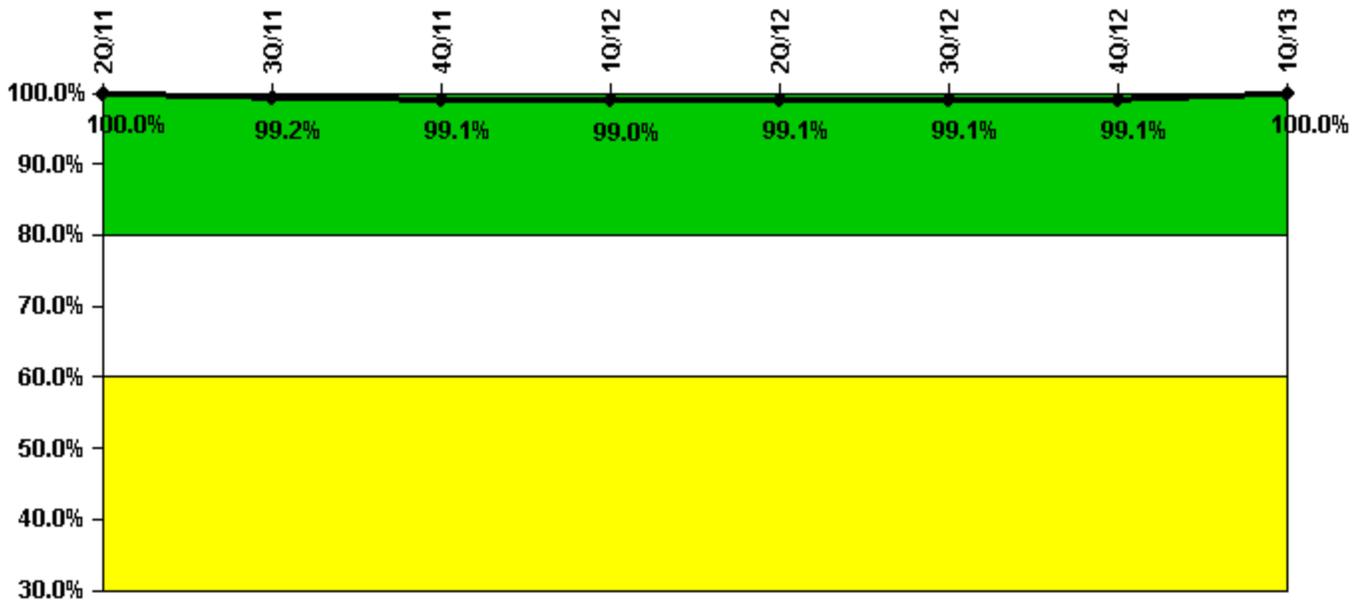
Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

Drill/Exercise Performance	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
Successful opportunities	11.0	33.0	12.0	59.0	41.0	8.0	24.0	16.0
Total opportunities	13.0	36.0	12.0	62.0	43.0	8.0	24.0	16.0
Indicator value	96.7%	96.3%	96.4%	96.5%	96.6%	95.8%	95.8%	95.3%

Licensee Comments: none

### ERO Drill Participation



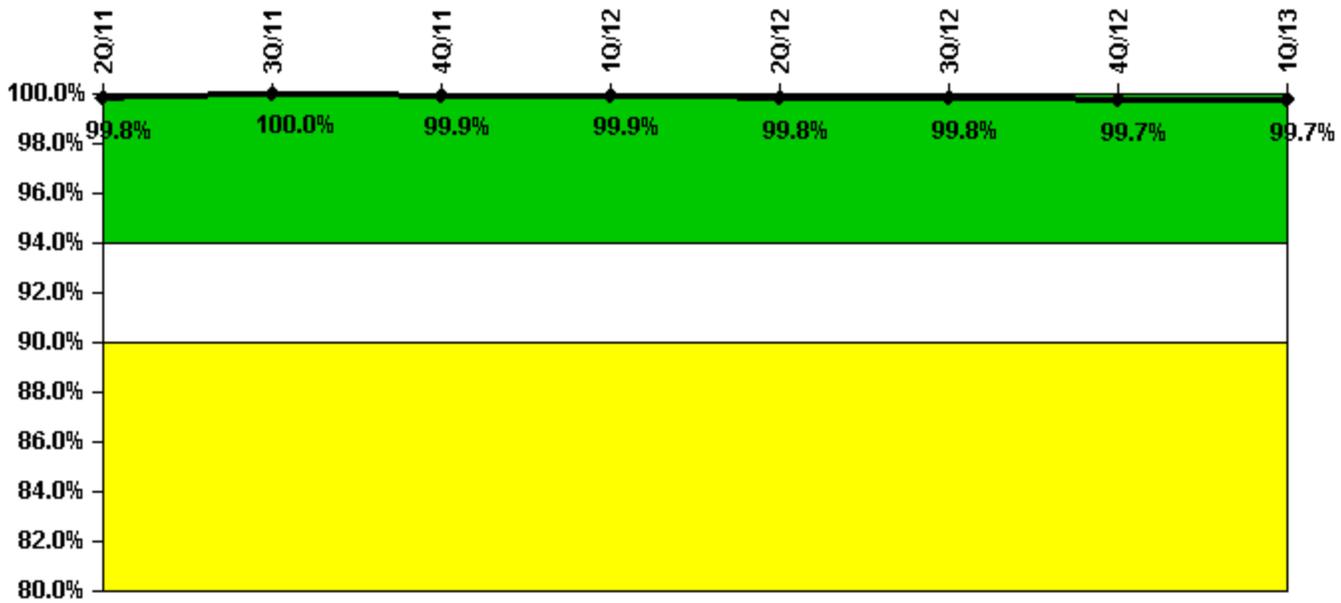
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

ERO Drill Participation	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
Participating Key personnel	124.0	118.0	107.0	102.0	107.0	108.0	108.0	109.0
Total Key personnel	124.0	119.0	108.0	103.0	108.0	109.0	109.0	109.0
Indicator value	100.0%	99.2%	99.1%	99.0%	99.1%	99.1%	99.1%	100.0%

Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

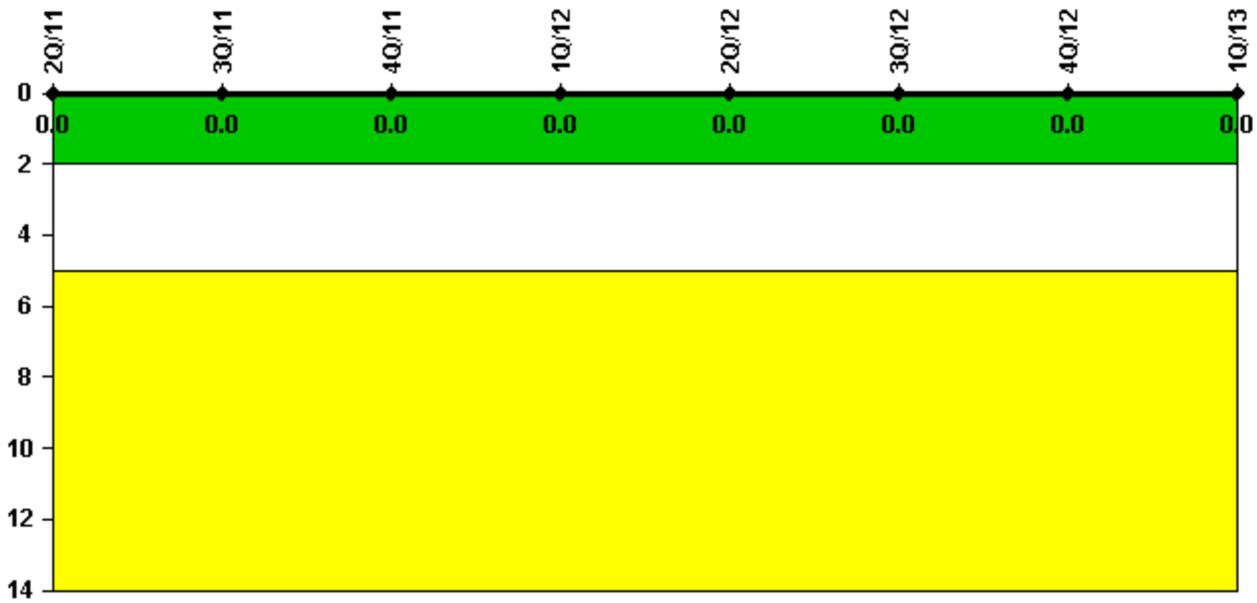
#### Notes

Alert & Notification System	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
Successful siren-tests	801	737	878	706	806	808	803	704
Total sirens-tests	802	737	880	707	808	808	808	707
Indicator value	99.8%	100.0%	99.9%	99.9%	99.8%	99.8%	99.7%	99.7%

Licensee Comments:

1Q/12: This corrects a small math error.

### Occupational Exposure Control Effectiveness



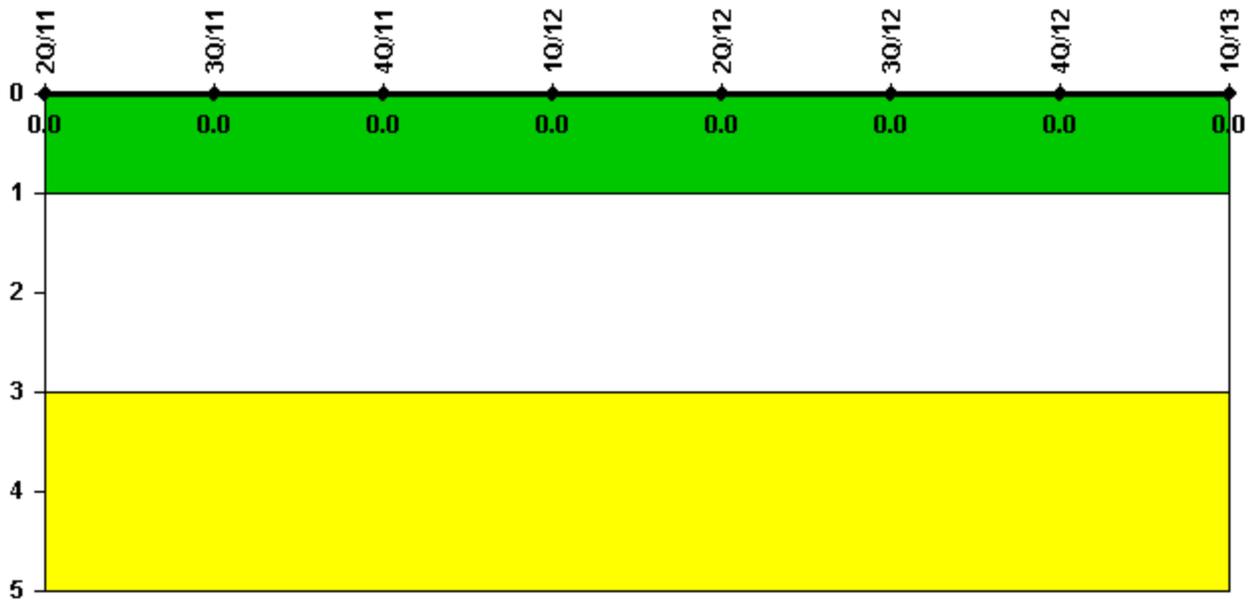
Thresholds: White > 2.0 Yellow > 5.0

#### Notes

Occupational Exposure Control Effectiveness	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/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
<b>Indicator value</b>	<b>0</b>							

Licensee Comments: none

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

#### Notes

RETS/ODCM Radiological Effluent	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13
RETS/ODCM occurrences	0	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>0</b>							

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: April 23, 2013*