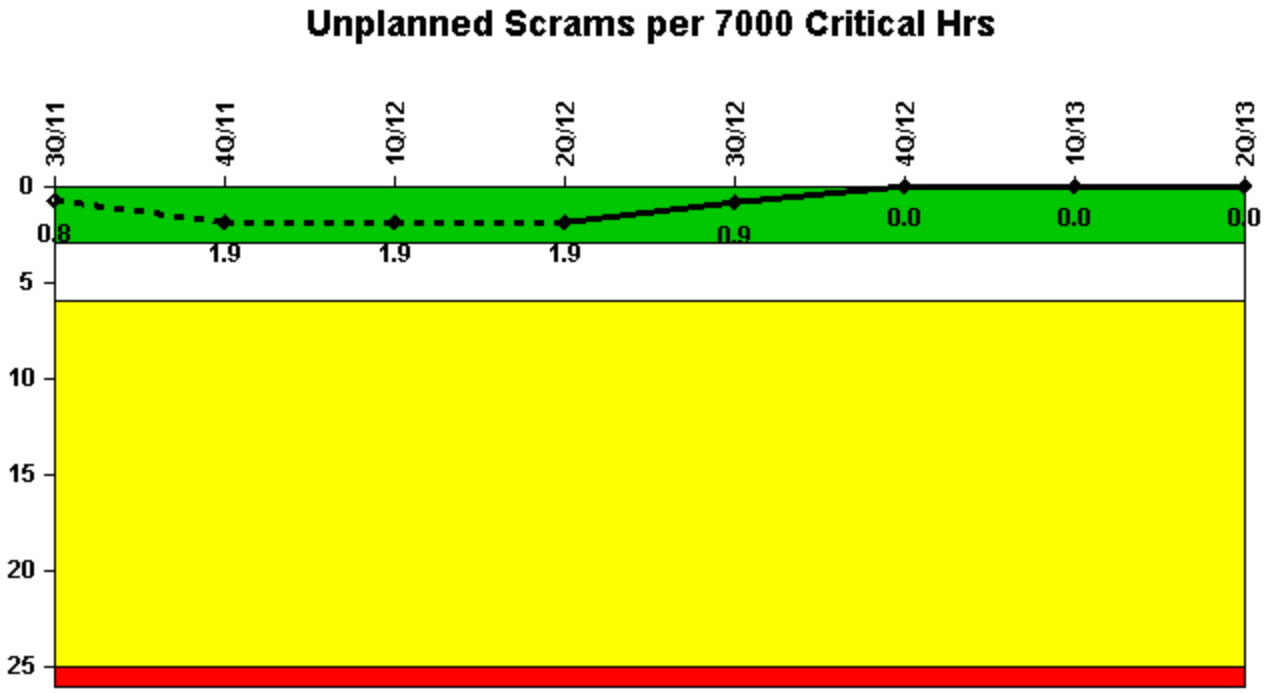
Palo Verde 1

2Q/2013 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

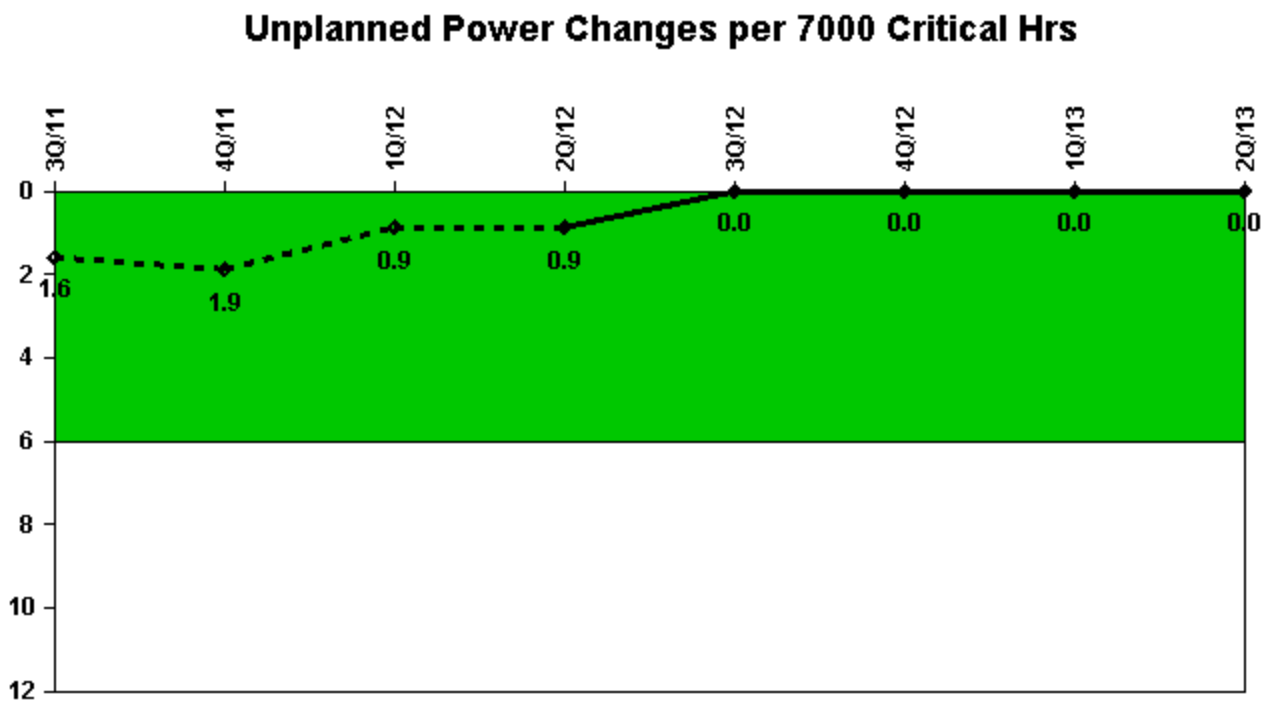


Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13
Unplanned scrams	1.0	1.0	0	0	0	0	0	0
Critical hours	2108.3	1013.2	2184.0	2184.0	2208.0	2208.0	2112.0	1546.2
Indicator value	**0.8**	**1.9**	**1.9**	**1.9**	**0.9**	**0**	**0**	**0**

Licensee Comments: none

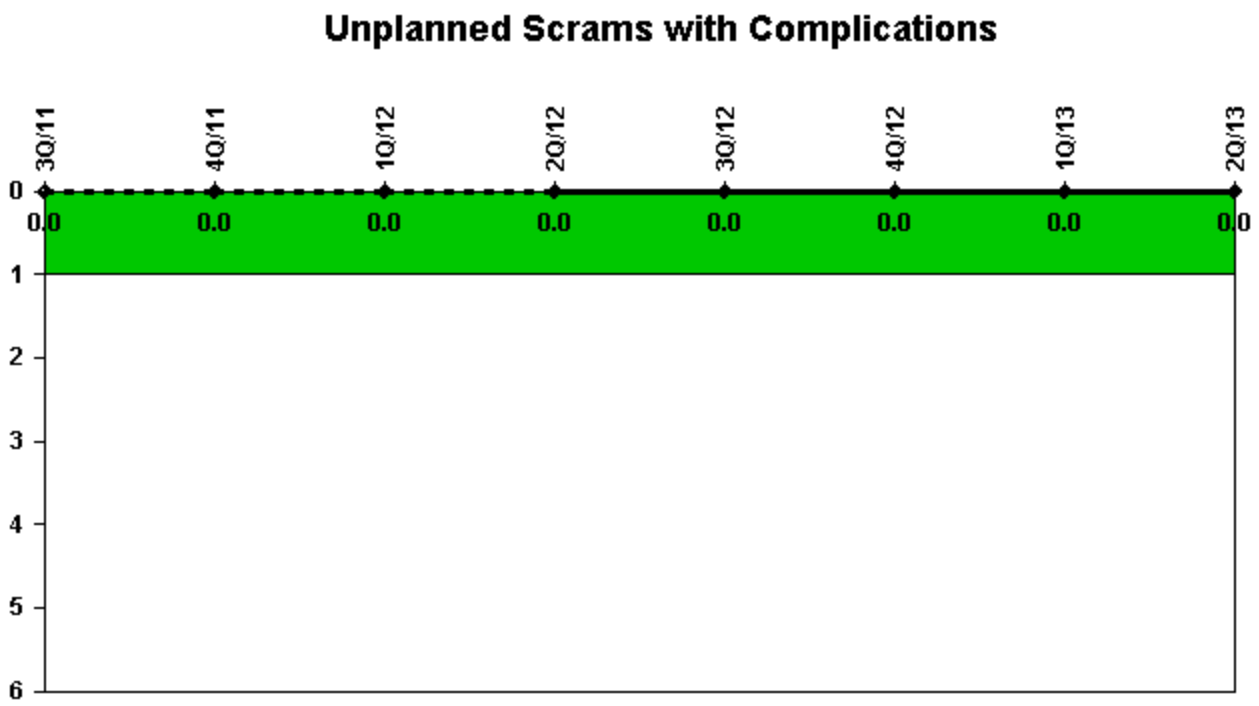


Thresholds: White > 6.0

Notes

Unplanned Power Changes per 7000 Critical Hrs	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13
Unplanned power changes	1.0	0	0	0	0	0	0	0
Critical hours	2108.3	1013.2	2184.0	2184.0	2208.0	2208.0	2112.0	1546.2
Indicator value	**1.6**	**1.9**	**0.9**	**0.9**	**0**	**0**	**0**	**0**

Licensee Comments: none

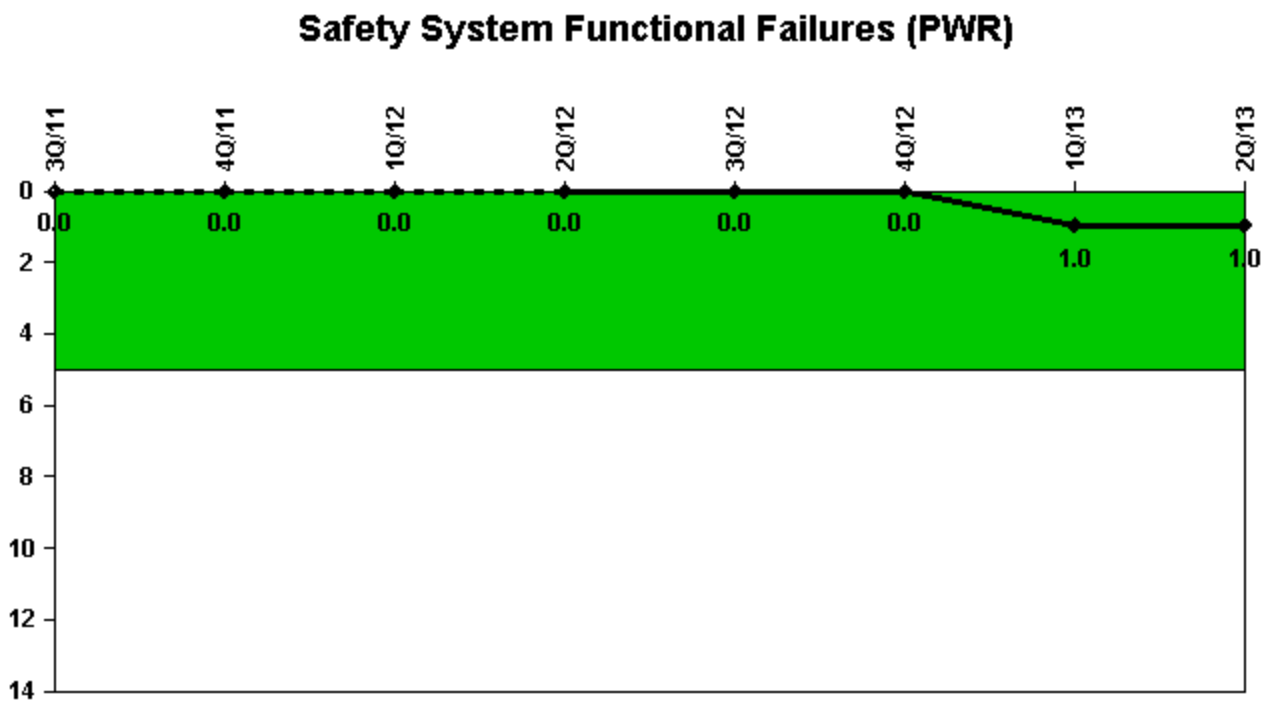


Thresholds: White > 1.0

Notes

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



Thresholds: White > 5.0

Notes

Safety System Functional Failures (PWR)	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13
Safety System Functional Failures	0	0	0	0	0	0	1	0
Indicator value	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**

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

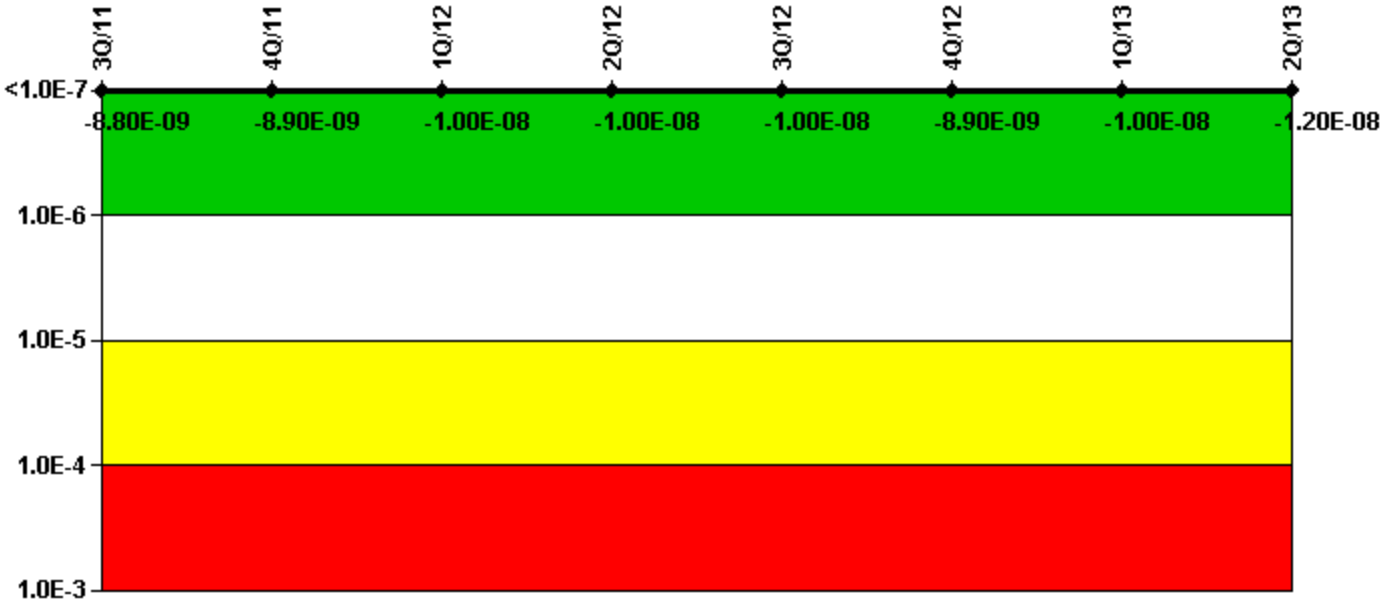
Notes

Mitigating Systems Performance Index, Emergency AC Power System	**3Q/11**	**4Q/11**	**1Q/12**	**2Q/12**	**3Q/12**	**4Q/12**	**1Q/13**	**2Q/13**
UAI (ΔCDF)	-4.11E-09	-4.10E-09	1.42E-08	7.42E-09	5.13E-09	1.52E-09	2.45E-09	1.01E-08
URI (ΔCDF)	-6.63E-08	-6.69E-08	-6.64E-08	-6.59E-08	-6.54E-08	-6.41E-08	-6.28E-08	-6.15E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-7.00E-08**	**-7.10E-08**	**-5.20E-08**	**-5.80E-08**	**-6.00E-08**	**-6.30E-08**	**-6.00E-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

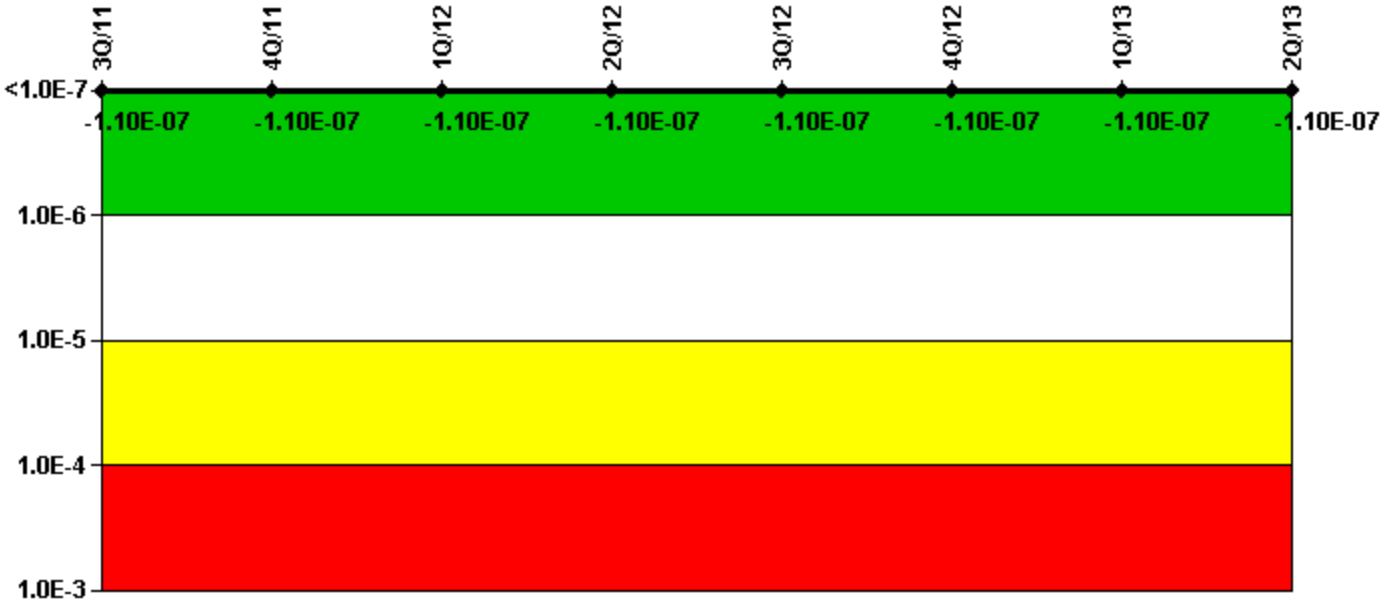
Notes

Mitigating Systems Performance Index, High Pressure Injection System	**3Q/11**	**4Q/11**	**1Q/12**	**2Q/12**	**3Q/12**	**4Q/12**	**1Q/13**	**2Q/13**
UAI (ΔCDF)	2.68E-09	2.26E-09	9.42E-10	9.45E-10	9.93E-10	2.06E-09	4.99E-10	-1.24E-09
URI (ΔCDF)	-1.14E-08	-1.12E-08	-1.11E-08	-1.11E-08	-1.10E-08	-1.10E-08	-1.09E-08	-1.08E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-8.80E-09**	**-8.90E-09**	**-1.00E-08**	**-1.00E-08**	**-1.00E-08**	**-8.90E-09**	**-1.00E-08**	**-1.20E-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

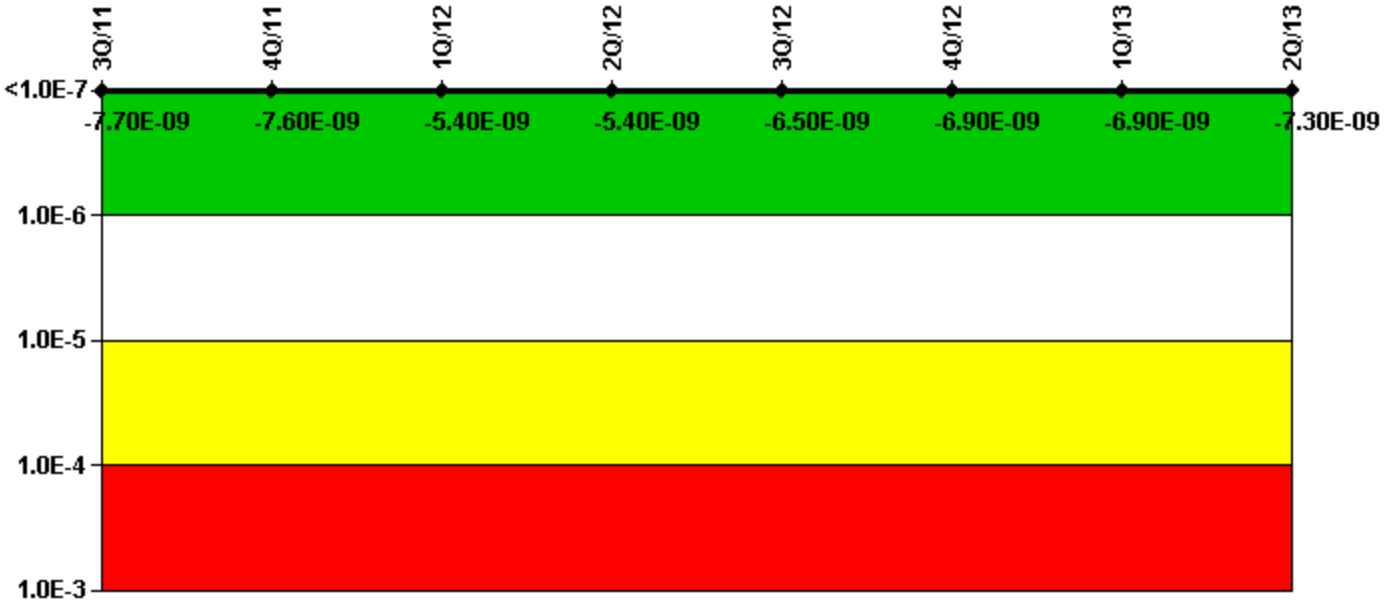
Notes

Mitigating Systems Performance Index, Heat Removal System	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13
UAI (ΔCDF)	-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 (ΔCDF)	-6.44E-08	-6.58E-08	-6.57E-08	-6.56E-08	-6.56E-08	-6.41E-08	-6.27E-08	-6.12E-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

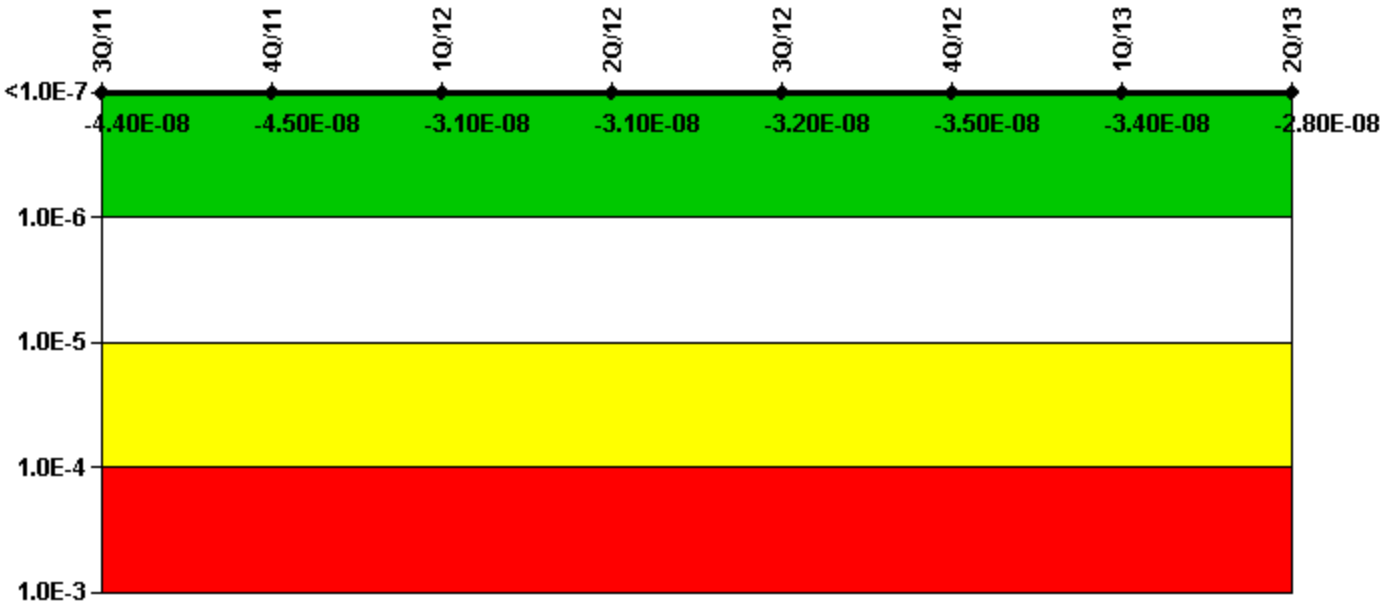
Notes

Mitigating Systems Performance Index, Residual Heat Removal System	**3Q/11**	**4Q/11**	**1Q/12**	**2Q/12**	**3Q/12**	**4Q/12**	**1Q/13**	**2Q/13**
UAI (ΔCDF)	-1.46E-09	-1.46E-09	8.16E-10	9.04E-10	-8.38E-11	-5.42E-10	-5.35E-10	-9.69E-10
URI (ΔCDF)	-6.29E-09	-6.16E-09	-6.23E-09	-6.30E-09	-6.37E-09	-6.37E-09	-6.37E-09	-6.37E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-7.70E-09**	**-7.60E-09**	**-5.40E-09**	**-5.40E-09**	**-6.50E-09**	**-6.90E-09**	**-6.90E-09**	**-7.30E-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



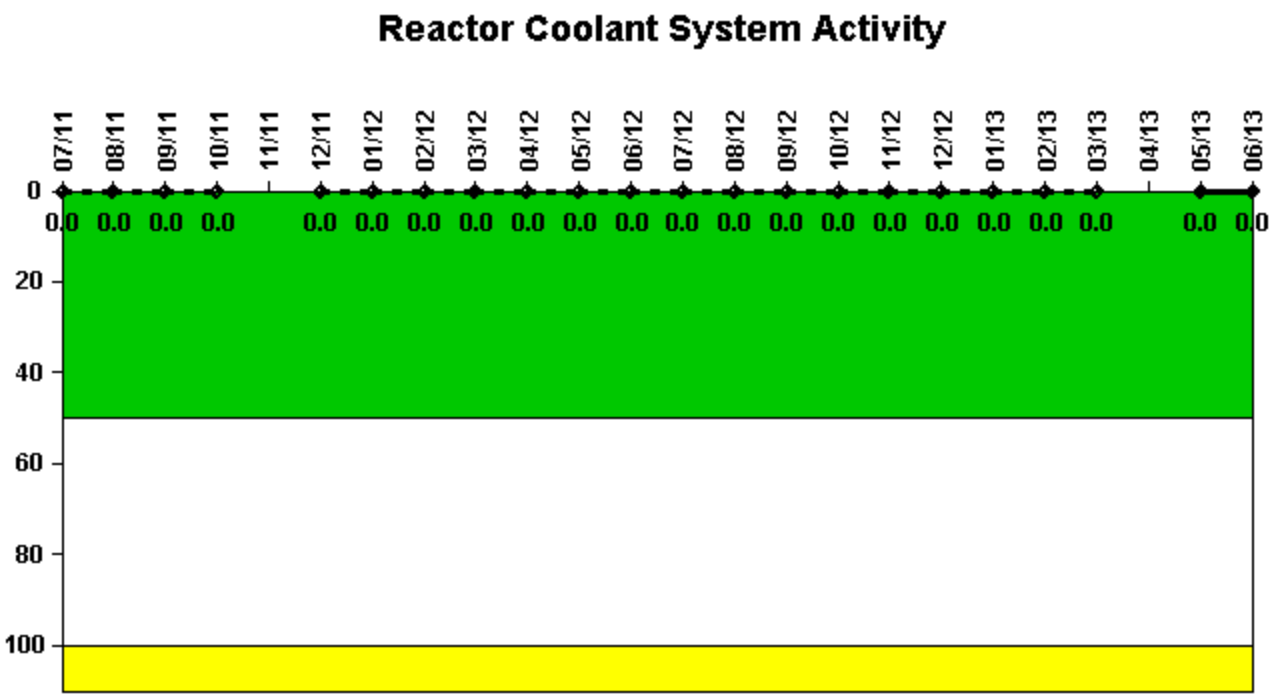
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

Mitigating Systems Performance Index, Cooling Water Systems	**3Q/11**	**4Q/11**	**1Q/12**	**2Q/12**	**3Q/12**	**4Q/12**	**1Q/13**	**2Q/13**
UAI (ΔCDF)	7.14E-11	0.00E+00	1.38E-08	1.40E-08	1.42E-08	1.09E-08	1.22E-08	1.78E-08
URI (ΔCDF)	-4.44E-08	-4.47E-08	-4.51E-08	-4.54E-08	-4.57E-08	-4.57E-08	-4.57E-08	-4.57E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-4.40E-08**	**-4.50E-08**	**-3.10E-08**	**-3.10E-08**	**-3.20E-08**	**-3.50E-08**	**-3.40E-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 â€" 2004, 36 month historical plant data.



Thresholds: White > 50.0 Yellow > 100.0

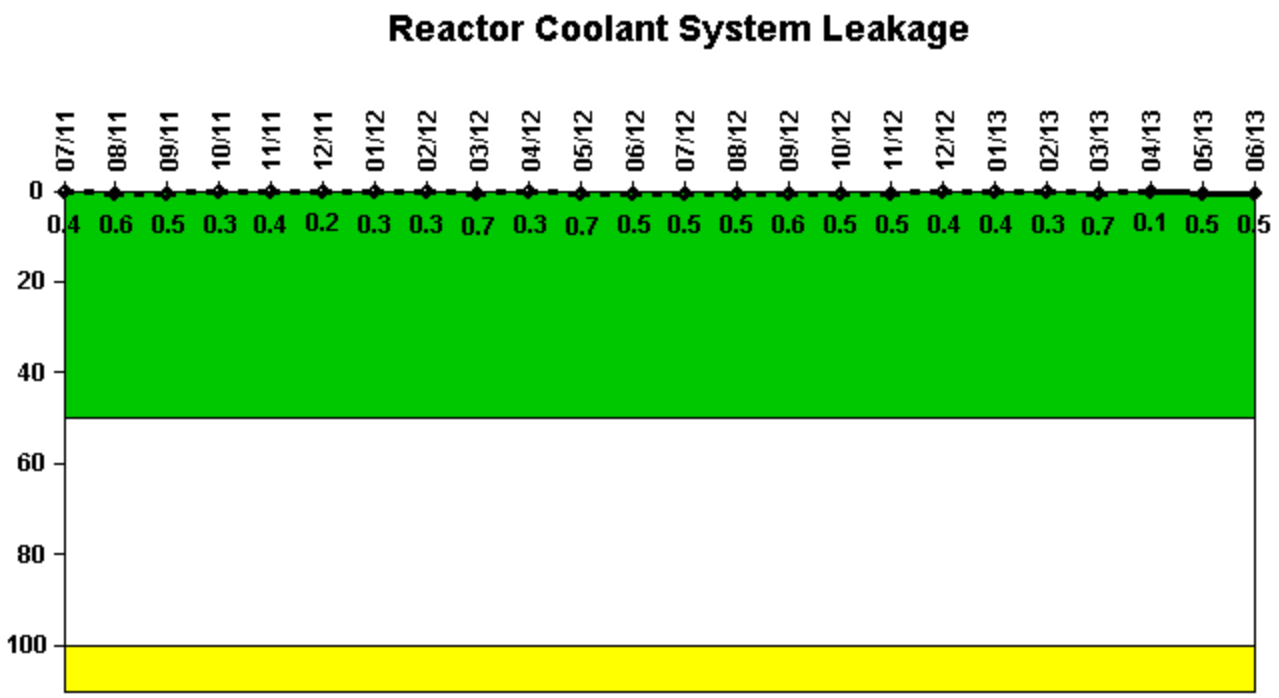
Notes

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	0.000364	0.000349	0.000389	0.000303	N/A	0.000226	0.000370	0.000223	0.000217	0.000228	0.000246	0.000254
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**	**N/A**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Reactor Coolant System Activity	7/12	8/12	9/12	10/12	11/12	12/12	1/13	2/13	3/13	4/13	5/13	6/13
Maximum activity	0.000270	0.000257	0.000272	0.000289	0.000287	0.000291	0.000298	0.000320	0.000312	N/A	0.000177	0.000194
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**	**N/A**	**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.

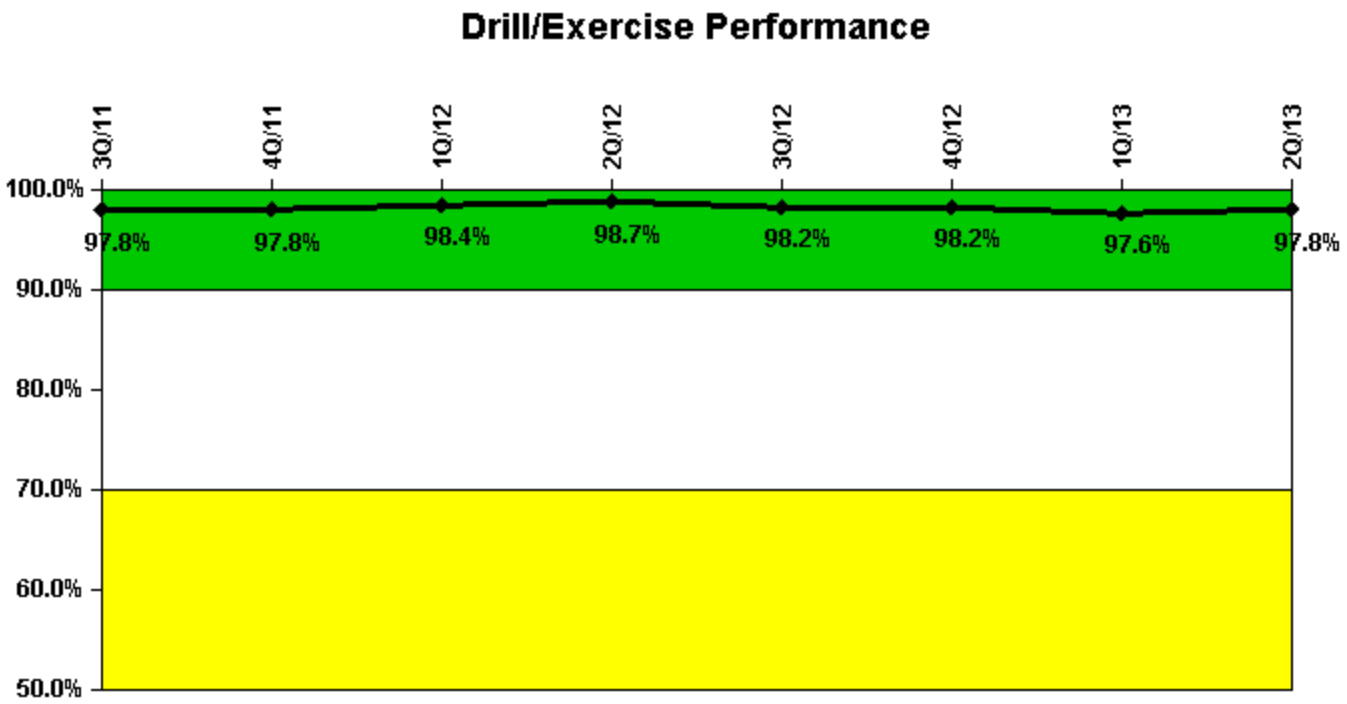


Thresholds: White > 50.0 Yellow > 100.0

Notes

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	0.038	0.055	0.048	0.034	0.039	0.023	0.034	0.026	0.070	0.032	0.074	0.049
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	**0.4**	**0.6**	**0.5**	**0.3**	**0.4**	**0.2**	**0.3**	**0.3**	**0.7**	**0.3**	**0.7**	**0.5**
Reactor Coolant System Leakage	**7/12**	**8/12**	**9/12**	**10/12**	**11/12**	**12/12**	**1/13**	**2/13**	**3/13**	**4/13**	**5/13**	**6/13**
Maximum leakage	0.049	0.050	0.057	0.046	0.049	0.040	0.041	0.029	0.067	0.006	0.047	0.050
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	**0.5**	**0.5**	**0.6**	**0.5**	**0.5**	**0.4**	**0.4**	**0.3**	**0.7**	**0.1**	**0.5**	**0.5**

Licensee Comments: none



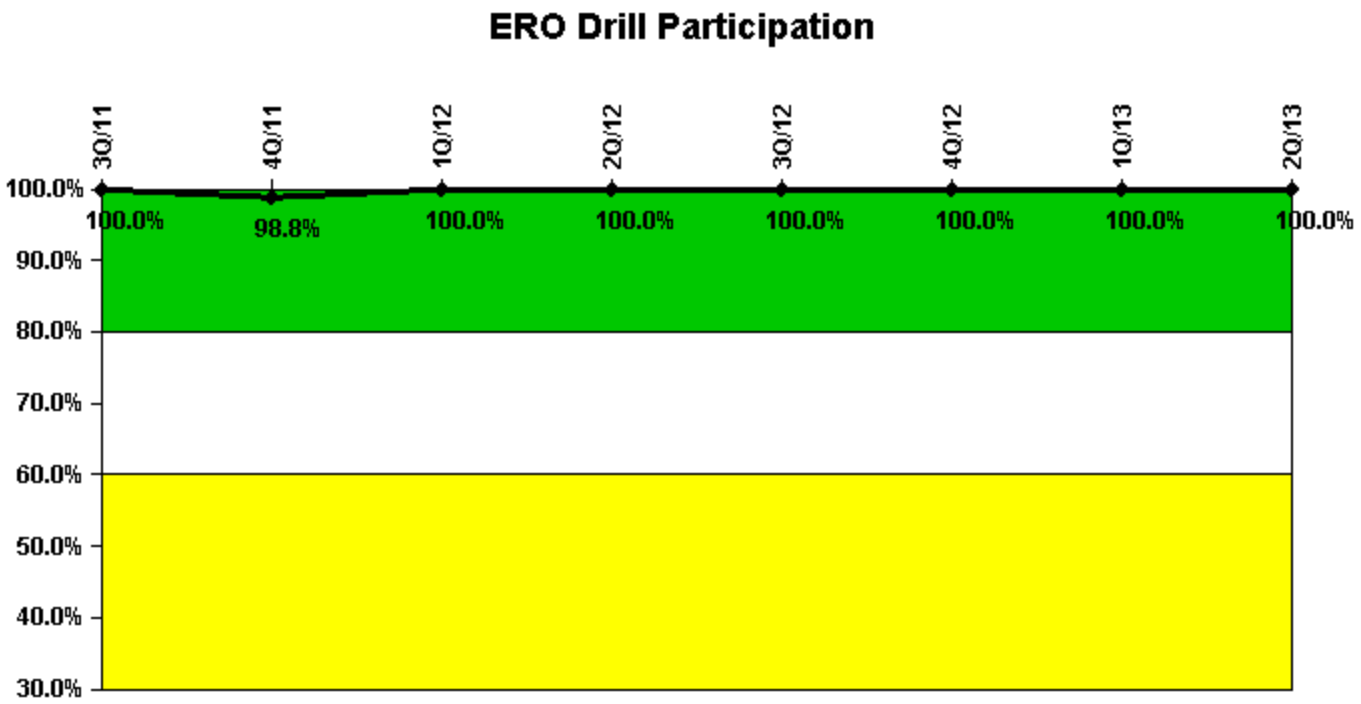
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13
Successful opportunities	184.0	33.0	73.0	15.0	182.0	2.0	35.0	52.0
Total opportunities	187.0	34.0	73.0	15.0	187.0	2.0	39.0	52.0
Indicator value	**97.8%**	**97.8%**	**98.4%**	**98.7%**	**98.2%**	**98.2%**	**97.6%**	**97.8%**

Licensee Comments:

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



Thresholds: White < 80.0% Yellow < 60.0%

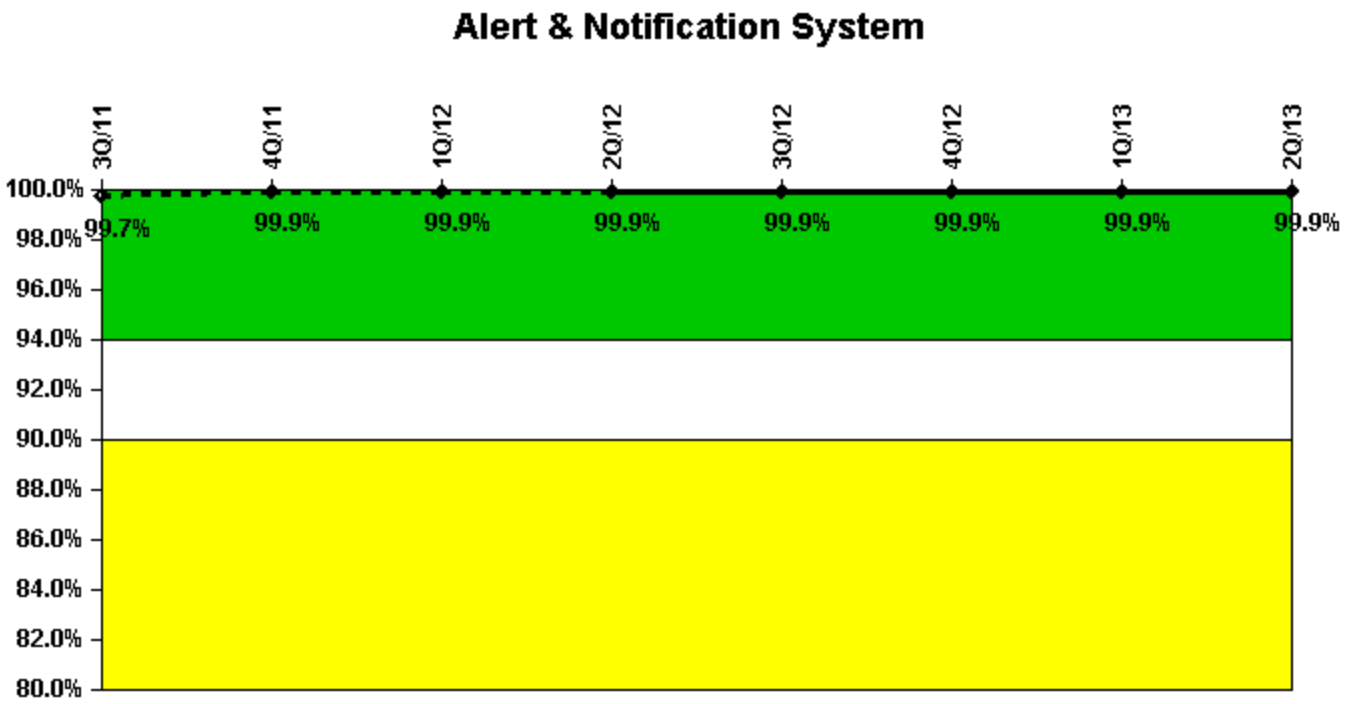
Notes

ERO Drill Participation	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13
Participating Key personnel	88.0	85.0	99.0	95.0	95.0	90.0	88.0	87.0
Total Key personnel	88.0	86.0	99.0	95.0	95.0	90.0	88.0	87.0
Indicator value	**100.0%**	**98.8%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Licensee Comments:

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.

3Q/11: Routine review of prior data submissions identifed errors in May and June 2011 inputs. No color change occurred as a result of the corrections.



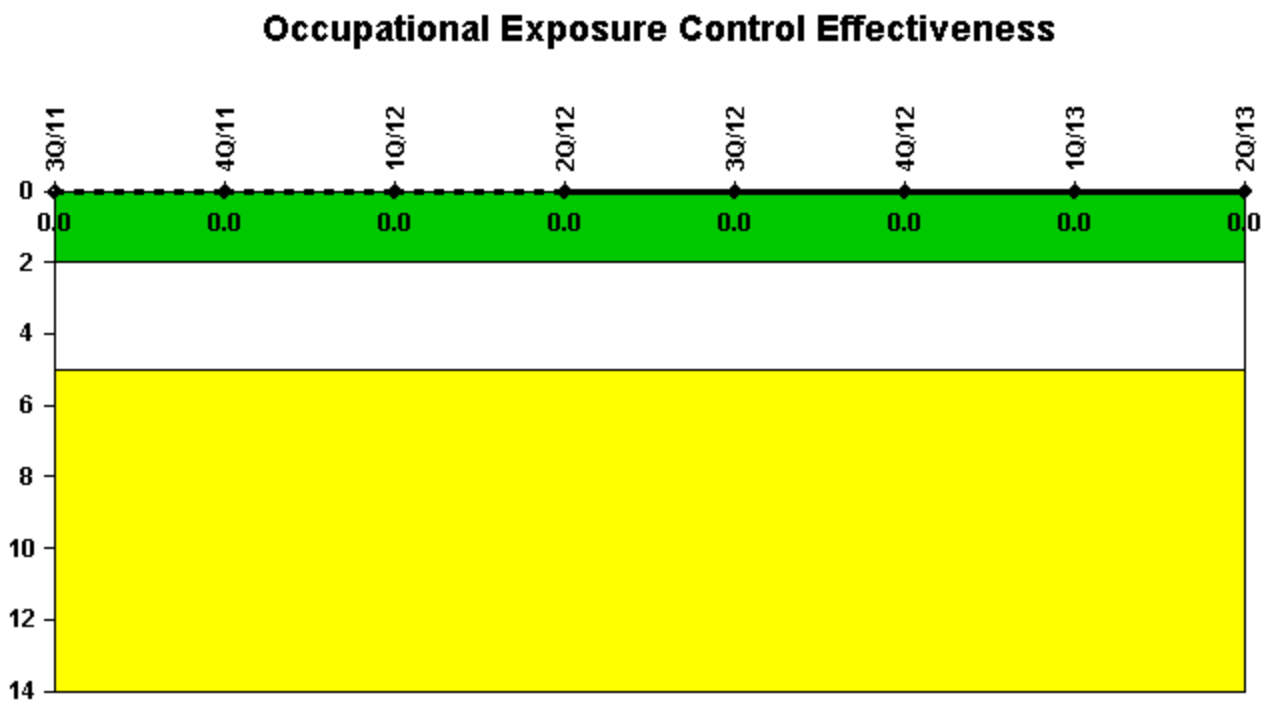
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13
Successful siren-tests	910	1008	910	912	911	1007	912	912
Total sirens-tests	912	1008	912	912	912	1008	912	912
Indicator value	**99.7%**	**99.9%**	**99.9%**	**99.9%**	**99.9%**	**99.9%**	**99.9%**	**99.9%**

Licensee Comments:

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

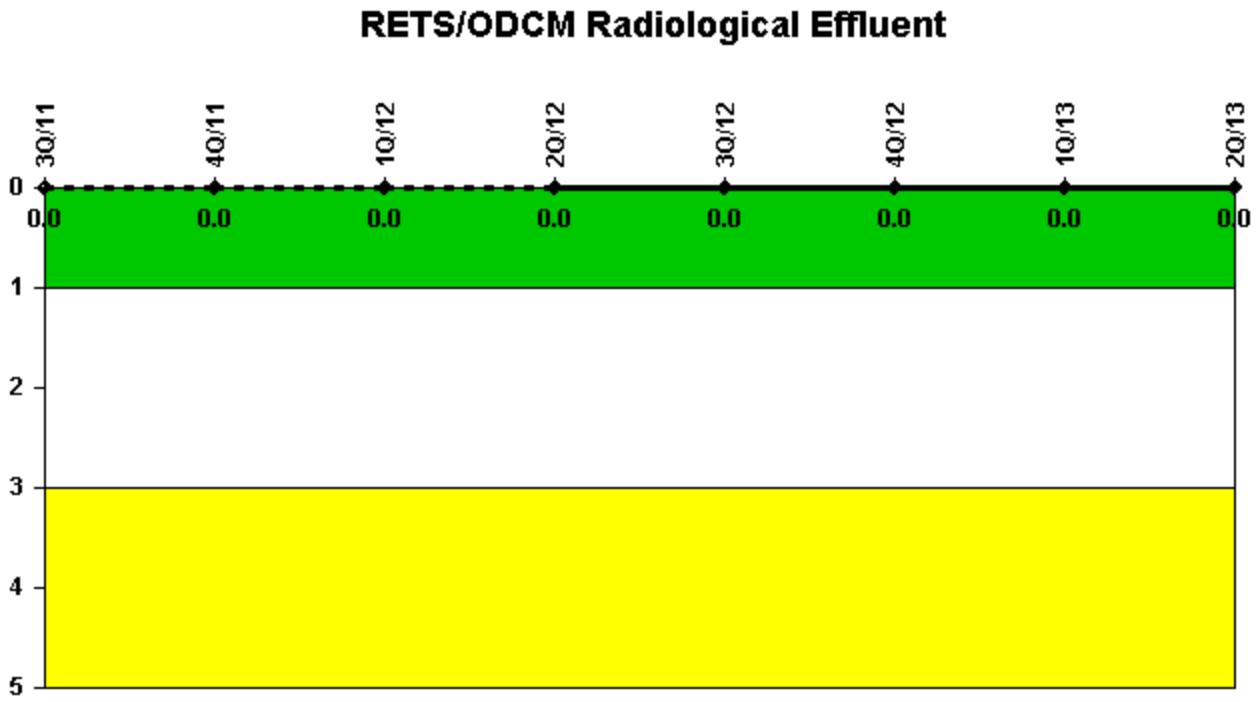


Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/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
Indicator value	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Licensee Comments: none



Thresholds: White > 1.0 Yellow > 3.0

Notes

RETS/ODCM Radiological Effluent	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/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: August 19, 2013