

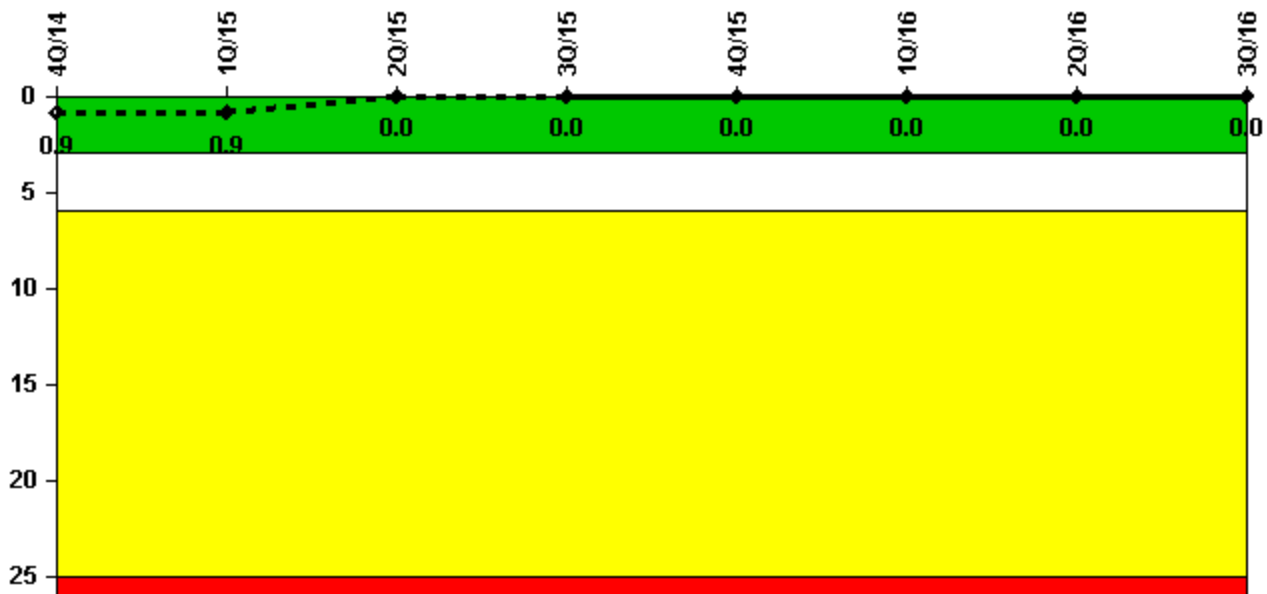
## Quad Cities 2

### 3Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

#### Unplanned Scrams per 7000 Critical Hrs



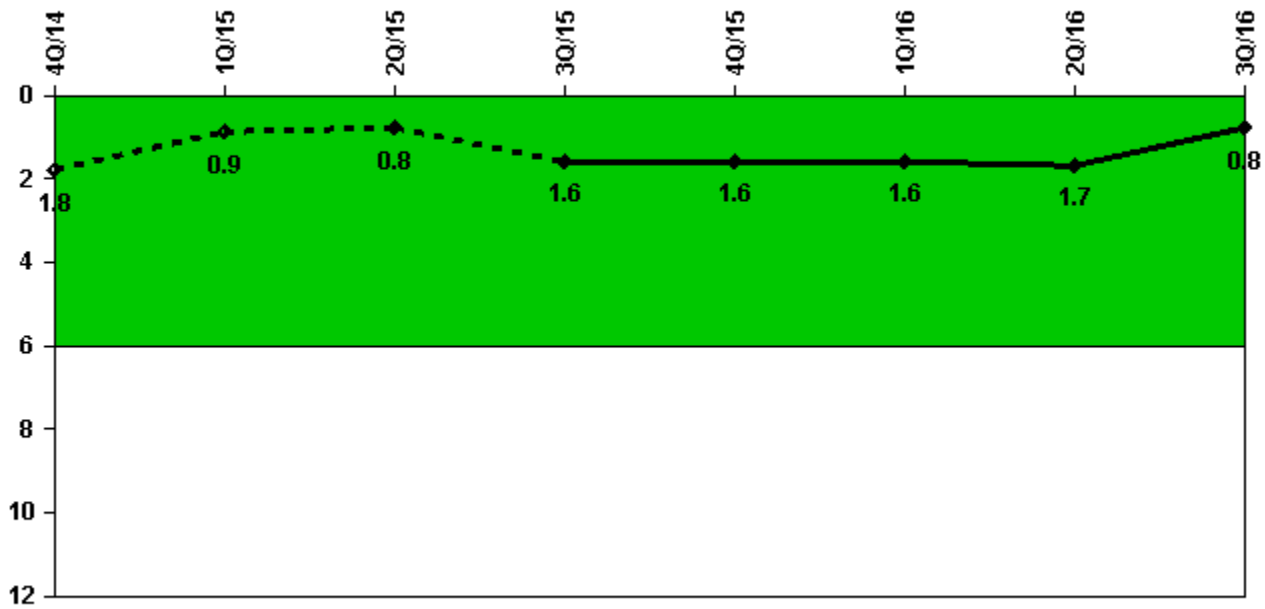
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

#### Notes

Unplanned Scrams per 7000 Critical Hrs	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2209.0	2159.0	2184.0	2208.0	2209.0	1919.9	2032.3	2208.0
Indicator value	0.9	0.9	0	0	0	0	0	0

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

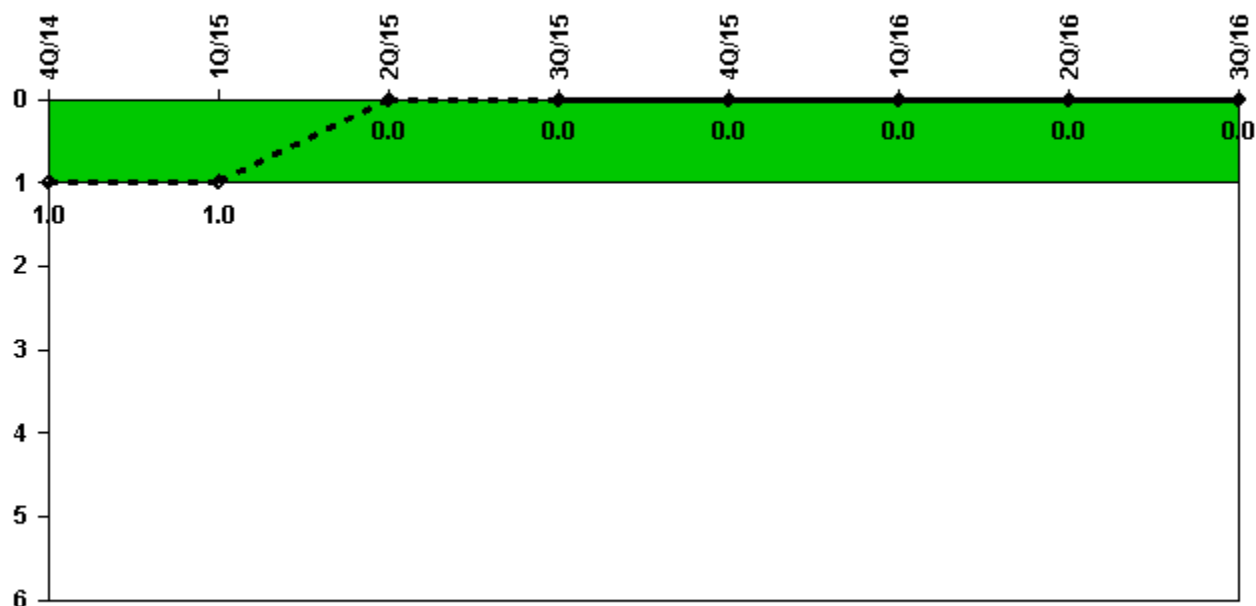
#### Notes

Unplanned Power Changes per 7000 Critical Hrs	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Unplanned power changes	0	0	1.0	1.0	0	0	1.0	0
Critical hours	2209.0	2159.0	2184.0	2208.0	2209.0	1919.9	2032.3	2208.0
<b>Indicator value</b>	<b>1.8</b>	<b>0.9</b>	<b>0.8</b>	<b>1.6</b>	<b>1.6</b>	<b>1.6</b>	<b>1.7</b>	<b>0.8</b>

Licensee Comments:

3Q/15: U-2 Recirculation Pump trip greater than 20%

### Unplanned Scrams with Complications



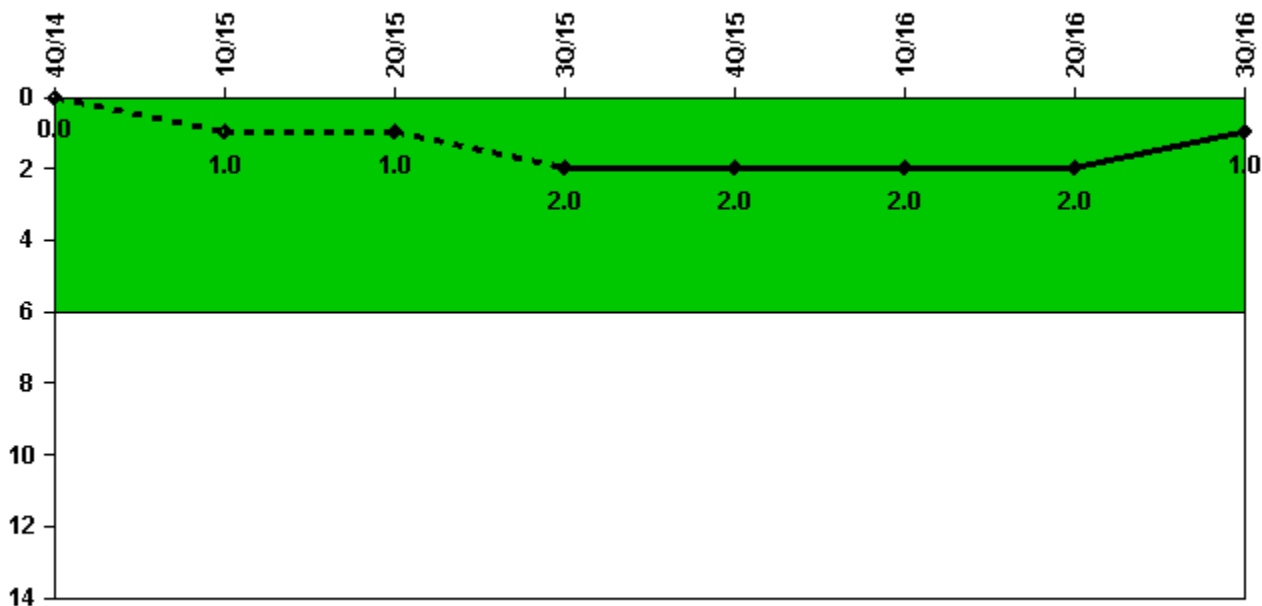
Thresholds: White > 1.0

#### Notes

Unplanned Scrams with Complications	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Scrams with complications	0	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>1.0</b>	<b>1.0</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 (BWR)



Thresholds: White > 6.0

#### Notes

Safety System Functional Failures (BWR)	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Safety System Functional Failures	0	1	0	1	0	1	0	0
<b>Indicator value</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>

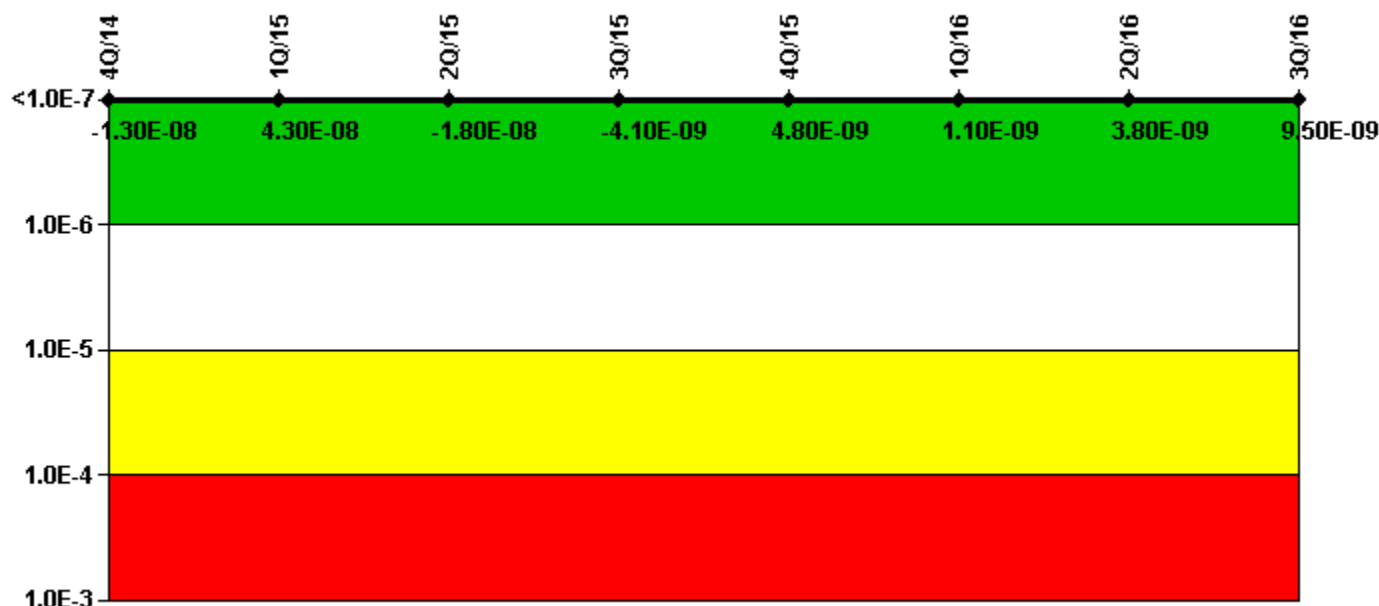
Licensee Comments:

1Q/16: LER 254/2015-010-00, Loss of Control Room Emergency Ventilation System Due to Differential Pressure Switch Failure

3Q/15: LER 254/2015-009-00, Loss of Control Room Emergency Ventilation System Due to Air Filtration Unit Damper Failure (affects Units 1 and 2)

1Q/15: LER 254/2104-005-00, Main Control Room Door Unable to Close Causes Loss of Control Room Envelope Boundary (affects BOTH 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/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
UAI (ΔCDF)	-5.80E-10	5.40E-08	5.00E-08	6.37E-08	7.35E-08	6.75E-08	7.24E-08	7.76E-08
URI (ΔCDF)	-1.26E-08	-1.14E-08	-6.81E-08	-6.78E-08	-6.86E-08	-6.64E-08	-6.86E-08	-6.81E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.30E-08	4.30E-08	-1.80E-08	-4.10E-09	4.80E-09	1.10E-09	3.80E-09	9.50E-09

#### Licensee Comments:

3Q/16: Planned Unavailable Hours 1/2 -6601 Planned maintenance windows on the Unit 1 and Unit 1/2 EDGs and supporting systems. Speed Switch replacement on Unit 1/2.

4Q/15: Error in original submittal.

3Q/15: Error in original submittal.

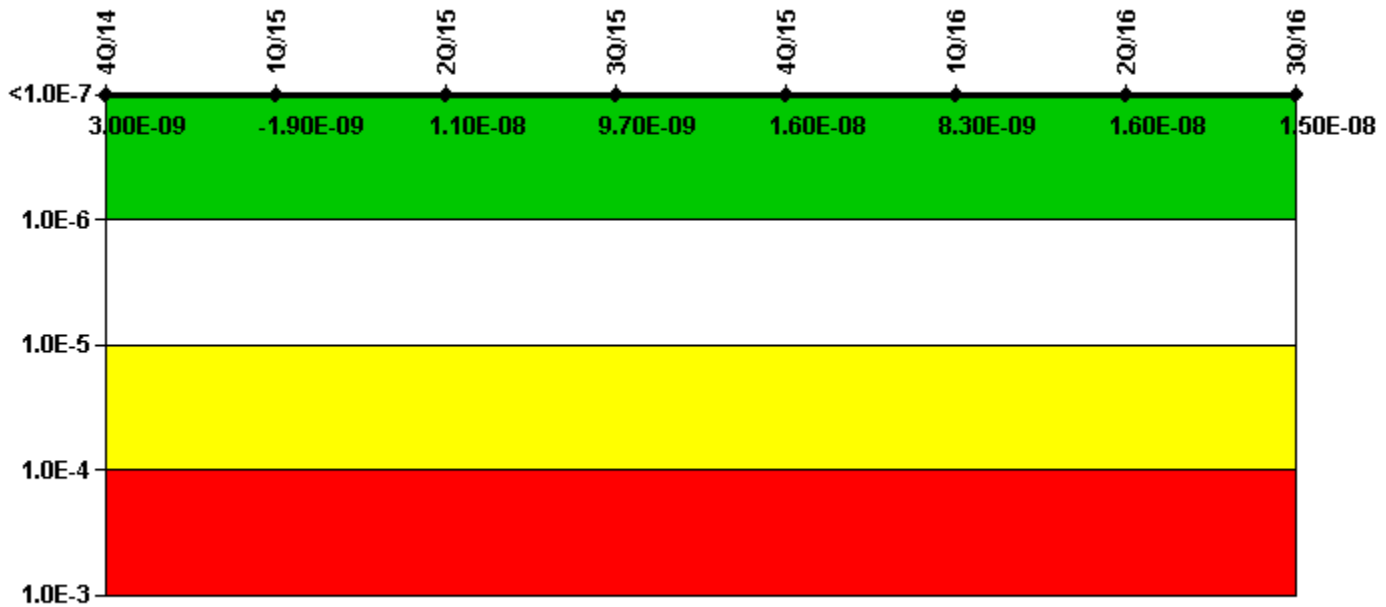
2Q/15: Changed PRA Parameter(s). Changed PRA Parameter(s).

2Q/15: Changed PRA Parameter(s).

1Q/15: Error in original submittal. Two successful starts of the Unit 0 EDG were accounted for when three actually occurred.

4Q/14: Includes endurance run and short work window.

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



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

#### Notes

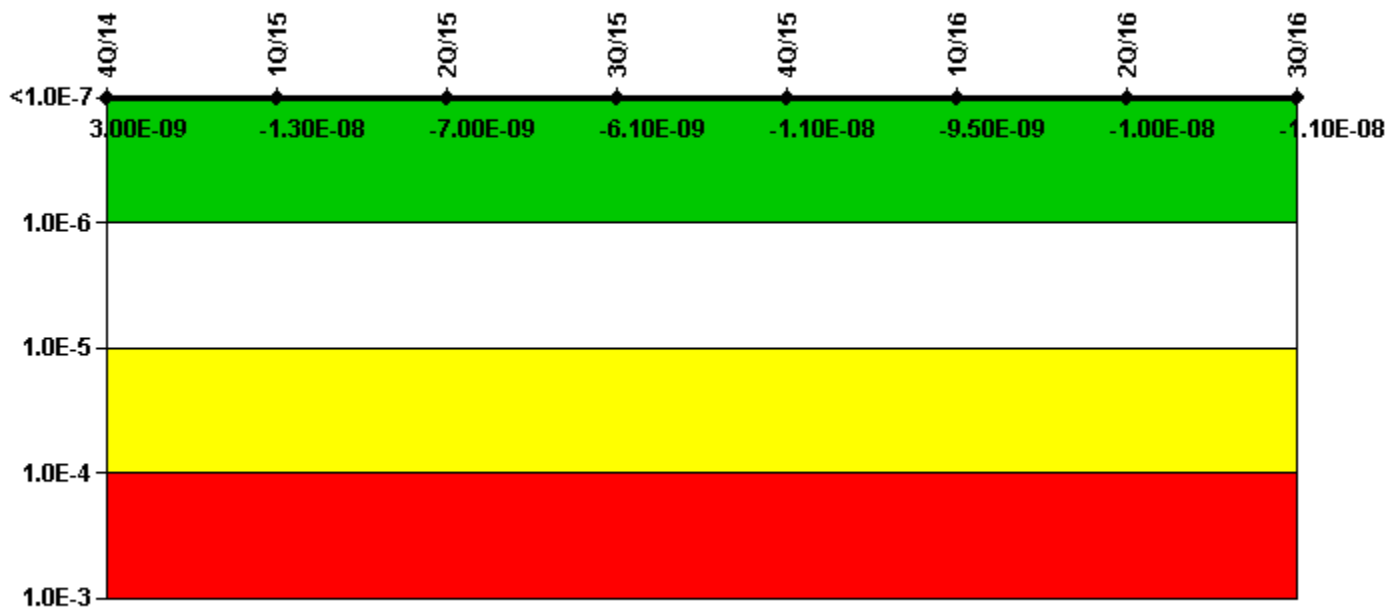
Mitigating Systems Performance Index, High Pressure Injection System	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
UAI ( $\Delta$ CDF)	1.80E-08	1.24E-08	2.74E-08	2.60E-08	3.28E-08	2.46E-08	3.51E-08	3.34E-08
URI ( $\Delta$ CDF)	-1.49E-08	-1.43E-08	-1.63E-08	-1.63E-08	-1.63E-08	-1.63E-08	-1.86E-08	-1.86E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.00E-09	-1.90E-09	1.10E-08	9.70E-09	1.60E-08	8.30E-09	1.60E-08	1.50E-08

Licensee Comments:

3Q/16: 2-2302 Planned Unavailable Hours QCIS 0200-86, QCIS 0200-87 and U-2 HPCI Work Window

2Q/15: Changed PRA Parameter(s). Changed PRA Parameter(s).

### Mitigating Systems Performance Index, Heat Removal System



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

#### Notes

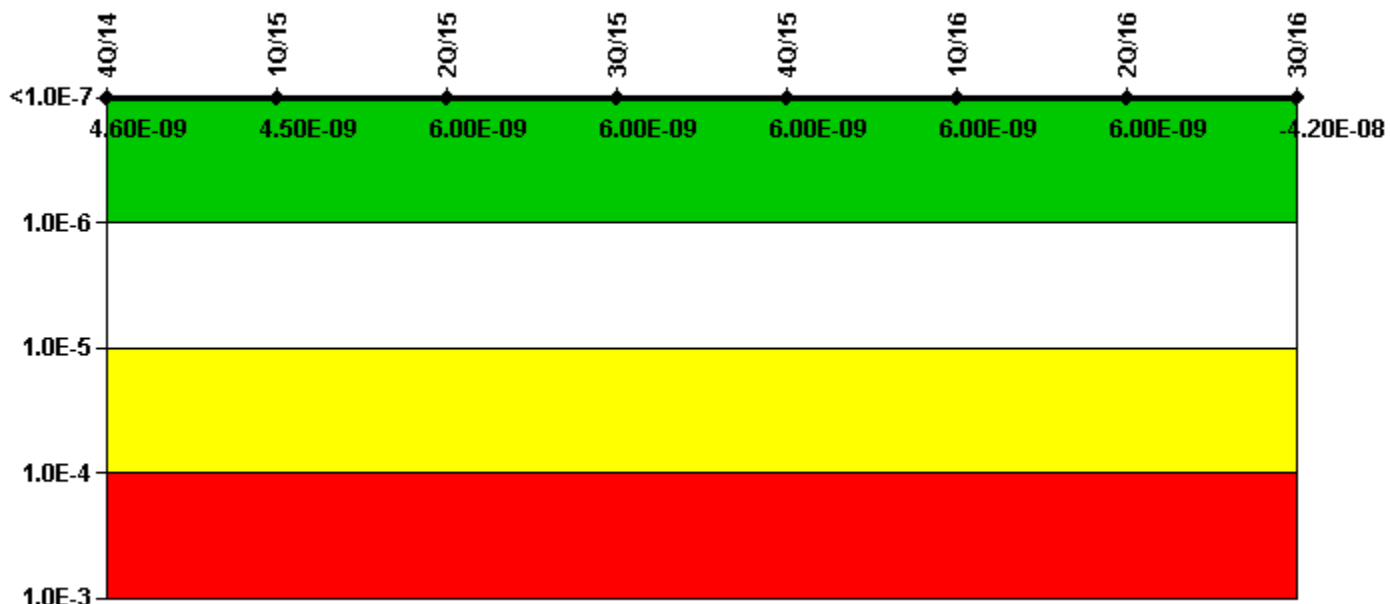
Mitigating Systems Performance Index, Heat Removal System	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
UAI ( $\Delta$ CDF)	1.74E-08	1.23E-09	6.44E-09	7.37E-09	2.11E-09	3.51E-09	3.90E-09	2.98E-09
URI ( $\Delta$ CDF)	-1.45E-08	-1.45E-08	-1.35E-08	-1.35E-08	-1.30E-08	-1.30E-08	-1.44E-08	-1.44E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.00E-09	-1.30E-08	-7.00E-09	-6.10E-09	-1.10E-08	-9.50E-09	-1.00E-08	-1.10E-08

Licensee Comments:

3Q/16: Planned Unavailable Hours 2-1302 QCIS 0200-86, QCIS 0200-87 and U-2 RCIC Work Window.

2Q/15: Changed PRA Parameter(s). Changed PRA Parameter(s).

### 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/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
UAI ( $\Delta$ CDF)	-1.83E-08	-1.84E-08	-1.01E-08	-1.01E-08	-1.01E-08	-1.01E-08	-1.01E-08	-1.35E-08
URI ( $\Delta$ CDF)	2.29E-08	2.29E-08	1.61E-08	1.61E-08	1.61E-08	1.61E-08	1.61E-08	-2.89E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	4.60E-09	4.50E-09	6.00E-09	6.00E-09	6.00E-09	6.00E-09	6.00E-09	-4.20E-08

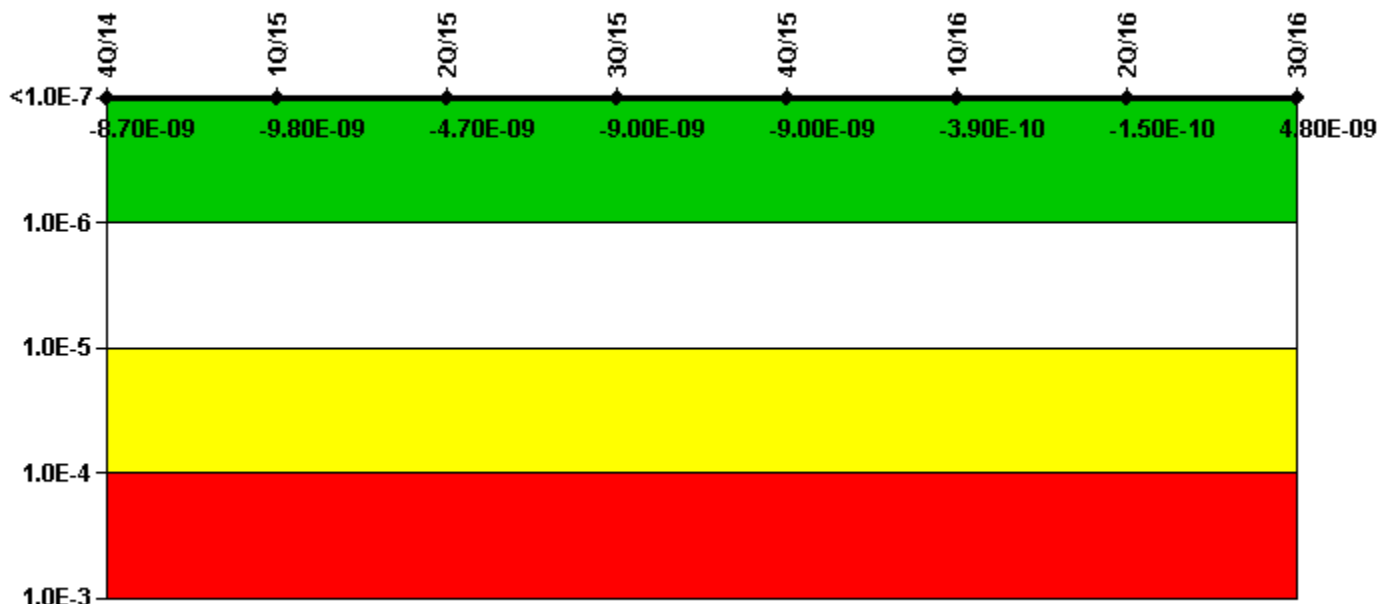
#### Licensee Comments:

3Q/16: 2B RHR Planned Unavailable Hours 9/20/16 from 8:58 to 19:20 for work on 2-1001-34B. 9/22/16 from 8:25 to 9/23/16 from 3:30 for QCOS 1000-44 B Loop logic test.

2Q/15: Changed PRA Parameter(s). Changed PRA Parameter(s).



### Mitigating Systems Performance Index, Cooling Water Systems



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

#### Notes

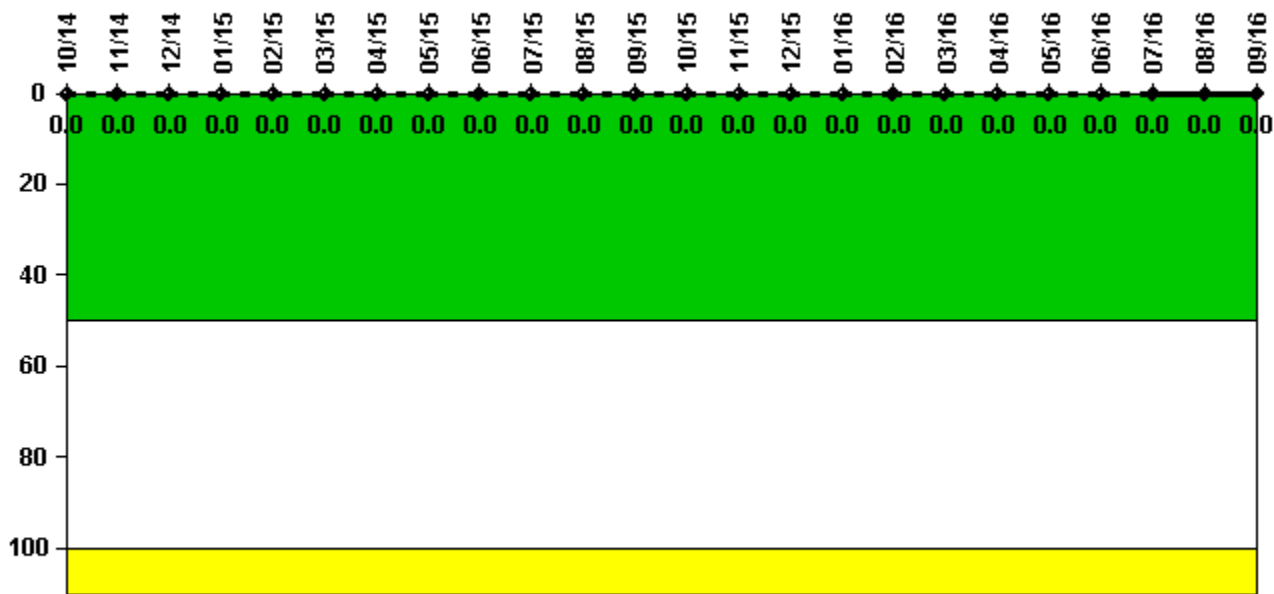
Mitigating Systems Performance Index, Cooling Water Systems	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
UAI ( $\Delta$ CDF)	-8.13E-09	-9.28E-09	-4.59E-09	-8.88E-09	-8.88E-09	-2.44E-10	-5.83E-12	4.89E-09
URI ( $\Delta$ CDF)	-5.47E-10	-5.47E-10	-1.44E-10	-1.44E-10	-1.44E-10	-1.44E-10	-1.44E-10	-1.44E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-8.70E-09	-9.80E-09	-4.70E-09	-9.00E-09	-9.00E-09	-3.90E-10	-1.50E-10	4.80E-09

Licensee Comments:

3Q/16: 2B RHRSW 9/22/16 from 8:25 to 9/23/16 from 3:30 for QCOS 1000-44 B Loop logic test.

2Q/15: Changed PRA Parameter(s). Changed PRA Parameter(s).

### Reactor Coolant System Activity



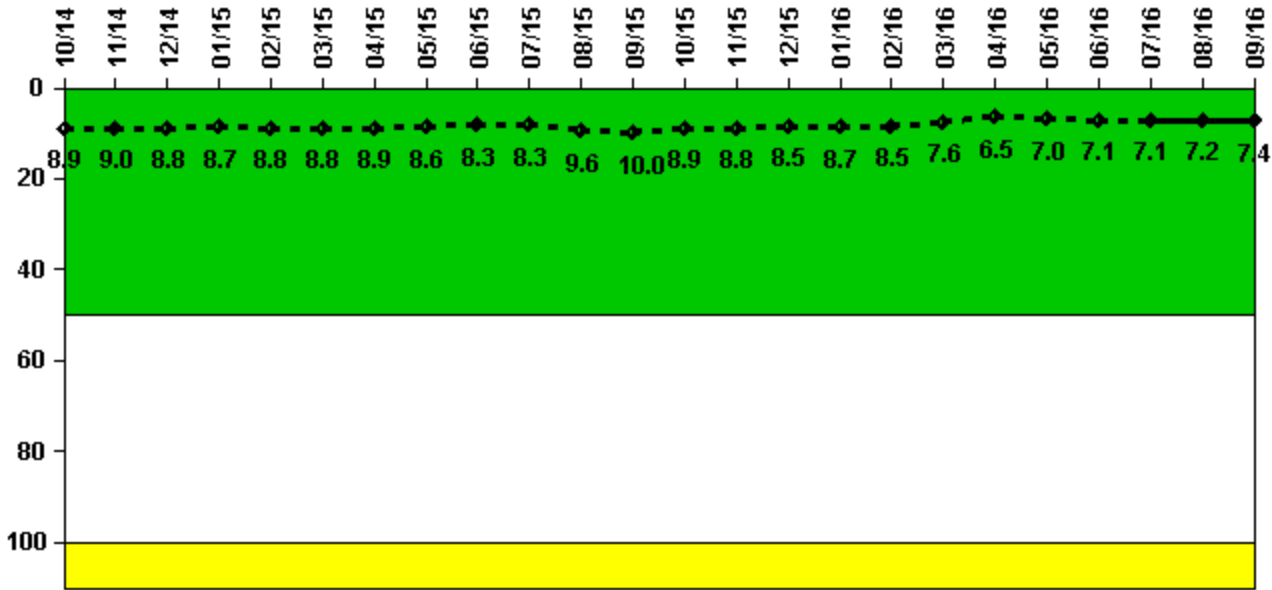
Thresholds: White > 50.0 Yellow > 100.0

#### Notes

Reactor Coolant System Activity	10/14	11/14	12/14	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15
Maximum activity	0.000012	0.000014	0.000012	0.000014	0.000011	0.000011	0.000010	0.000007	0.000007	0.000007	0.000014	0.000011
Technical specification limit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0
Reactor Coolant System Activity	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum activity	0.000012	0.000012	0.000011	0.000010	0.000012	0.000011	0.000008	0.000007	0.000006	0.000006	0.000018	0.000020
Technical specification limit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0

Licensee Comments: none

### Reactor Coolant System Leakage



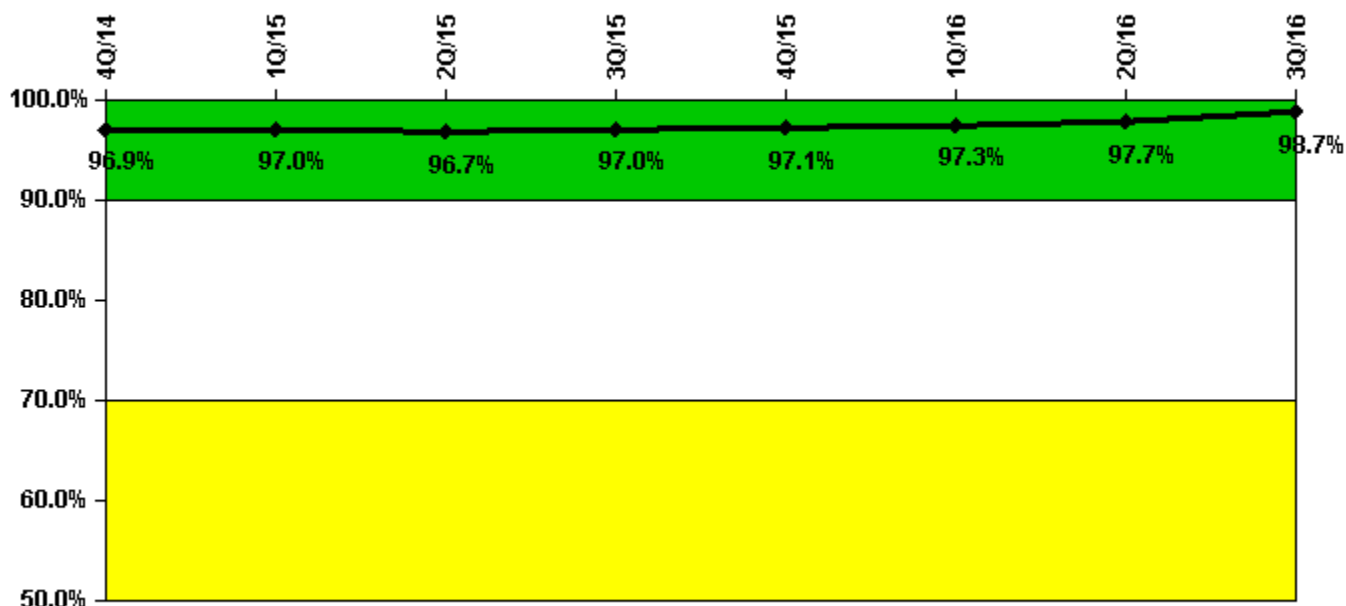
Thresholds: White > 50.0 Yellow > 100.0

#### Notes

Reactor Coolant System Leakage	10/14	11/14	12/14	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15
Maximum leakage	2.235	2.250	2.190	2.178	2.188	2.211	2.228	2.159	2.067	2.064	2.403	2.492
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Indicator value	8.9	9.0	8.8	8.7	8.8	8.8	8.9	8.6	8.3	8.3	9.6	10.0
Reactor Coolant System Leakage	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum leakage	2.237	2.210	2.123	2.165	2.119	1.897	1.615	1.751	1.765	1.768	1.806	1.851
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Indicator value	8.9	8.8	8.5	8.7	8.5	7.6	6.5	7.0	7.1	7.1	7.2	7.4

Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

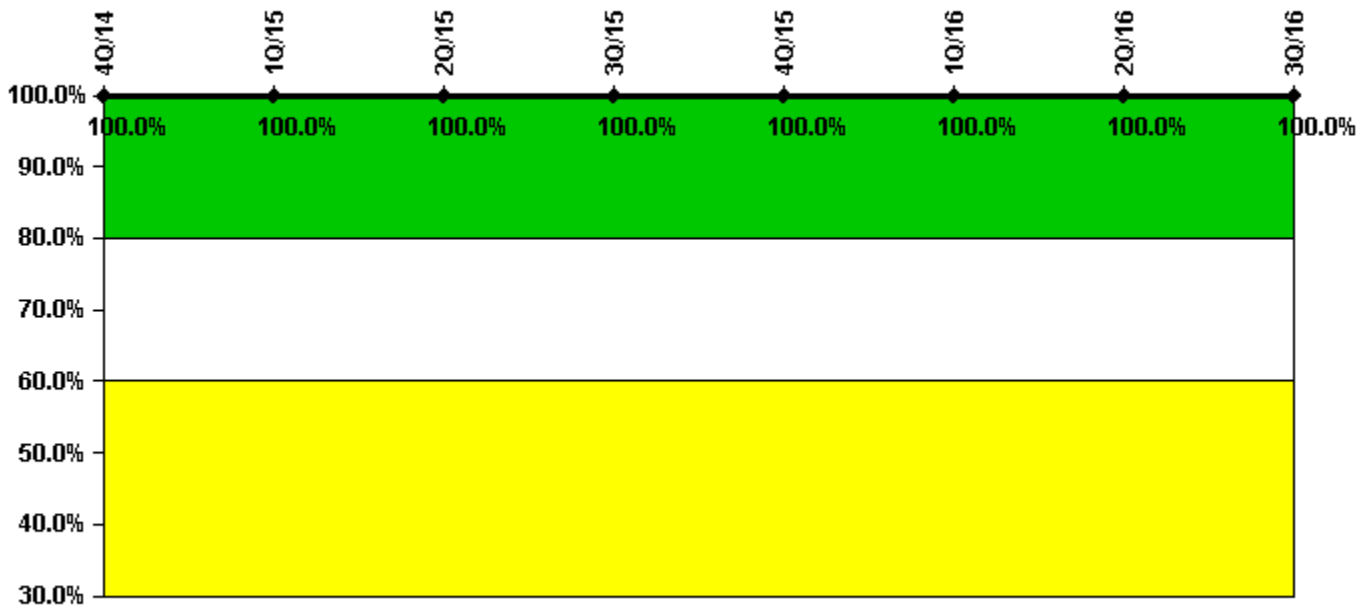
Drill/Exercise Performance	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Successful opportunities	22.0	28.0	51.0	25.0	33.0	35.0	70.0	34.0
Total opportunities	22.0	28.0	52.0	26.0	33.0	35.0	70.0	36.0
Indicator value	96.9%	97.0%	96.7%	97.0%	97.1%	97.3%	97.7%	98.7%

Licensee Comments:

3Q/15: 2015-09 changed successful drills from 13 to 17 and changed total drills from 14 to 18.

2Q/15: 2015-05 changed successful drills from 13 to 16 and total drills from 13 to 16.

### ERO Drill Participation



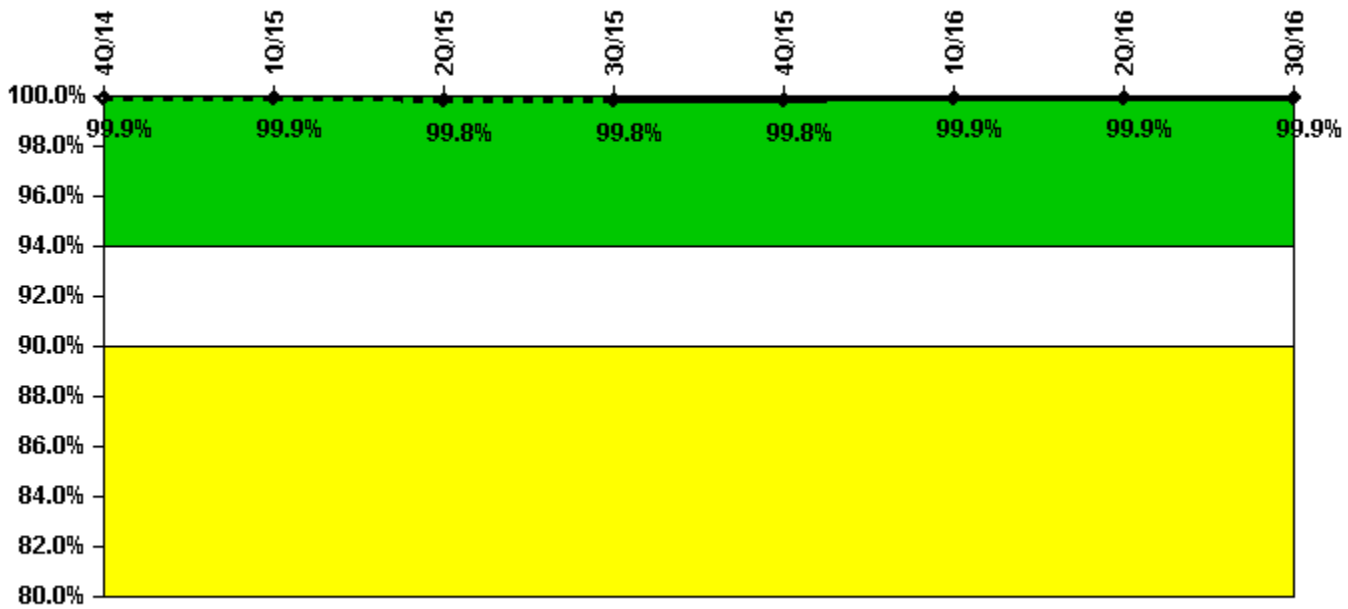
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

ERO Drill Participation	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Participating Key personnel	75.0	76.0	73.0	72.0	73.0	74.0	76.0	85.0
Total Key personnel	75.0	76.0	73.0	72.0	73.0	74.0	76.0	85.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

### Alert & Notification System



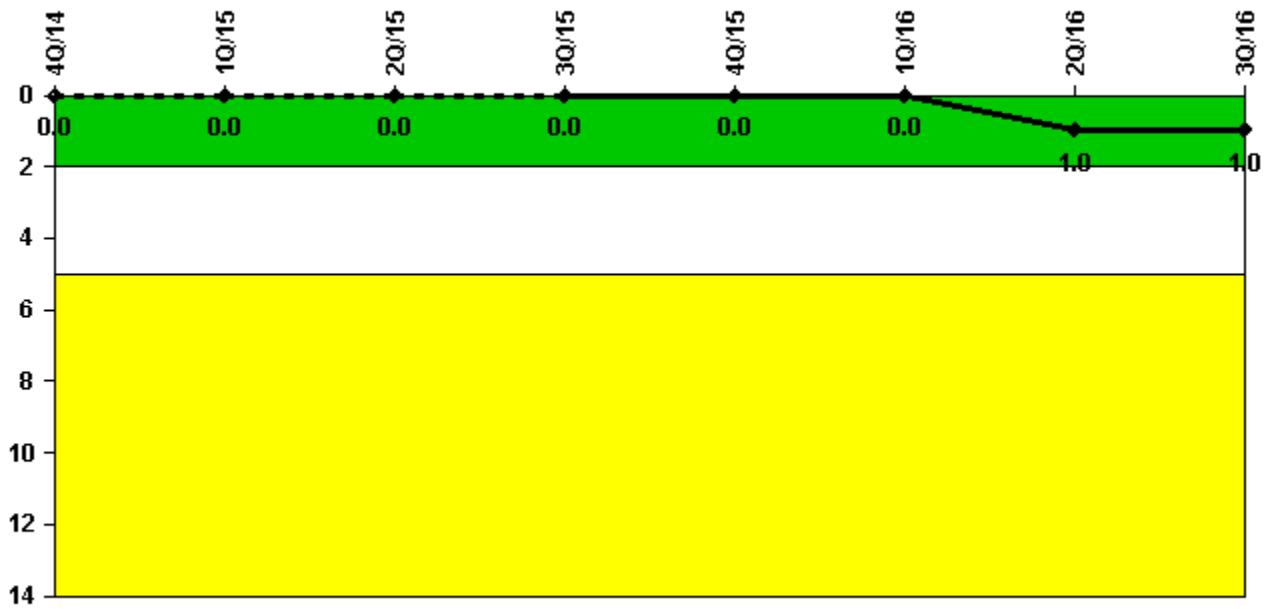
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

Alert & Notification System	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Successful siren-tests	2686	2641	2680	2725	2686	2687	2687	2682
Total sirens-tests	2688	2646	2688	2730	2688	2688	2688	2688
Indicator value	99.9%	99.9%	99.8%	99.8%	99.8%	99.9%	99.9%	99.9%

Licensee Comments: none

### Occupational Exposure Control Effectiveness



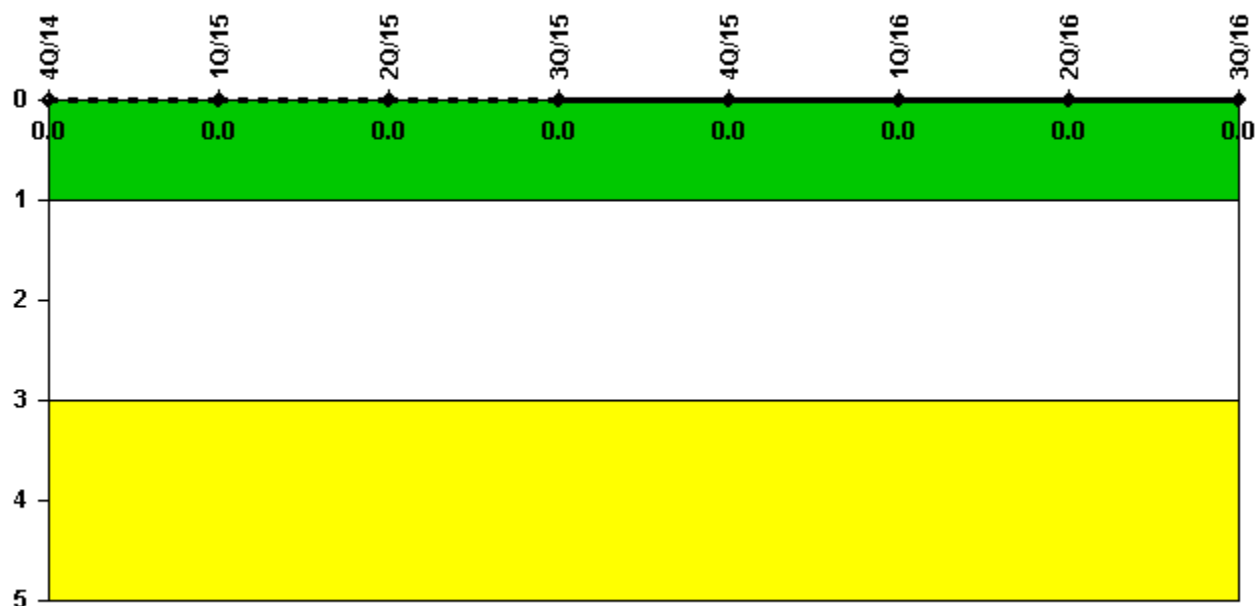
Thresholds: White > 2.0 Yellow > 5.0

#### Notes

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

Licensee Comments: none

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

#### Notes

RETS/ODCM Radiological Effluent	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
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 23, 2016*