

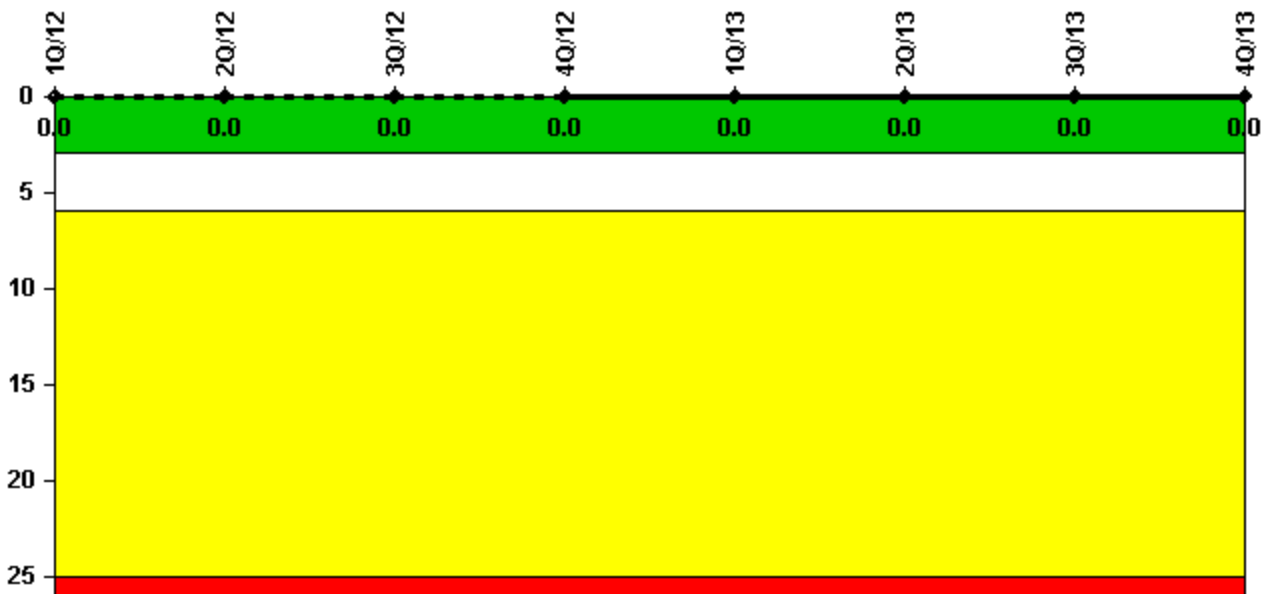
# Arkansas Nuclear 1

## 4Q/2013 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



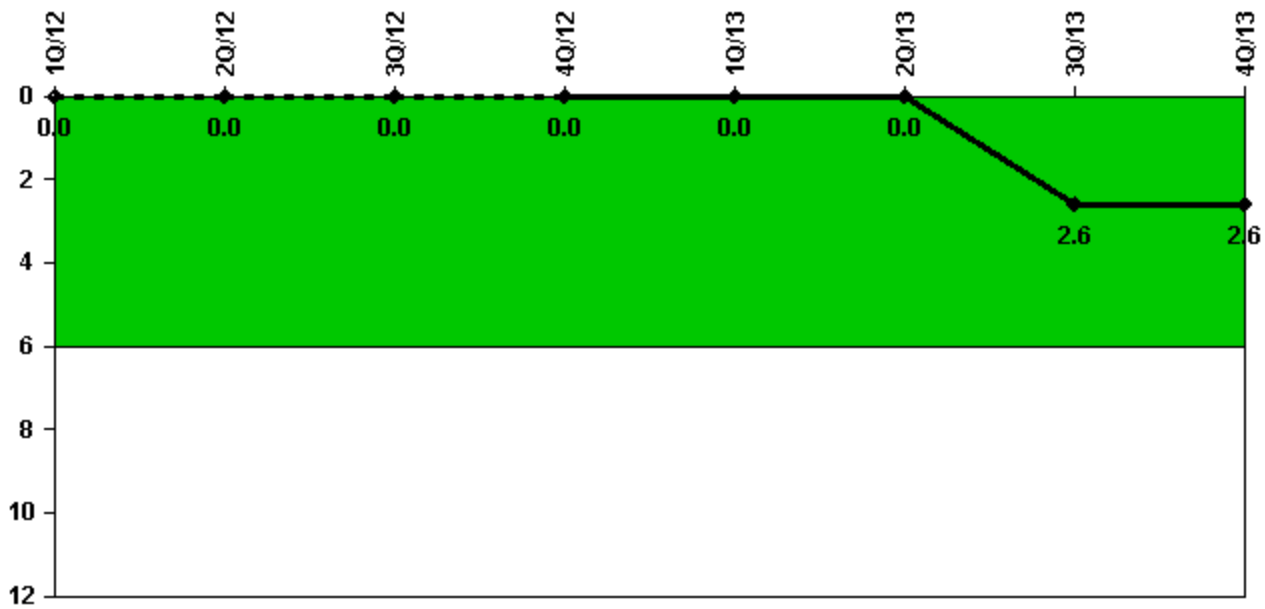
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2183.0	2184.0	2208.0	2209.0	1975.0	0	1288.6	2209.0
Indicator value	0	0	0	0	0	0	0	0

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



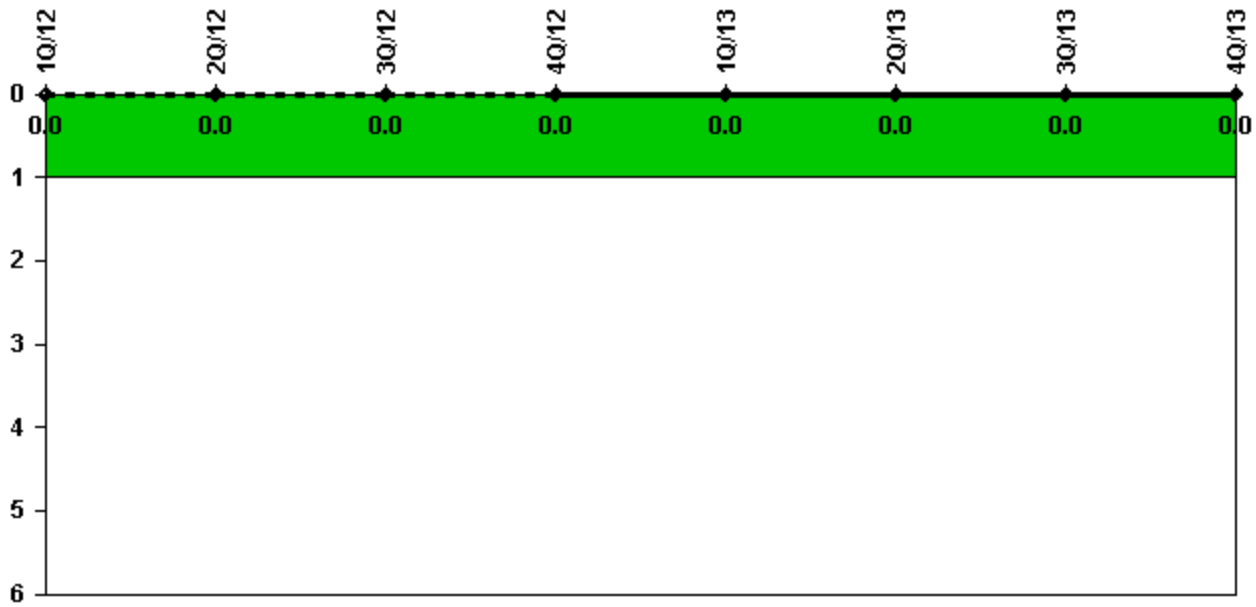
Thresholds: White > 6.0

#### Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Unplanned power changes	0	0	0	0	0	0	2.0	0
Critical hours	2183.0	2184.0	2208.0	2209.0	1975.0	0	1288.6	2209.0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2.6</b>	<b>2.6</b>

Licensee Comments: none

### Unplanned Scrams with Complications



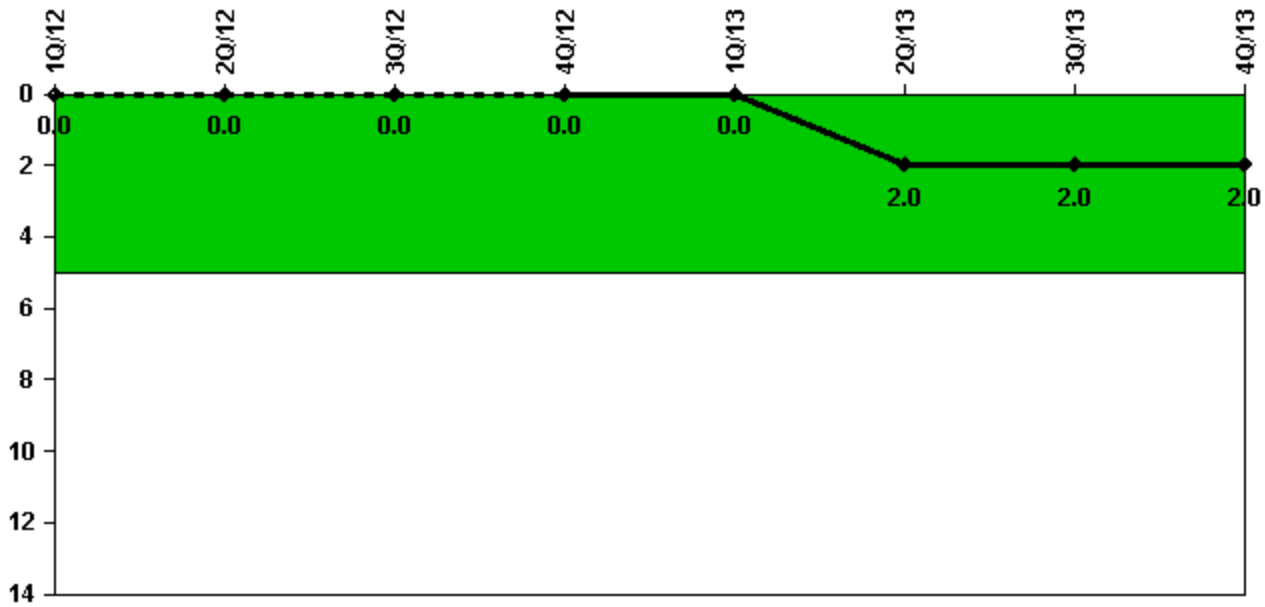
Thresholds: White > 1.0

#### 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
<b>Indicator value</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

Licensee Comments: none

### Safety System Functional Failures (PWR)



Thresholds: White > 5.0

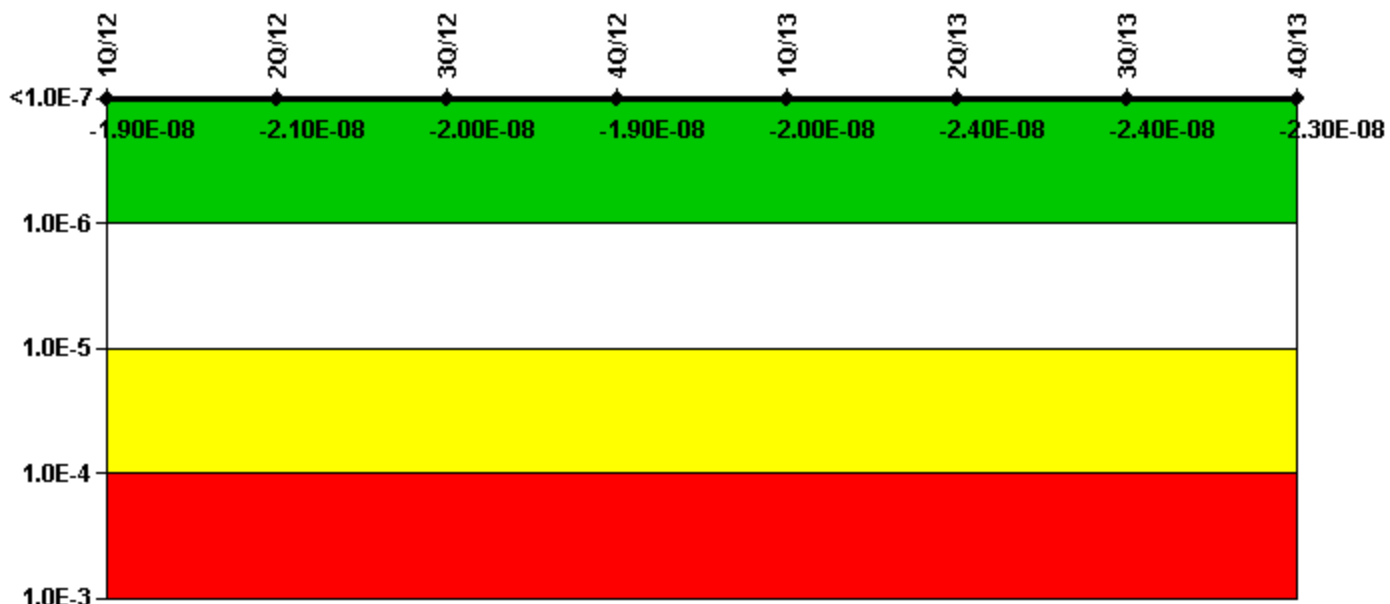
#### Notes

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

Licensee Comments:

2Q/13: April 2013 - Licensee Event Report 50-368/2013-002-00: Emergency Control Room Chiller Inoperability.  
 May 2013 - Licensee Event Report 50-313/2013-001-00: ANO-1 Main Generator Stator Temporary Lift Assembly Failure

### Mitigating Systems Performance Index, Emergency AC Power System



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

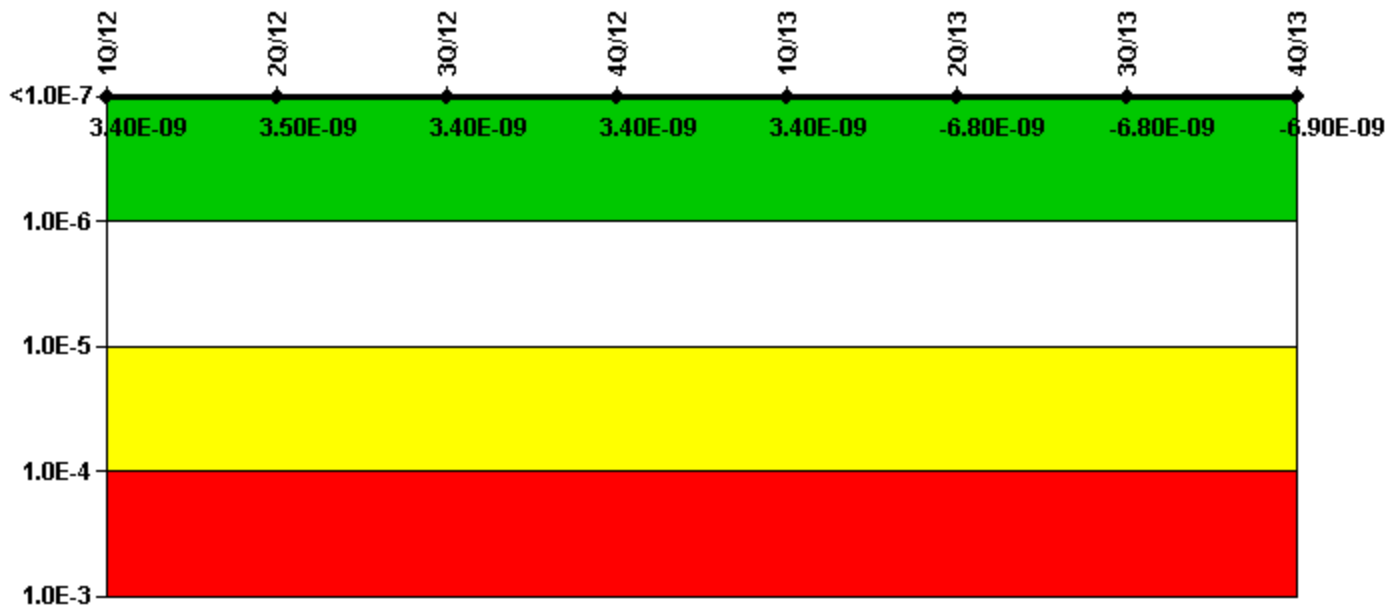
#### Notes

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 ( $\Delta$ CDF)	7.97E-10	-2.38E-09	-2.38E-09	-2.38E-09	-2.38E-09	-2.42E-09	-2.20E-09	-1.98E-09
URI ( $\Delta$ CDF)	-1.93E-08	-1.88E-08	-1.81E-08	-1.71E-08	-1.77E-08	-2.17E-08	-2.18E-08	-2.14E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.90E-08	-2.10E-08	-2.00E-08	-1.90E-08	-2.00E-08	-2.40E-08	-2.40E-08	-2.30E-08

#### Licensee Comments:

1Q/12: The ANO-1 MSPI Basis Document was revised in the 1Q2012 to add the Emergency Diesel Generator (EDG) fuel oil transfer pumps to the scope of the EDG supercomponent boundary. There were no MSPI coefficient changes required as a result of this revision.

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



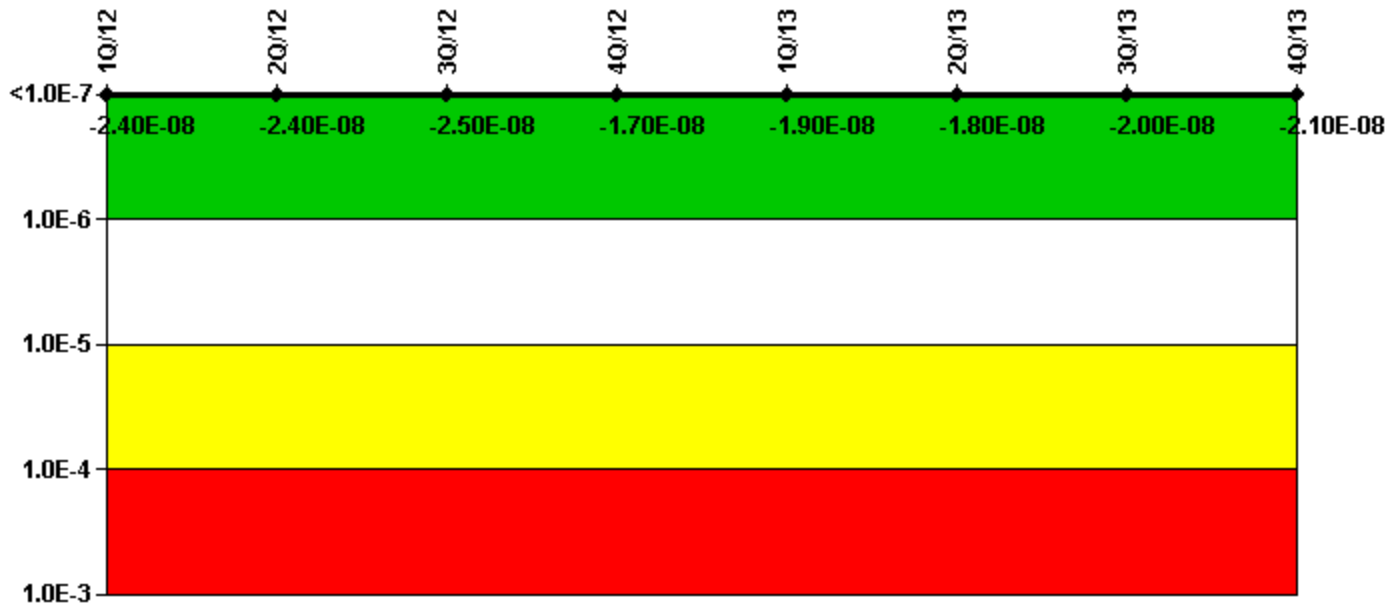
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### 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 ( $\Delta$ CDF)	6.87E-12	-3.28E-14	-3.28E-14	-3.28E-14	-8.92E-12	-7.71E-12	-4.32E-12	-8.30E-12
URI ( $\Delta$ CDF)	3.38E-09	3.48E-09	3.40E-09	3.43E-09	3.38E-09	-6.78E-09	-6.82E-09	-6.90E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.40E-09	3.50E-09	3.40E-09	3.40E-09	3.40E-09	-6.80E-09	-6.80E-09	-6.90E-09

Licensee Comments: none

### Mitigating Systems Performance Index, Heat Removal System



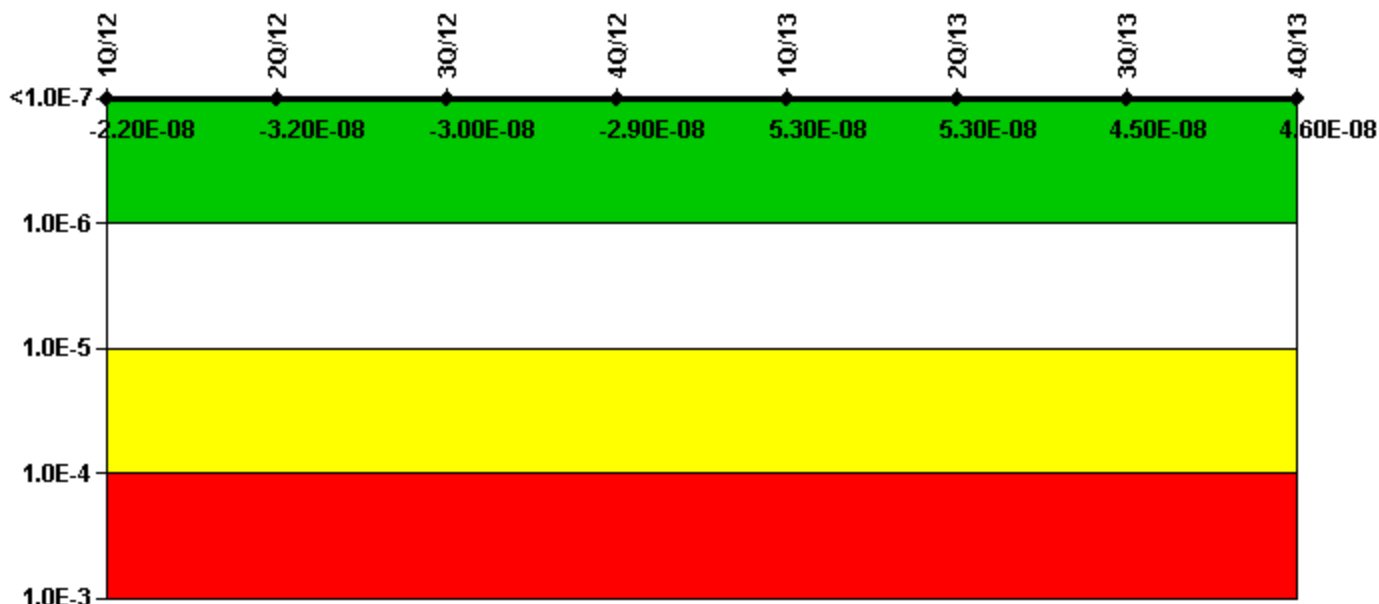
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, Heat Removal System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI ( $\Delta$ CDF)	3.67E-09	2.89E-09	2.23E-09	1.01E-08	8.43E-09	7.53E-09	3.87E-09	1.29E-09
URI ( $\Delta$ CDF)	-2.73E-08	-2.73E-08	-2.73E-08	-2.73E-08	-2.72E-08	-2.58E-08	-2.35E-08	-2.28E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.40E-08	-2.40E-08	-2.50E-08	-1.70E-08	-1.90E-08	-1.80E-08	-2.00E-08	-2.10E-08

Licensee Comments: none

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



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

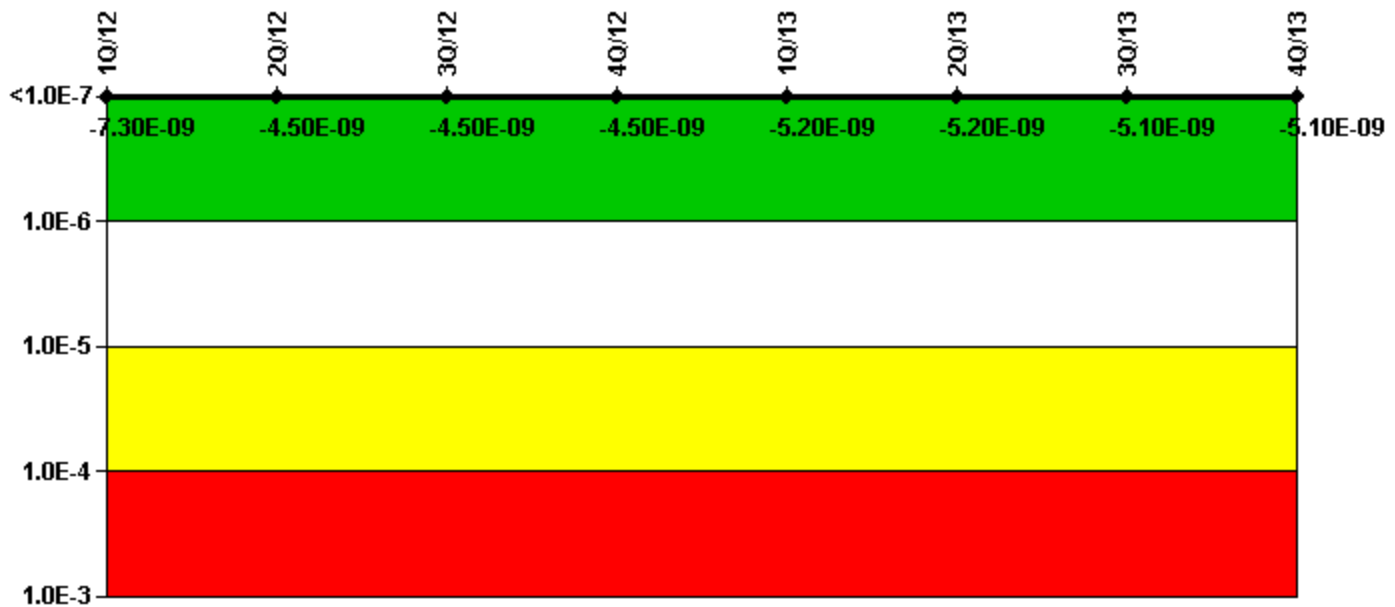
#### Notes

Mitigating Systems Performance Index, Residual Heat Removal System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (ΔCDF)	1.69E-08	6.66E-09	1.03E-08	1.29E-08	2.35E-09	5.45E-09	8.16E-09	8.16E-09
URI (ΔCDF)	-3.88E-08	-3.88E-08	-3.98E-08	-4.15E-08	5.03E-08	4.75E-08	3.73E-08	3.76E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.20E-08	-3.20E-08	-3.00E-08	-2.90E-08	5.30E-08	5.30E-08	4.50E-08	4.60E-08

Licensee Comments: none



### Mitigating Systems Performance Index, Cooling Water Systems



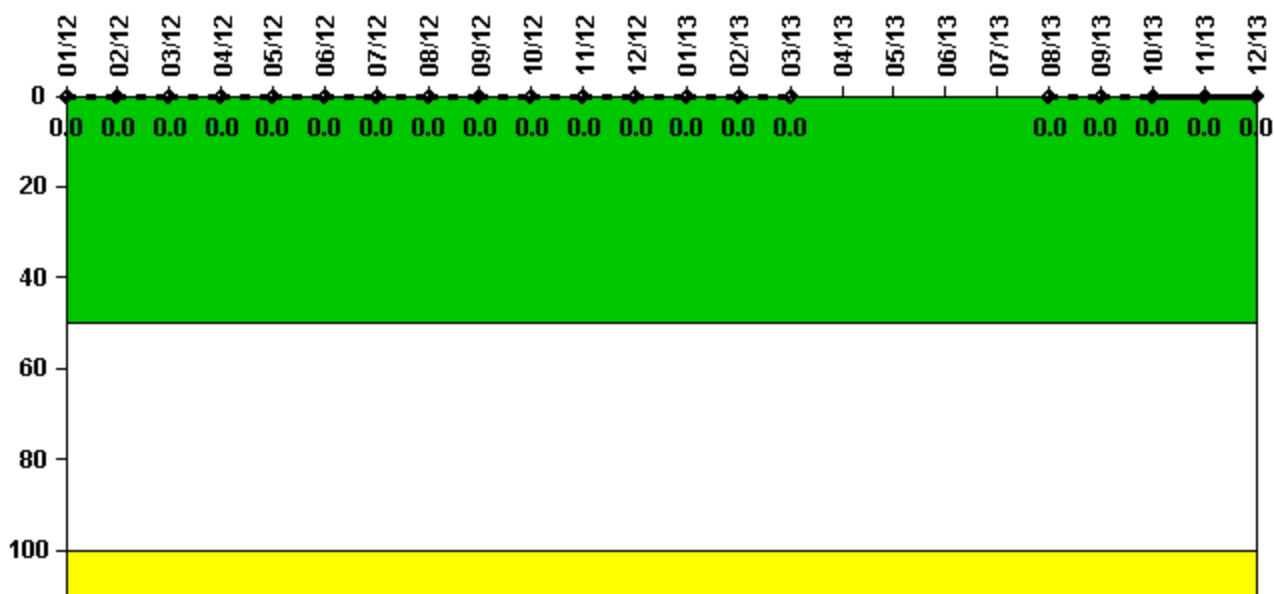
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, Cooling Water Systems	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI ( $\Delta$ CDF)	-2.75E-09	-2.75E-09	-2.75E-09	-2.75E-09	-3.49E-09	-3.49E-09	-3.39E-09	-3.39E-09
URI ( $\Delta$ CDF)	-4.51E-09	-1.70E-09	-1.71E-09	-1.72E-09	-1.71E-09	-1.72E-09	-1.70E-09	-1.71E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.30E-09	-4.50E-09	-4.50E-09	-4.50E-09	-5.20E-09	-5.20E-09	-5.10E-09	-5.10E-09

Licensee Comments: none

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

#### Notes

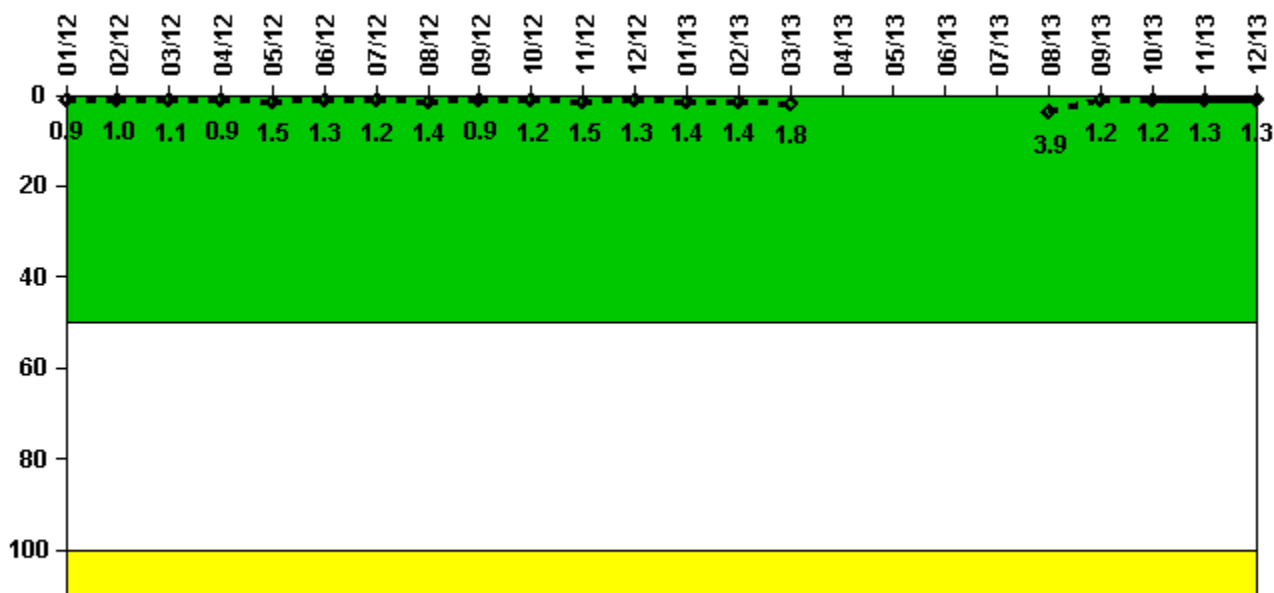
Reactor Coolant System Activity	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12
Maximum activity	0.000095	0.000097	0.000160	0.000112	0.000109	0.000120	0.000114	0.000119	0.000125	0.000220	0.000135	0.000204
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0
Reactor Coolant System Activity	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13
Maximum activity	0.000139	0.000142	0.000379	N/A	N/A	N/A	N/A	0.000066	0.000066	0.000066	0.000076	0.000089
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	N/A	N/A	N/A	N/A	0	0	0	0	0

Licensee Comments:

9/13: ANO-1 was off line the entire month of July.

6/13: ANO-1 was off line for the entire second quarter 2013.

### 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	0.087	0.103	0.105	0.094	0.149	0.129	0.124	0.136	0.088	0.124	0.145	0.128
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
<b>Indicator value</b>	<b>0.9</b>	<b>1.0</b>	<b>1.1</b>	<b>0.9</b>	<b>1.5</b>	<b>1.3</b>	<b>1.2</b>	<b>1.4</b>	<b>0.9</b>	<b>1.2</b>	<b>1.5</b>	<b>1.3</b>

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	0.139	0.141	0.181	N/A	N/A	N/A	N/A	0.389	0.123	0.115	0.128	0.132
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
<b>Indicator value</b>	<b>1.4</b>	<b>1.4</b>	<b>1.8</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>3.9</b>	<b>1.2</b>	<b>1.2</b>	<b>1.3</b>	<b>1.3</b>

Licensee Comments:

12/13: Total Leakage is being reported in lieu of Identified Leakage.

9/13: Total Leakage is being reported in lieu of Identified Leakage. ANO-1 was off line the entire month of July.

6/13: ANO-1 was off line for the entire second quarter 2013.

3/13: Total Leakage is being reported in lieu of Identified Leakage

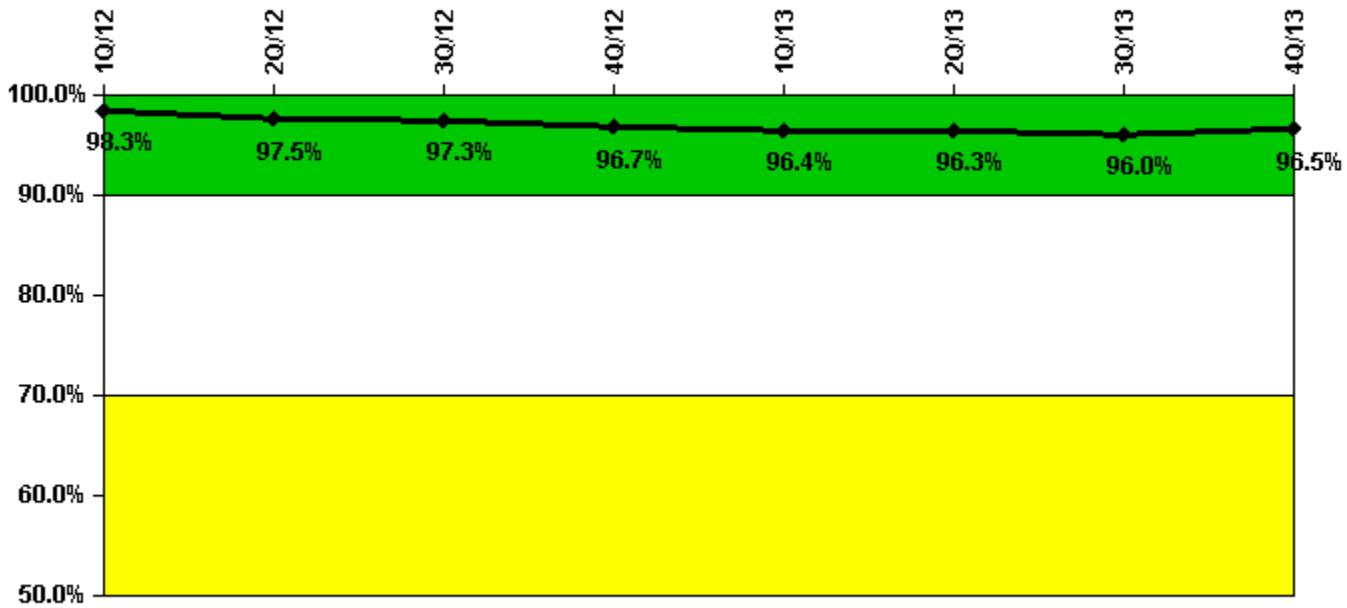
12/12: Total Leakage is being reported in lieu of Identified Leakage.

9/12: Total Leakage is being reported in lieu of Identified Leakage.

6/12: Total Leakage is being reported in lieu of Identified Leakage

3/12: Total Leakage is being reported in lieu of Identified Leakage.

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

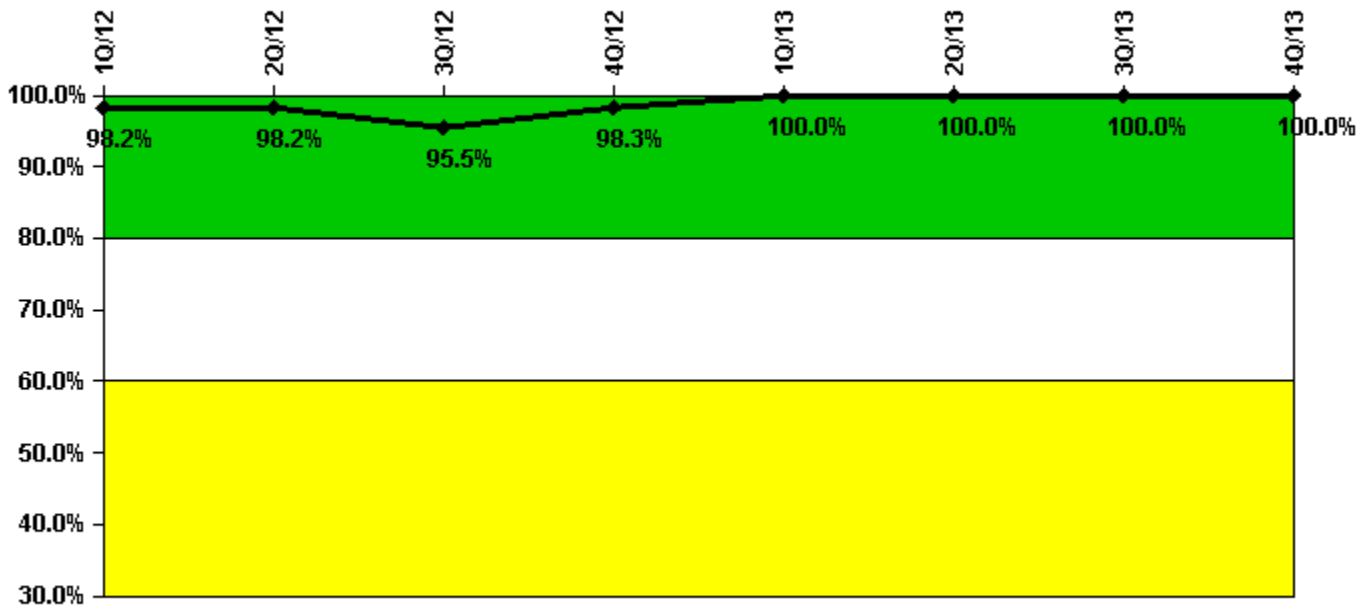
### Notes

Drill/Exercise Performance	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Successful opportunities	21.0	48.0	16.0	13.0	26.0	8.0	49.0	39.0
Total opportunities	21.0	50.0	16.0	15.0	27.0	8.0	51.0	40.0
Indicator value	98.3%	97.5%	97.3%	96.7%	96.4%	96.3%	96.0%	96.5%

Licensee Comments:

3Q/13: In January of 2014, five drills that were not previously counted were added to the 3rd Quarter 2013 Emergency Preparedness data.

### ERO Drill Participation



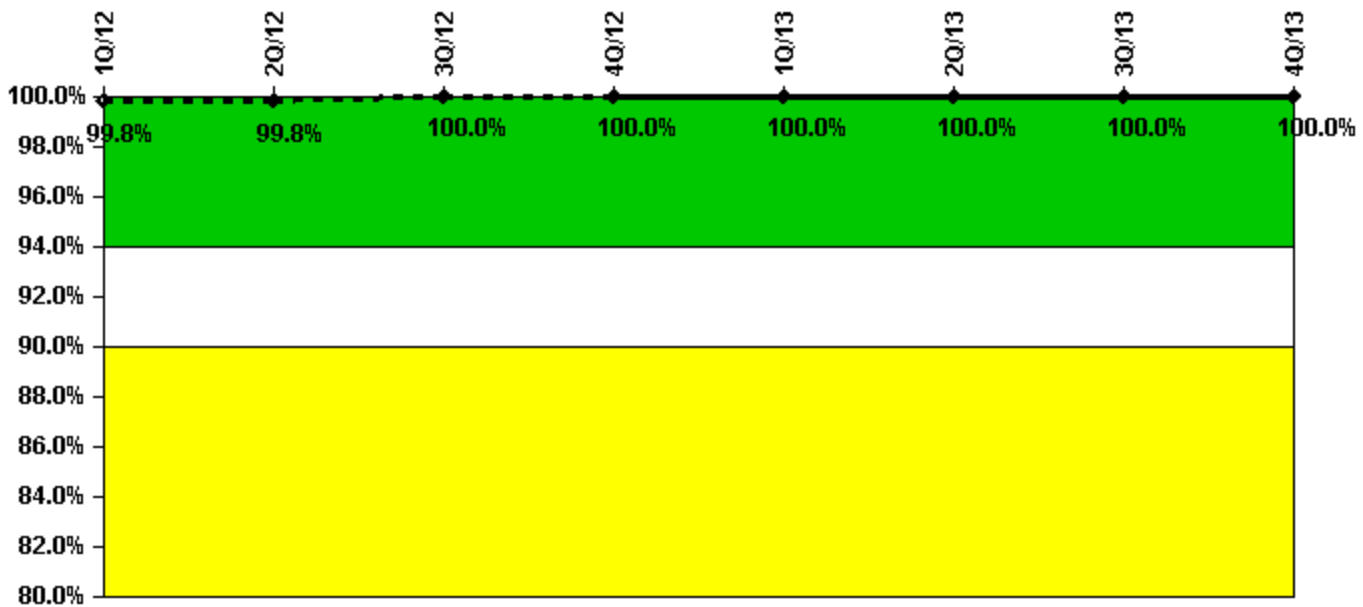
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

ERO Drill Participation	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Participating Key personnel	111.0	112.0	106.0	115.0	84.0	81.0	98.0	99.0
Total Key personnel	113.0	114.0	111.0	117.0	84.0	81.0	98.0	99.0
Indicator value	98.2%	98.2%	95.5%	98.3%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

### Alert & Notification System



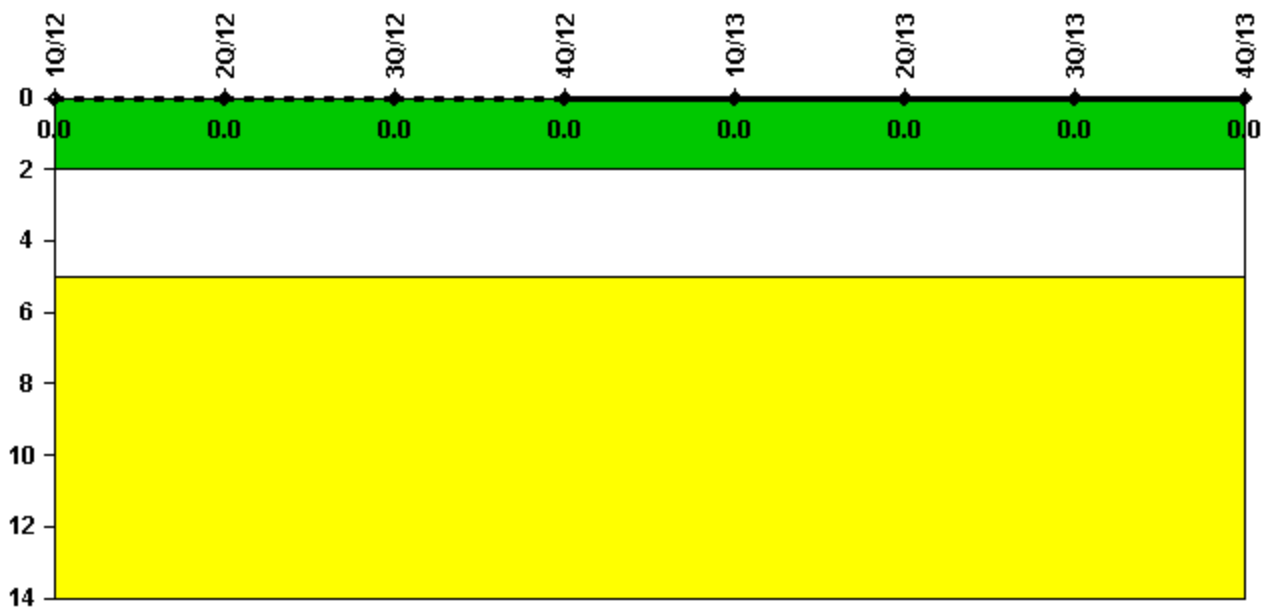
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

Alert & Notification System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Successful siren-tests	147	147	147	147	147	147	147	147
Total sirens-tests	147	147	147	147	147	147	147	147
Indicator value	99.8%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

### Occupational Exposure Control Effectiveness



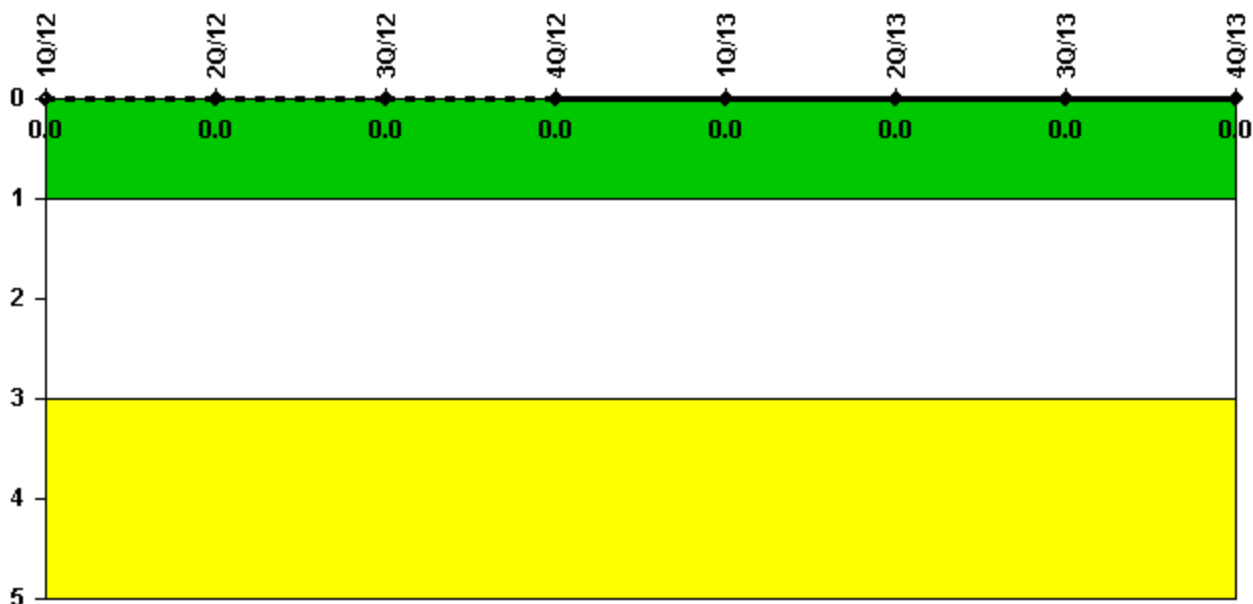
Thresholds: White > 2.0 Yellow > 5.0

**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
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</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: January 22, 2014*