

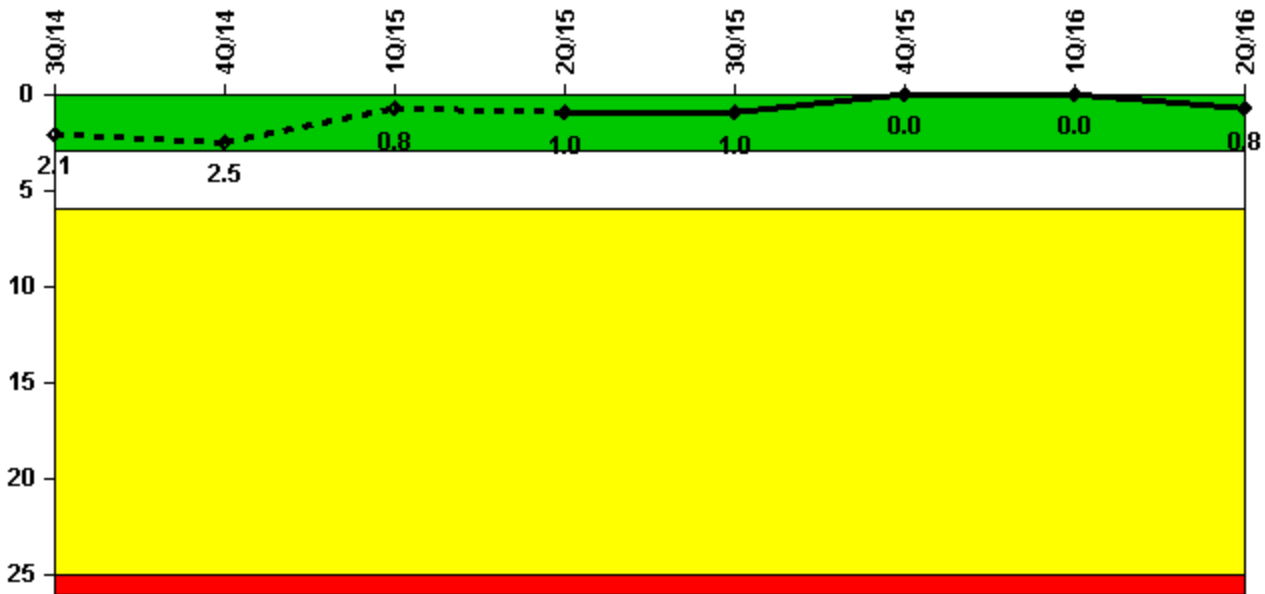
# Fort Calhoun

## 2Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



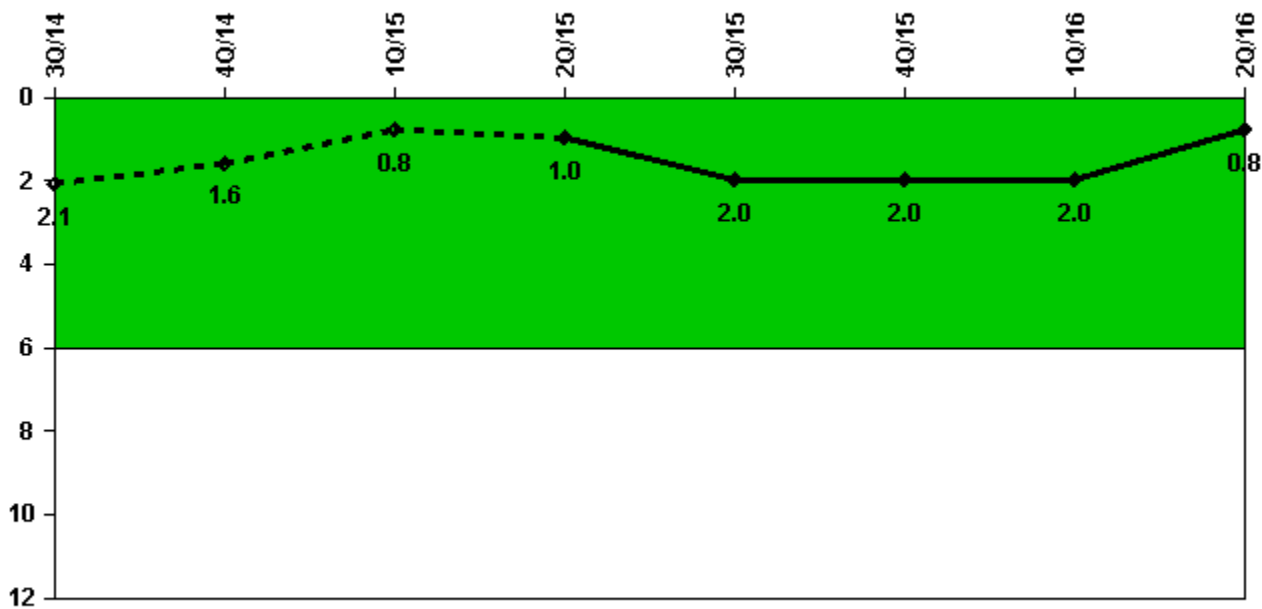
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### 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	1.0	0	0	0	0	0	1.0
Critical hours	2208.0	2140.2	2159.0	772.9	1999.9	2209.0	2183.0	2142.5
Indicator value	2.1	2.5	0.8	1.0	1.0	0	0	0.8

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

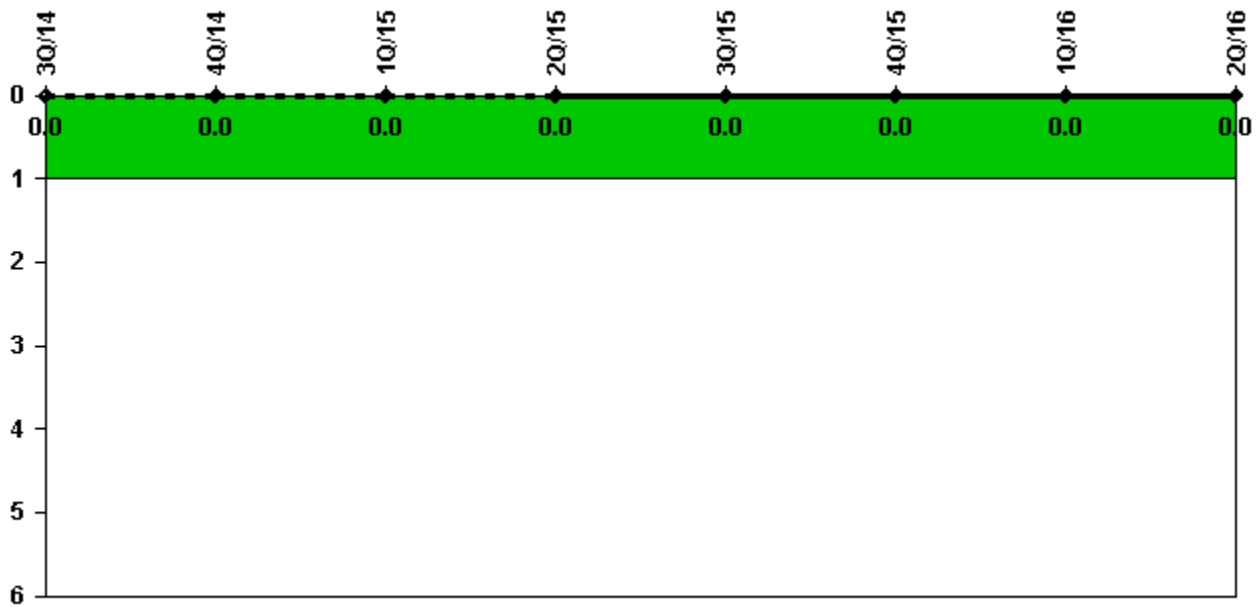
#### Notes

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	1.0	1.0	0	0	0
Critical hours	2208.0	2140.2	2159.0	772.9	1999.9	2209.0	2183.0	2142.5
<b>Indicator value</b>	<b>2.1</b>	<b>1.6</b>	<b>0.8</b>	<b>1.0</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>	<b>0.8</b>

Licensee Comments:

4Q/15: An oversight in the third quarter submittal has been corrected adding an additional unplanned power change to the performance indicator. There has been no change in the color of the indicator.

### Unplanned Scrams with Complications



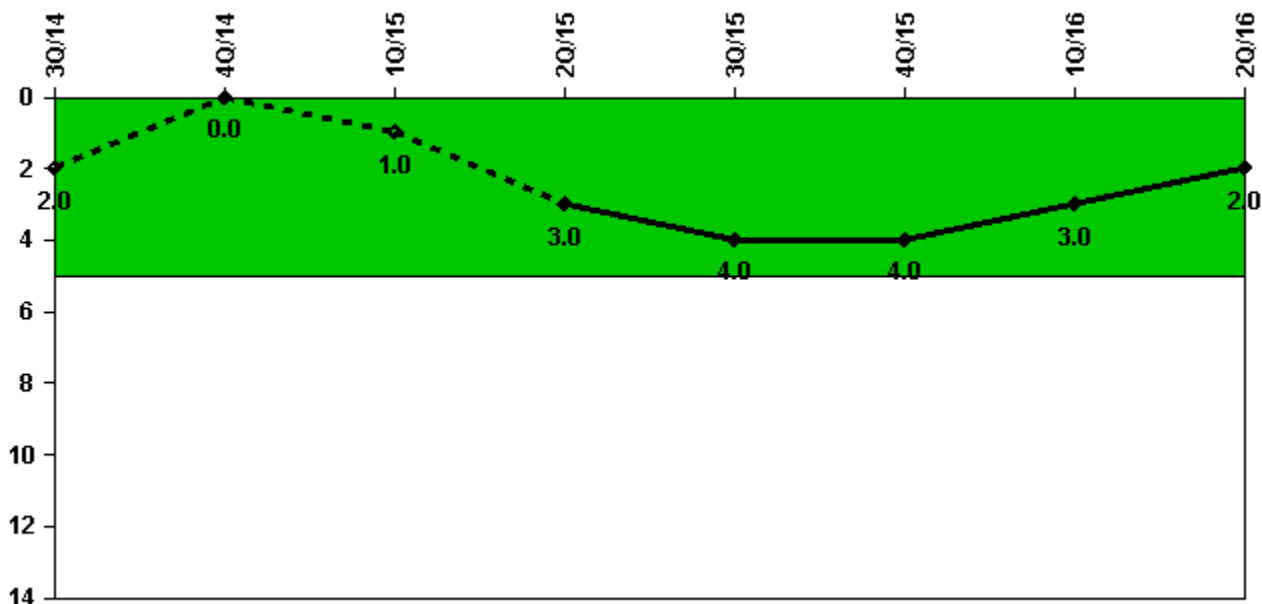
Thresholds: White > 1.0

#### 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	1	2	1	0	0	1
<b>Indicator value</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>2</b>

Licensee Comments:

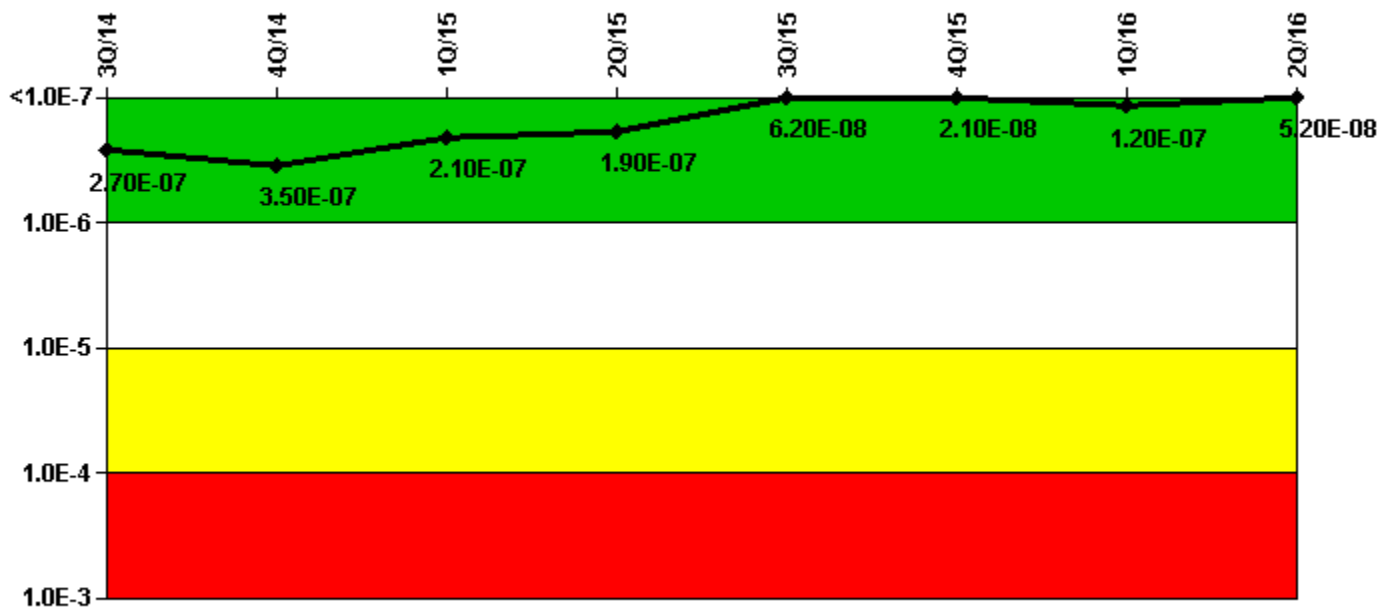
2Q/16: LER 2016-01, Technical Specification Violation due to Installation of an Unqualified Part in a Radiation Monitor

3Q/15: LER 2015-004 Inoperability of Auxiliary Feedwater Trains Due to Failure of a Steam Generator Isolation Valve

2Q/15: LER 2015-002, Inoperable Auxiliary Feedwater System Due to Inadequate Procedure Change; LER 3015-003 Containment Spray Inoperable Due to Original Design

1Q/15: LER 2013-014 Rev 2 Unqualified Components used in Safety System Control Circuit

### Mitigating Systems Performance Index, Emergency AC Power System



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

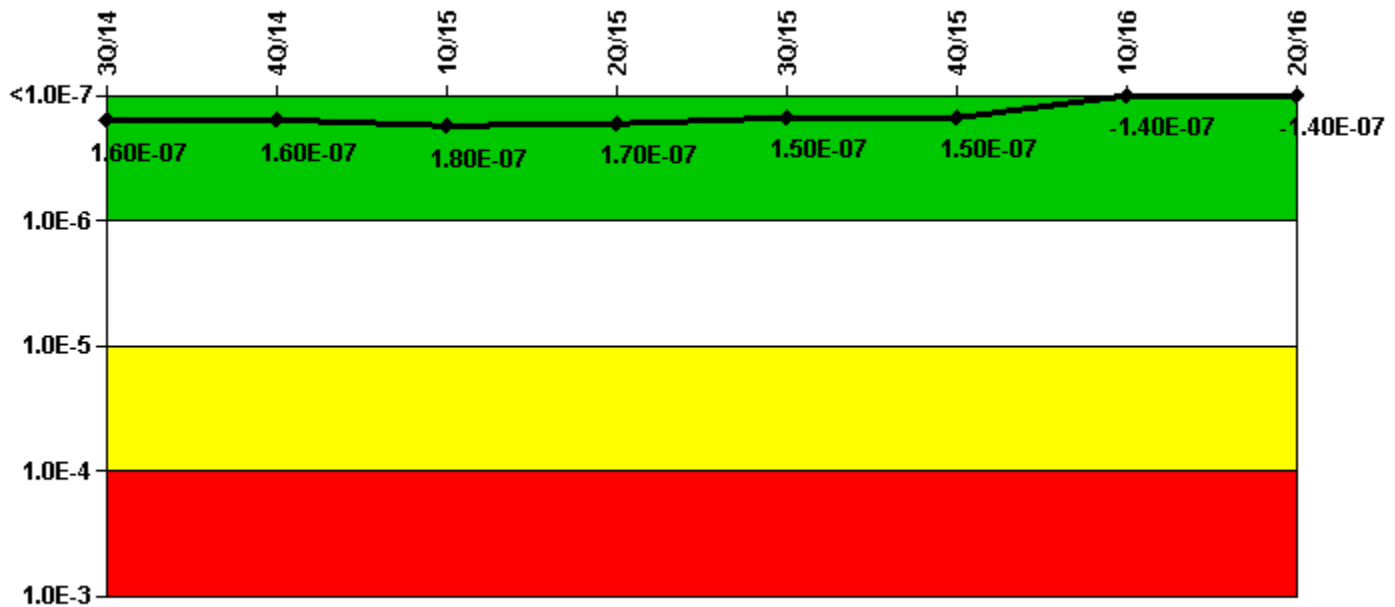
#### Notes

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 (ΔCDF)	3.67E-07	4.66E-07	5.38E-07	4.99E-07	3.75E-07	2.93E-07	3.93E-07	3.21E-07
URI (ΔCDF)	-1.02E-07	-1.15E-07	-3.24E-07	-3.13E-07	-3.13E-07	-2.72E-07	-2.69E-07	-2.69E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.70E-07	3.50E-07	2.10E-07	1.90E-07	6.20E-08	2.10E-08	1.20E-07	5.20E-08

Licensee Comments:

4Q/15: For the third quarter of 2014 and forward the PRA parameters were updated to the revised model.

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



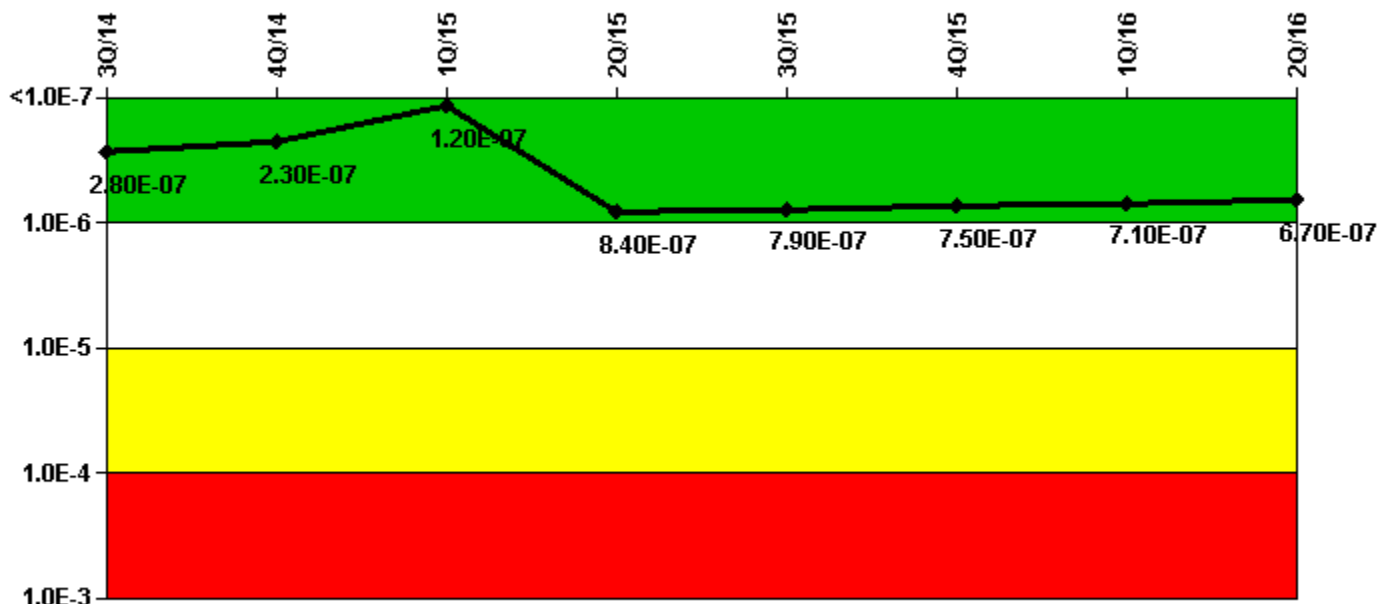
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### 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 ( $\Delta$ CDF)	-7.74E-08	-7.74E-08	-5.58E-08	-6.34E-08	-7.74E-08	-7.74E-08	-6.19E-08	-6.79E-08
URI ( $\Delta$ CDF)	2.35E-07	2.36E-07	2.37E-07	2.33E-07	2.32E-07	2.26E-07	-7.54E-08	-7.60E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	1.60E-07	1.60E-07	1.80E-07	1.70E-07	1.50E-07	1.50E-07	-1.40E-07	-1.40E-07

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)	1.48E-08	-1.04E-08	-9.62E-08	-9.62E-08	-9.62E-08	-9.62E-08	-9.62E-08	-9.62E-08
URI ( $\Delta$ CDF)	2.68E-07	2.43E-07	2.20E-07	9.38E-07	8.88E-07	8.44E-07	8.09E-07	7.69E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.80E-07	2.30E-07	1.20E-07	8.40E-07	7.90E-07	7.50E-07	7.10E-07	6.70E-07

Licensee Comments:

2Q/16: Risk Cap Invoked.

1Q/16: Risk Cap Invoked.

4Q/15: Risk Cap Invoked.

3Q/15: Risk Cap Invoked.

2Q/15: Risk Cap Invoked.

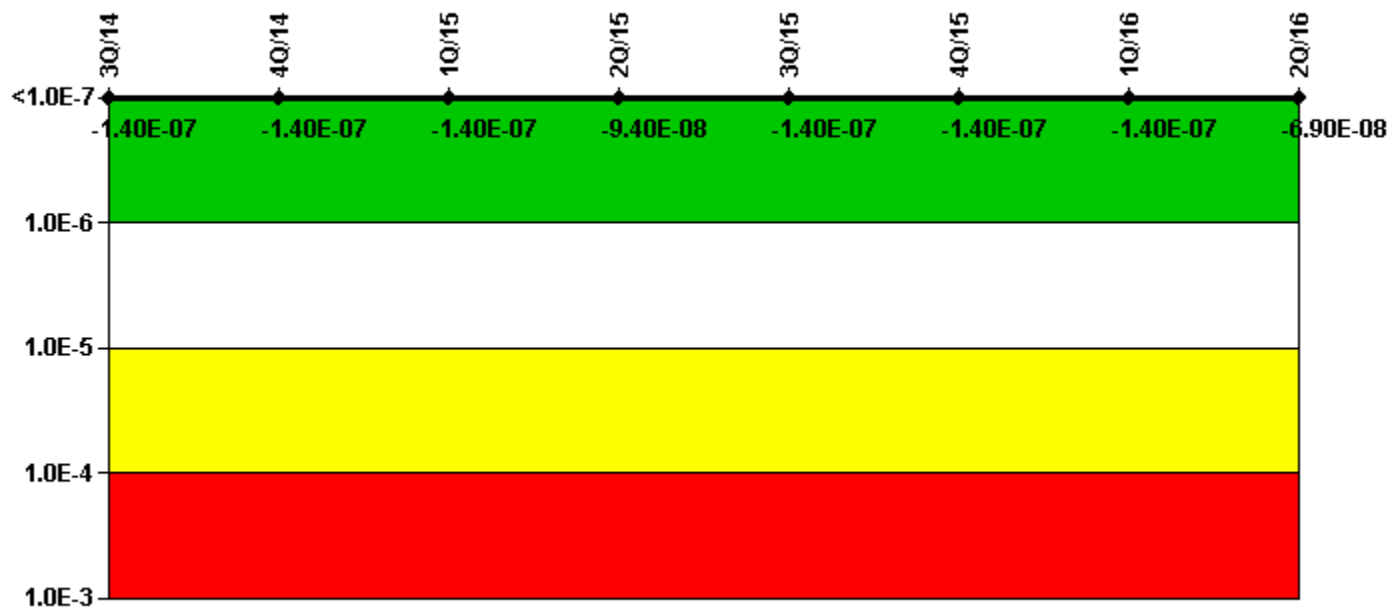
1Q/15: Risk Cap Invoked.

4Q/14: Risk Cap Invoked.

3Q/14: Risk Cap Invoked. An additional failure was added to the first quarter 2014 that was discovered during

NRC inspection.

### 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)	-1.31E-07	-1.31E-07	-1.31E-07	-8.00E-08	-1.31E-07	-1.31E-07	-1.31E-07	-6.14E-08
URI ( $\Delta$ CDF)	-9.89E-09	-9.22E-09	-8.66E-09	-1.38E-08	-1.31E-08	-1.25E-08	-9.44E-09	-8.04E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.40E-07	-1.40E-07	-1.40E-07	-9.40E-08	-1.40E-07	-1.40E-07	-1.40E-07	-6.90E-08

Licensee Comments:

4Q/15: Changed PRA Parameter(s). During an update to the MSPI basis document an error was discovered in three of the PRA parameters for this indicator. The correction is applied for third quarter 2014 through third quarter 2015. The change did not affect the color of the PI over this period.

3Q/15: Changed PRA Parameter(s).

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

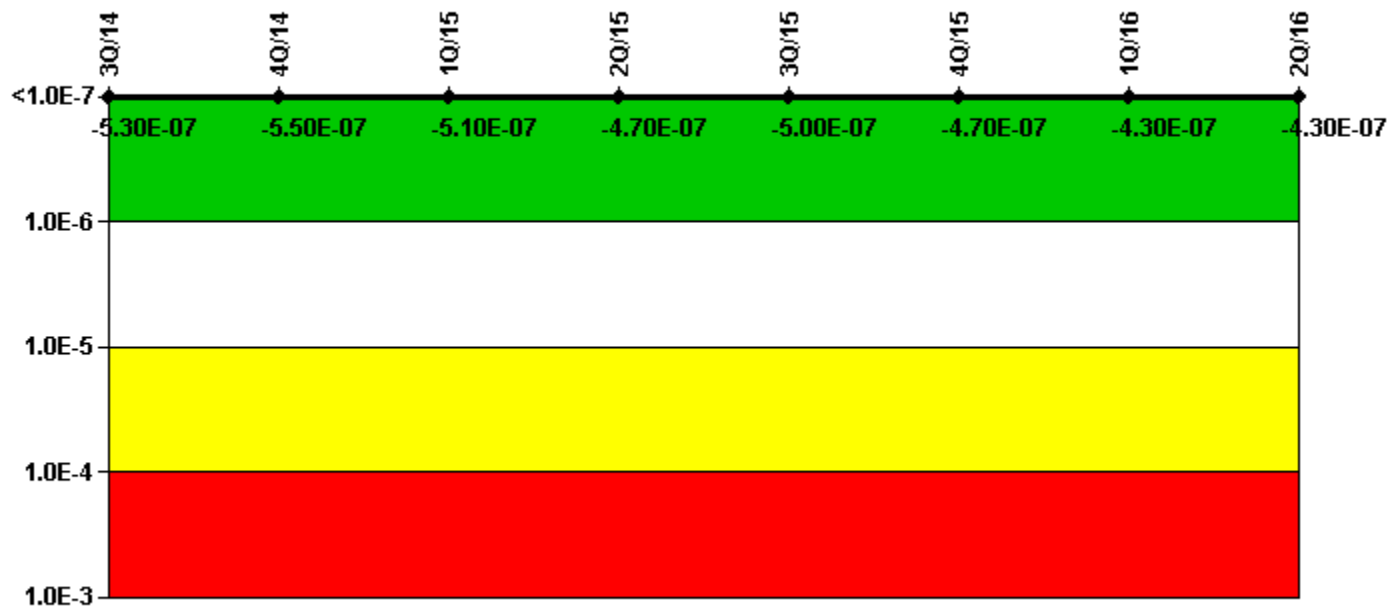


1Q/15: Changed PRA Parameter(s).

4Q/14: Changed PRA Parameter(s).

3Q/14: Changed PRA Parameter(s).

### Mitigating Systems Performance Index, Cooling Water Systems



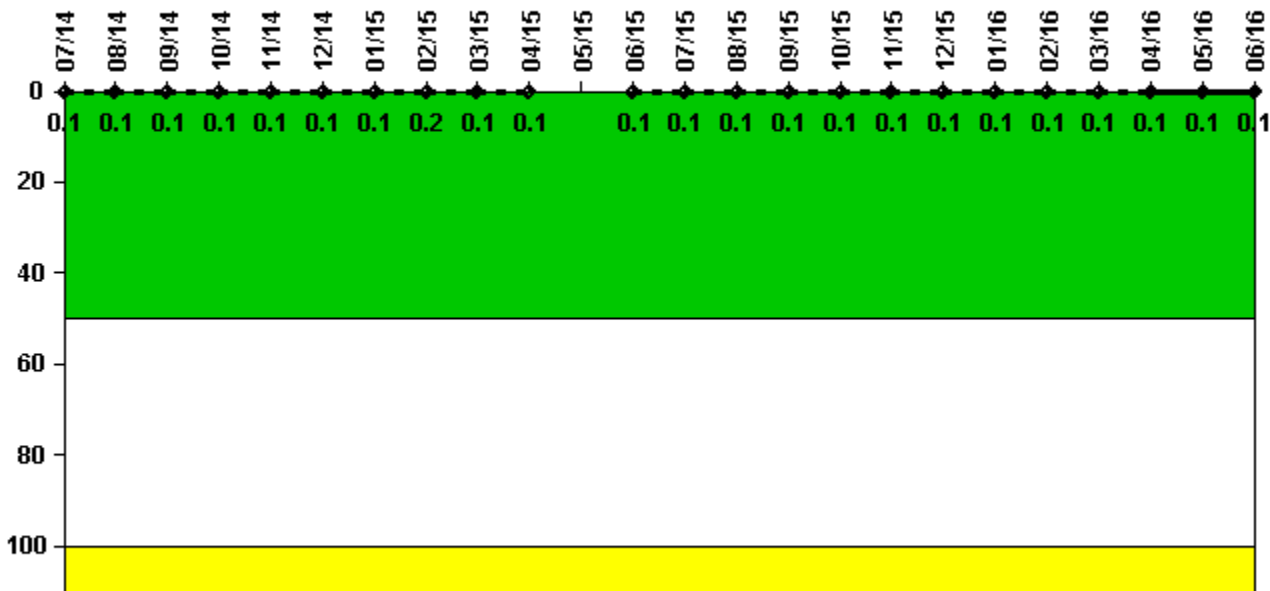
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, Cooling Water Systems	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
UAI (ΔCDF)	-5.38E-07	-5.67E-07	-5.25E-07	-5.40E-07	-5.67E-07	-5.42E-07	-5.03E-07	-5.04E-07
URI (ΔCDF)	1.15E-08	1.23E-08	1.35E-08	7.33E-08	6.80E-08	7.00E-08	7.49E-08	7.79E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-5.30E-07	-5.50E-07	-5.10E-07	-4.70E-07	-5.00E-07	-4.70E-07	-4.30E-07	-4.30E-07

Licensee Comments: none

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

### Notes

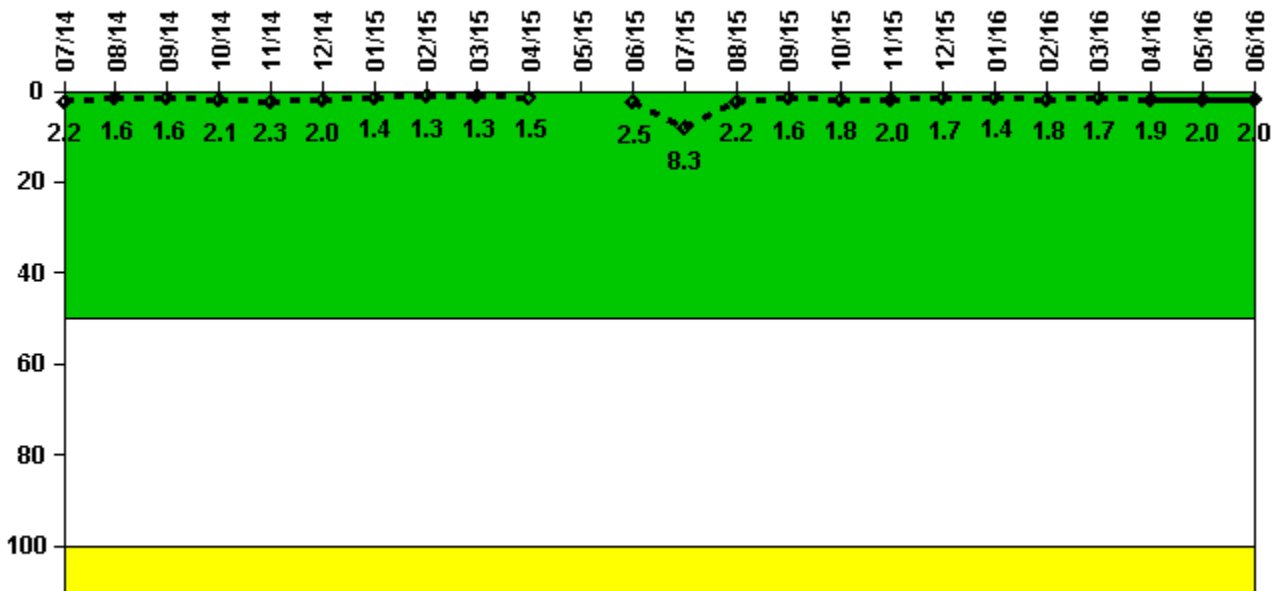
Reactor Coolant System Activity	7/14	8/14	9/14	10/14	11/14	12/14	1/15	2/15	3/15	4/15	5/15	6/15
Maximum activity	0.001140	0.001230	0.001300	0.001300	0.001380	0.001340	0.001380	0.001500	0.001420	0.001400	N/A	0.000633
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	N/A	0.1

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	0.000741	0.000772	0.000837	0.000925	0.000839	0.000907	0.000971	0.000949	0.001020	0.001030	0.001020	0.001010
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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Licensee Comments: none

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

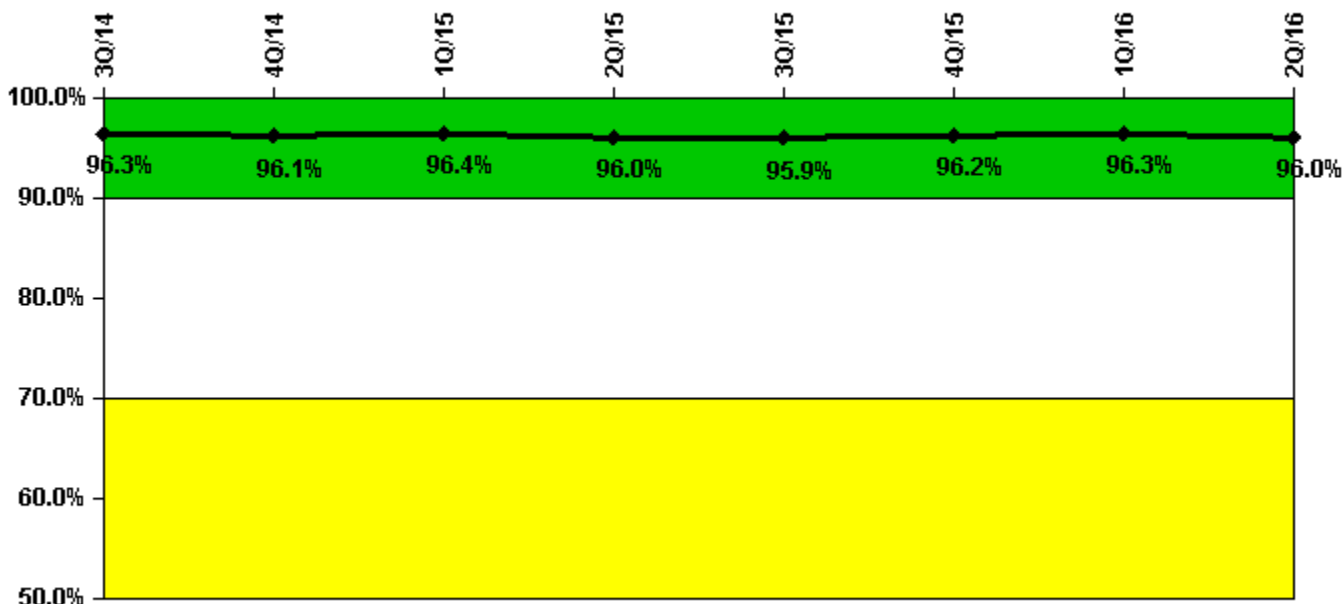
#### Notes

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	0.216	0.160	0.155	0.211	0.231	0.198	0.138	0.134	0.129	0.148	N/A	0.247
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	2.2	1.6	1.6	2.1	2.3	2.0	1.4	1.3	1.3	1.5	N/A	2.5
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	0.828	0.218	0.157	0.175	0.196	0.174	0.140	0.176	0.165	0.188	0.202	0.203
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	8.3	2.2	1.6	1.8	2.0	1.7	1.4	1.8	1.7	1.9	2.0	2.0

Licensee Comments:

12/15: A review of performance indicator data determined that the data for third quarter 2015 contained small errors. The changes did not result in a change in color to the performance indicator.

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

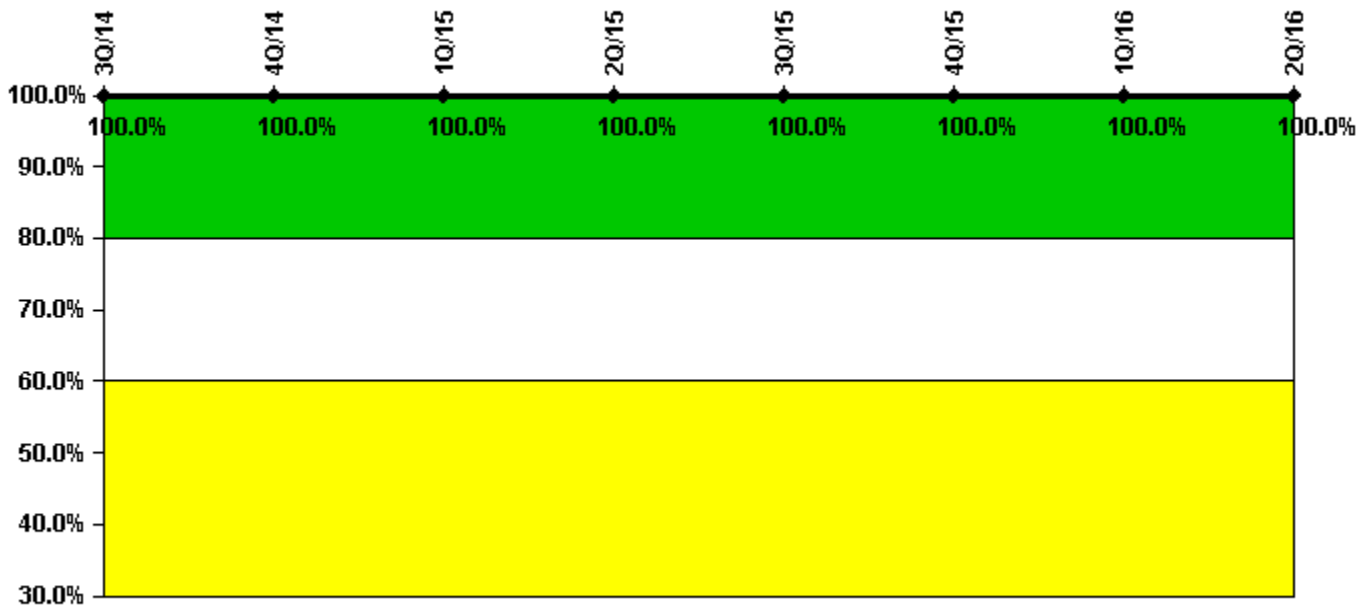
#### Notes

Drill/Exercise Performance	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
Successful opportunities	77.0	82.0	49.0	12.0	73.0	60.0	26.0	34.0
Total opportunities	81.0	85.0	49.0	15.0	75.0	62.0	28.0	35.0
Indicator value	96.3%	96.1%	96.4%	96.0%	95.9%	96.2%	96.3%	96.0%

Licensee Comments:

3Q/14: Minor corrections were made in the fourth quarter 2013 and first quarter 2014 data due to NRC and internal reviews.

### ERO Drill Participation



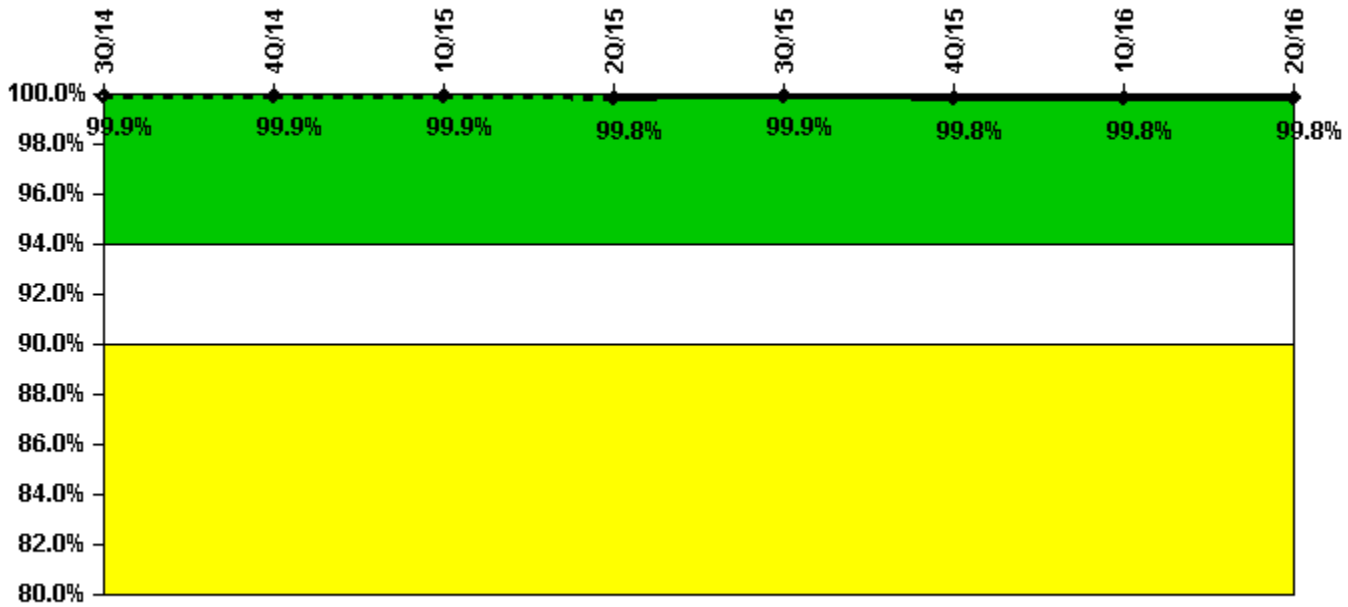
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

ERO Drill Participation	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
Participating Key personnel	111.0	112.0	115.0	115.0	121.0	121.0	109.0	52.0
Total Key personnel	111.0	112.0	115.0	115.0	121.0	121.0	109.0	52.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

### Alert & Notification System



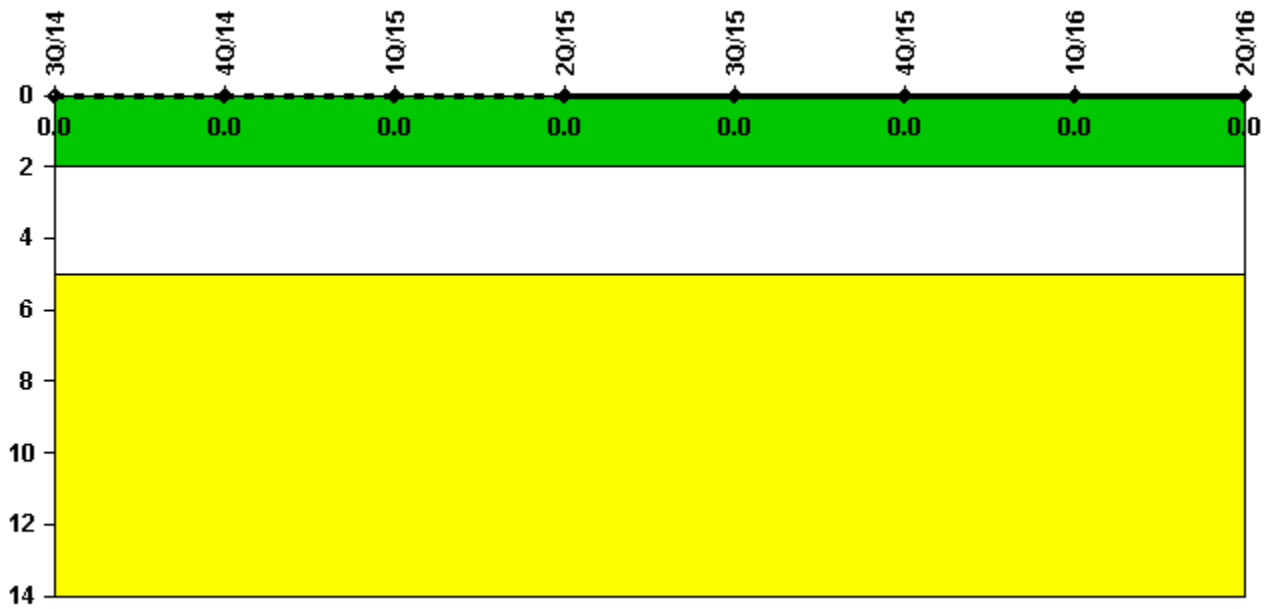
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

Alert & Notification System	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16
Successful siren-tests	907	706	807	706	909	703	807	705
Total sirens-tests	909	707	808	707	909	707	808	707
Indicator value	99.9%	99.9%	99.9%	99.8%	99.9%	99.8%	99.8%	99.8%

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	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	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*