

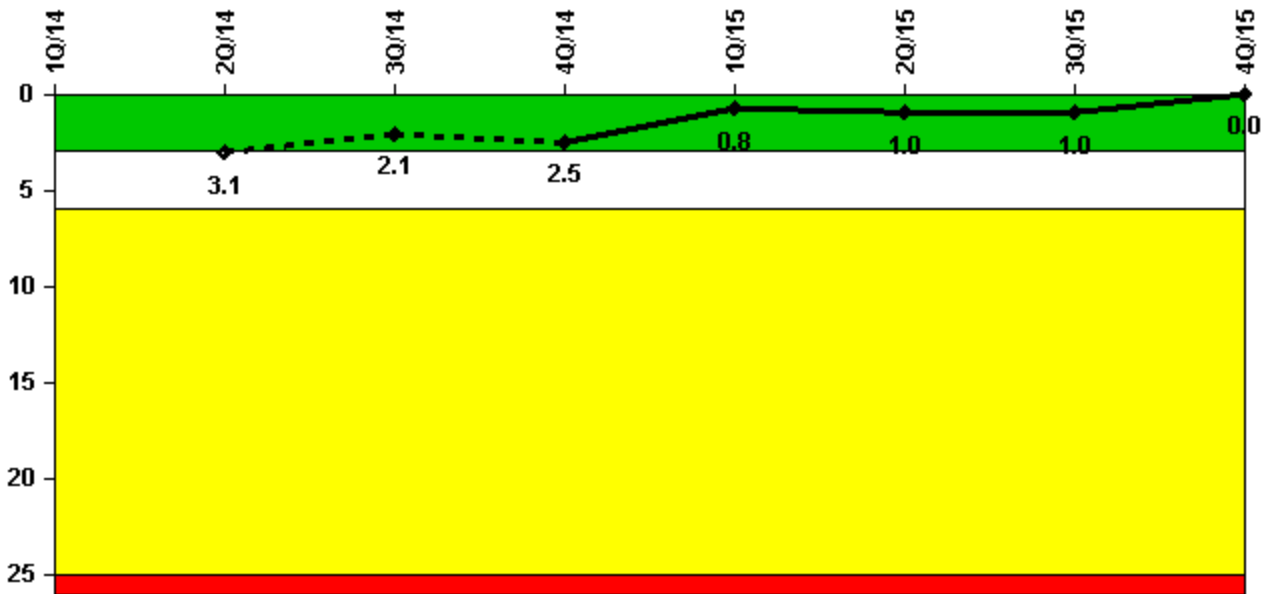
# Fort Calhoun

## 4Q/2015 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

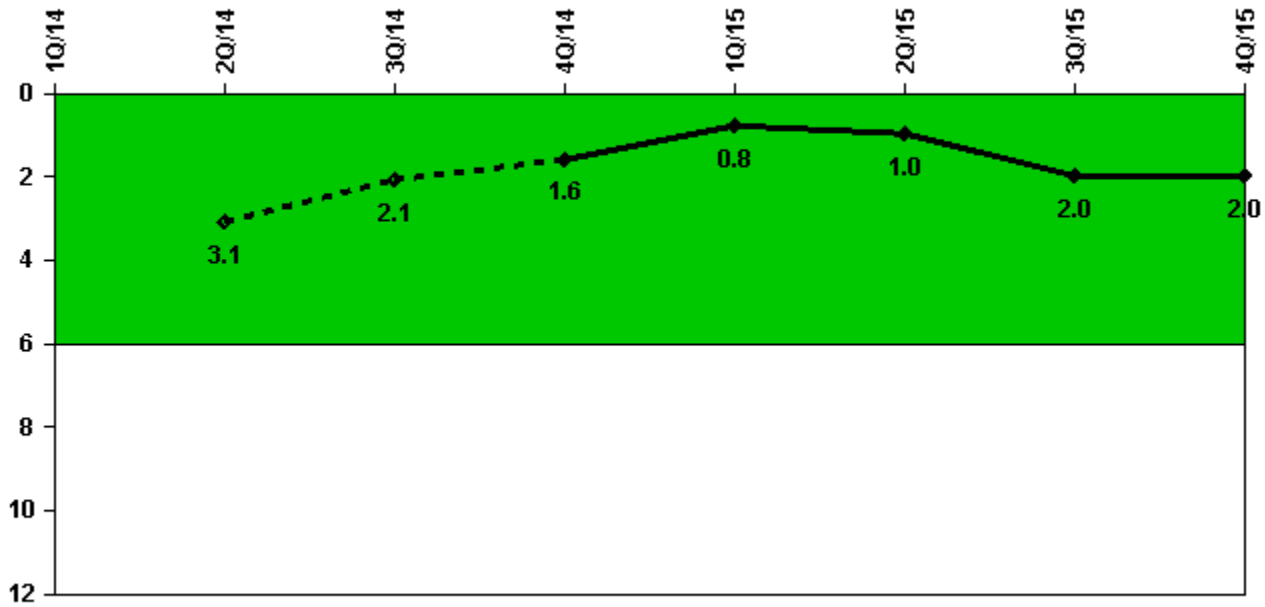
### Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Unplanned scrams	2.0	0	0	1.0	0	0	0	0
Critical hours	2026.9	2184.0	2208.0	2140.2	2159.0	772.9	1999.9	2209.0
Indicator value	N/A	3.1	2.1	2.5	0.8	1.0	1.0	0

Licensee Comments:

2Q/14: During the second quarter the station critical hours exceeded the minimum 2400 hour required to calculate this indicator. With low critical hours the PI is white due to the two scrams from the first quarter.

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

#### Notes

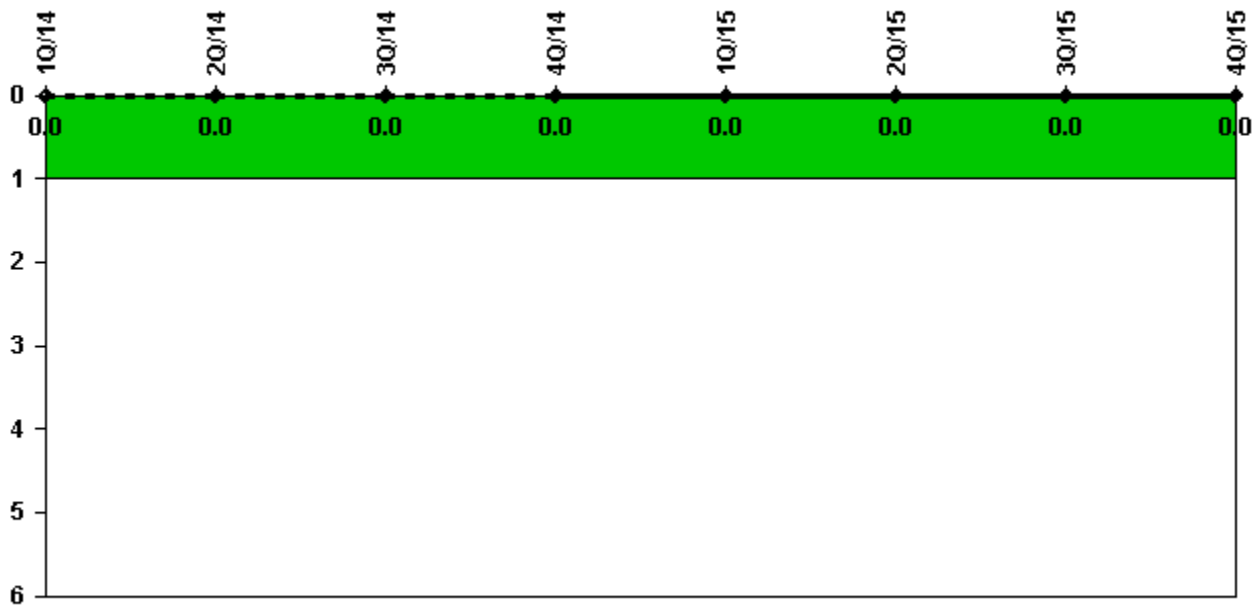
Unplanned Power Changes per 7000 Critical Hrs	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Unplanned power changes	1.0	1.0	0	0	0	1.0	1.0	0
Critical hours	2026.9	2184.0	2208.0	2140.2	2159.0	772.9	1999.9	2209.0
<b>Indicator value</b>	<b>N/A</b>	<b>3.1</b>	<b>2.1</b>	<b>1.6</b>	<b>0.8</b>	<b>1.0</b>	<b>2.0</b>	<b>2.0</b>

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.

1Q/14: Correct an error discovered during a review.

### Unplanned Scrams with Complications



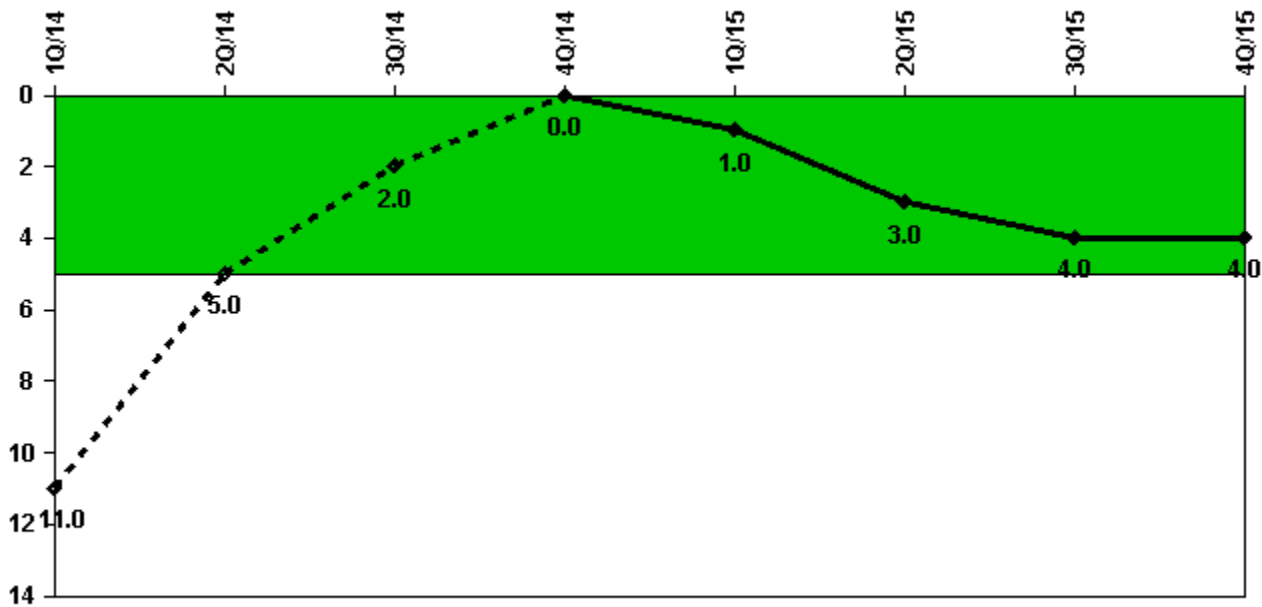
Thresholds: White > 1.0

#### Notes

Unplanned Scrams with Complications	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
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)	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Safety System Functional Failures	0	0	0	0	1	2	1	0
<b>Indicator value</b>	<b>11</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>

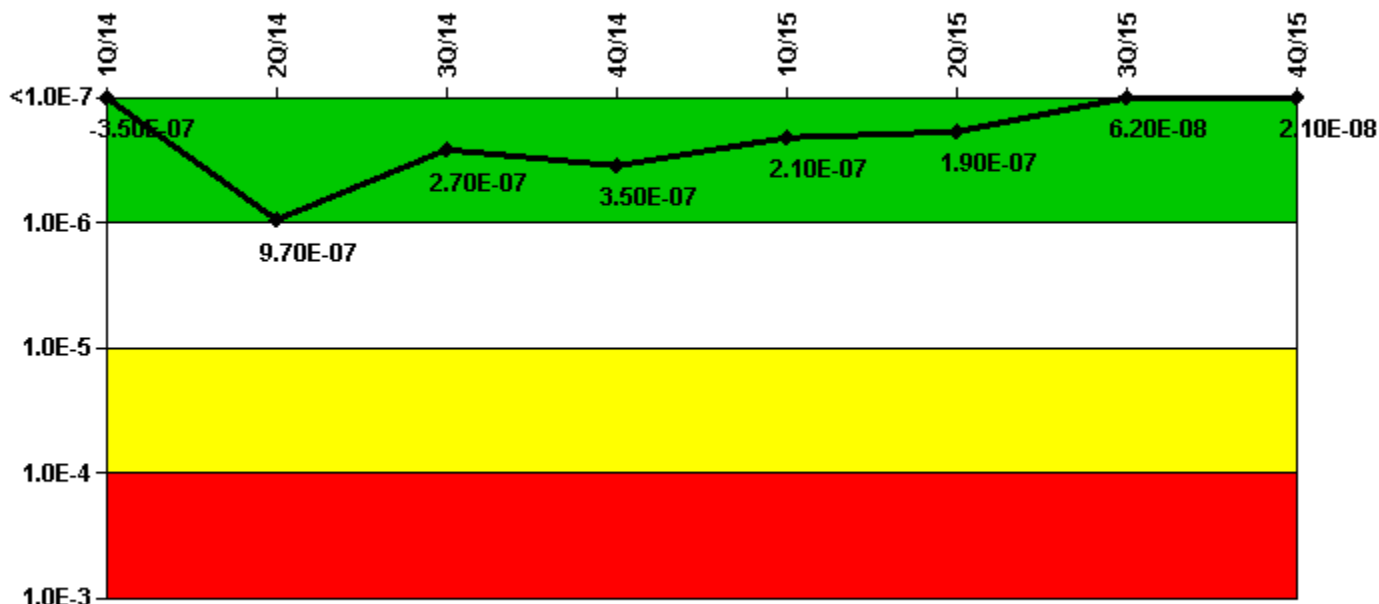
Licensee Comments:

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	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI (ΔCDF)	-1.98E-08	1.26E-06	3.67E-07	4.66E-07	5.38E-07	4.99E-07	3.75E-07	2.93E-07
URI (ΔCDF)	-3.29E-07	-2.88E-07	-1.02E-07	-1.15E-07	-3.24E-07	-3.13E-07	-3.13E-07	-2.72E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.50E-07	9.70E-07	2.70E-07	3.50E-07	2.10E-07	1.90E-07	6.20E-08	2.10E-08

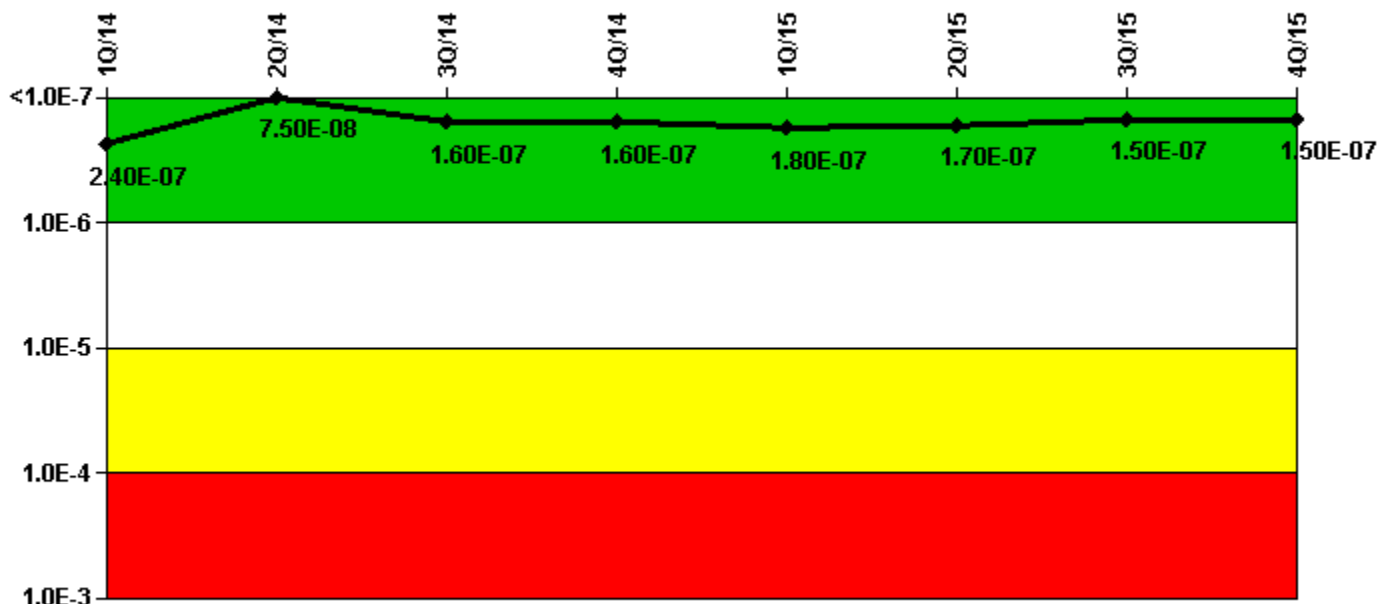
#### Licensee Comments:

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

2Q/14: Risk Cap Invoked.

1Q/14: Risk Cap Invoked.

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



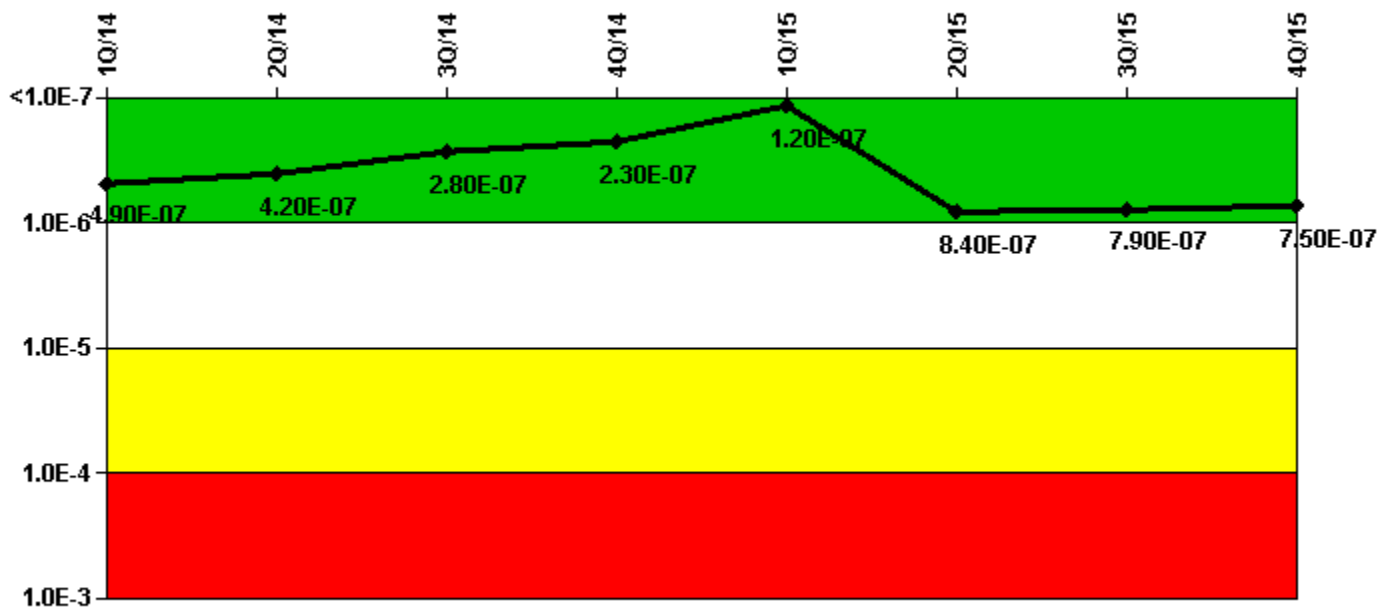
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, High Pressure Injection System	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI (ΔCDF)	6.67E-08	-1.01E-07	-7.74E-08	-7.74E-08	-5.58E-08	-6.34E-08	-7.74E-08	-7.74E-08
URI (ΔCDF)	1.70E-07	1.76E-07	2.35E-07	2.36E-07	2.37E-07	2.33E-07	2.32E-07	2.26E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.40E-07	7.50E-08	1.60E-07	1.60E-07	1.80E-07	1.70E-07	1.50E-07	1.50E-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	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI (ΔCDF)	5.99E-08	1.92E-08	1.48E-08	-1.04E-08	-9.62E-08	-9.62E-08	-9.62E-08	-9.62E-08
URI (ΔCDF)	4.28E-07	4.04E-07	2.68E-07	2.43E-07	2.20E-07	9.38E-07	8.88E-07	8.44E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	4.90E-07	4.20E-07	2.80E-07	2.30E-07	1.20E-07	8.40E-07	7.90E-07	7.50E-07

#### Licensee Comments:

4Q/15: Risk Cap Invoked.

3Q/15: Risk Cap Invoked.

2Q/15: Risk Cap Invoked.

1Q/15: Risk Cap Invoked.

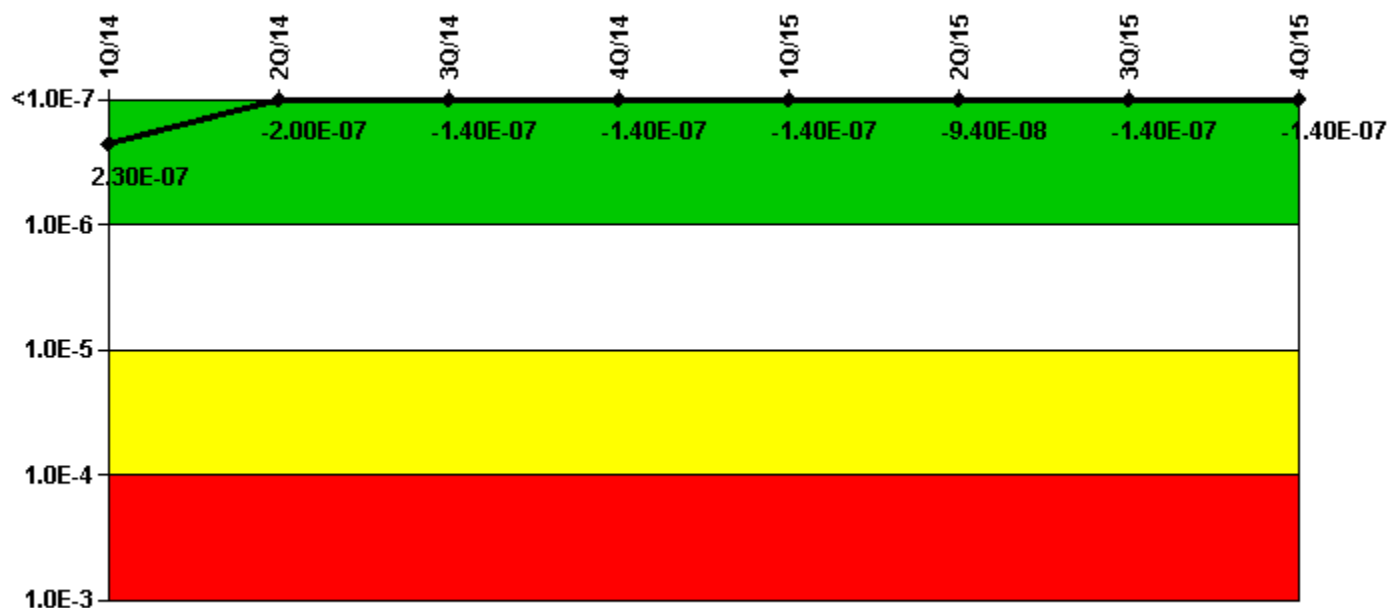
4Q/14: Risk Cap Invoked.

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

2Q/14: Risk Cap Invoked.

1Q/14: Risk Cap Invoked.

### 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	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI (ΔCDF)	2.78E-07	-1.68E-07	-1.31E-07	-1.31E-07	-1.31E-07	-8.00E-08	-1.31E-07	-1.31E-07
URI (ΔCDF)	-4.57E-08	-3.54E-08	-9.89E-09	-9.22E-09	-8.66E-09	-1.38E-08	-1.31E-08	-1.25E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.30E-07	-2.00E-07	-1.40E-07	-1.40E-07	-1.40E-07	-9.40E-08	-1.40E-07	-1.40E-07

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).

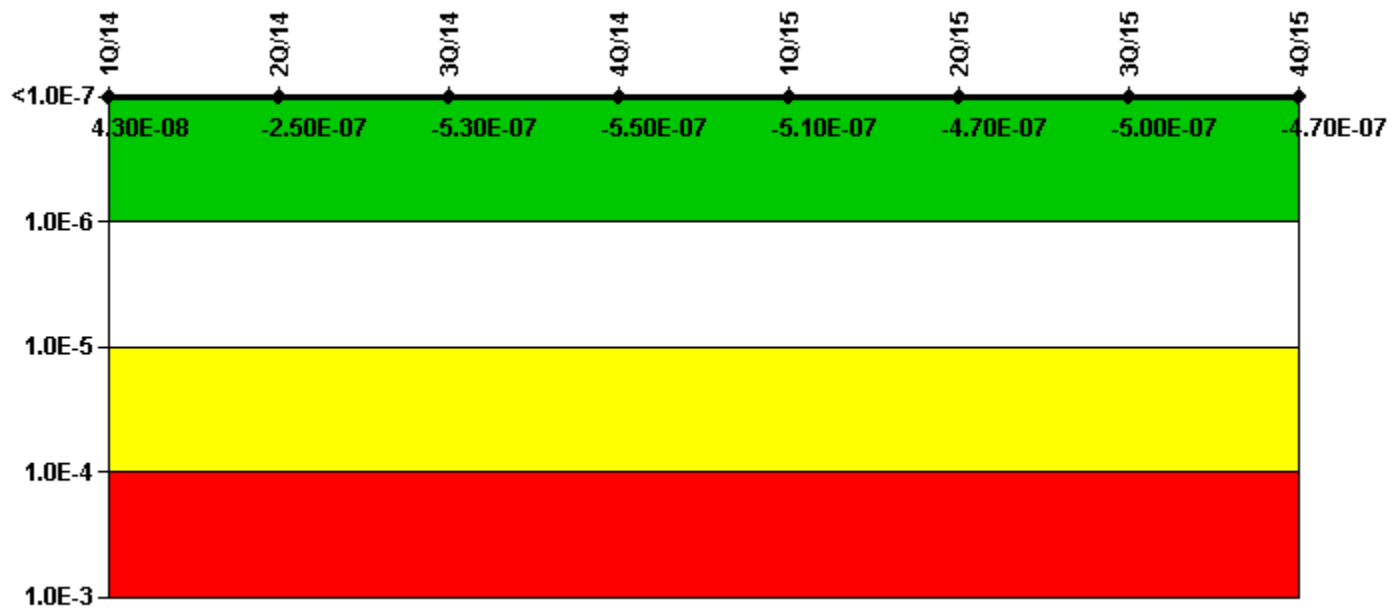


1Q/15: Changed PRA Parameter(s).

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

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

### Mitigating Systems Performance Index, Cooling Water Systems



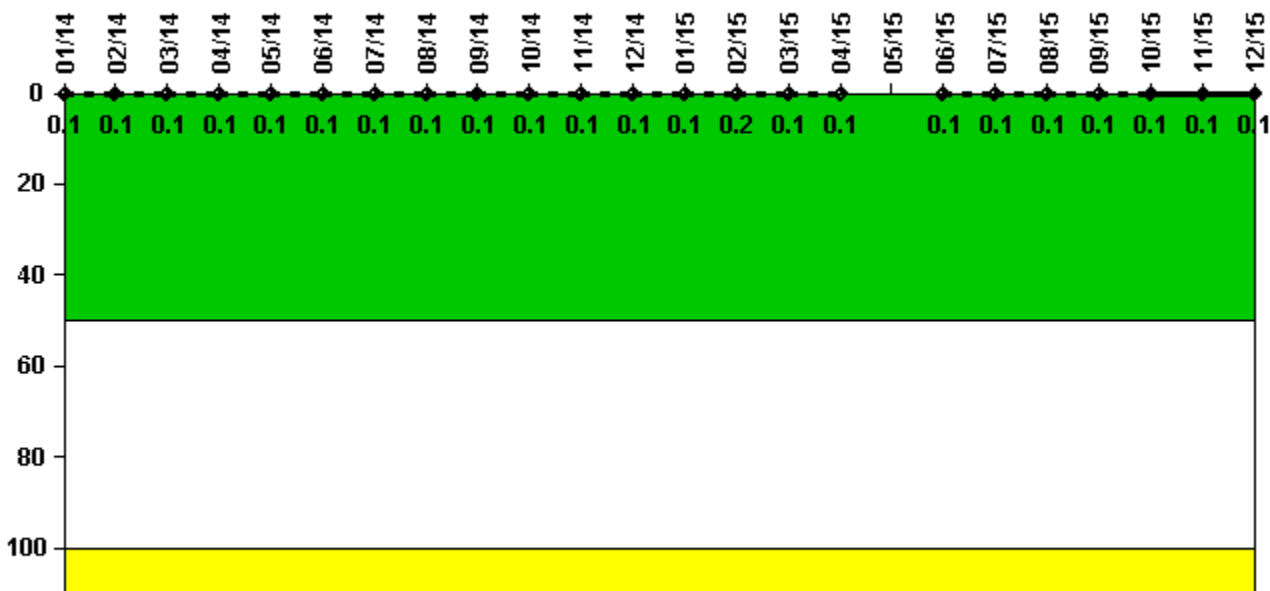
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, Cooling Water Systems	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI ( $\Delta$ CDF)	7.14E-08	-2.27E-07	-5.38E-07	-5.67E-07	-5.25E-07	-5.40E-07	-5.67E-07	-5.42E-07
URI ( $\Delta$ CDF)	-2.83E-08	-2.74E-08	1.15E-08	1.23E-08	1.35E-08	7.33E-08	6.80E-08	7.00E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	4.30E-08	-2.50E-07	-5.30E-07	-5.50E-07	-5.10E-07	-4.70E-07	-5.00E-07	-4.70E-07

Licensee Comments: none

### Reactor Coolant System Activity



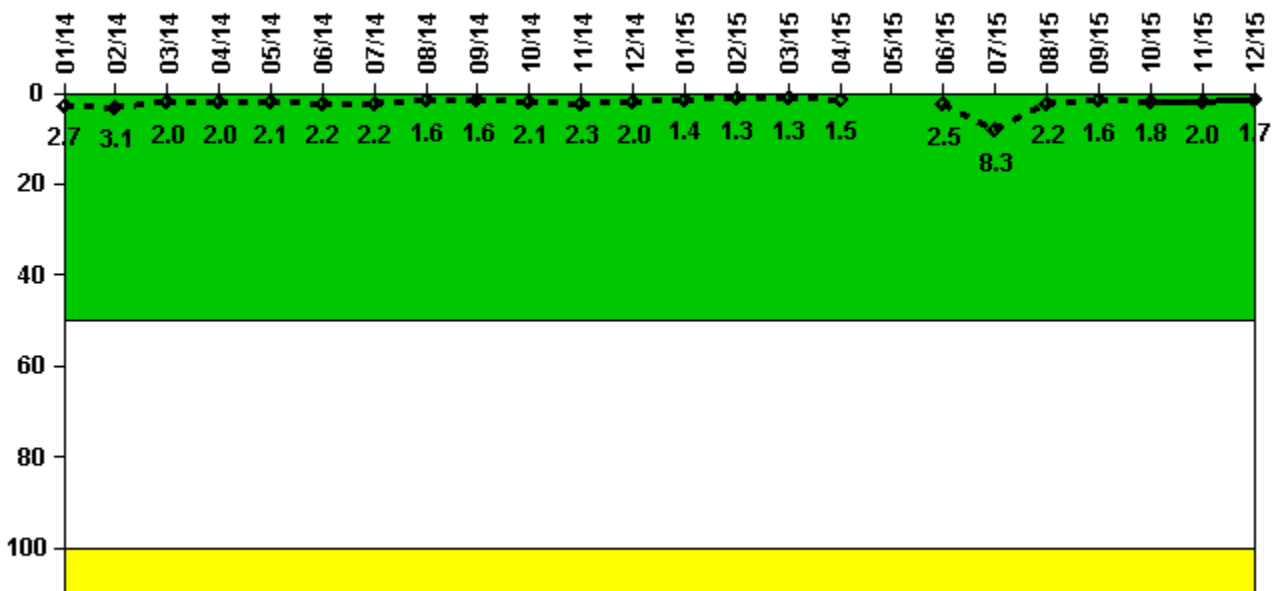
Thresholds: White > 50.0 Yellow > 100.0

### Notes

Reactor Coolant System Activity	1/14	2/14	3/14	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14
Maximum activity	0.000949	0.001030	0.000960	0.001000	0.001170	0.001160	0.001140	0.001230	0.001300	0.001300	0.001380	0.001340
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
Reactor Coolant System Activity	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15
Maximum activity	0.001380	0.001500	0.001420	0.001400	N/A	0.000633	0.000741	0.000772	0.000837	0.000925	0.000839	0.000907
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	0.2	0.1	0.1	N/A	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

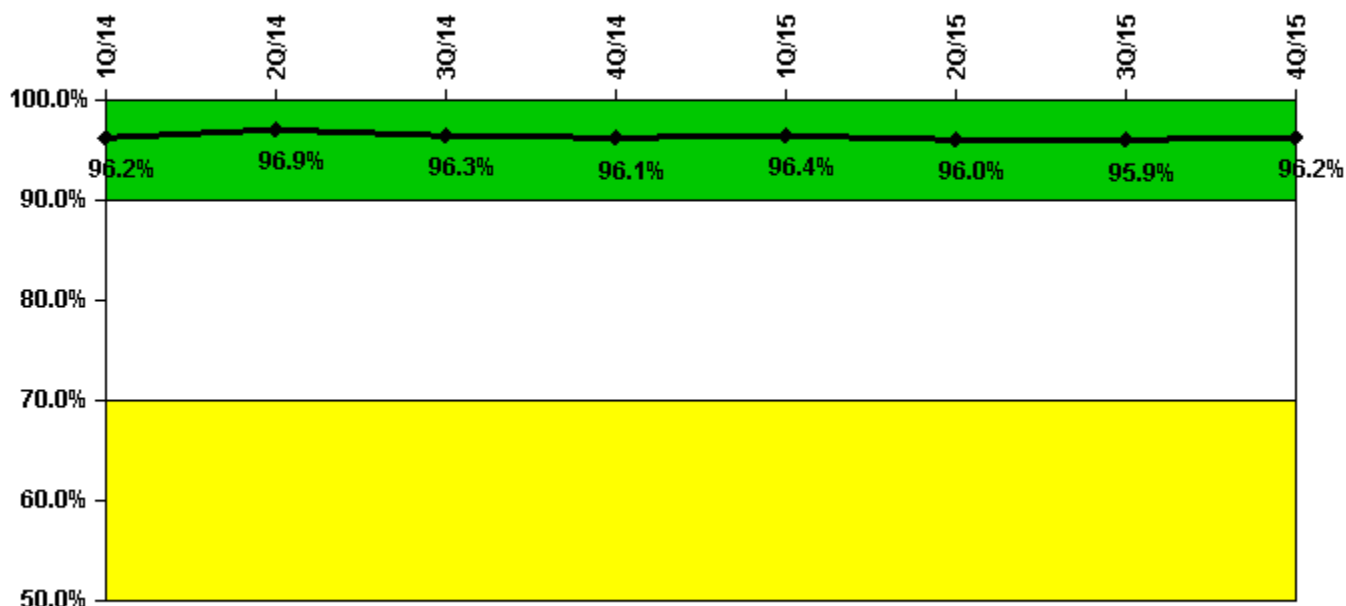
#### Notes

Reactor Coolant System Leakage	1/14	2/14	3/14	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14
Maximum leakage	0.273	0.308	0.203	0.201	0.210	0.217	0.216	0.160	0.155	0.211	0.231	0.198
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	2.7	3.1	2.0	2.0	2.1	2.2	2.2	1.6	1.6	2.1	2.3	2.0
Reactor Coolant System Leakage	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15
Maximum leakage	0.138	0.134	0.129	0.148	N/A	0.247	0.828	0.218	0.157	0.175	0.196	0.174
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	1.4	1.3	1.3	1.5	N/A	2.5	8.3	2.2	1.6	1.8	2.0	1.7

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%

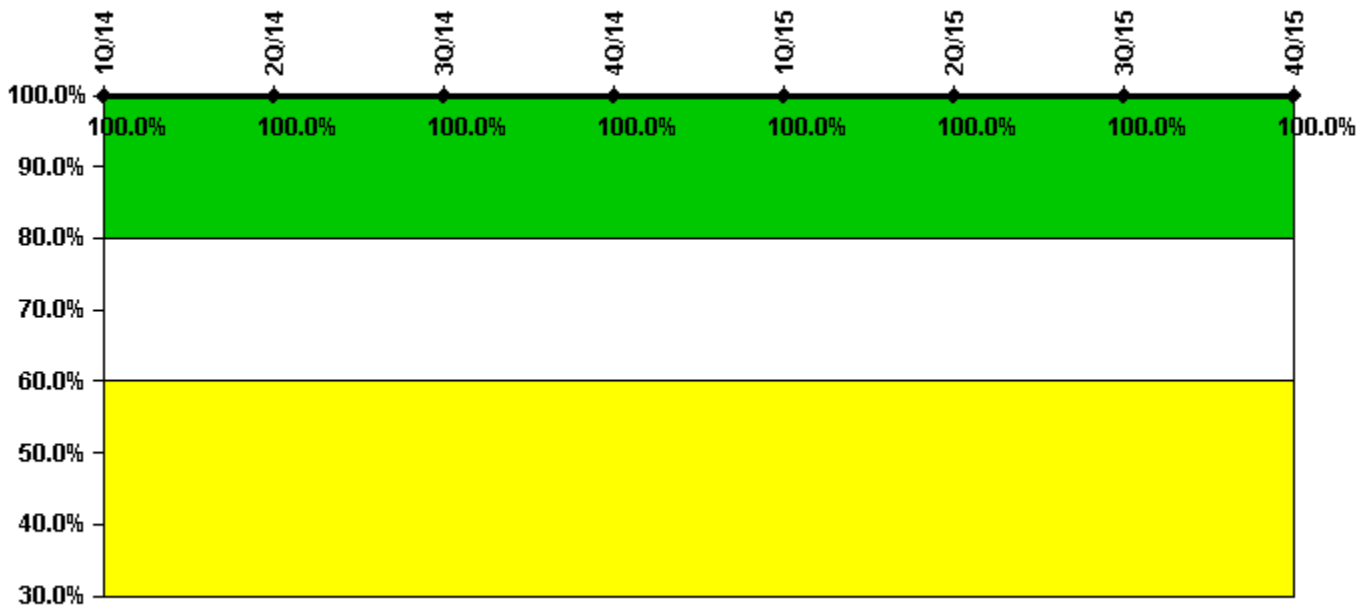
#### Notes

Drill/Exercise Performance	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Successful opportunities	23.0	34.0	77.0	82.0	49.0	12.0	73.0	60.0
Total opportunities	25.0	34.0	81.0	85.0	49.0	15.0	75.0	62.0
Indicator value	96.2%	96.9%	96.3%	96.1%	96.4%	96.0%	95.9%	96.2%

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



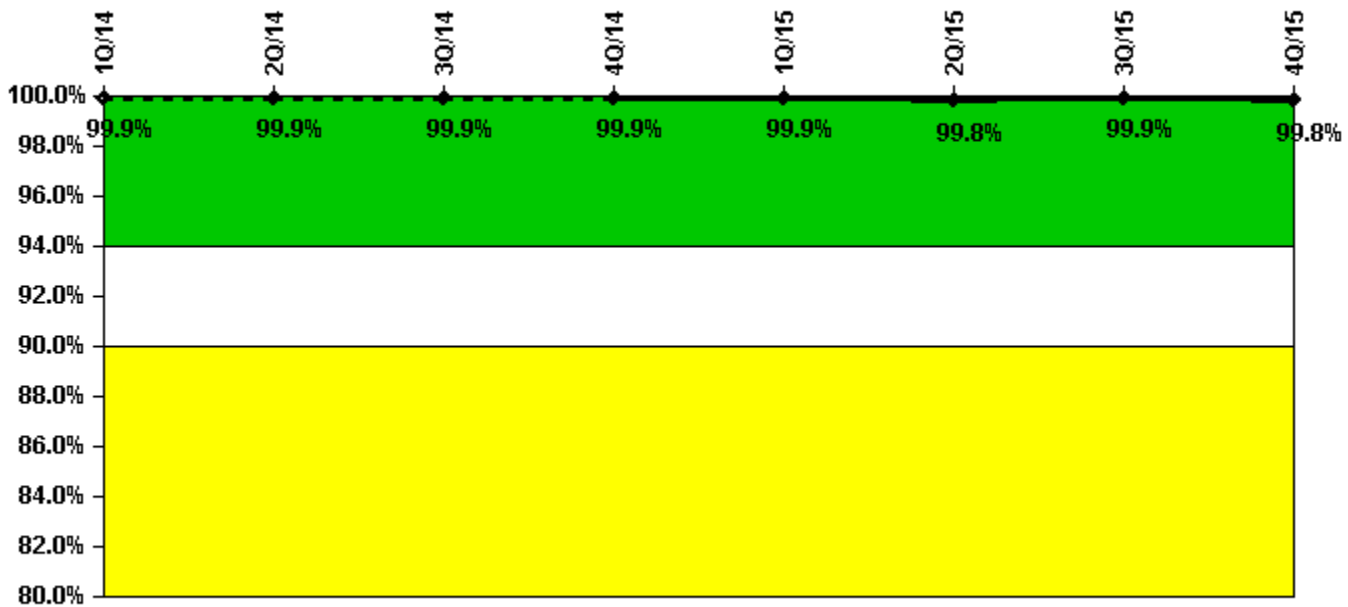
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

ERO Drill Participation	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Participating Key personnel	110.0	118.0	111.0	112.0	115.0	115.0	121.0	121.0
Total Key personnel	110.0	118.0	111.0	112.0	115.0	115.0	121.0	121.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

### Alert & Notification System



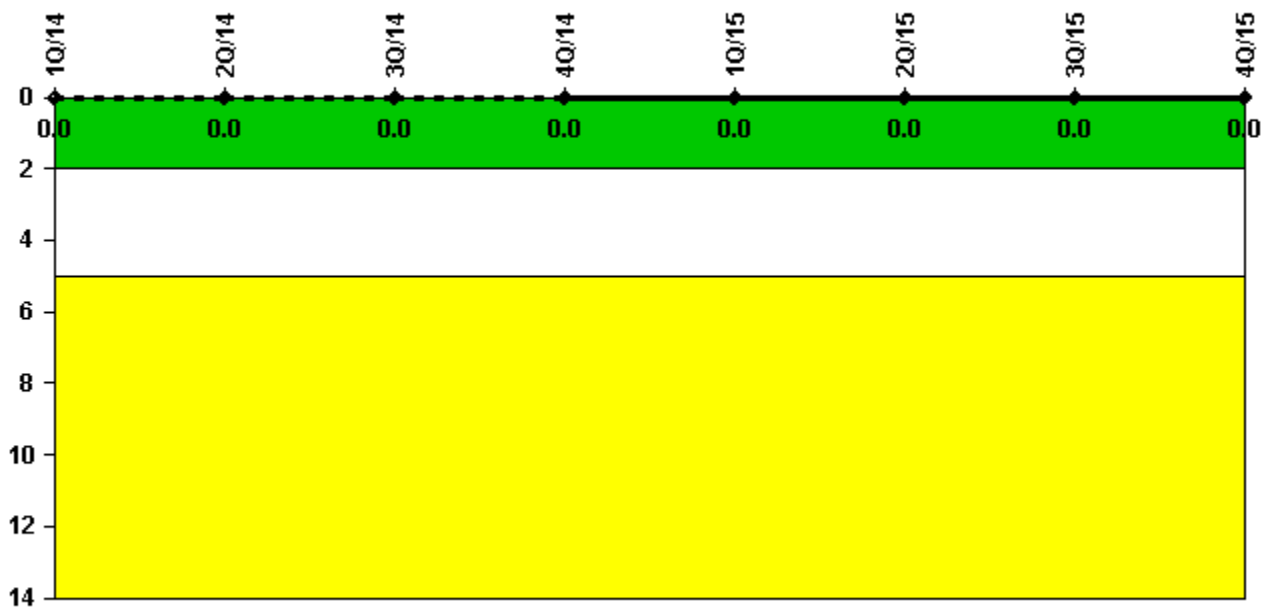
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

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

Licensee Comments: none

### Occupational Exposure Control Effectiveness



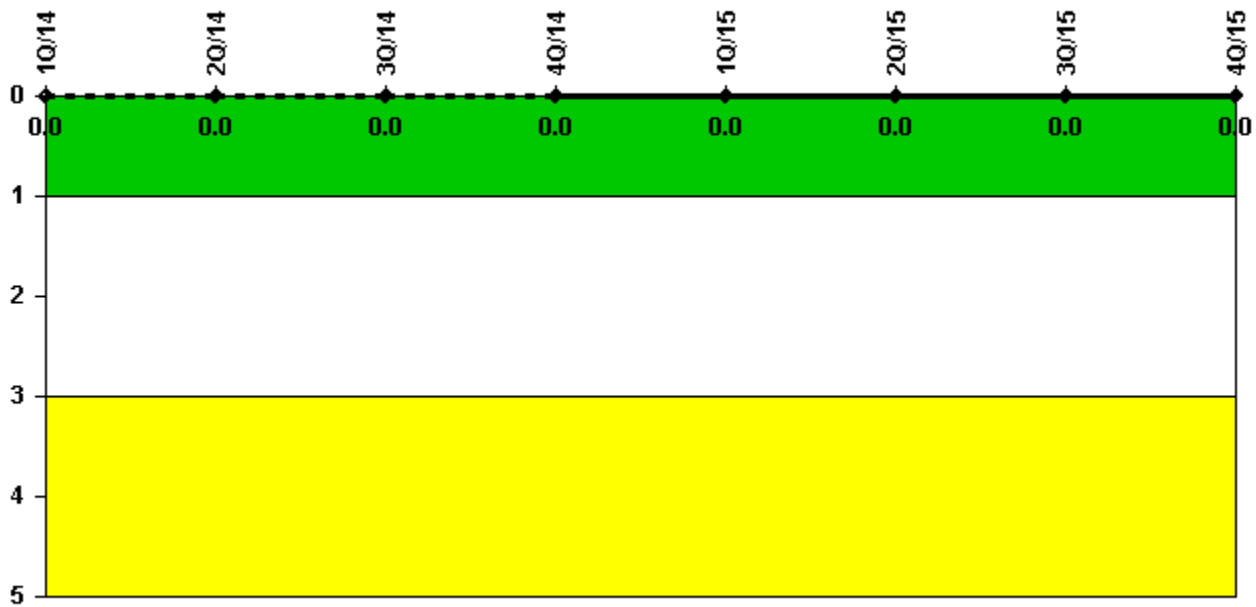
Thresholds: White > 2.0 Yellow > 5.0

#### Notes

Occupational Exposure Control Effectiveness	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
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	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
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: March 1, 2016*