

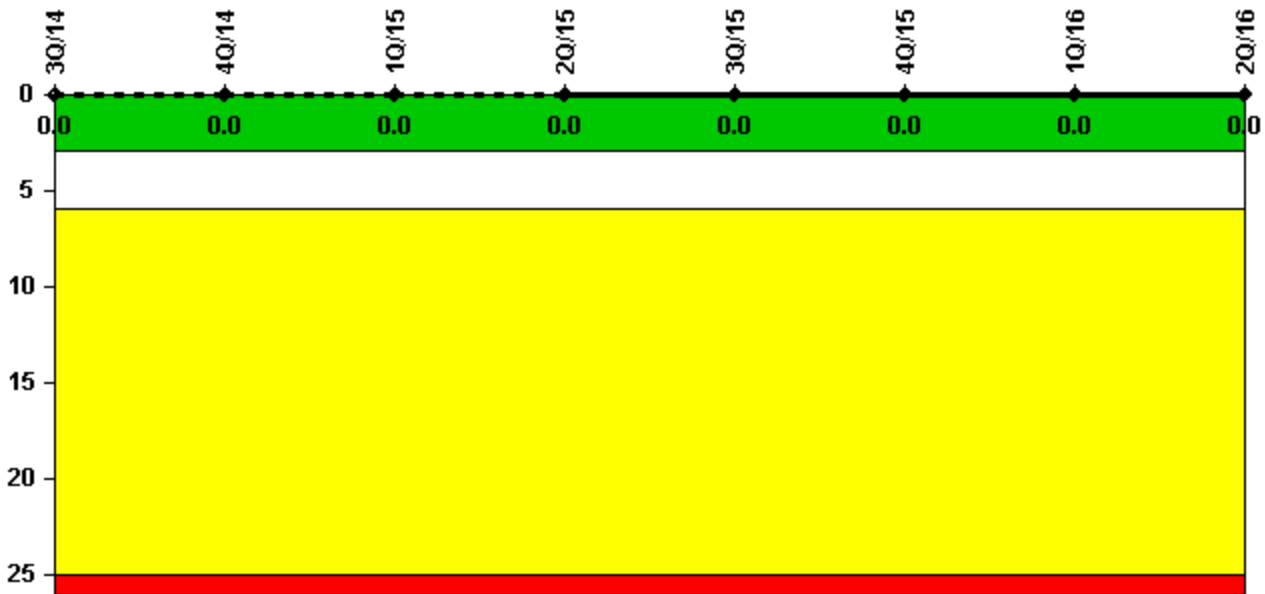
# Palo Verde 1

## 2Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



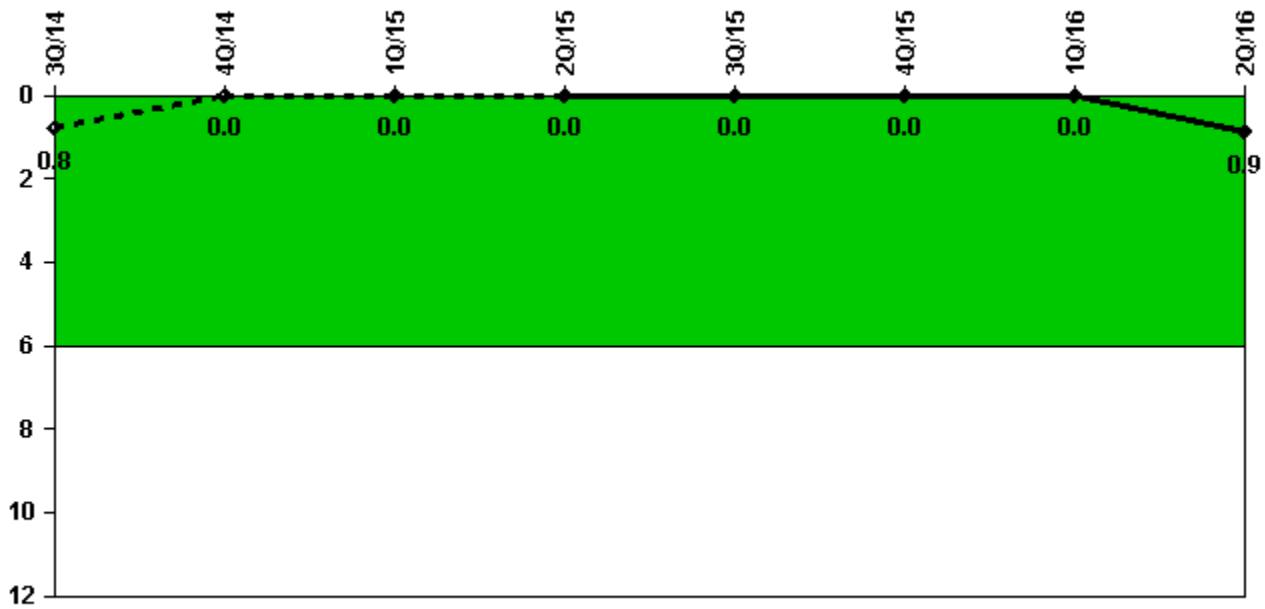
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### Notes

Unplanned Scrams per 7000 Critical Hrs	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2208.0	1475.5	2160.0	2184.0	2208.0	2208.0	2184.0	1346.9
Indicator value	0	0	0	0	0	0	0	0

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



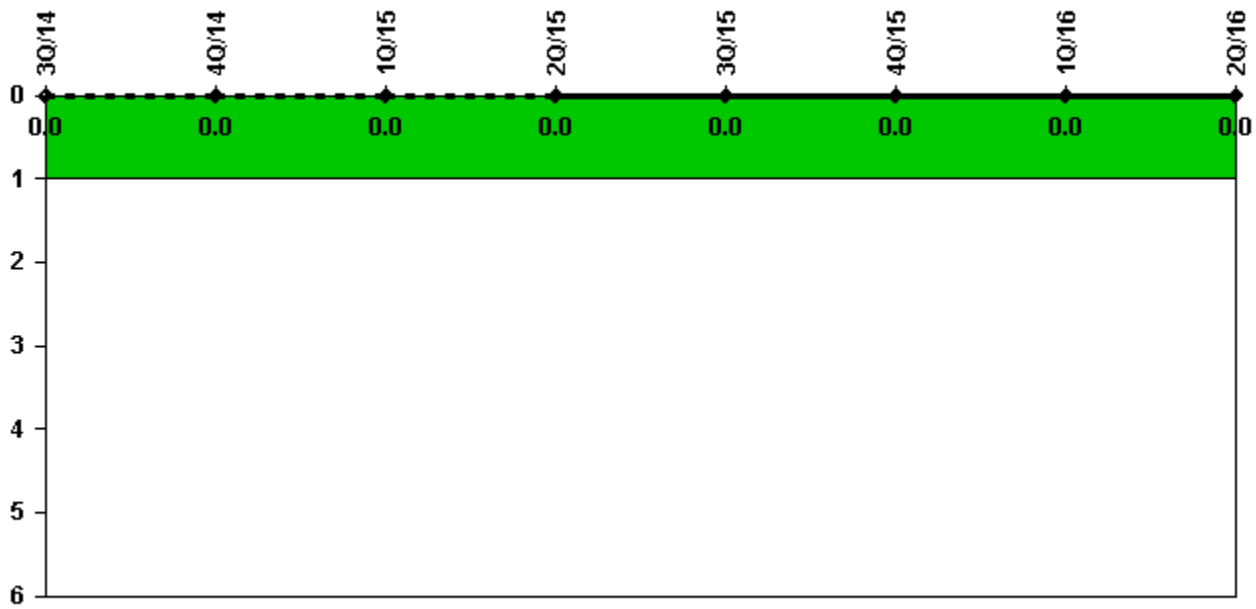
Thresholds: White > 6.0

#### Notes

Unplanned Power Changes per 7000 Critical Hrs	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
Unplanned power changes	0	0	0	0	0	0	0	1.0
Critical hours	2208.0	1475.5	2160.0	2184.0	2208.0	2208.0	2184.0	1346.9
<b>Indicator value</b>	<b>0.8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.9</b>

Licensee Comments: none

### Unplanned Scrams with Complications



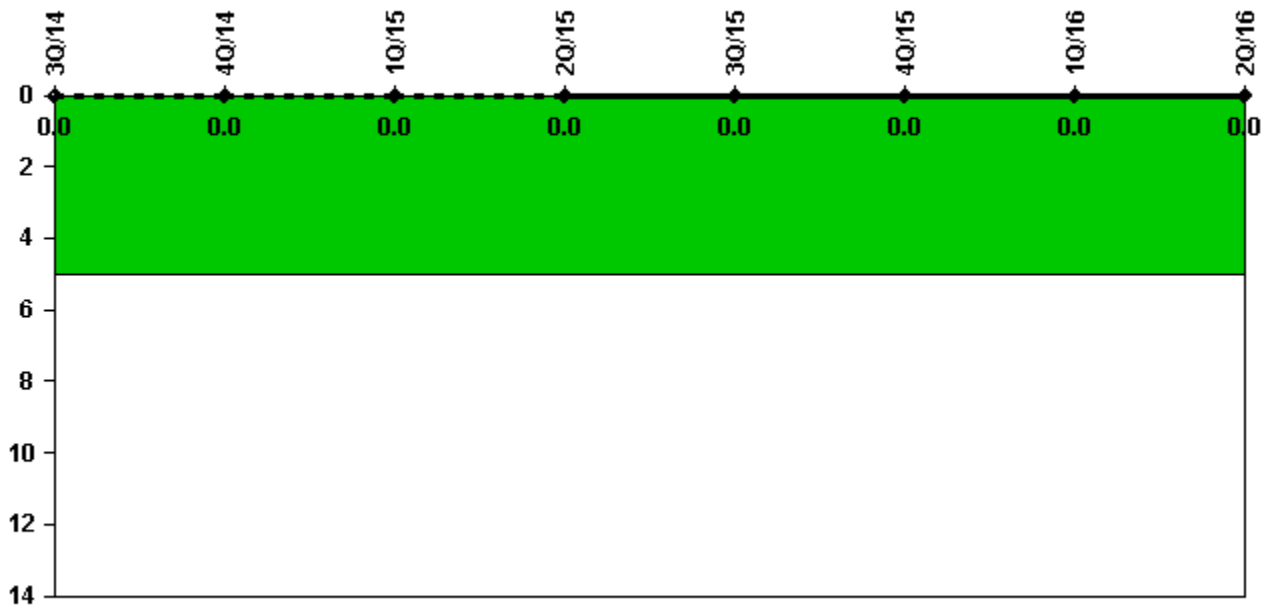
Thresholds: White > 1.0

#### Notes

Unplanned Scrams with Complications	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
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)



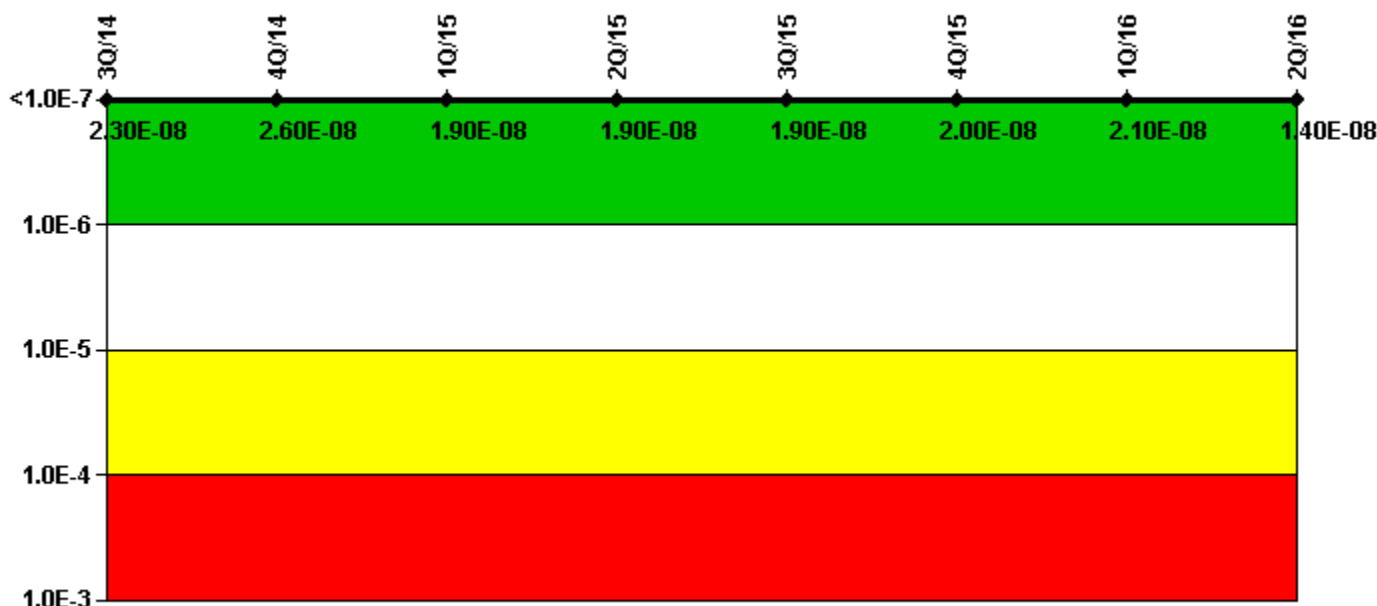
Thresholds: White > 5.0

#### Notes

Safety System Functional Failures (PWR)	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
Safety System Functional Failures	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

### 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/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
UAI ( $\Delta$ CDF)	1.08E-08	1.13E-08	3.58E-09	3.58E-09	3.35E-09	4.40E-09	5.38E-09	-7.47E-10
URI ( $\Delta$ CDF)	1.19E-08	1.52E-08	1.52E-08	1.52E-08	1.52E-08	1.52E-08	1.52E-08	1.52E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.30E-08	2.60E-08	1.90E-08	1.90E-08	1.90E-08	2.00E-08	2.10E-08	1.40E-08

#### Licensee Comments:

3Q/15: In 3rd Quarter 2015, updated unavailability for EDG 1A for interval March 2013 - October 2014, net change was (-) 12.43 hours and EDG 1B for May 2013, net change was (-) 10.62 hours , no color change as a result.

2Q/15: In May 2015, planned unavailability hours from March 2013 were adjusted resulting in a net decrease of 9.59 planned unavailability hours for the 3 year period ending in June 2015. The adjustments were made to account for hours unavailable vs. hours inoperable, previously recorded and not have resulted in a color change.

2Q/15: In May 2015, planned unavailability hours from March 2013 were adjusted resulting in a net decrease of 9.59 planned unavailability hours for the 3 year period ending in June 2015. The adjustments were made to account for hours unavailable vs. hours inoperable, previously recorded and not have resulted in a color change.

4Q/14: In May 2015, planned unavailability hours from March 2013 were adjusted resulting in a net decrease of 9.59 planned unavailability hours for the 3 year period ending in June 2015. The adjustments were made to account for hours unavailable vs. hours inoperable, previously recorded and not have resulted in a color change.

Additionally, In 3rd Quarter 2015, updated October 2014 unavailability for EDG 1A, net change was (-) 11.32 hours, no color change as a result.

4Q/14: In May 2015, planned unavailability hours from March 2013 were adjusted resulting in a net decrease of 9.59 planned unavailability hours for the 3 year period ending in June 2015. The adjustments were made to account for hours unavailable vs. hours inoperable, previously recorded and not have resulted in a color change.

3Q/14: In 3rd Quarter 2015, updated August 2014 unavailability for EDG 1A, net change was ( ) 0.72 hours, no color change as a result.

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



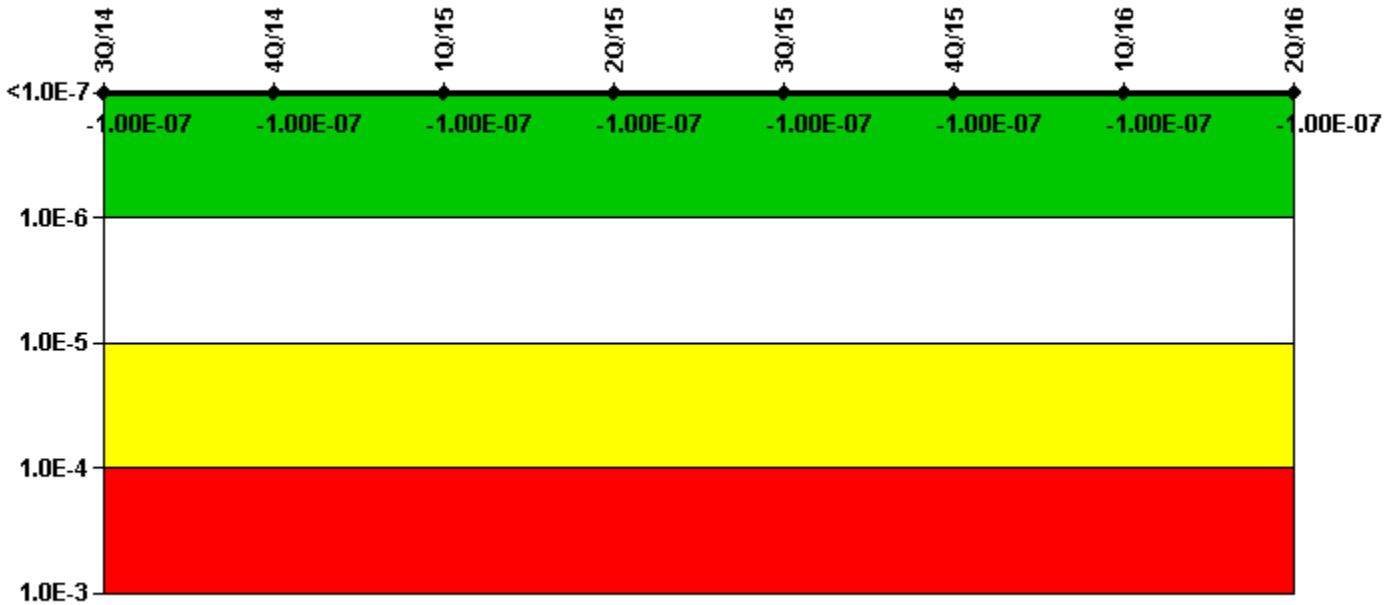
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, High Pressure Injection System	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
UAI (ΔCDF)	-1.52E-09	-1.52E-09	-1.52E-09	-1.52E-09	-1.52E-09	-1.52E-09	-1.52E-09	-1.52E-09
URI (ΔCDF)	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08

Licensee Comments: none

### Mitigating Systems Performance Index, Heat Removal System



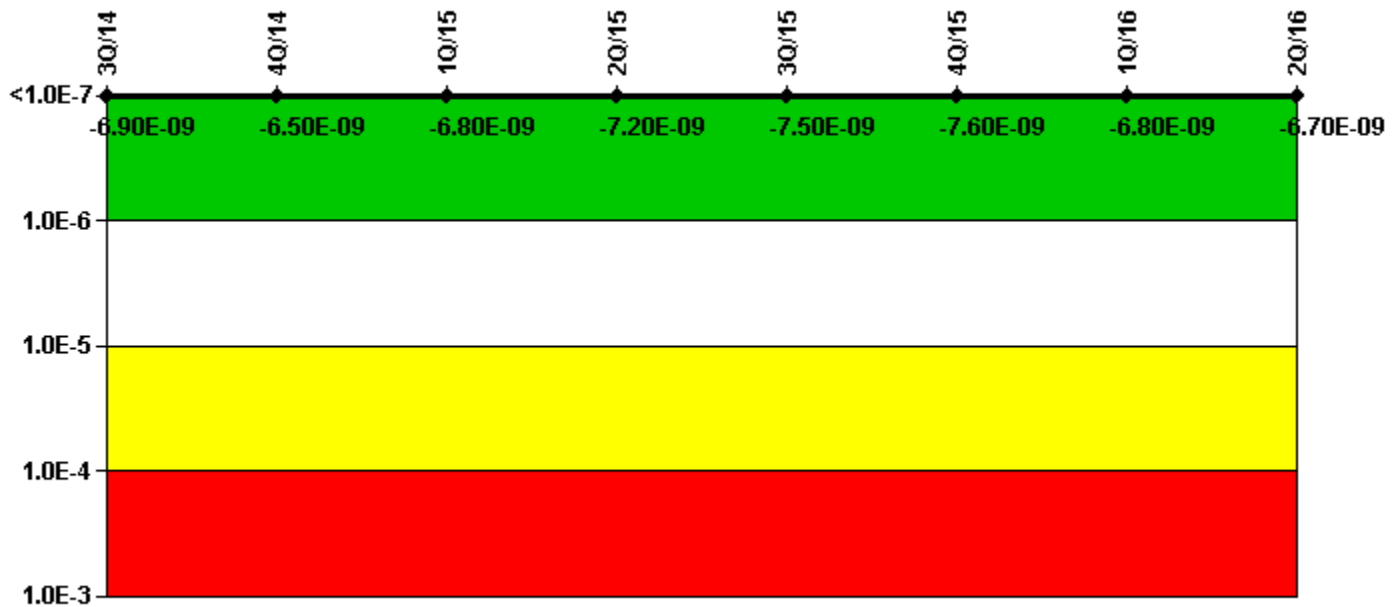
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, Heat Removal System	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
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)	-5.31E-08	-5.15E-08	-5.15E-08	-5.15E-08	-5.15E-08	-5.15E-08	-5.15E-08	-5.15E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.00E-07	-1.00E-07	-1.00E-07	-1.00E-07	-1.00E-07	-1.00E-07	-1.00E-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

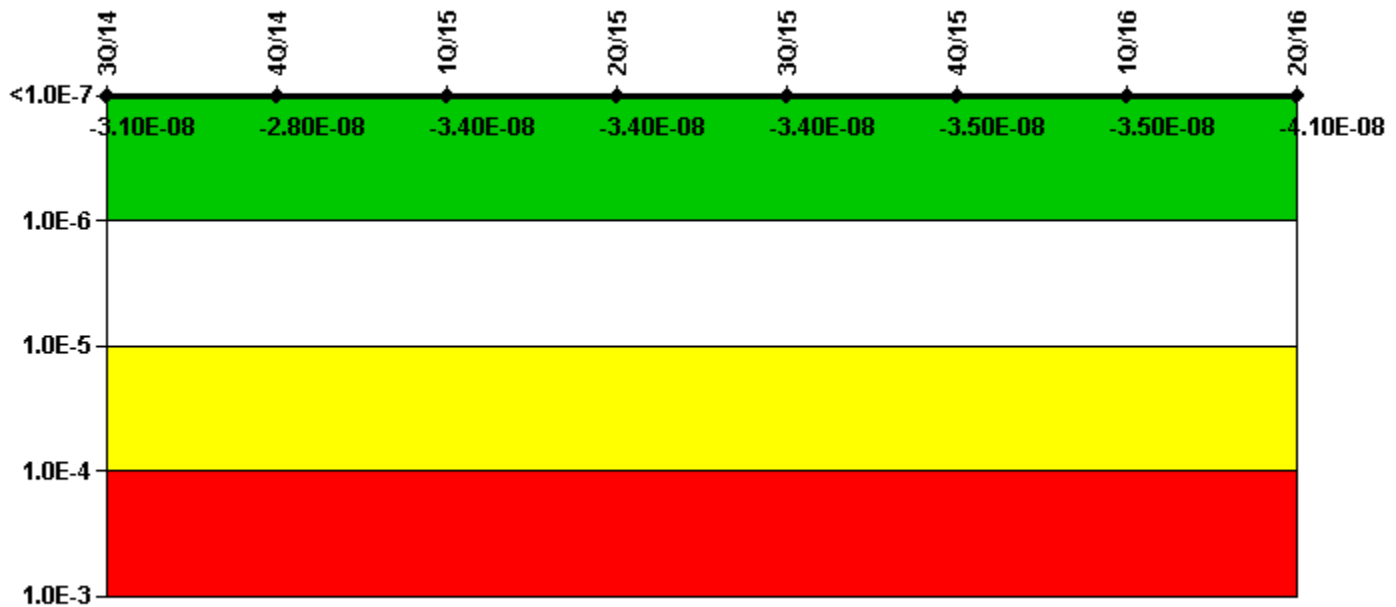
#### Notes

Mitigating Systems Performance Index, Residual Heat Removal System	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
UAI ( $\Delta$ CDF)	-5.53E-10	-1.67E-10	-4.19E-10	-7.93E-10	-1.16E-09	-1.19E-09	-4.58E-10	-2.81E-10
URI ( $\Delta$ CDF)	-6.37E-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	-6.90E-09	-6.50E-09	-6.80E-09	-7.20E-09	-7.50E-09	-7.60E-09	-6.80E-09	-6.70E-09

Licensee Comments: none



### Mitigating Systems Performance Index, Cooling Water Systems



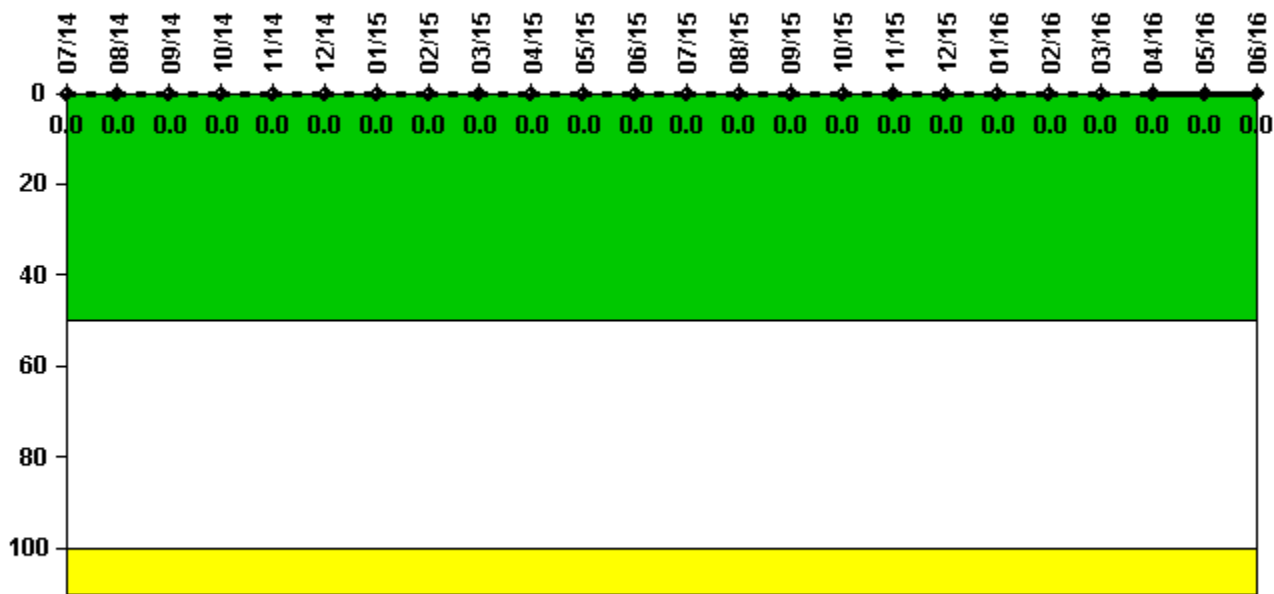
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, Cooling Water Systems	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
UAI ( $\Delta$ CDF)	1.46E-08	1.74E-08	1.16E-08	1.14E-08	1.12E-08	1.11E-08	1.06E-08	4.84E-09
URI ( $\Delta$ CDF)	-4.57E-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	-2.80E-08	-3.40E-08	-3.40E-08	-3.40E-08	-3.50E-08	-3.50E-08	-4.10E-08

Licensee Comments: none

### Reactor Coolant System Activity



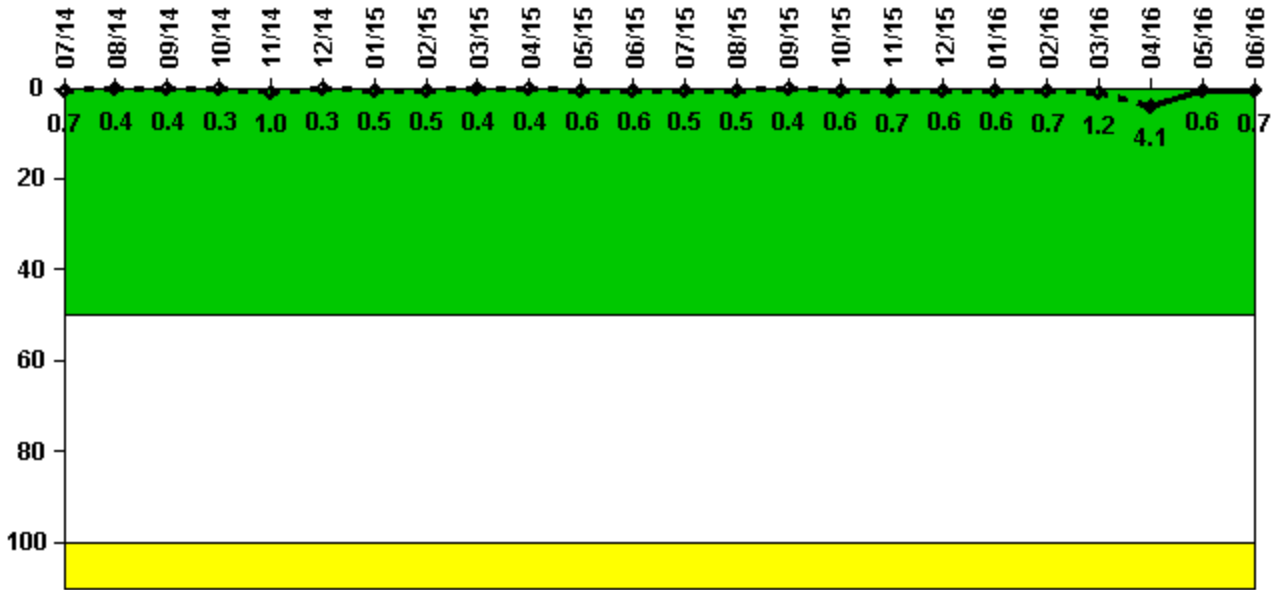
Thresholds: White > 50.0 Yellow > 100.0

#### Notes

Reactor Coolant System Activity	7/14	8/14	9/14	10/14	11/14	12/14	1/15	2/15	3/15	4/15	5/15	6/15
Maximum activity	0.000495	0.000278	0.000304	0.000313	0.000166	0.000179	0.000180	0.000187	0.000188	0.000190	0.000198	0.000212
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	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16
Maximum activity	0.000210	0.000230	0.000281	0.000257	0.000254	0.000278	0.000307	0.000286	0.000292	0.000314	0.000178	0.000182
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

Licensee Comments: none

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

#### Notes

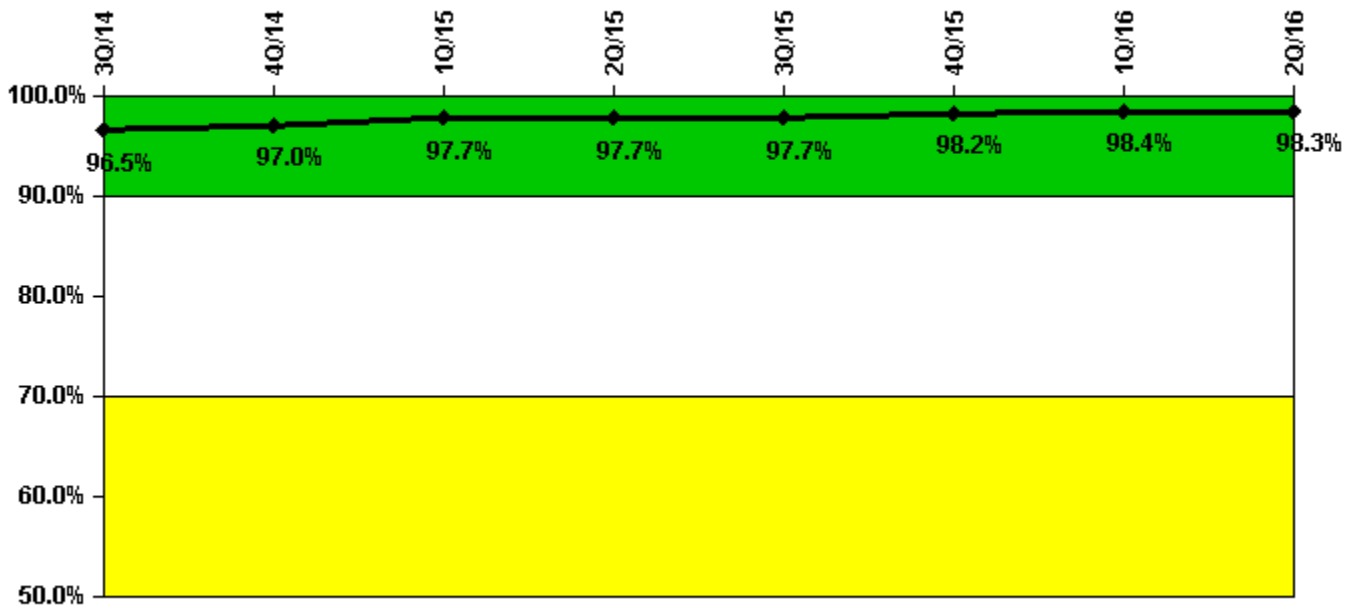
Reactor Coolant System Leakage	7/14	8/14	9/14	10/14	11/14	12/14	1/15	2/15	3/15	4/15	5/15	6/15
Maximum leakage	0.066	0.038	0.037	0.027	0.096	0.028	0.050	0.050	0.043	0.044	0.064	0.055
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Indicator value	0.7	0.4	0.4	0.3	1.0	0.3	0.5	0.5	0.4	0.4	0.6	0.6

Reactor Coolant System Leakage	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16
Maximum leakage	0.052	0.046	0.036	0.058	0.068	0.056	0.060	0.071	0.122	0.411	0.062	0.072
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	0.4	0.6	0.7	0.6	0.6	0.7	1.2	4.1	0.6	0.7

Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

Drill/Exercise Performance	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
Successful opportunities	74.0	137.0	42.0	38.0	50.0	163.0	203.0	3.0
Total opportunities	80.0	139.0	42.0	38.0	50.0	164.0	206.0	3.0
Indicator value	96.5%	97.0%	97.7%	97.7%	97.7%	98.2%	98.4%	98.3%

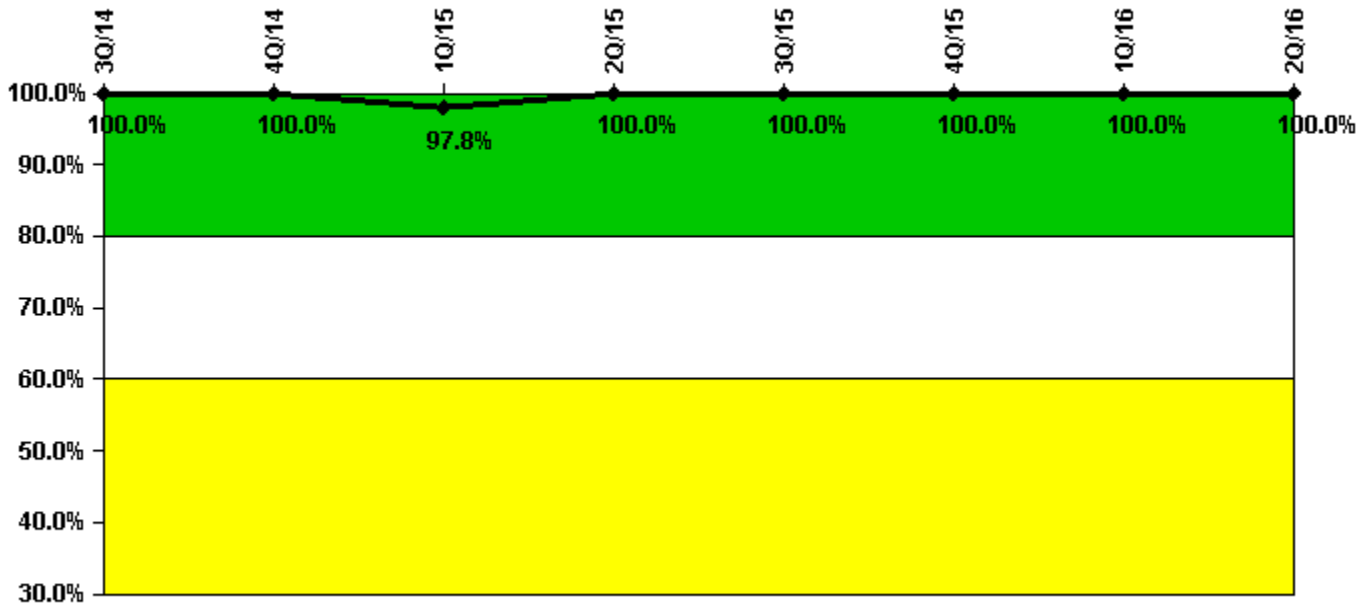
#### Licensee Comments:

1Q/16: On March 29, 2016, a new shift manager became qualified in two key ERO positions and completed two opportunities and successes which were not included in the previously submitted data. No color change.

4Q/15: The total number of drill / exercise opportunities and successes was revised from 87 to 86 each (no additional failures). No color change resulted.

1Q/15: Corrected March 2014 EP01 drill success and total opportunities that included one item that should not have been counted. Discovered in March 2015. No color change as a result.

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

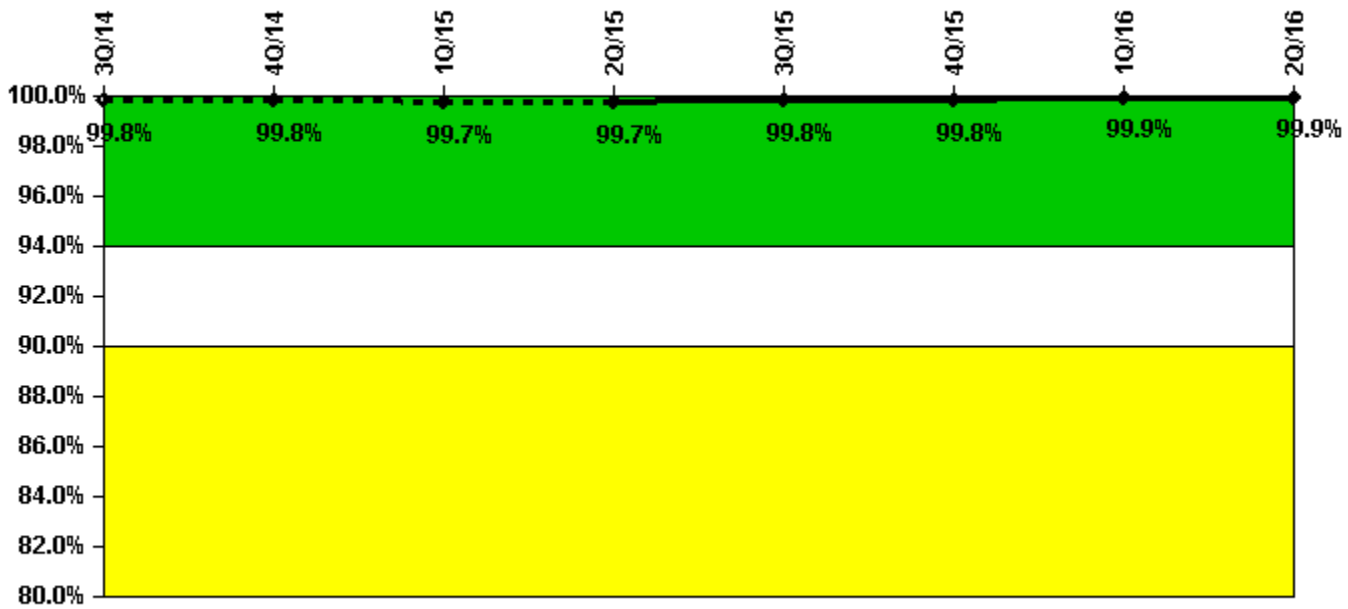
#### Notes

ERO Drill Participation	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
Participating Key personnel	89.0	85.0	91.0	91.0	95.0	91.0	91.0	95.0
Total Key personnel	89.0	85.0	93.0	91.0	95.0	91.0	91.0	95.0
Indicator value	100.0%	100.0%	97.8%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments:

1Q/16: On March 29, 2016, a new shift manager became qualified in two key ERO positions which were not included in the previously submitted data. No color change.

### Alert & Notification System



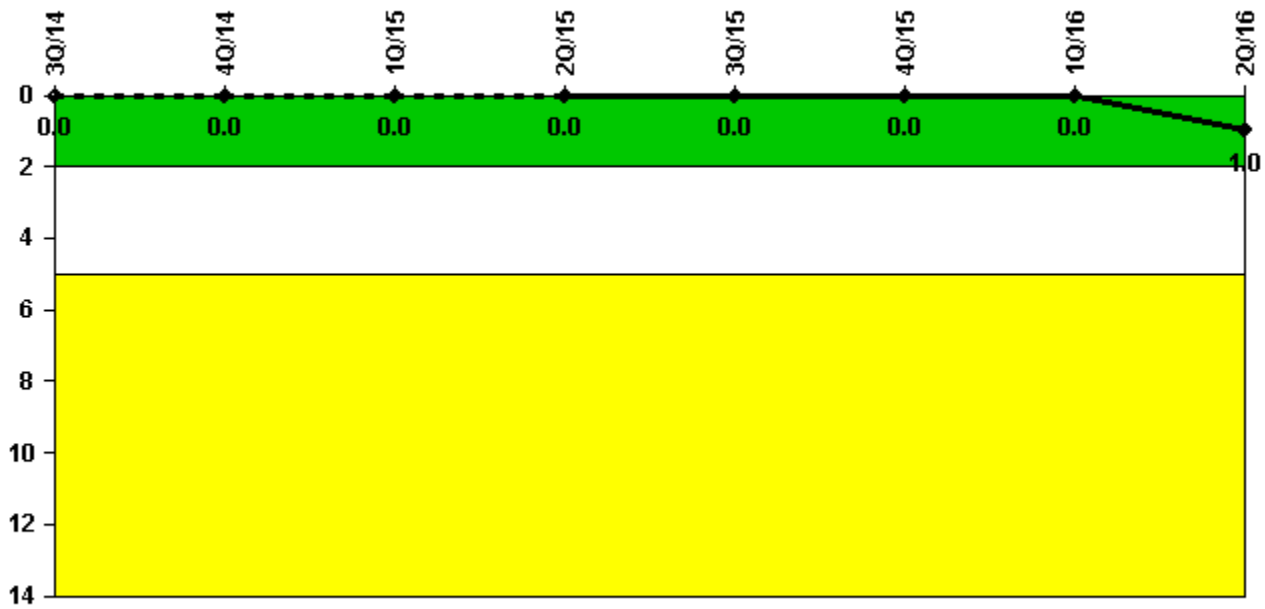
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

Alert & Notification System	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
Successful siren-tests	858	960	908	912	909	1008	1102	1044
Total sirens-tests	864	960	912	912	912	1008	1102	1044
Indicator value	99.8%	99.8%	99.7%	99.7%	99.8%	99.8%	99.9%	99.9%

Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

#### Notes

Occupational Exposure Control Effectiveness	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
High radiation area occurrences	0	0	0	0	0	0	0	1
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>1</b>

Licensee Comments: none

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

#### Notes

RETS/ODCM Radiological Effluent	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
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: July 25, 2016*