

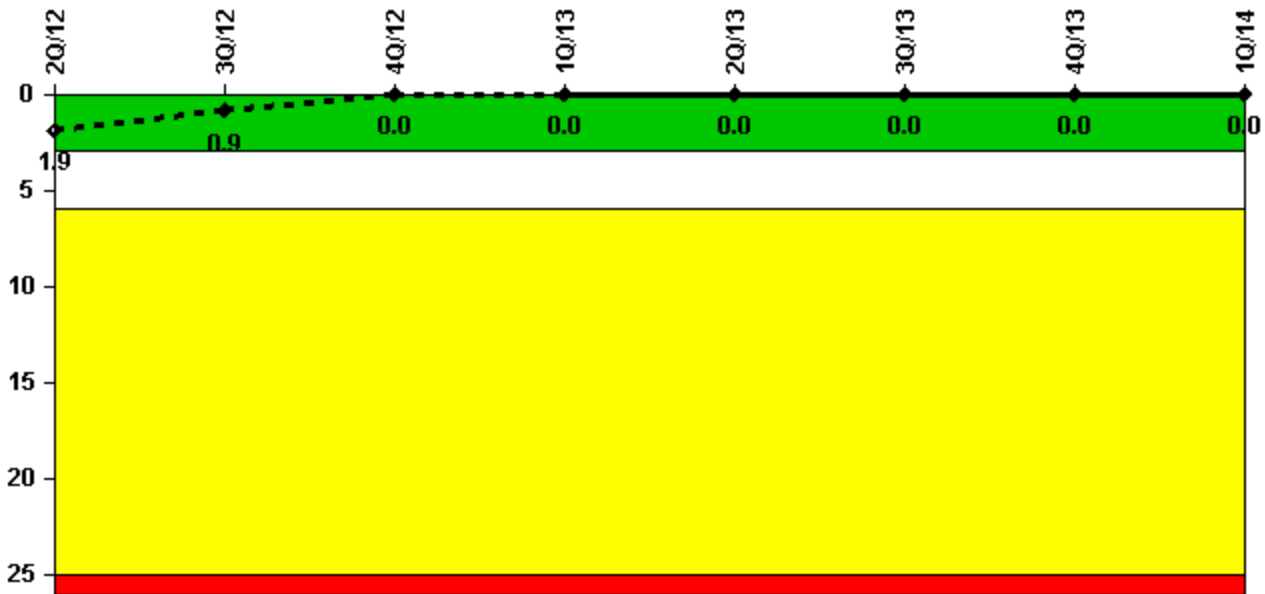
# Palo Verde 1

## 1Q/2014 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



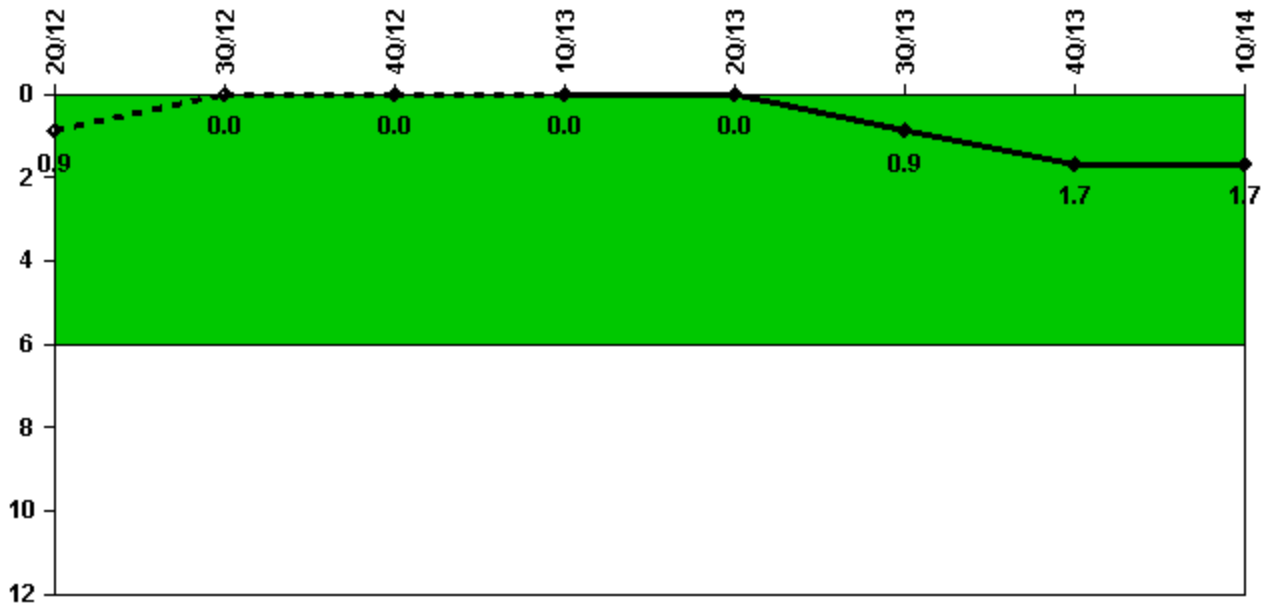
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### Notes

| Unplanned Scrams per 7000 Critical Hrs | 2Q/12  | 3Q/12  | 4Q/12  | 1Q/13  | 2Q/13  | 3Q/13  | 4Q/13  | 1Q/14  |
|--|--------|--------|--------|--------|--------|--------|--------|--------|
| Unplanned scrams                       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Critical hours                         | 2184.0 | 2208.0 | 2208.0 | 2112.0 | 1546.2 | 2208.0 | 2208.0 | 2160.0 |
| Indicator value                        | 1.9    | 0.9    | 0      | 0      | 0      | 0      | 0      | 0      |

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



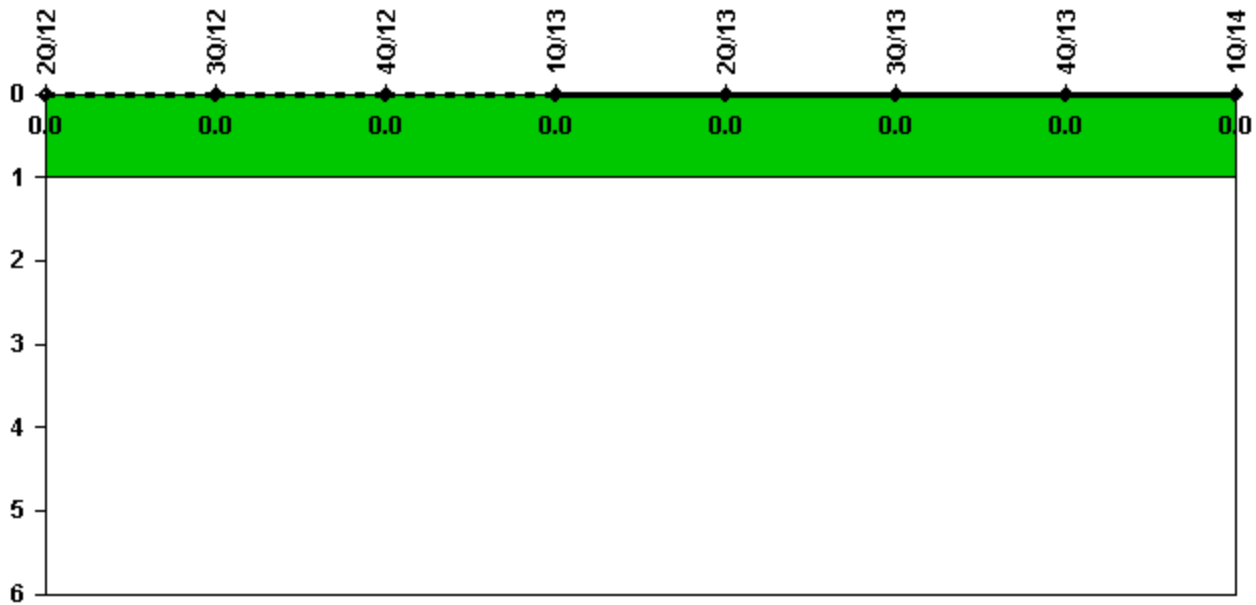
Thresholds: White > 6.0

#### Notes

| Unplanned Power Changes per 7000 Critical Hrs | 2Q/12      | 3Q/12    | 4Q/12    | 1Q/13    | 2Q/13    | 3Q/13      | 4Q/13      | 1Q/14      |
|---|------------|----------|----------|----------|----------|------------|------------|------------|
| Unplanned power changes                       | 0          | 0        | 0        | 0        | 0        | 1.0        | 1.0        | 0          |
| Critical hours                                | 2184.0     | 2208.0   | 2208.0   | 2112.0   | 1546.2   | 2208.0     | 2208.0     | 2160.0     |
| <b>Indicator value</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> | <b>1.7</b> |

Licensee Comments: none

### Unplanned Scrams with Complications



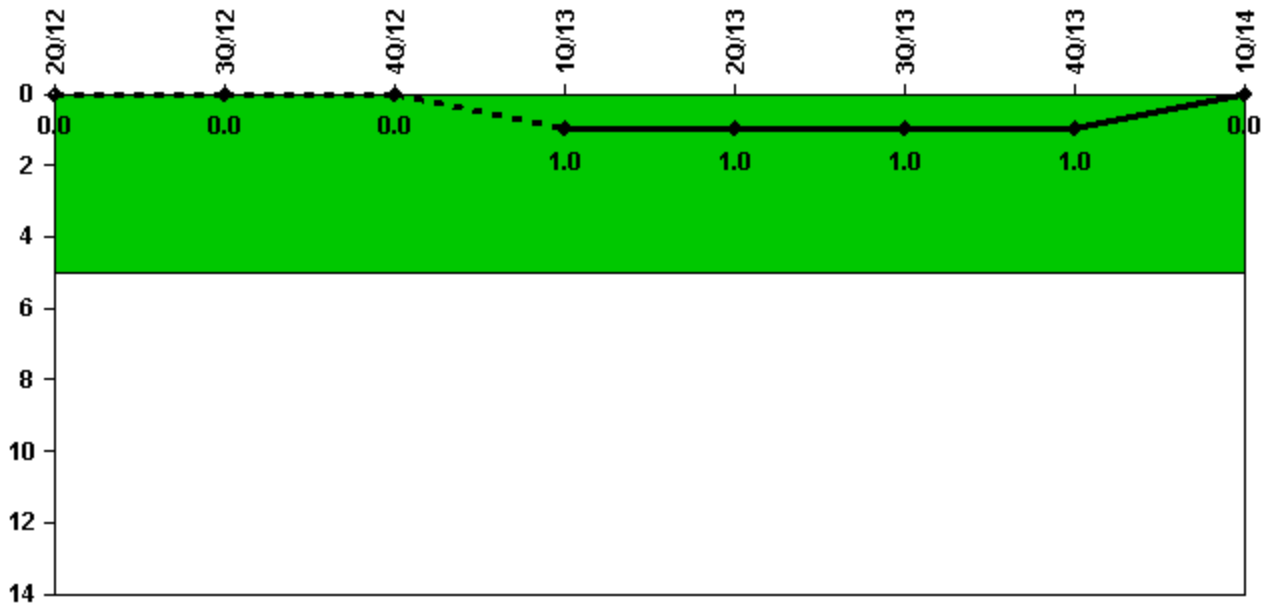
Thresholds: White > 1.0

#### Notes

| Unplanned Scrams with Complications | 2Q/12      | 3Q/12      | 4Q/12      | 1Q/13      | 2Q/13      | 3Q/13      | 4Q/13      | 1Q/14      |
|-------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 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

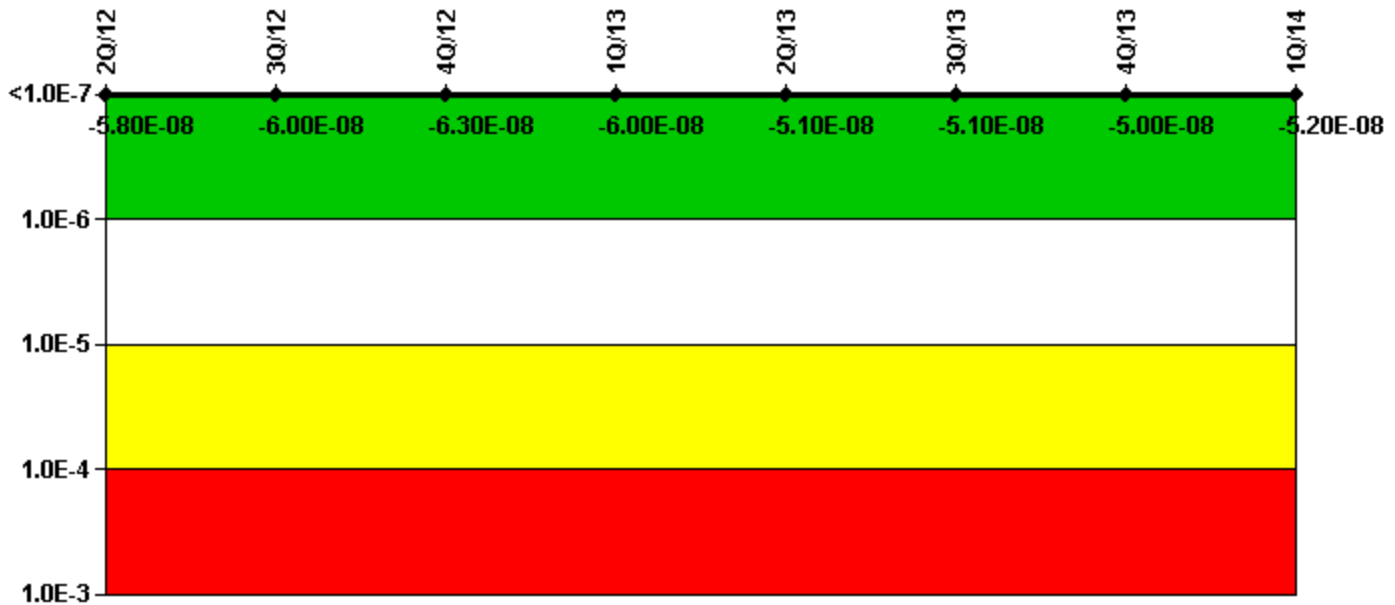
#### Notes

| Safety System Functional Failures (PWR) | 2Q/12    | 3Q/12    | 4Q/12    | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    | 1Q/14    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| Safety System Functional Failures       | 0        | 0        | 0        | 1        | 0        | 0        | 0        | 0        |
| <b>Indicator value</b>                  | <b>0</b> | <b>0</b> | <b>0</b> | <b>1</b> | <b>1</b> | <b>1</b> | <b>1</b> | <b>0</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 | 2Q/12     | 3Q/12     | 4Q/12     | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)   | 7.42E-09  | 5.13E-09  | 1.52E-09  | 2.45E-09  | 1.01E-08  | 9.02E-09  | 8.49E-09  | 4.28E-09  |
| URI ( $\Delta$ CDF)   | -6.59E-08 | -6.54E-08 | -6.41E-08 | -6.28E-08 | -6.15E-08 | -6.00E-08 | -5.85E-08 | -5.66E-08 |
| PLE   | NO        | NO        | NO        | NO        | NO        | NO        | NO        | NO        |
| Indicator value   | -5.80E-08 | -6.00E-08 | -6.30E-08 | -6.00E-08 | -5.10E-08 | -5.10E-08 | -5.00E-08 | -5.20E-08 |

Licensee Comments: none

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



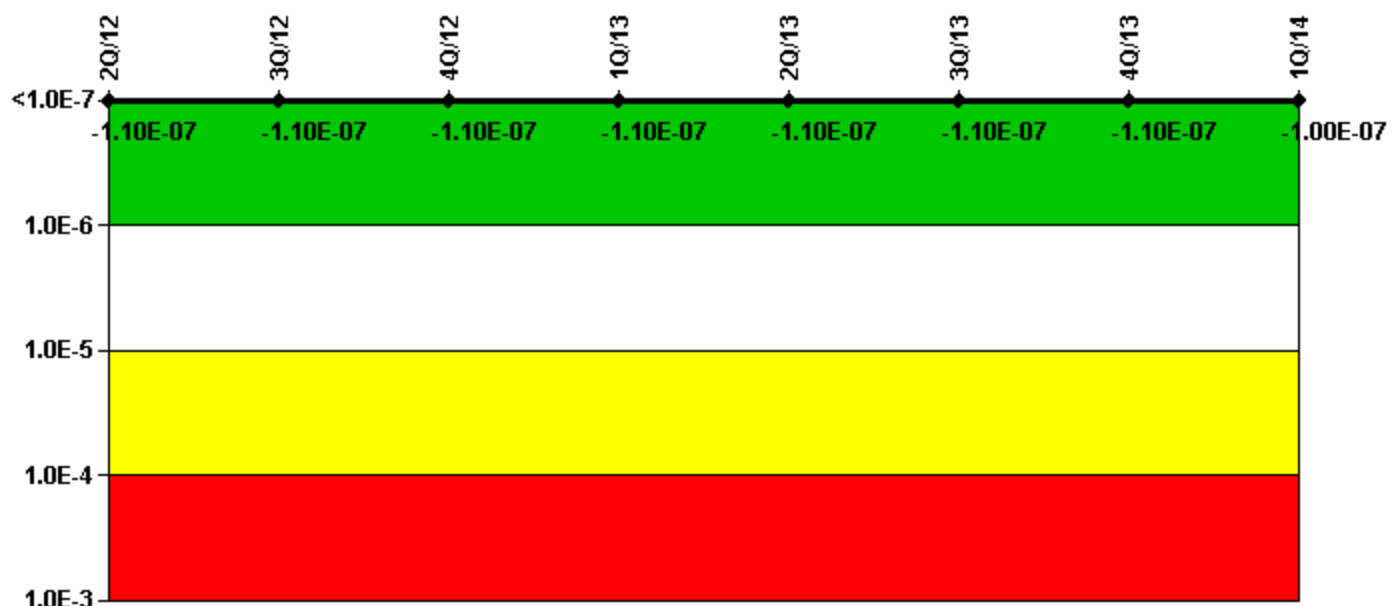
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

| Mitigating Systems Performance Index, High Pressure Injection System | 2Q/12     | 3Q/12     | 4Q/12     | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)  | 9.45E-10  | 9.93E-10  | 2.06E-09  | 4.99E-10  | -1.24E-09 | -5.88E-10 | -1.28E-09 | -1.44E-09 |
| URI ( $\Delta$ CDF)  | -1.11E-08 | -1.10E-08 | -1.10E-08 | -1.09E-08 | -1.08E-08 | -1.07E-08 | -1.06E-08 | -1.05E-08 |
| PLE  | NO        | NO        | NO        | NO        | NO        | NO        | NO        | NO        |
| Indicator value  | -1.00E-08 | -1.00E-08 | -8.90E-09 | -1.00E-08 | -1.20E-08 | -1.10E-08 | -1.20E-08 | -1.20E-08 |

Licensee Comments: none

### Mitigating Systems Performance Index, Heat Removal System



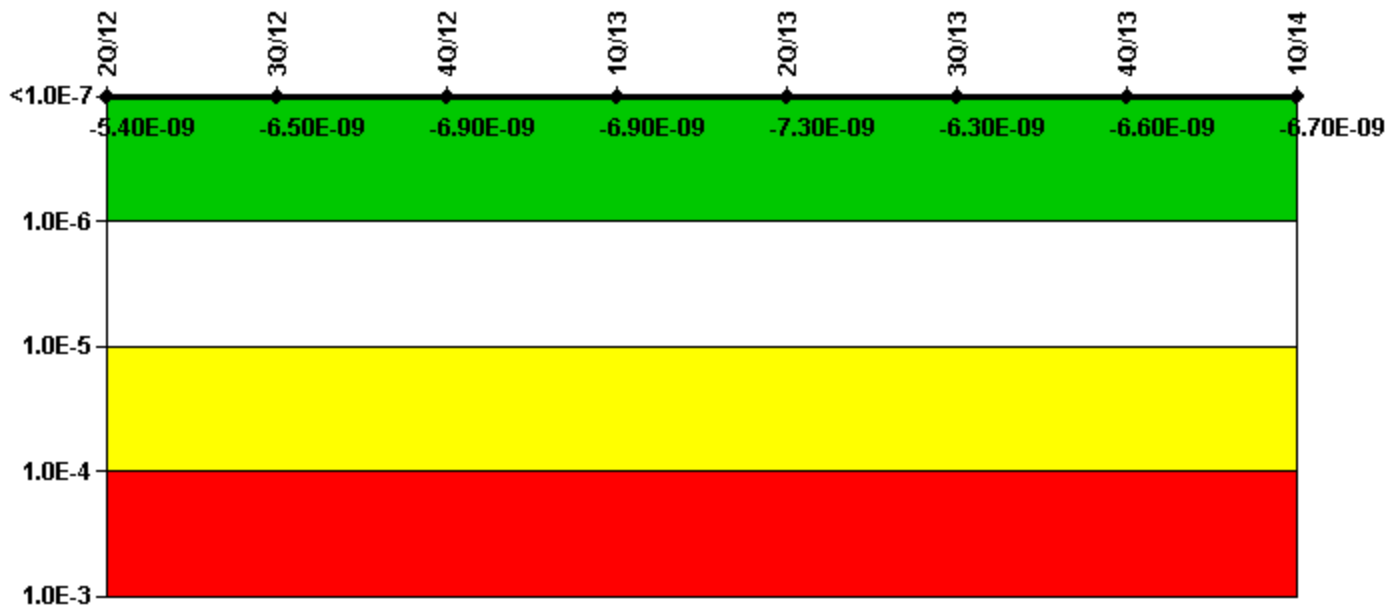
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

| Mitigating Systems Performance Index, Heat Removal System | 2Q/12     | 3Q/12     | 4Q/12     | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 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)                                       | -6.56E-08 | -6.56E-08 | -6.41E-08 | -6.27E-08 | -6.12E-08 | -5.97E-08 | -5.82E-08 | -5.63E-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 | -1.00E-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

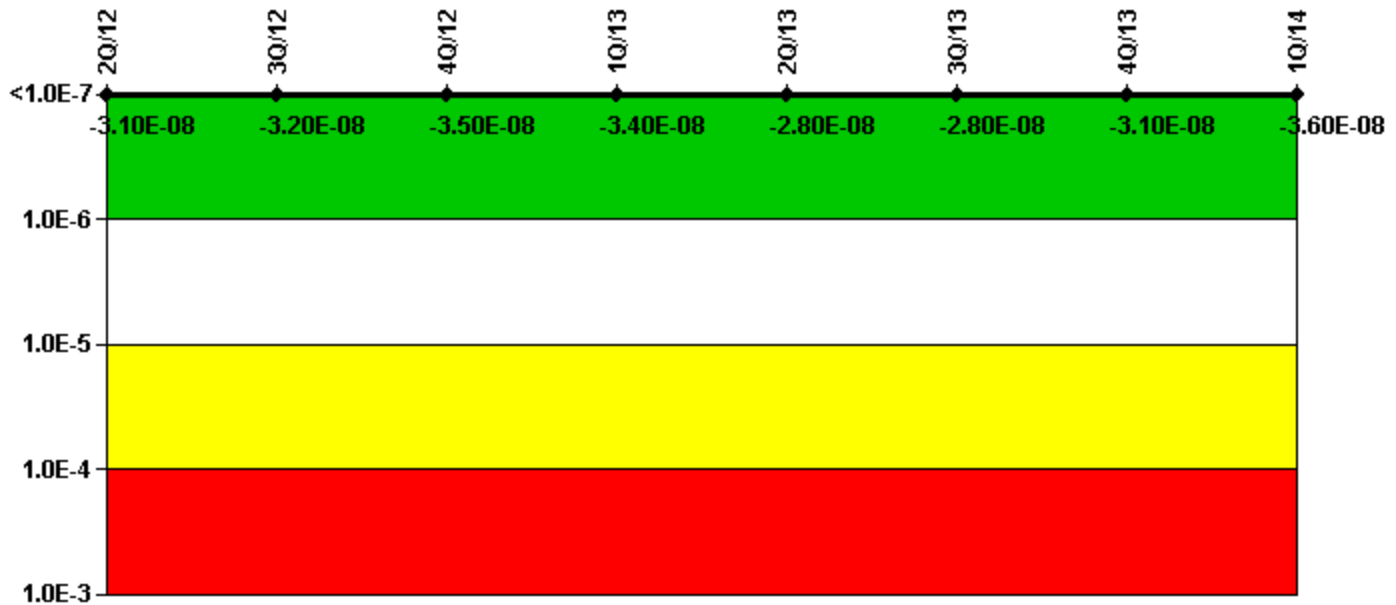
#### Notes

| Mitigating Systems Performance Index, Residual Heat Removal System | 2Q/12     | 3Q/12     | 4Q/12     | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)  | 9.04E-10  | -8.38E-11 | -5.42E-10 | -5.35E-10 | -9.69E-10 | 1.17E-10  | -2.38E-10 | -2.83E-10 |
| URI ( $\Delta$ CDF)  | -6.30E-09 | -6.37E-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 | -6.50E-09 | -6.90E-09 | -6.90E-09 | -7.30E-09 | -6.30E-09 | -6.60E-09 | -6.70E-09 |

Licensee Comments: none



### Mitigating Systems Performance Index, Cooling Water Systems



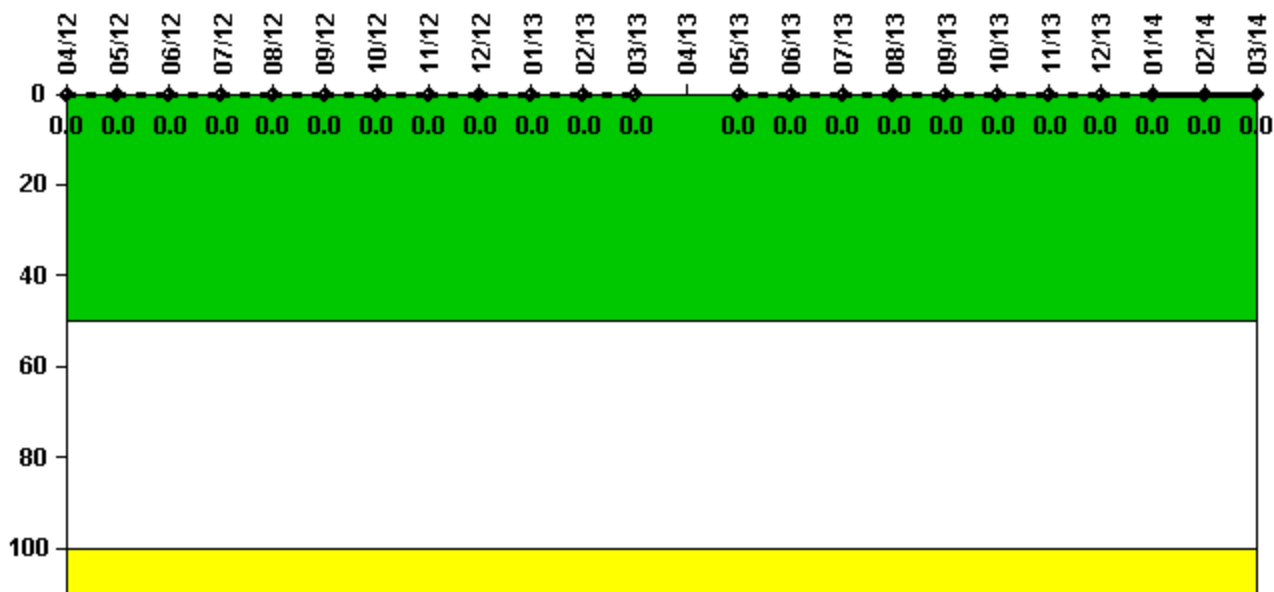
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

| Mitigating Systems Performance Index, Cooling Water Systems | 2Q/12     | 3Q/12     | 4Q/12     | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)   | 1.40E-08  | 1.42E-08  | 1.09E-08  | 1.22E-08  | 1.78E-08  | 1.75E-08  | 1.51E-08  | 9.35E-09  |
| URI ( $\Delta$ CDF)   | -4.54E-08 | -4.57E-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 | -3.20E-08 | -3.50E-08 | -3.40E-08 | -2.80E-08 | -2.80E-08 | -3.10E-08 | -3.60E-08 |

Licensee Comments: none

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

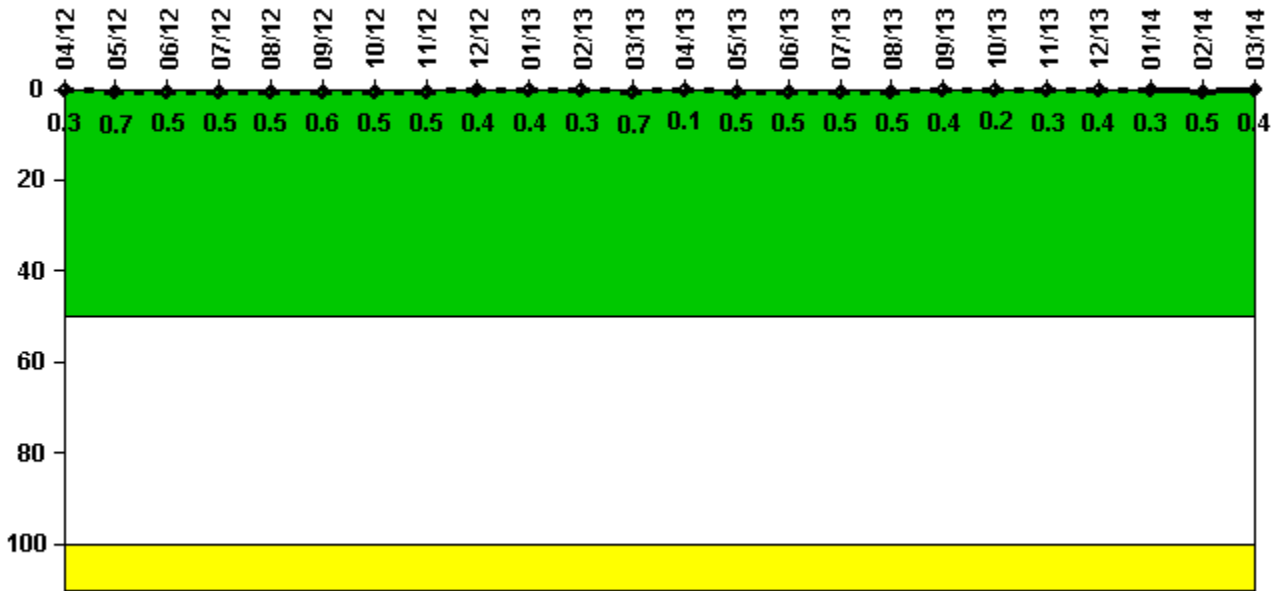
#### Notes

| 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                | 0.000228 | 0.000246 | 0.000254 | 0.000270 | 0.000257 | 0.000272 | 0.000289 | 0.000287 | 0.000291 | 0.000298 | 0.000320 | 0.000312 |
| 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 | 4/13     | 5/13     | 6/13     | 7/13     | 8/13     | 9/13     | 10/13    | 11/13    | 12/13    | 1/14     | 2/14     | 3/14     |
| Maximum activity                | N/A      | 0.000177 | 0.000194 | 0.000209 | 0.000209 | 0.000219 | 0.000236 | 0.000217 | 0.000230 | 0.000250 | 0.000255 | 0.000257 |
| 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      | 0        | 0        | 0        | 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



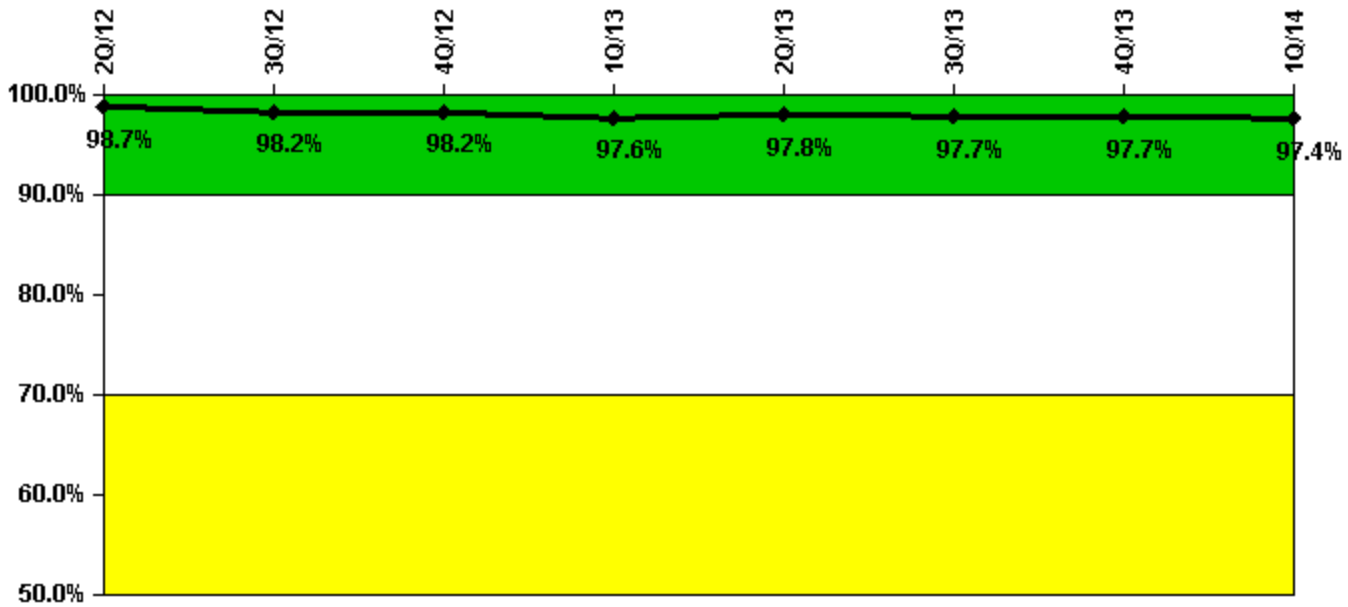
Thresholds: White > 50.0 Yellow > 100.0

#### Notes

| Reactor Coolant System Leakage | 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                | 0.032      | 0.074      | 0.049      | 0.049      | 0.050      | 0.057      | 0.046      | 0.049      | 0.040      | 0.041      | 0.029      | 0.067      |
| 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>0.7</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> | <b>0.4</b> | <b>0.3</b> | <b>0.7</b> |
| Reactor Coolant System Leakage | 4/13       | 5/13       | 6/13       | 7/13       | 8/13       | 9/13       | 10/13      | 11/13      | 12/13      | 1/14       | 2/14       | 3/14       |
| Maximum leakage                | 0.006      | 0.047      | 0.050      | 0.048      | 0.050      | 0.040      | 0.022      | 0.029      | 0.037      | 0.025      | 0.051      | 0.042      |
| 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>0.1</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> | <b>0.3</b> | <b>0.5</b> | <b>0.4</b> |

Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

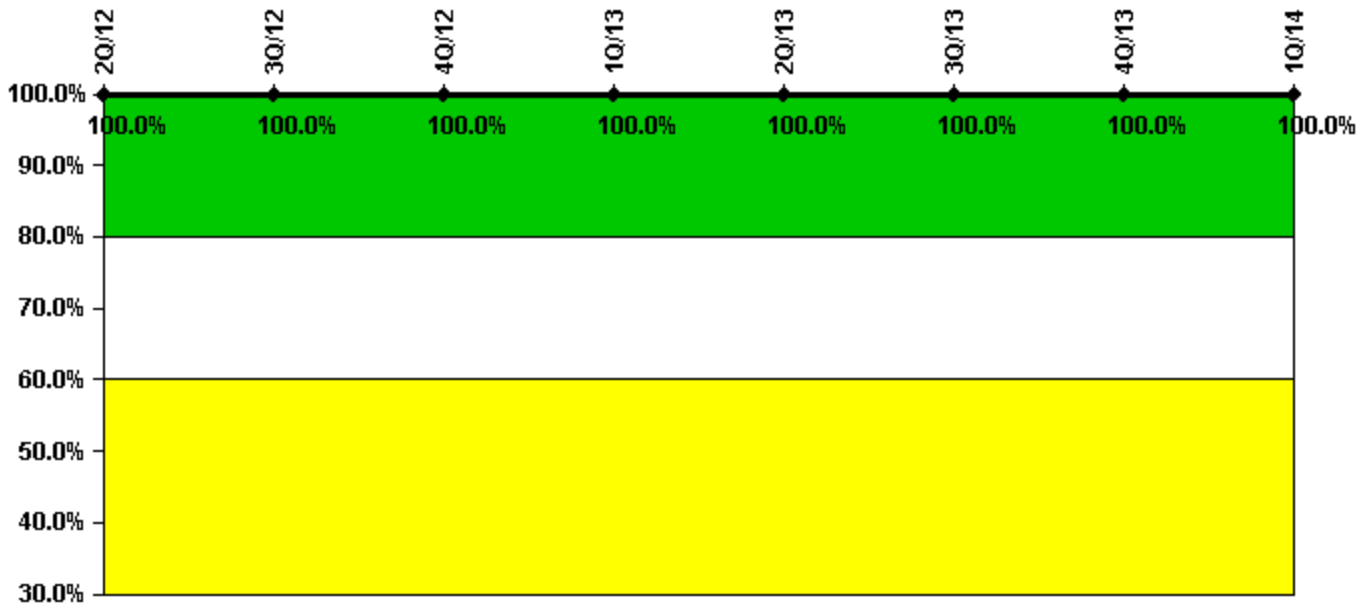
| Drill/Exercise Performance | 2Q/12 | 3Q/12 | 4Q/12 | 1Q/13 | 2Q/13 | 3Q/13 | 4Q/13 | 1Q/14 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Successful opportunities   | 15.0  | 182.0 | 2.0   | 35.0  | 52.0  | 77.0  | 83.0  | 83.0  |
| Total opportunities        | 15.0  | 187.0 | 2.0   | 39.0  | 52.0  | 78.0  | 85.0  | 85.0  |
| Indicator value            | 98.7% | 98.2% | 98.2% | 97.6% | 97.8% | 97.7% | 97.7% | 97.4% |

#### Licensee Comments:

4Q/13: A plant condition was discovered that resulted in a previously unidentified missed emergency action level classification in November 2013. No color change resulted.

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%

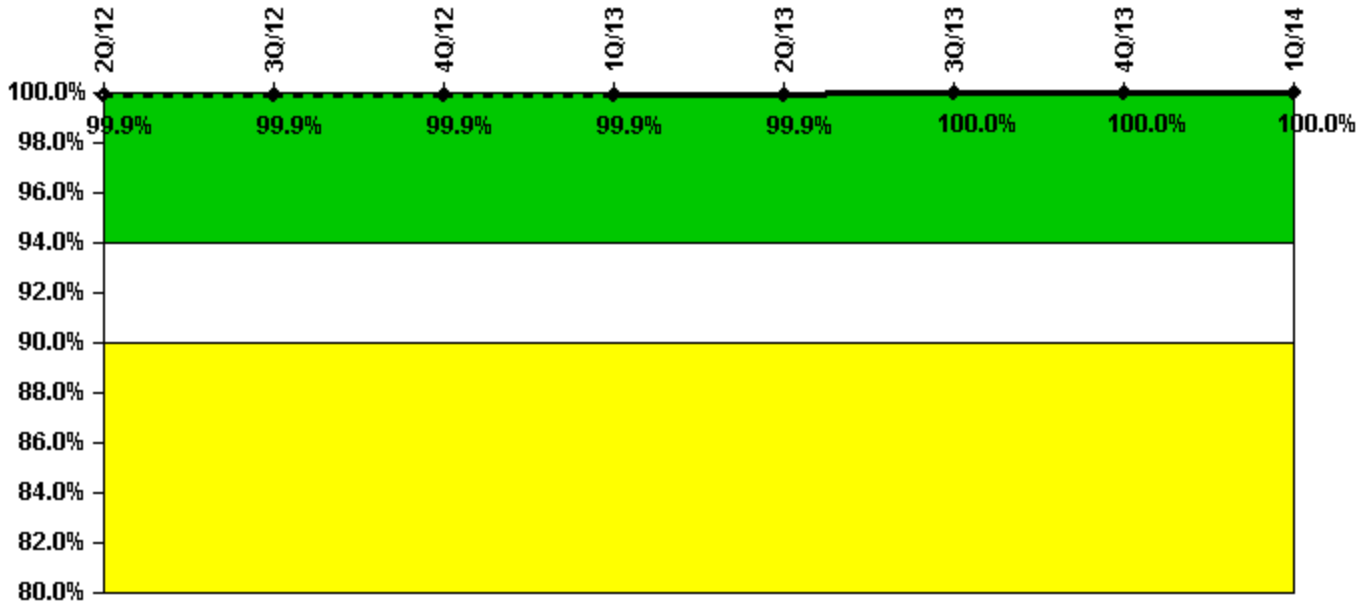
#### Notes

| ERO Drill Participation     | 2Q/12  | 3Q/12  | 4Q/12  | 1Q/13  | 2Q/13  | 3Q/13  | 4Q/13  | 1Q/14  |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Participating Key personnel | 95.0   | 95.0   | 90.0   | 90.0   | 87.0   | 89.0   | 98.0   | 94.0   |
| Total Key personnel         | 95.0   | 95.0   | 90.0   | 90.0   | 87.0   | 89.0   | 98.0   | 94.0   |
| 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

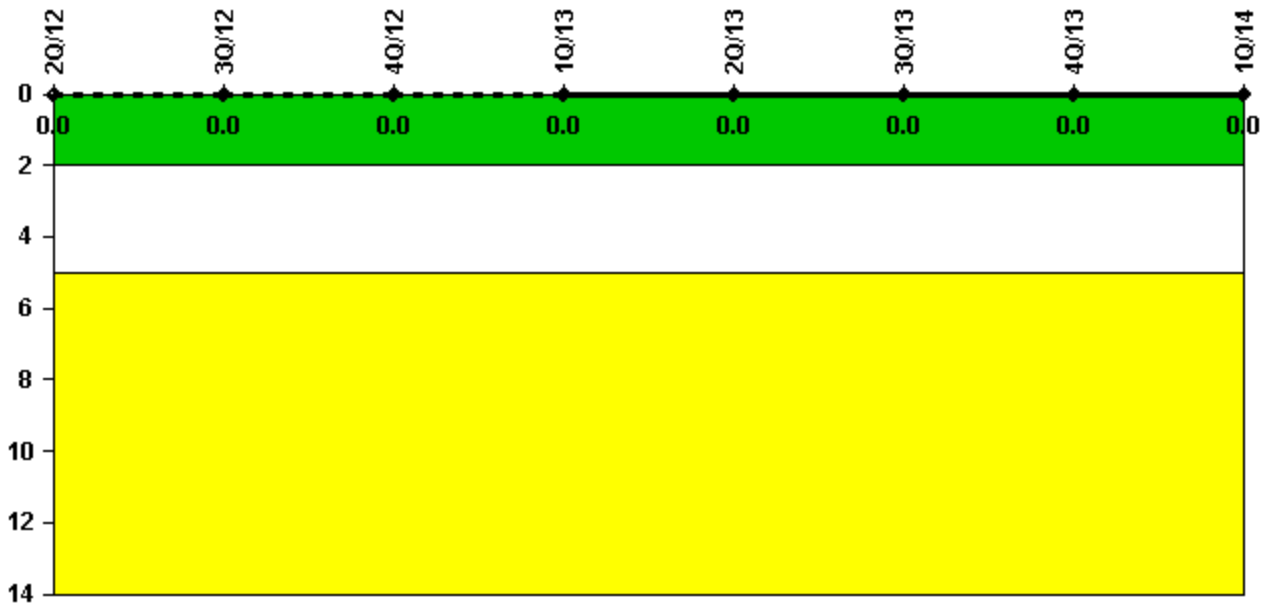
| Alert & Notification System | 2Q/12 | 3Q/12 | 4Q/12 | 1Q/13 | 2Q/13 | 3Q/13  | 4Q/13  | 1Q/14  |
|-----------------------------|-------|-------|-------|-------|-------|--------|--------|--------|
| Successful siren-tests      | 912   | 911   | 1007  | 864   | 912   | 912    | 1008   | 912    |
| Total sirens-tests          | 912   | 912   | 1008  | 864   | 912   | 912    | 1008   | 912    |
| Indicator value             | 99.9% | 99.9% | 99.9% | 99.9% | 99.9% | 100.0% | 100.0% | 100.0% |

#### Licensee Comments:

1Q/13: Comment and data correction: One scheduled test from the Maricopa County Sherriff's Office ANS station was not completed in February 2013 and data was incorrectly tabulated. No color change.

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

### Occupational Exposure Control Effectiveness



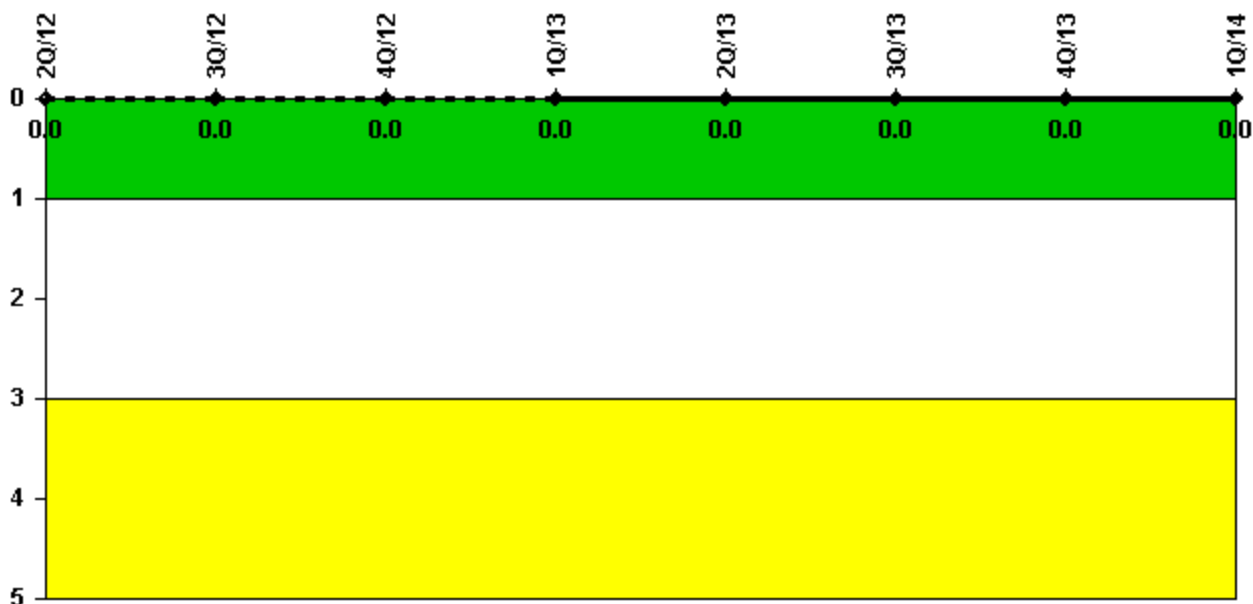
Thresholds: White > 2.0 Yellow > 5.0

#### Notes

| Occupational Exposure Control Effectiveness | 2Q/12    | 3Q/12    | 4Q/12    | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    | 1Q/14    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| 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 | 2Q/12    | 3Q/12    | 4Q/12    | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    | 1Q/14    |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| 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: April 23, 2014*