

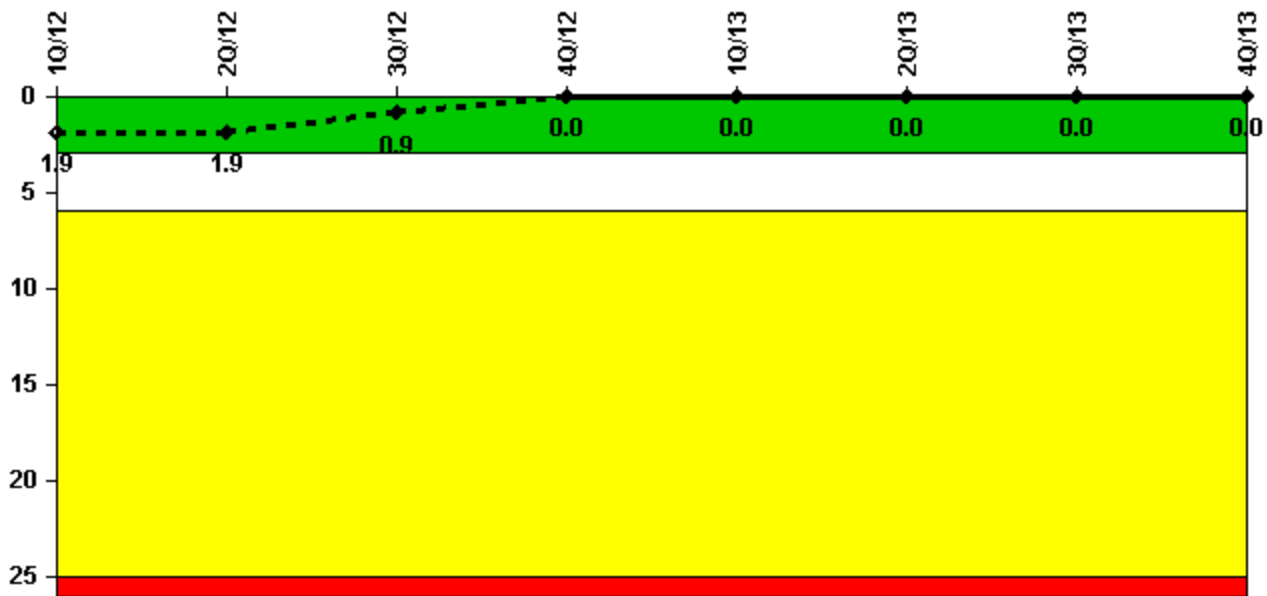
# Palo Verde 1

## 4Q/2013 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



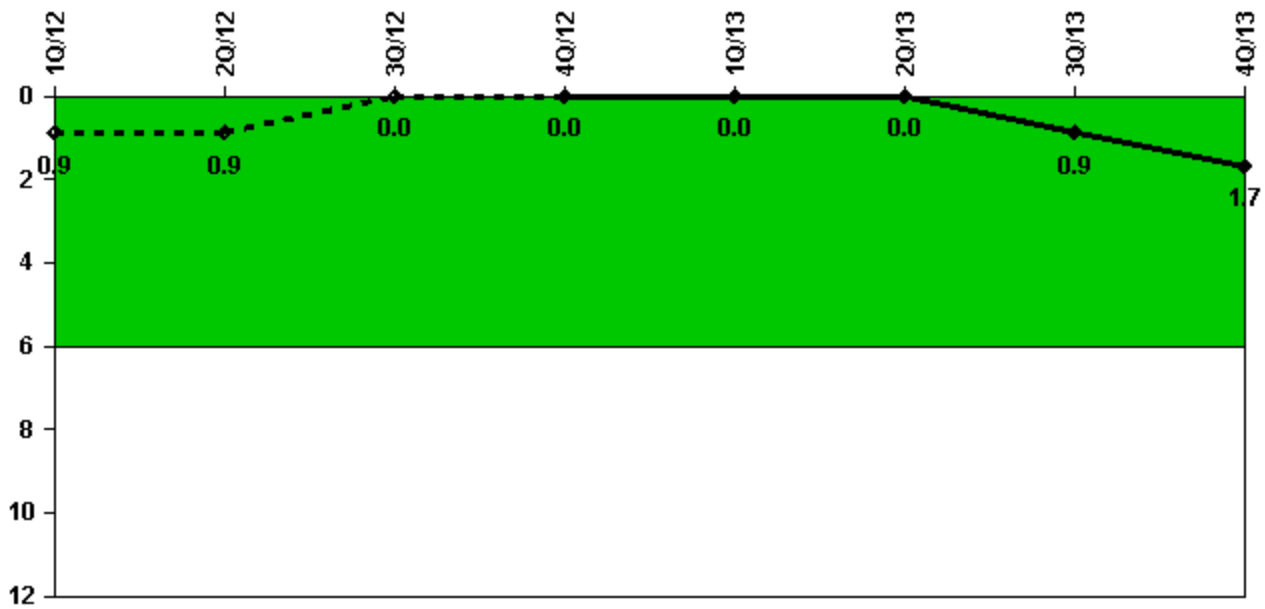
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### 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	2184.0	2184.0	2208.0	2208.0	2112.0	1546.2	2208.0	2208.0
Indicator value	1.9	1.9	0.9	0	0	0	0	0

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



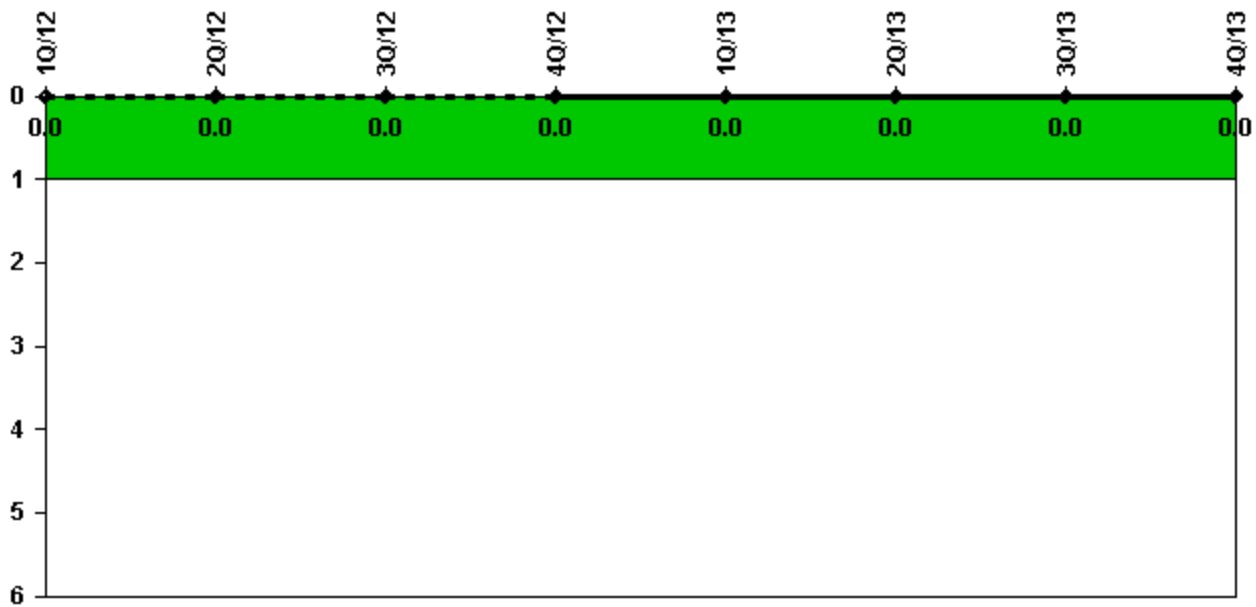
Thresholds: White > 6.0

#### 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	1.0	1.0
Critical hours	2184.0	2184.0	2208.0	2208.0	2112.0	1546.2	2208.0	2208.0
<b>Indicator value</b>	<b>0.9</b>	<b>0.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.9</b>	<b>1.7</b>

Licensee Comments: none

### Unplanned Scrams with Complications



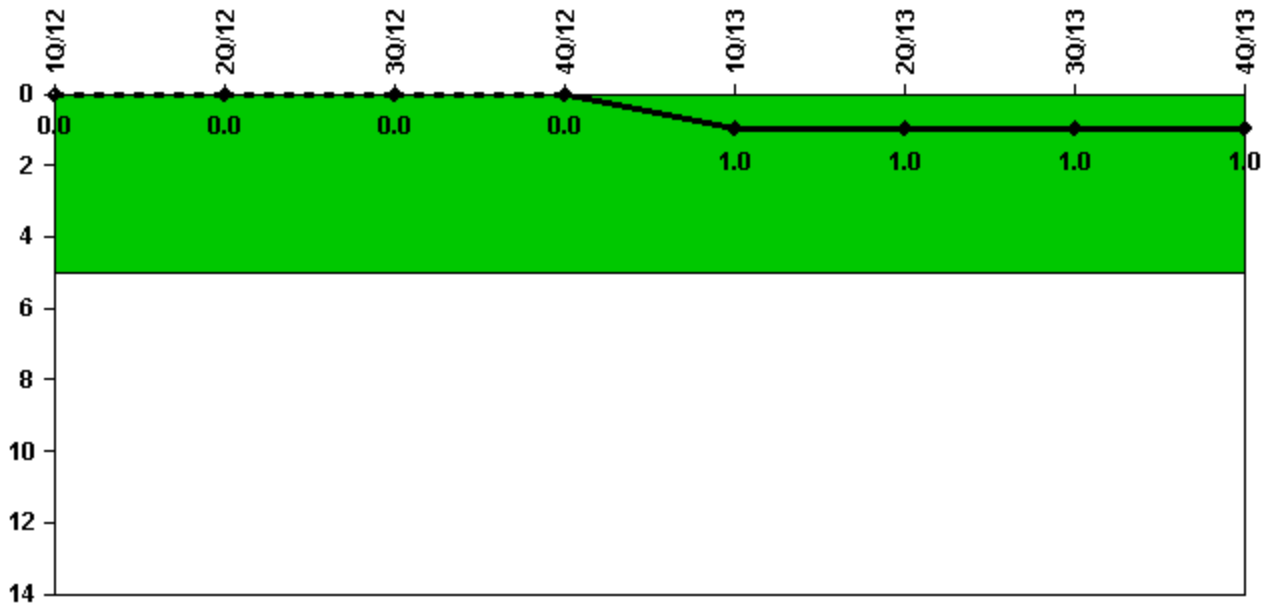
Thresholds: White > 1.0

#### 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

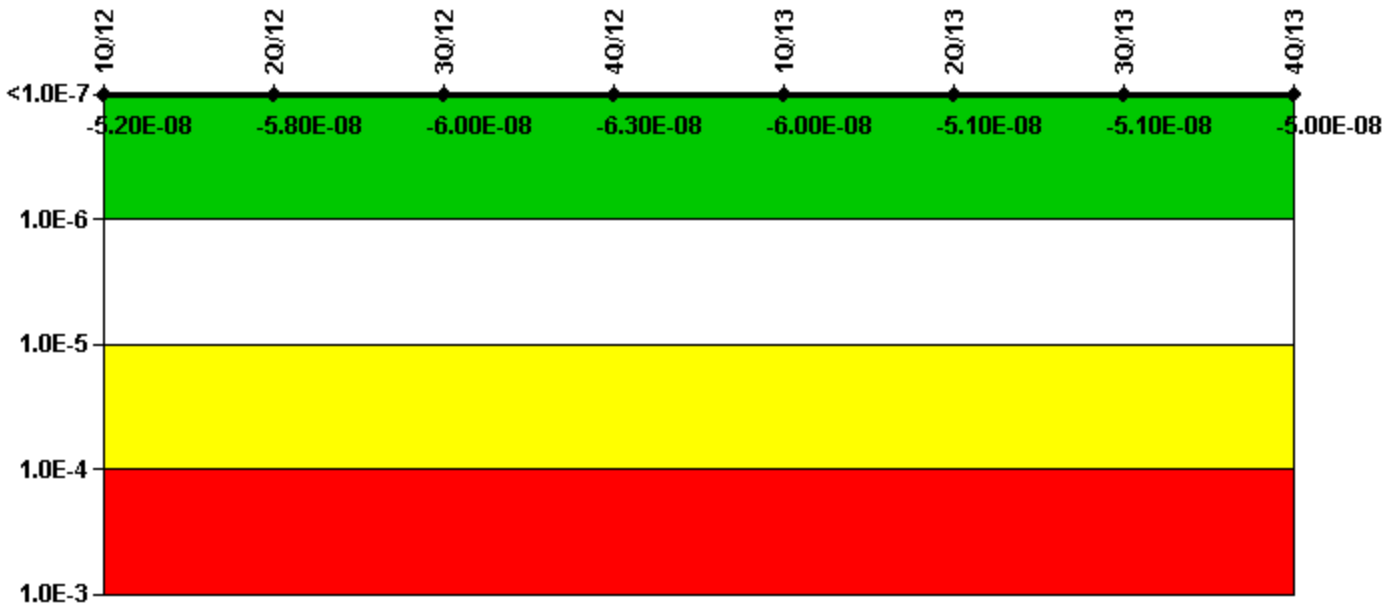
#### Notes

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	1	0	0	0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>

Licensee Comments:

1Q/13: LER 0500528/0500529/0500530-2012-006-00 for SSFF reported in February 2013 in each of the three units.

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



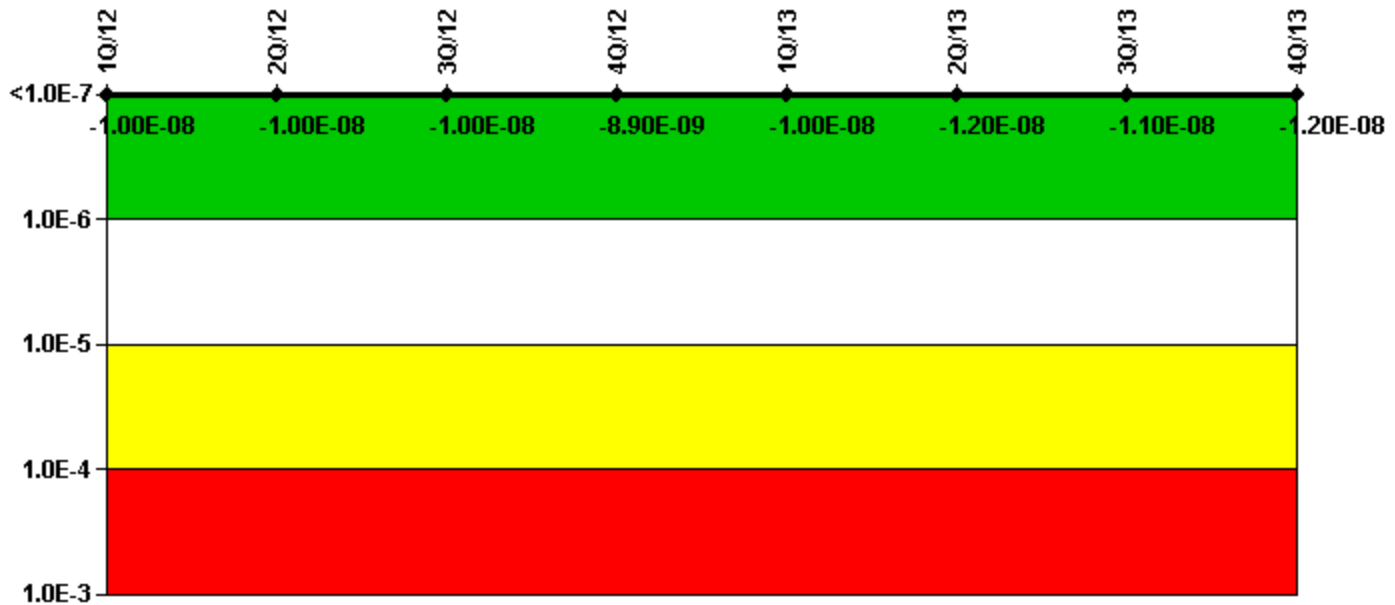
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### 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)	1.42E-08	7.42E-09	5.13E-09	1.52E-09	2.45E-09	1.01E-08	9.02E-09	8.49E-09
URI ( $\Delta$ CDF)	-6.64E-08	-6.59E-08	-6.54E-08	-6.41E-08	-6.28E-08	-6.15E-08	-6.00E-08	-5.85E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-5.20E-08	-5.80E-08	-6.00E-08	-6.30E-08	-6.00E-08	-5.10E-08	-5.10E-08	-5.00E-08

Licensee Comments: none

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



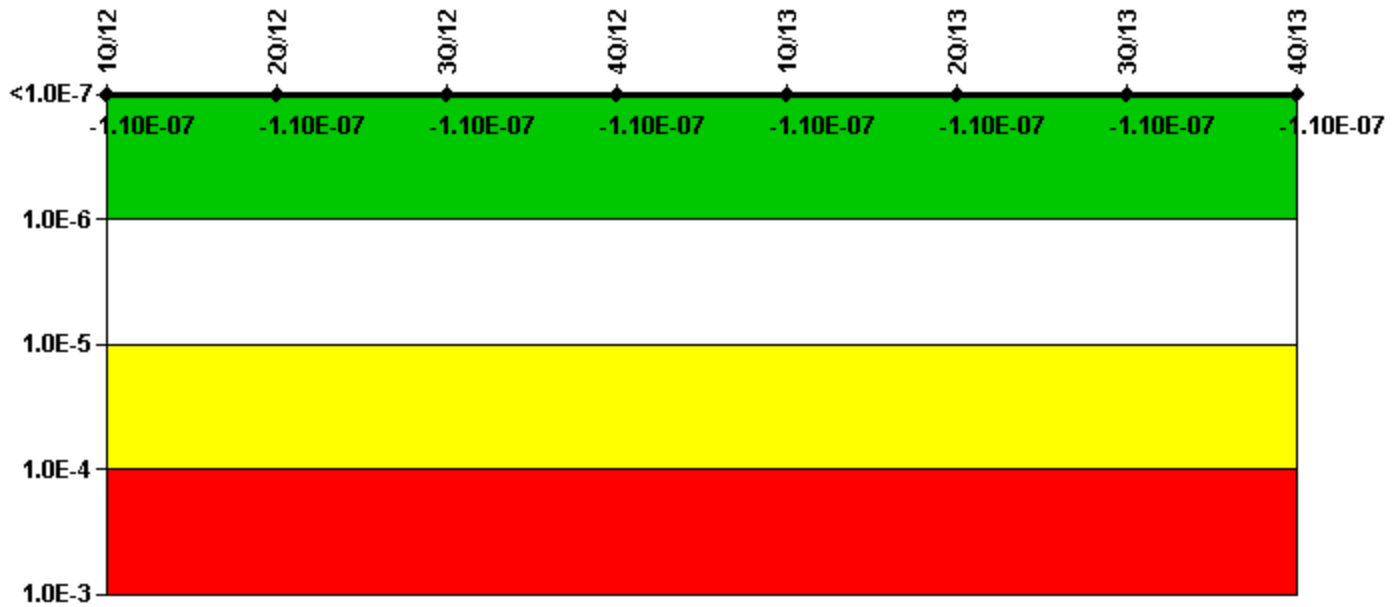
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### 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)	9.42E-10	9.45E-10	9.93E-10	2.06E-09	4.99E-10	-1.24E-09	-5.88E-10	-1.28E-09
URI ( $\Delta$ CDF)	-1.11E-08	-1.11E-08	-1.10E-08	-1.10E-08	-1.09E-08	-1.08E-08	-1.07E-08	-1.06E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.00E-08	-1.00E-08	-1.00E-08	-8.90E-09	-1.00E-08	-1.20E-08	-1.10E-08	-1.20E-08

Licensee Comments: none

### Mitigating Systems Performance Index, Heat Removal System



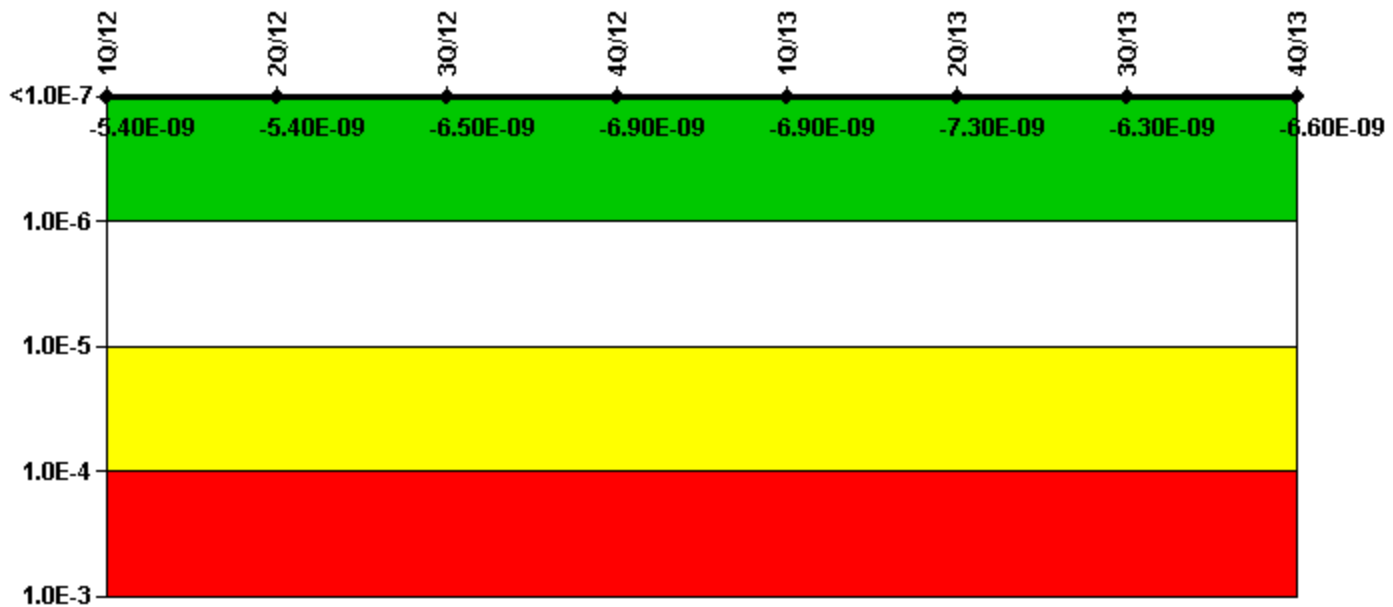
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### 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)	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08
URI ( $\Delta$ CDF)	-6.57E-08	-6.56E-08	-6.56E-08	-6.41E-08	-6.27E-08	-6.12E-08	-5.97E-08	-5.82E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07

Licensee Comments: none

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



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

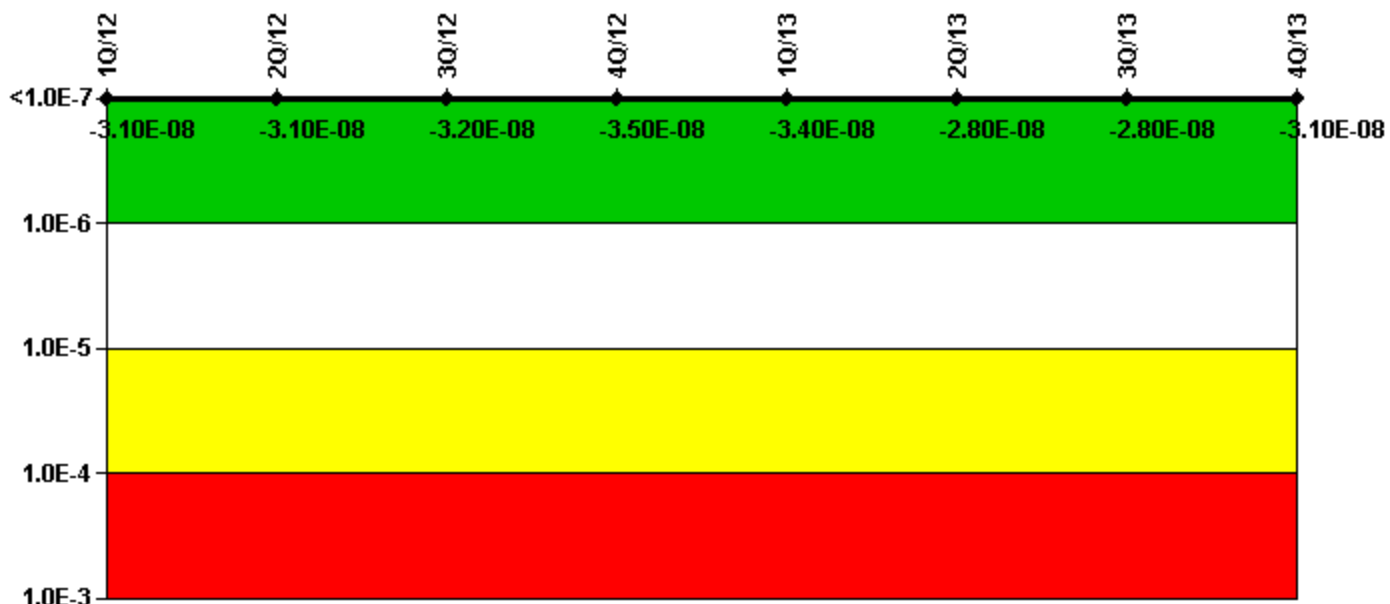
#### Notes

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 ( $\Delta$ CDF)	8.16E-10	9.04E-10	-8.38E-11	-5.42E-10	-5.35E-10	-9.69E-10	1.17E-10	-2.38E-10
URI ( $\Delta$ CDF)	-6.23E-09	-6.30E-09	-6.37E-09	-6.37E-09	-6.37E-09	-6.37E-09	-6.37E-09	-6.37E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-5.40E-09	-5.40E-09	-6.50E-09	-6.90E-09	-6.90E-09	-7.30E-09	-6.30E-09	-6.60E-09

Licensee Comments: none



### Mitigating Systems Performance Index, Cooling Water Systems



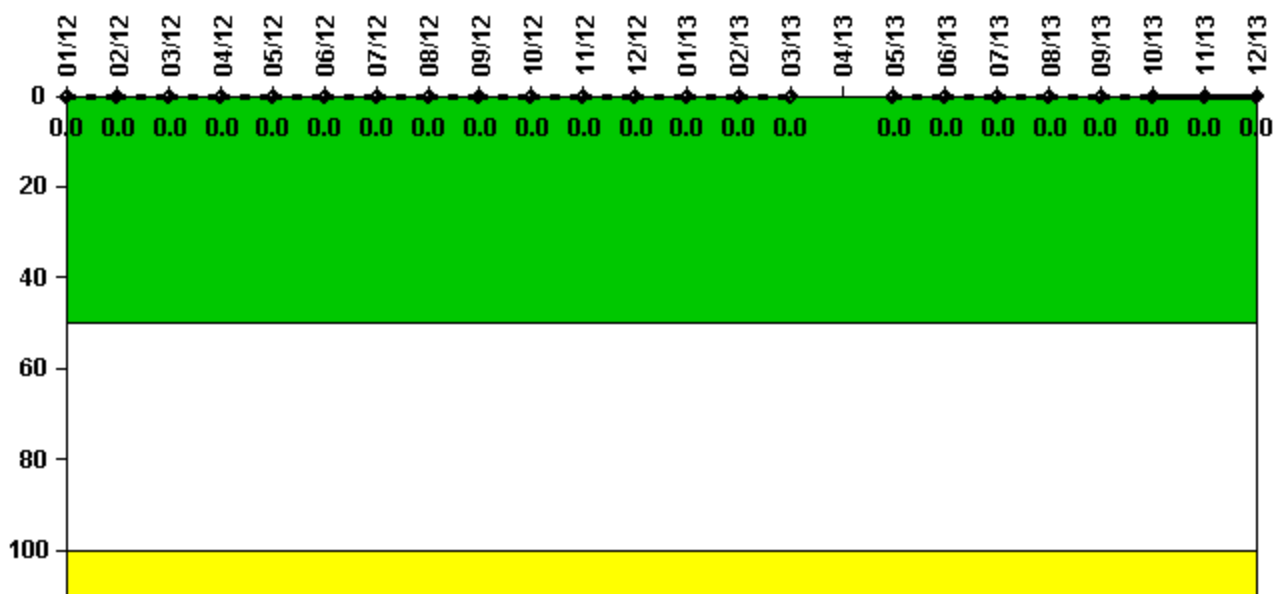
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### 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)	1.38E-08	1.40E-08	1.42E-08	1.09E-08	1.22E-08	1.78E-08	1.75E-08	1.51E-08
URI ( $\Delta$ CDF)	-4.51E-08	-4.54E-08	-4.57E-08	-4.57E-08	-4.57E-08	-4.57E-08	-4.57E-08	-4.57E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.10E-08	-3.10E-08	-3.20E-08	-3.50E-08	-3.40E-08	-2.80E-08	-2.80E-08	-3.10E-08

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	0.000370	0.000223	0.000217	0.000228	0.000246	0.000254	0.000270	0.000257	0.000272	0.000289	0.000287	0.000291
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

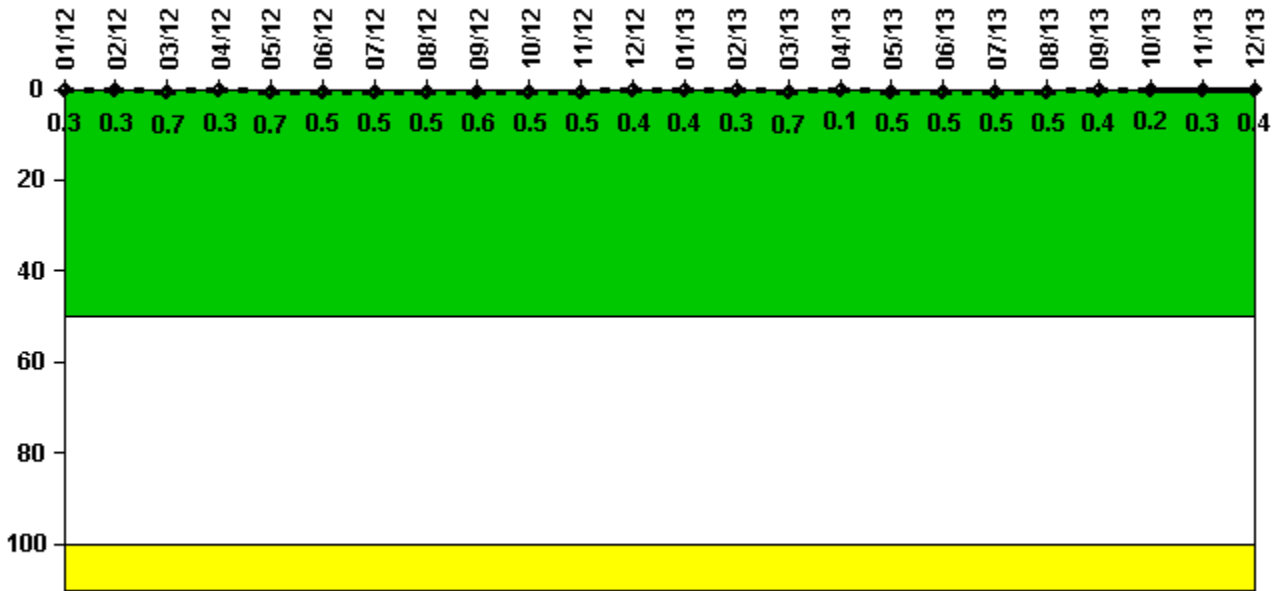
  

Reactor Coolant System Activity	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13
Maximum activity	0.000298	0.000320	0.000312	N/A	0.000177	0.000194	0.000209	0.000209	0.000219	0.000236	0.000217	0.000230
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0	0	0	N/A	0	0	0	0	0	0	0	0

#### Licensee Comments:

6/13: No Unit 1 reactor coolant system activity was reported for April 2013 because the analysis was not performed during the April 2013 Unit 1 refueling outage.

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

#### Notes

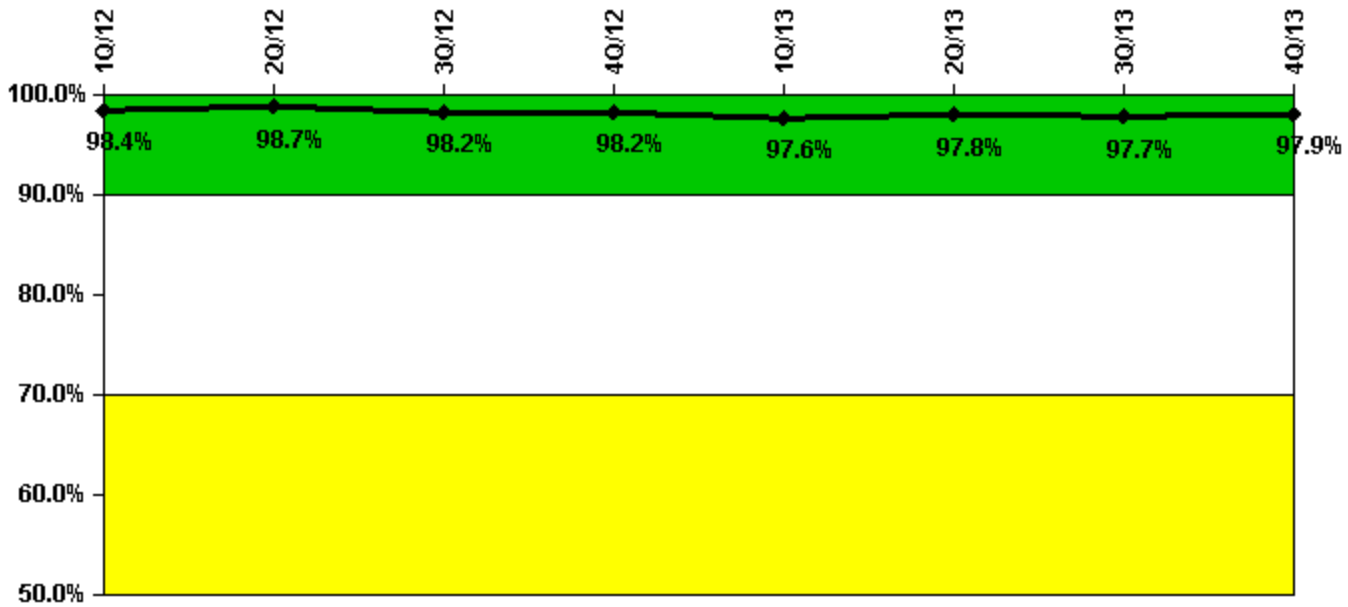
Reactor Coolant System Leakage	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12
Maximum leakage	0.034	0.026	0.070	0.032	0.074	0.049	0.049	0.050	0.057	0.046	0.049	0.040
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Indicator value	<b>0.3</b>	<b>0.3</b>	<b>0.7</b>	<b>0.3</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.6</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</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	0.041	0.029	0.067	0.006	0.047	0.050	0.048	0.050	0.040	0.022	0.029	0.037
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	<b>0.4</b>	<b>0.3</b>	<b>0.7</b>	<b>0.1</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<b>0.2</b>	<b>0.3</b>	<b>0.4</b>

Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

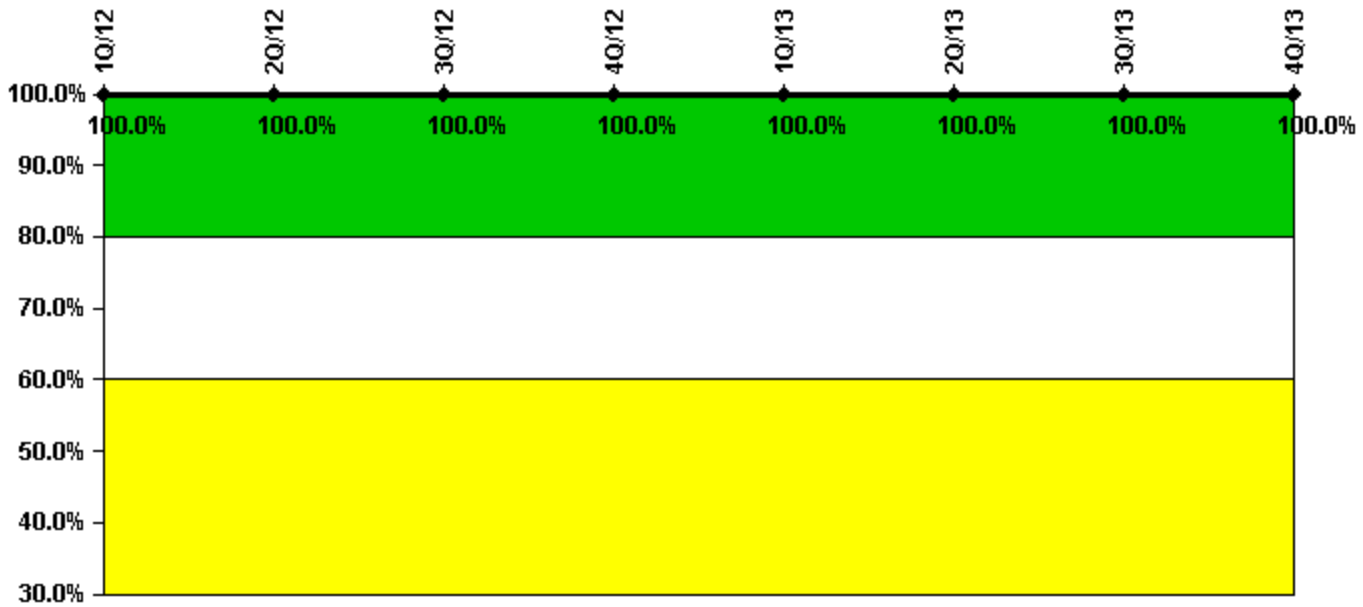
#### Notes

Drill/Exercise Performance	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Successful opportunities	73.0	15.0	182.0	2.0	35.0	52.0	77.0	83.0
Total opportunities	73.0	15.0	187.0	2.0	39.0	52.0	78.0	84.0
Indicator value	98.4%	98.7%	98.2%	98.2%	97.6%	97.8%	97.7%	97.9%

Licensee Comments:

3Q/12: Drill and exercise successes and opportunities were corrected for September 2012. No color change resulted.

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

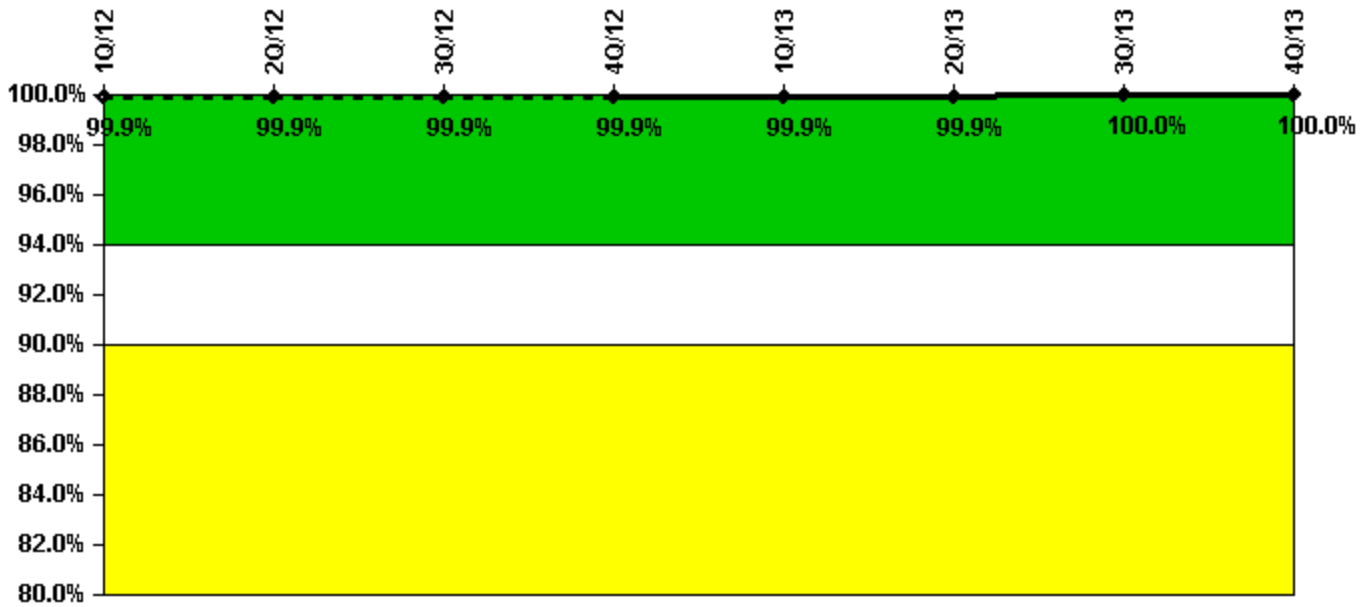
#### Notes

ERO Drill Participation	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Participating Key personnel	99.0	95.0	95.0	90.0	90.0	87.0	89.0	98.0
Total Key personnel	99.0	95.0	95.0	90.0	90.0	87.0	89.0	98.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments:

1Q/13: Total number of key and participating personnel for March 2013 were corrected, no change in result or color.

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

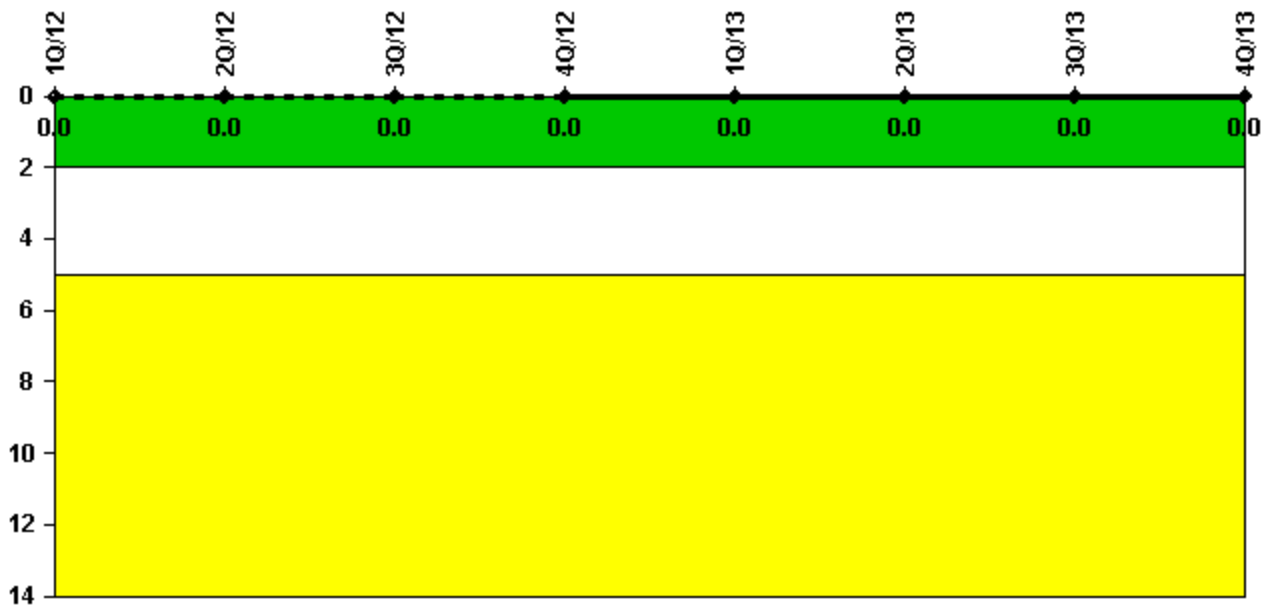
#### Notes

Alert & Notification System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Successful siren-tests	910	912	911	1007	912	912	912	1008
Total sirens-tests	912	912	912	1008	912	912	912	1008
Indicator value	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	100.0%	100.0%

Licensee Comments:

1Q/13: Two scheduled tests from the Maricopa County Sherriff's Office ANS station were not completed in February 2013.

### 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
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 22, 2014*