

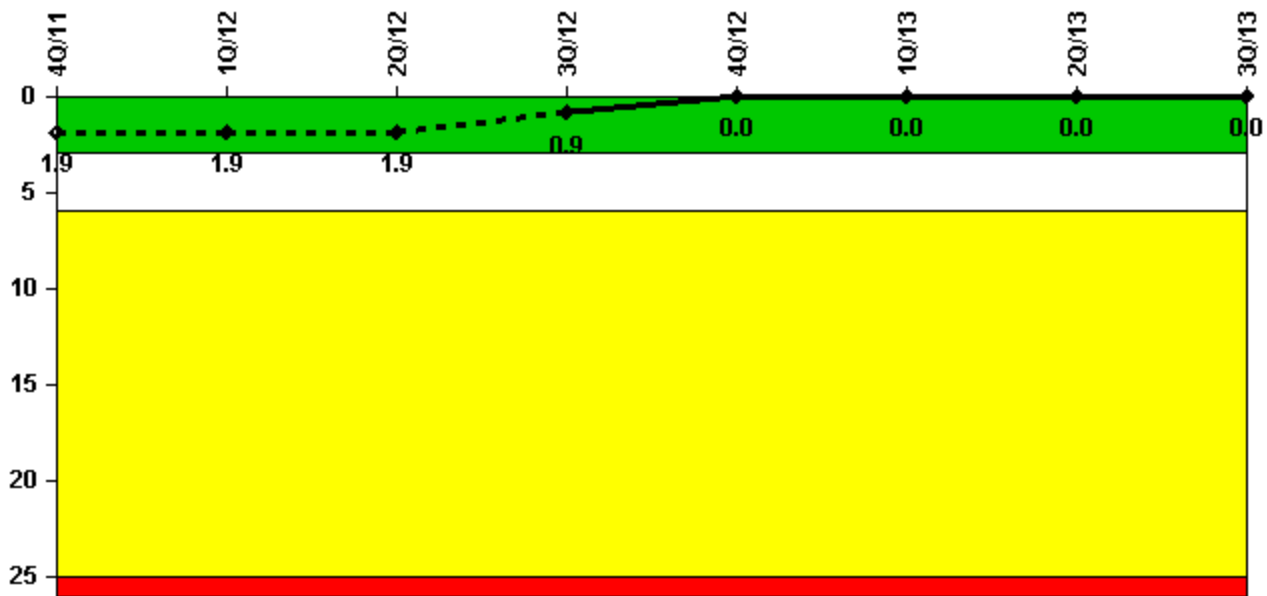
# Palo Verde 1

## 3Q/2013 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



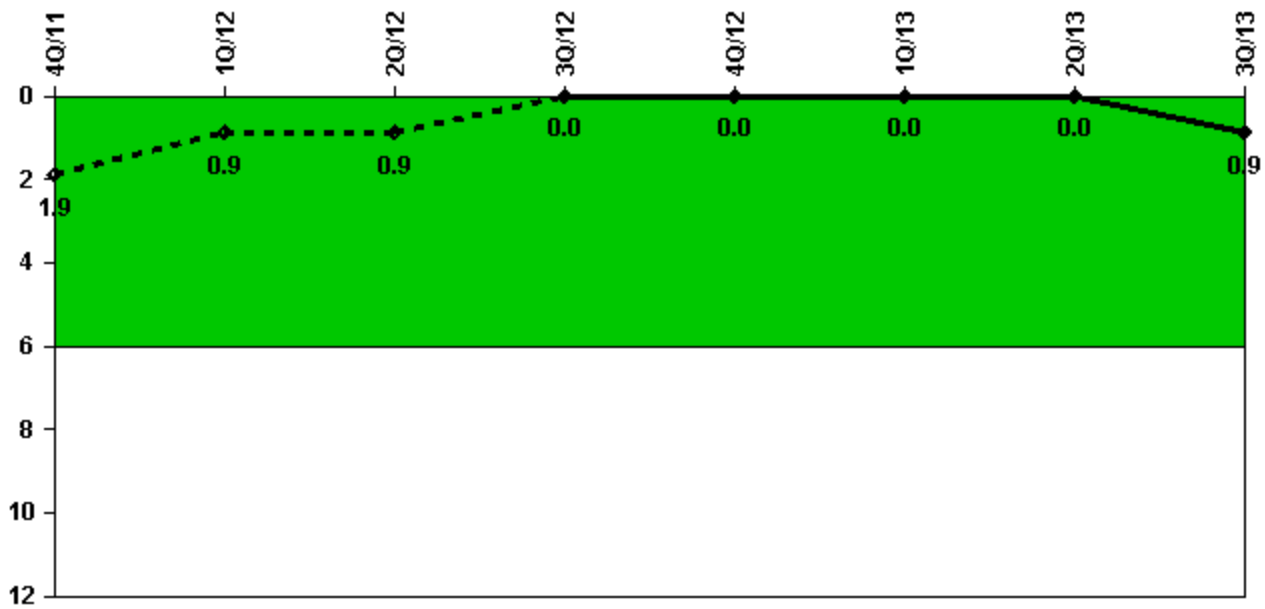
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### Notes

Unplanned Scrams per 7000 Critical Hrs	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
Unplanned scrams	1.0	0	0	0	0	0	0	0
Critical hours	1013.2	2184.0	2184.0	2208.0	2208.0	2112.0	1546.2	2208.0
<b>Indicator value</b>	<b>1.9</b>	<b>1.9</b>	<b>1.9</b>	<b>0.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



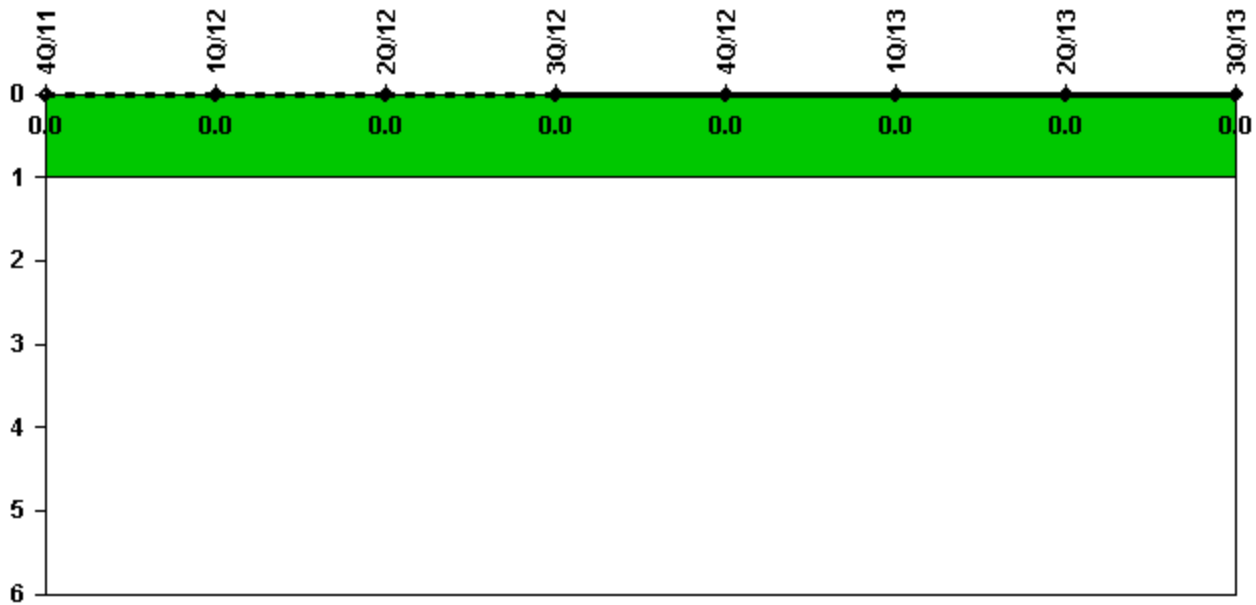
Thresholds: White > 6.0

#### Notes

Unplanned Power Changes per 7000 Critical Hrs	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
Unplanned power changes	0	0	0	0	0	0	0	1.0
Critical hours	1013.2	2184.0	2184.0	2208.0	2208.0	2112.0	1546.2	2208.0
<b>Indicator value</b>	<b>1.9</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>

Licensee Comments: none

### Unplanned Scrams with Complications



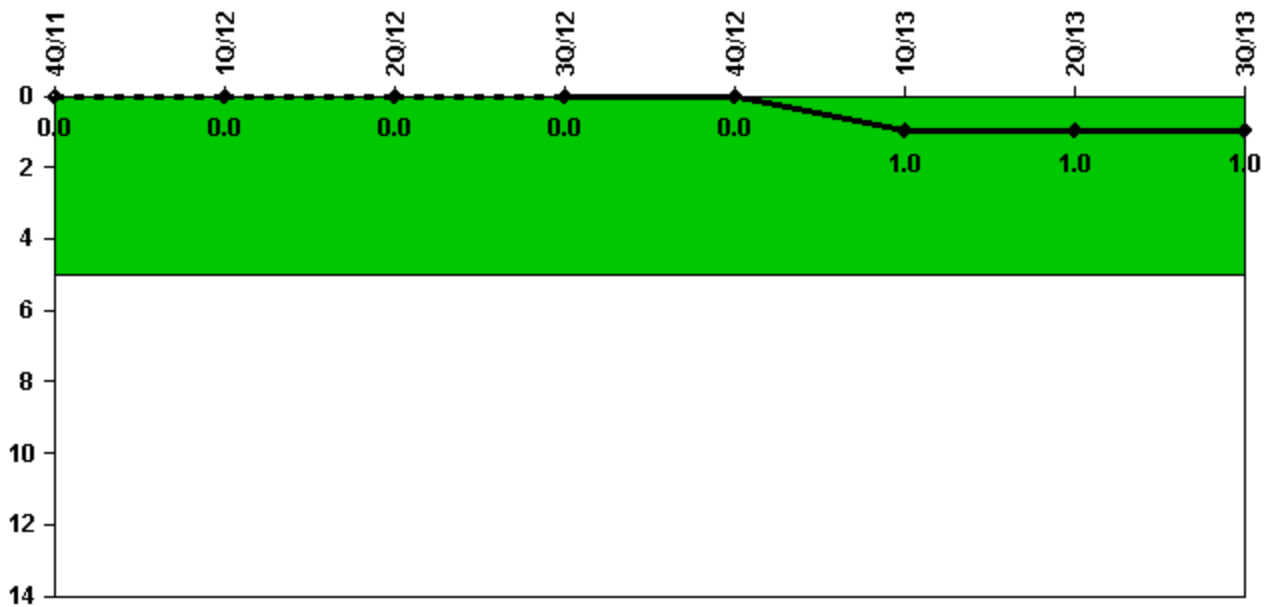
Thresholds: White > 1.0

#### Notes

Unplanned Scrams with Complications	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/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

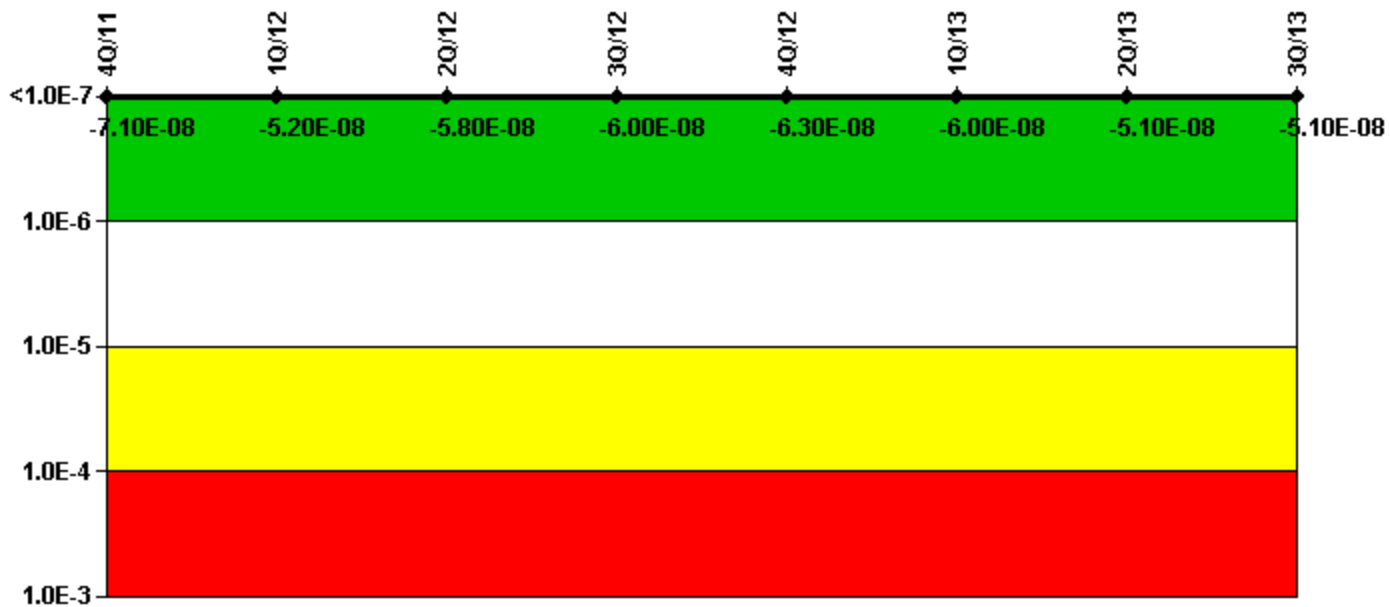
#### Notes

Safety System Functional Failures (PWR)	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
Safety System Functional Failures	0	0	0	0	0	1	0	0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</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	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
UAI ( $\Delta$ CDF)	-4.10E-09	1.42E-08	7.42E-09	5.13E-09	1.52E-09	2.45E-09	1.01E-08	9.02E-09
URI ( $\Delta$ CDF)	-6.69E-08	-6.64E-08	-6.59E-08	-6.54E-08	-6.41E-08	-6.28E-08	-6.15E-08	-6.00E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.10E-08	-5.20E-08	-5.80E-08	-6.00E-08	-6.30E-08	-6.00E-08	-5.10E-08	-5.10E-08

#### Licensee Comments:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for emergency AC power system. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 ??? 2004, 36 month historical plant data. Revised emergency AC diesel generator demands/runtimes per FAQ 480. No MSPI PRA coefficients were changed.

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



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

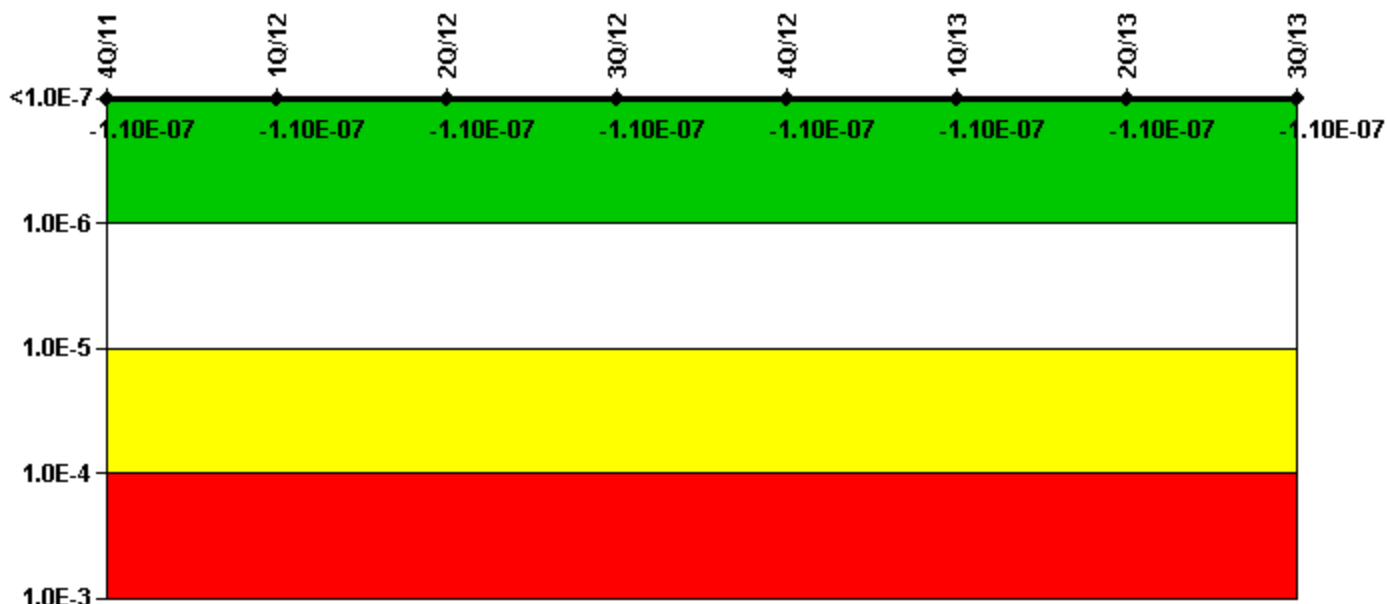
#### Notes

Mitigating Systems Performance Index, High Pressure Injection System	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
UAI ( $\Delta$ CDF)	2.26E-09	9.42E-10	9.45E-10	9.93E-10	2.06E-09	4.99E-10	-1.24E-09	-5.88E-10
URI ( $\Delta$ CDF)	-1.12E-08	-1.11E-08	-1.11E-08	-1.10E-08	-1.10E-08	-1.09E-08	-1.08E-08	-1.07E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-8.90E-09	-1.00E-08	-1.00E-08	-1.00E-08	-8.90E-09	-1.00E-08	-1.20E-08	-1.10E-08

#### Licensee Comments:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for high pressure safety injection system. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 ??? 2004, 36 month historical plant data. The change also reflected a change in maintenance philosophy. Revised HPSI demands/runtimes to address greater than 25% deviation. No MSPI PRA coefficients were changed.

### Mitigating Systems Performance Index, Heat Removal System



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

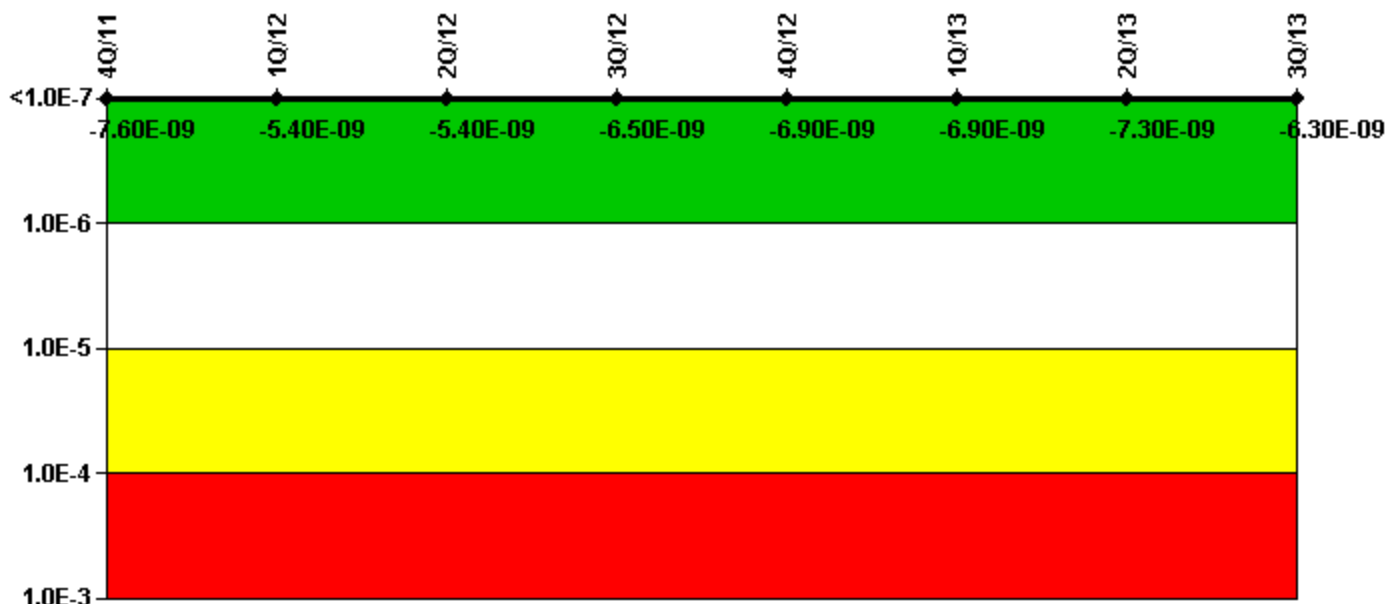
#### Notes

Mitigating Systems Performance Index, Heat Removal System	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/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)	-6.58E-08	-6.57E-08	-6.56E-08	-6.56E-08	-6.41E-08	-6.27E-08	-6.12E-08	-5.97E-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:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for heat removal system. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 ??? 2004, 36 month historical plant data. Revised heat removal system demands/runtimes to address greater than 25% deviation. No MSPI PRA coefficients were changed.

### 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	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
UAI ( $\Delta$ CDF)	-1.46E-09	8.16E-10	9.04E-10	-8.38E-11	-5.42E-10	-5.35E-10	-9.69E-10	1.17E-10
URI ( $\Delta$ CDF)	-6.16E-09	-6.23E-09	-6.30E-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	-7.60E-09	-5.40E-09	-5.40E-09	-6.50E-09	-6.90E-09	-6.90E-09	-7.30E-09	-6.30E-09

#### Licensee Comments:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for residual heat removal system. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 ??? 2004, 36 month historical plant data. The change also reflected a change in maintenance philosophy. No MSPI PRA coefficients were changed.



### Mitigating Systems Performance Index, Cooling Water Systems



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

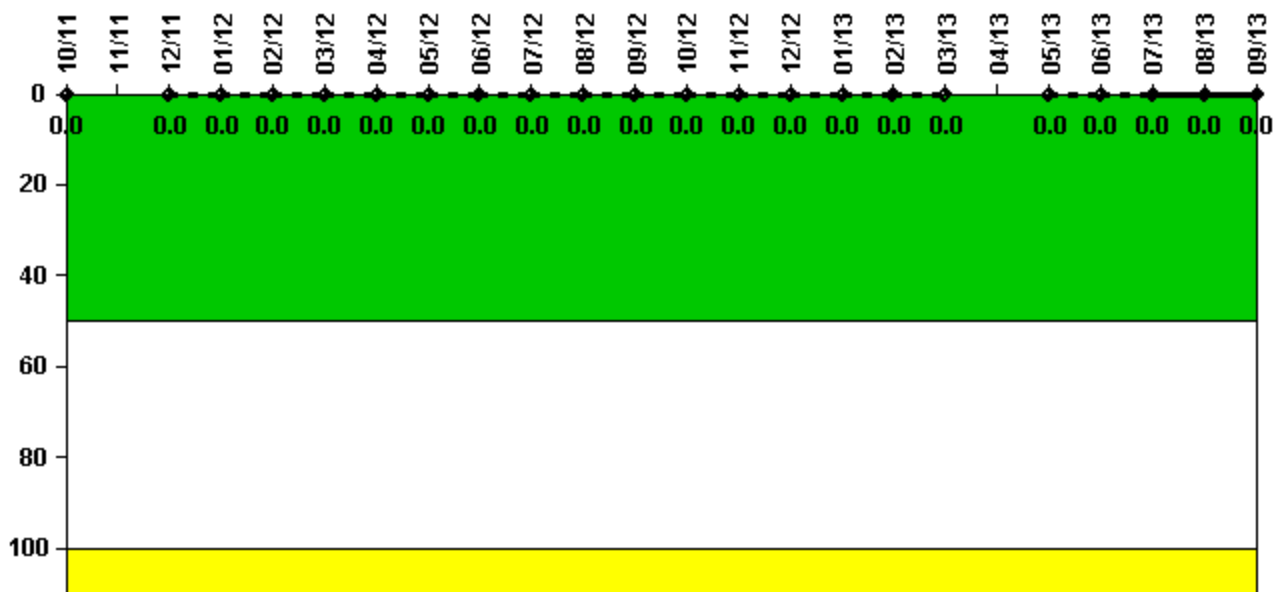
#### Notes

Mitigating Systems Performance Index, Cooling Water Systems	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
UAI ( $\Delta$ CDF)	0.00E+00	1.38E-08	1.40E-08	1.42E-08	1.09E-08	1.22E-08	1.78E-08	1.75E-08
URI ( $\Delta$ CDF)	-4.47E-08	-4.51E-08	-4.54E-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	-4.50E-08	-3.10E-08	-3.10E-08	-3.20E-08	-3.50E-08	-3.40E-08	-2.80E-08	-2.80E-08

Licensee Comments:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for cooling water systems. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 – 2004, 36 month historical plant data.

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

#### Notes

Reactor Coolant System Activity	10/11	11/11	12/11	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12
Maximum activity	0.000303	N/A	0.000226	0.000370	0.000223	0.000217	0.000228	0.000246	0.000254	0.000270	0.000257	0.000272
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	N/A	0	0	0	0	0	0	0	0	0	0

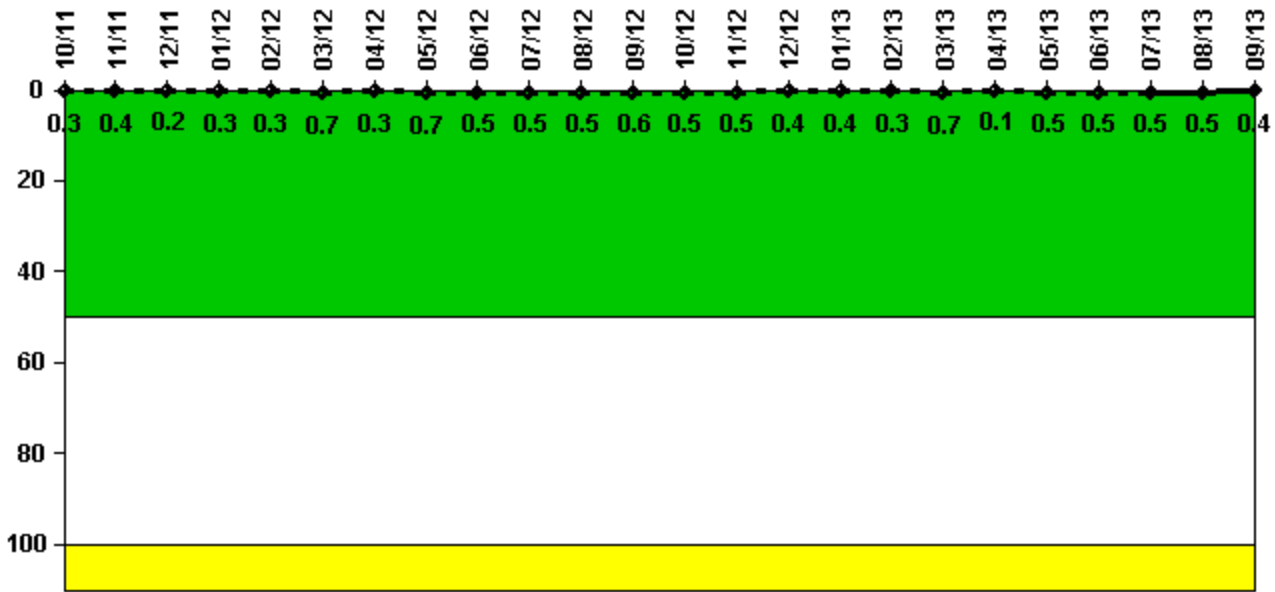
  

Reactor Coolant System Activity	10/12	11/12	12/12	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13
Maximum activity	0.000289	0.000287	0.000291	0.000298	0.000320	0.000312	N/A	0.000177	0.000194	0.000209	0.000209	0.000219
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0	0	0	0	0	0	N/A	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

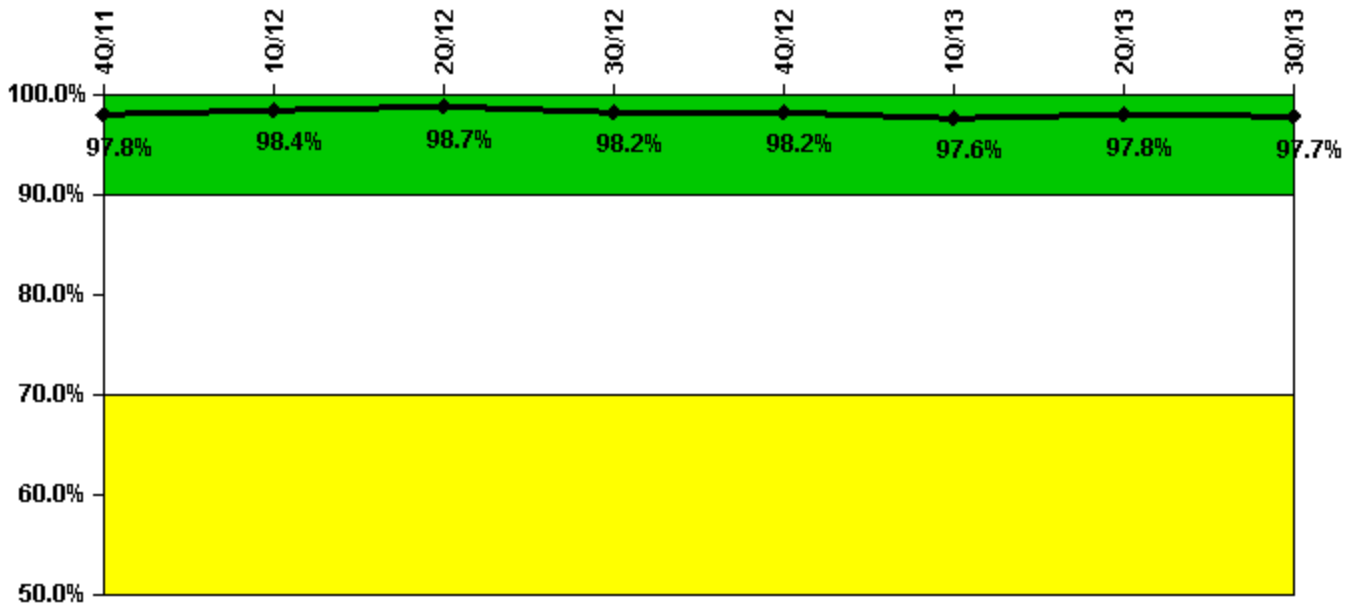
Reactor Coolant System Leakage	10/11	11/11	12/11	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12
Maximum leakage	0.034	0.039	0.023	0.034	0.026	0.070	0.032	0.074	0.049	0.049	0.050	0.057
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
<b>Indicator value</b>	<b>0.3</b>	<b>0.4</b>	<b>0.2</b>	<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>

Reactor Coolant System Leakage	10/12	11/12	12/12	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13
Maximum leakage	0.046	0.049	0.040	0.041	0.029	0.067	0.006	0.047	0.050	0.048	0.050	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
<b>Indicator value</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<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>

Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

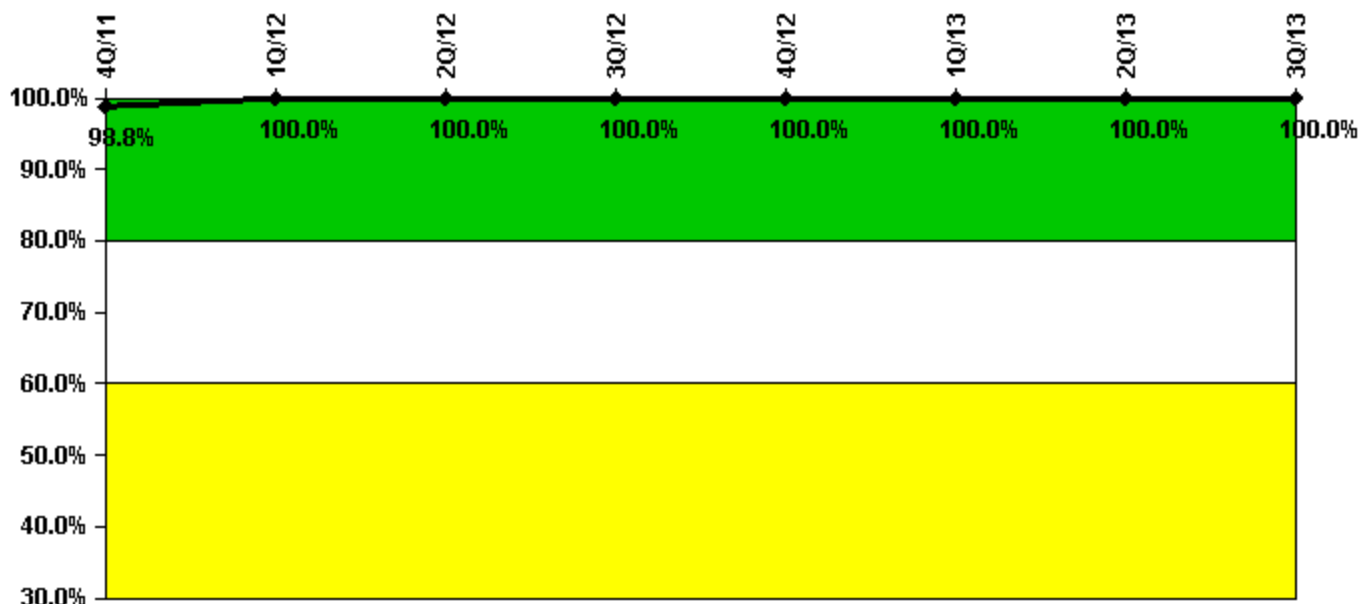
#### Notes

Drill/Exercise Performance	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
Successful opportunities	33.0	73.0	15.0	182.0	2.0	35.0	52.0	77.0
Total opportunities	34.0	73.0	15.0	187.0	2.0	39.0	52.0	78.0
Indicator value	97.8%	98.4%	98.7%	98.2%	98.2%	97.6%	97.8%	97.7%

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

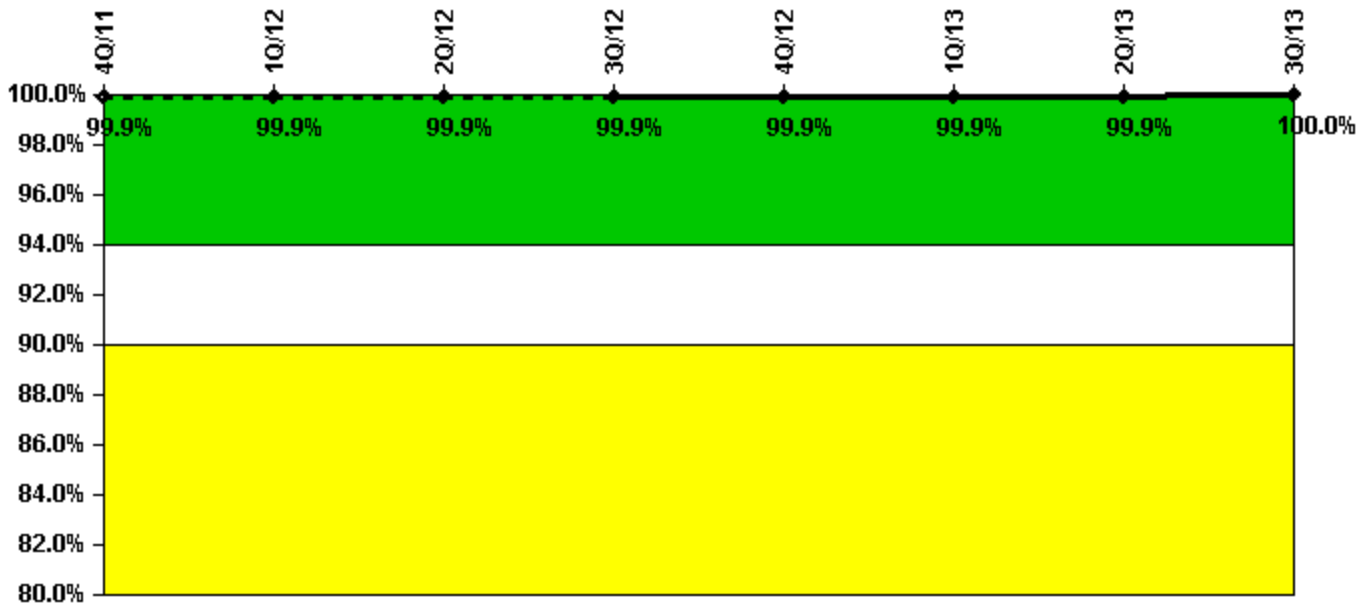
ERO Drill Participation	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
Participating Key personnel	85.0	99.0	95.0	95.0	90.0	90.0	87.0	89.0
Total Key personnel	86.0	99.0	95.0	95.0	90.0	90.0	87.0	89.0
Indicator value	<b>98.8%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

#### Licensee Comments:

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

4Q/11: January and March 2011 participation results were revised based on a self-assessment review. This does not affect current quarter results and no-color change resulted.

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

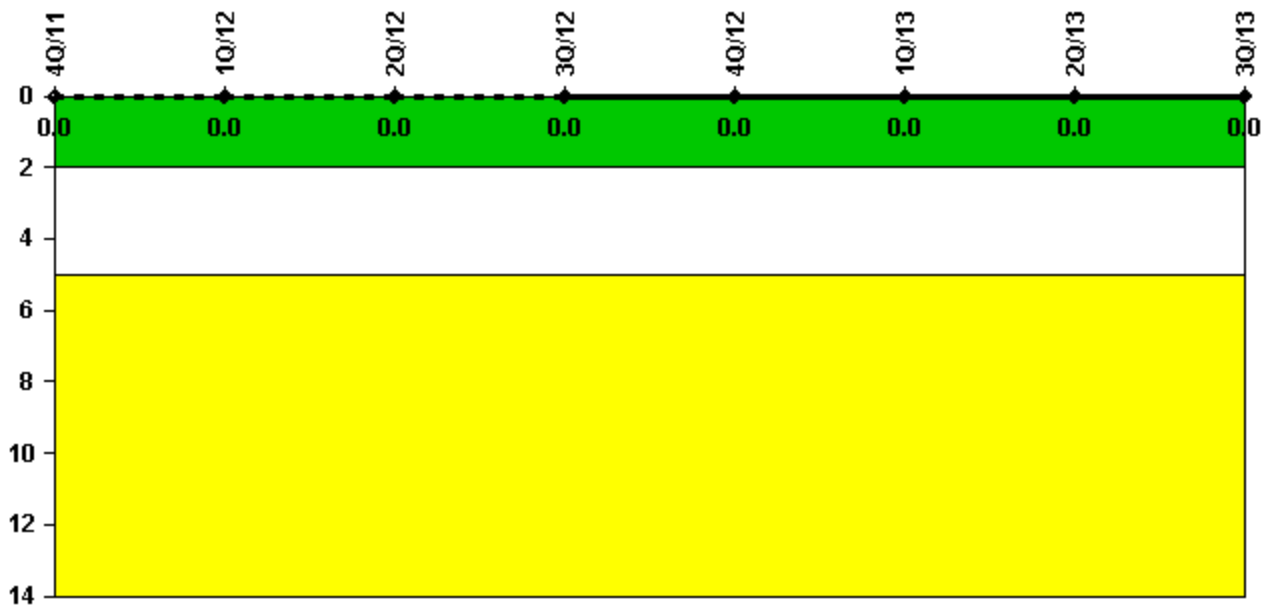
#### Notes

Alert & Notification System	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13
Successful siren-tests	1008	910	912	911	1007	912	912	912
Total sirens-tests	1008	912	912	912	1008	912	912	912
Indicator value	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	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	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/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	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/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: October 22, 2013*