

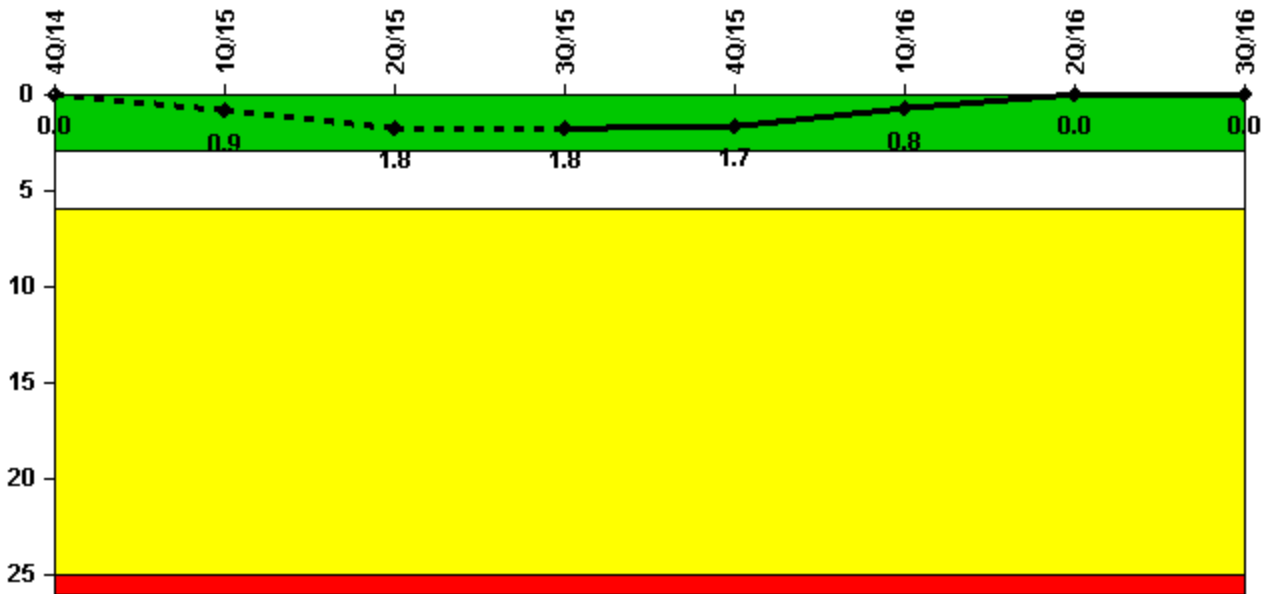
# North Anna 1

## 3Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: PRA updated for Q3

### Unplanned Scrams per 7000 Critical Hrs



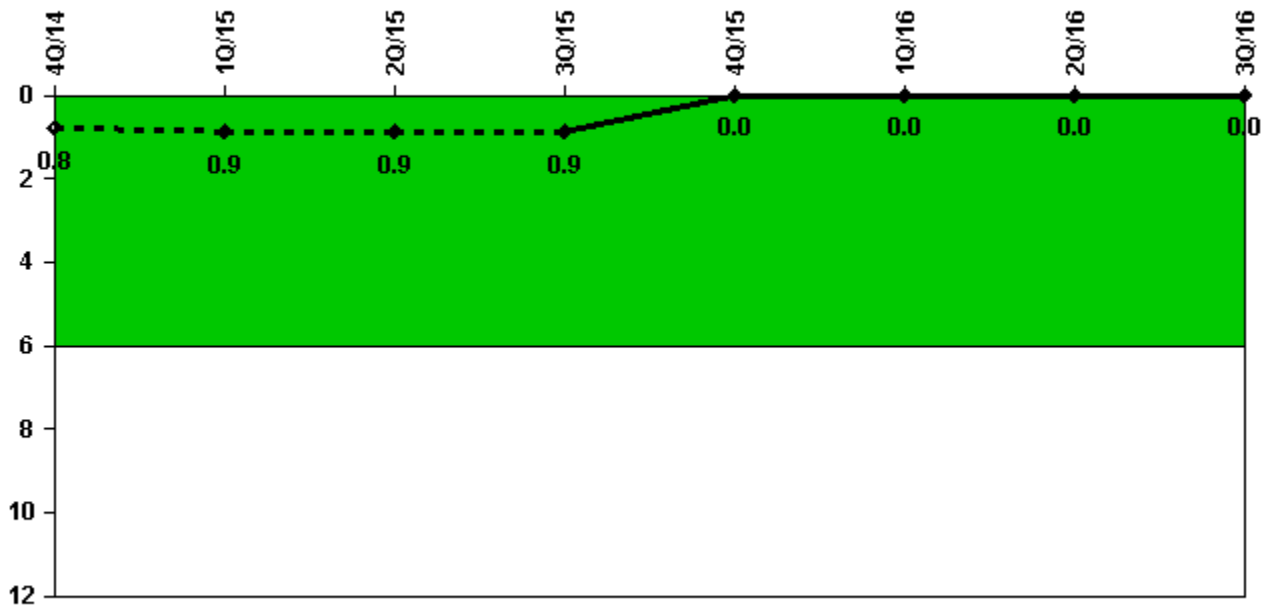
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### 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	1.0	1.0	0	0	0	0	0
Critical hours	1995.4	1624.9	2127.7	2208.0	2209.0	2183.0	2184.0	1727.6
Indicator value	0	0.9	1.8	1.8	1.7	0.8	0	0

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



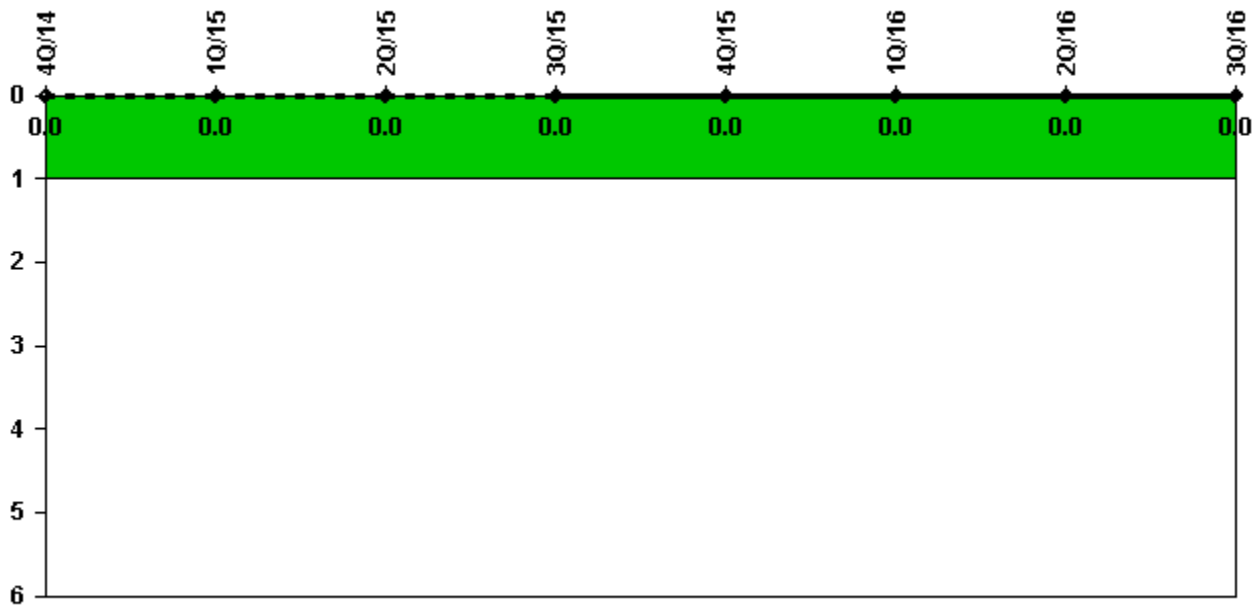
Thresholds: White > 6.0

#### 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	1.0	0	0	0	0	0	0	0
Critical hours	1995.4	1624.9	2127.7	2208.0	2209.0	2183.0	2184.0	1727.6
<b>Indicator value</b>	<b>0.8</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Licensee Comments: none

### Unplanned Scrams with Complications



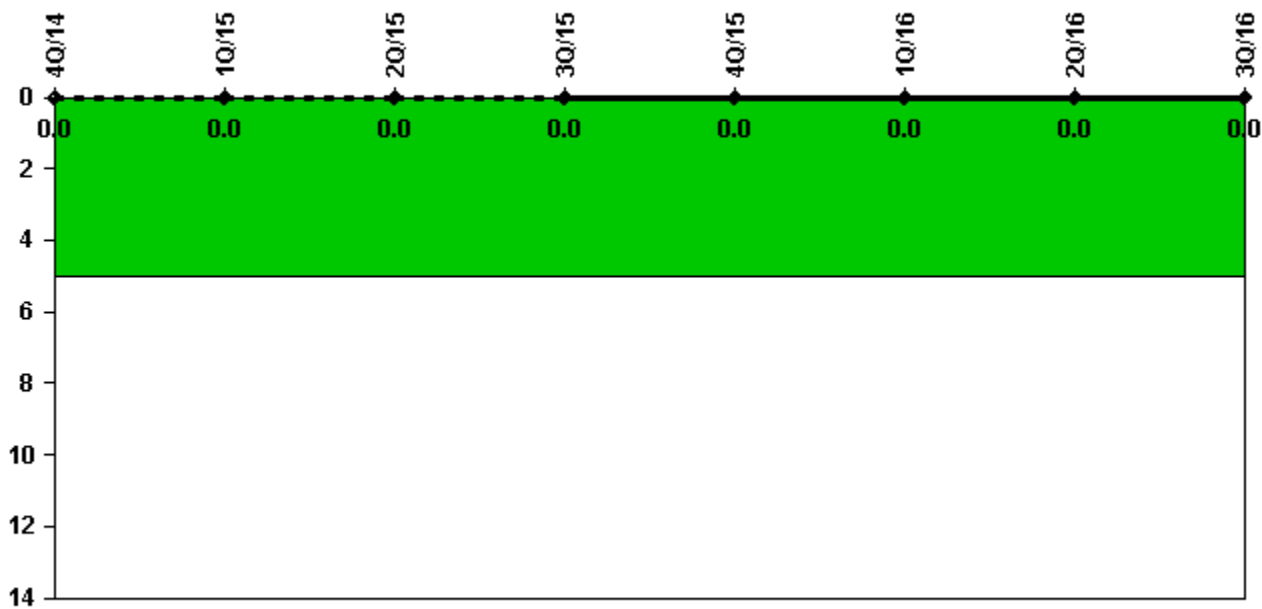
Thresholds: White > 1.0

#### 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>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)



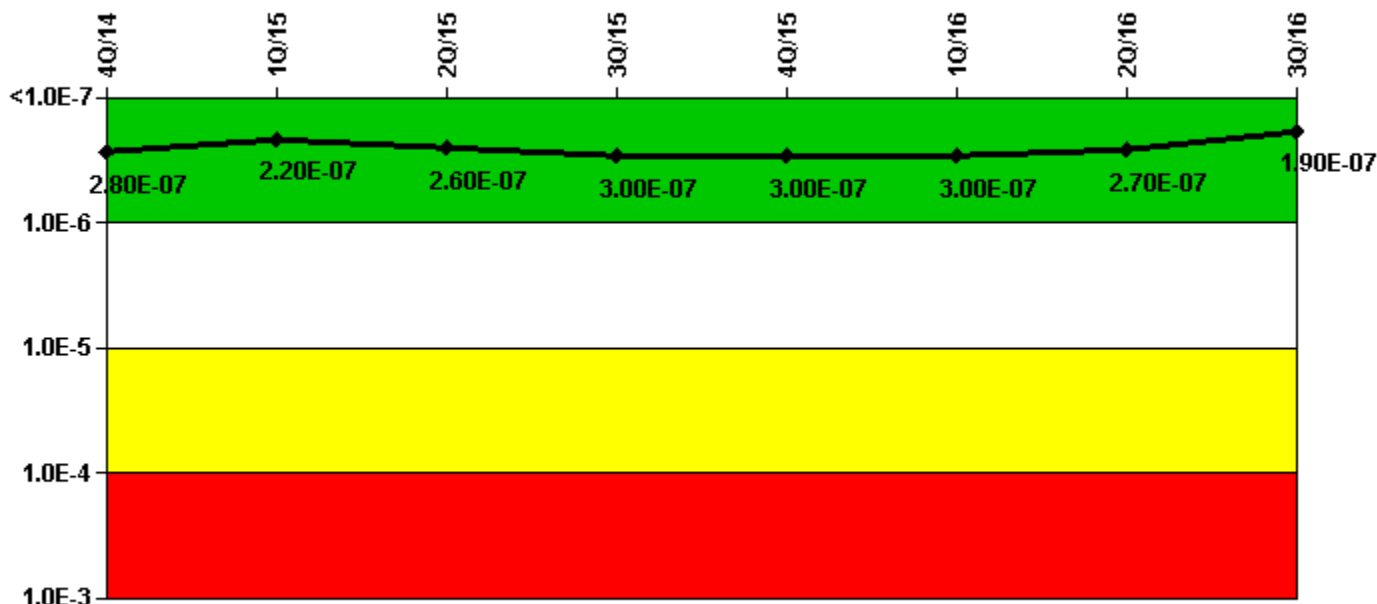
Thresholds: White > 5.0

#### Notes

Safety System Functional Failures (PWR)	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Safety System Functional Failures	0	0	0	0	0	0	0	0
Indicator value	0	0	0	0	0	0	0	0

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	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
UAI (ΔCDF)	-1.18E-08	-1.18E-08	-1.24E-08	-1.43E-08	-1.43E-08	-1.43E-08	-2.52E-08	-8.62E-09
URI (ΔCDF)	2.93E-07	2.27E-07	2.71E-07	3.14E-07	3.14E-07	3.12E-07	2.98E-07	1.96E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.80E-07	2.20E-07	2.60E-07	3.00E-07	3.00E-07	3.00E-07	2.70E-07	1.90E-07

Licensee Comments:

3Q/16: Changed PRA Parameter(s).

2Q/16: Risk Cap Invoked. Changed PRA Parameter(s).

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

### 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)	-1.10E-09	-1.10E-09	-1.21E-09	-1.41E-09	-1.41E-09	-1.41E-09	-1.48E-09	-1.48E-09
URI ( $\Delta$ CDF)	-9.15E-09	-9.46E-09	-1.26E-08	-1.51E-08	-1.54E-08	-1.59E-08	-1.31E-08	-1.34E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.00E-08	-1.10E-08	-1.40E-08	-1.60E-08	-1.70E-08	-1.70E-08	-1.50E-08	-1.50E-08

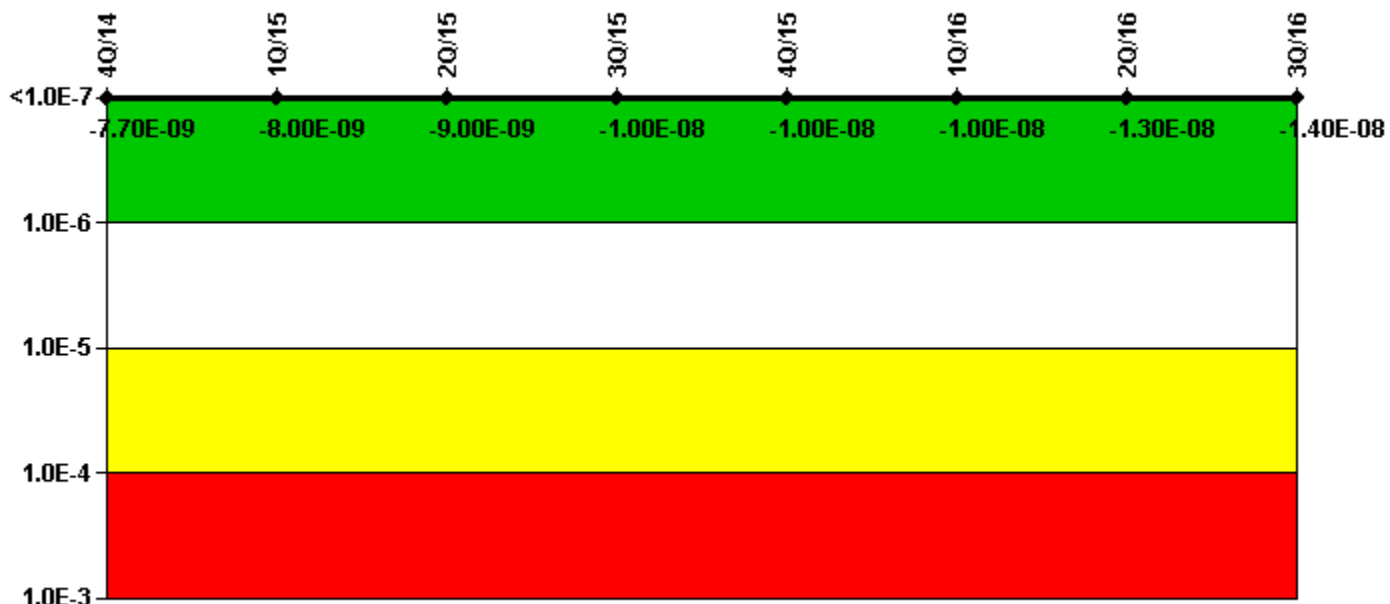
Licensee Comments:

3Q/16: Changed PRA Parameter(s).

2Q/16: Changed PRA Parameter(s).

2Q/15: 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)	-2.78E-09	-2.78E-09	-2.62E-09	-3.04E-09	-3.04E-09	-3.04E-09	-3.69E-09	-3.93E-09
URI ( $\Delta$ CDF)	-4.93E-09	-5.20E-09	-6.35E-09	-7.36E-09	-7.36E-09	-7.36E-09	-9.01E-09	-9.67E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.70E-09	-8.00E-09	-9.00E-09	-1.00E-08	-1.00E-08	-1.00E-08	-1.30E-08	-1.40E-08

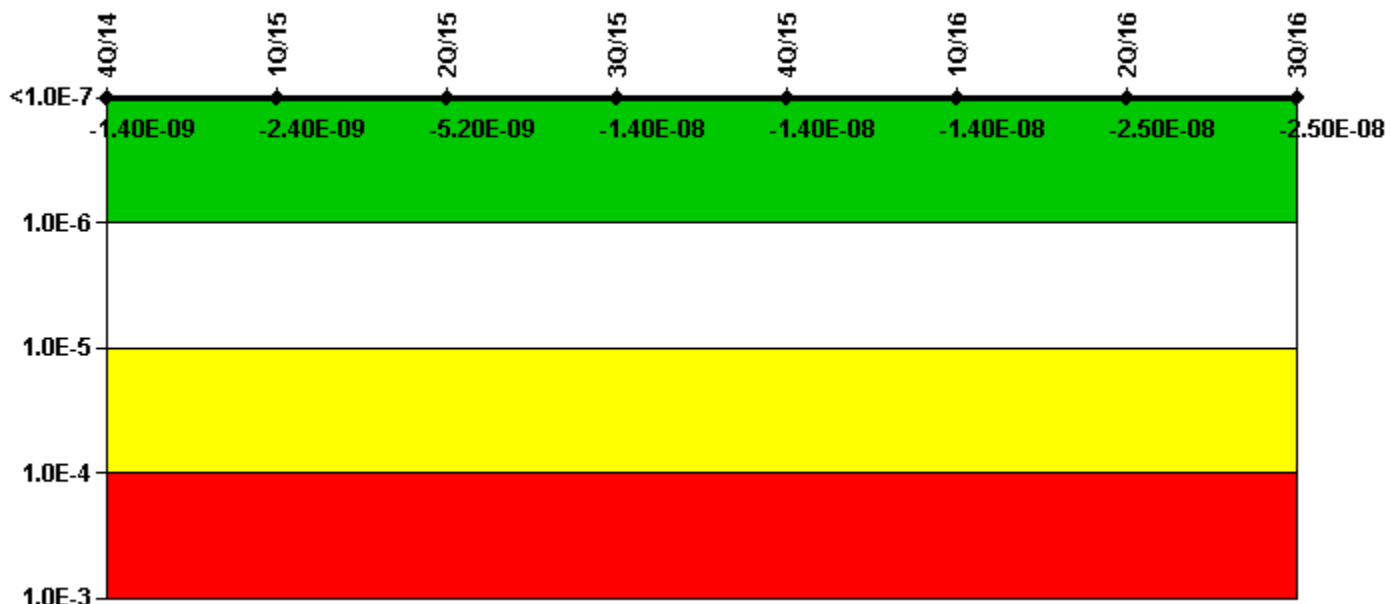
Licensee Comments:

3Q/16: Changed PRA Parameter(s).

2Q/16: Changed PRA Parameter(s).

2Q/15: 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)	7.29E-09	6.24E-09	4.06E-09	-3.70E-09	-3.70E-09	-3.70E-09	-6.11E-09	-6.12E-09
URI ( $\Delta$ CDF)	-8.73E-09	-8.61E-09	-9.23E-09	-1.07E-08	-1.07E-08	-1.07E-08	-1.88E-08	-1.86E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.40E-09	-2.40E-09	-5.20E-09	-1.40E-08	-1.40E-08	-1.40E-08	-2.50E-08	-2.50E-08

Licensee Comments:

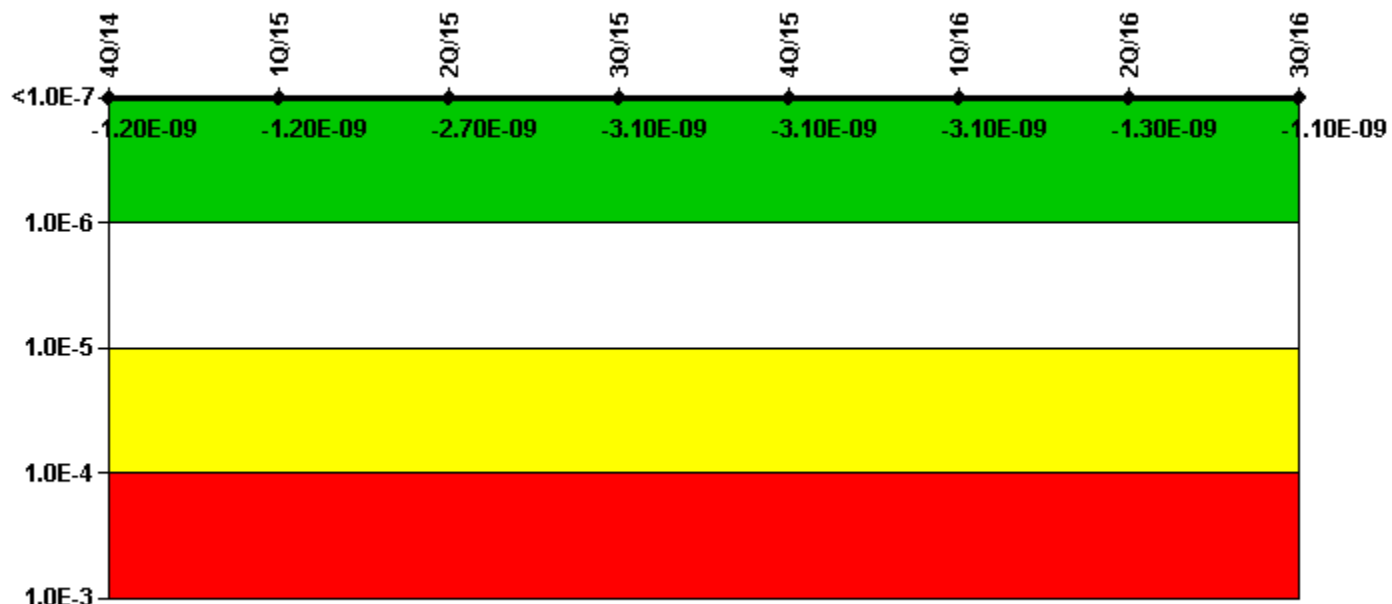
3Q/16: Changed PRA Parameter(s).

2Q/16: Changed PRA Parameter(s).

2Q/15: 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)	-2.30E-10	-2.30E-10	-3.22E-10	-3.74E-10	-3.74E-10	-3.74E-10	-7.07E-10	-7.11E-10
URI ( $\Delta$ CDF)	-1.00E-09	-1.00E-09	-2.34E-09	-2.71E-09	-2.71E-09	-2.71E-09	-6.09E-10	-3.79E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.20E-09	-1.20E-09	-2.70E-09	-3.10E-09	-3.10E-09	-3.10E-09	-1.30E-09	-1.10E-09

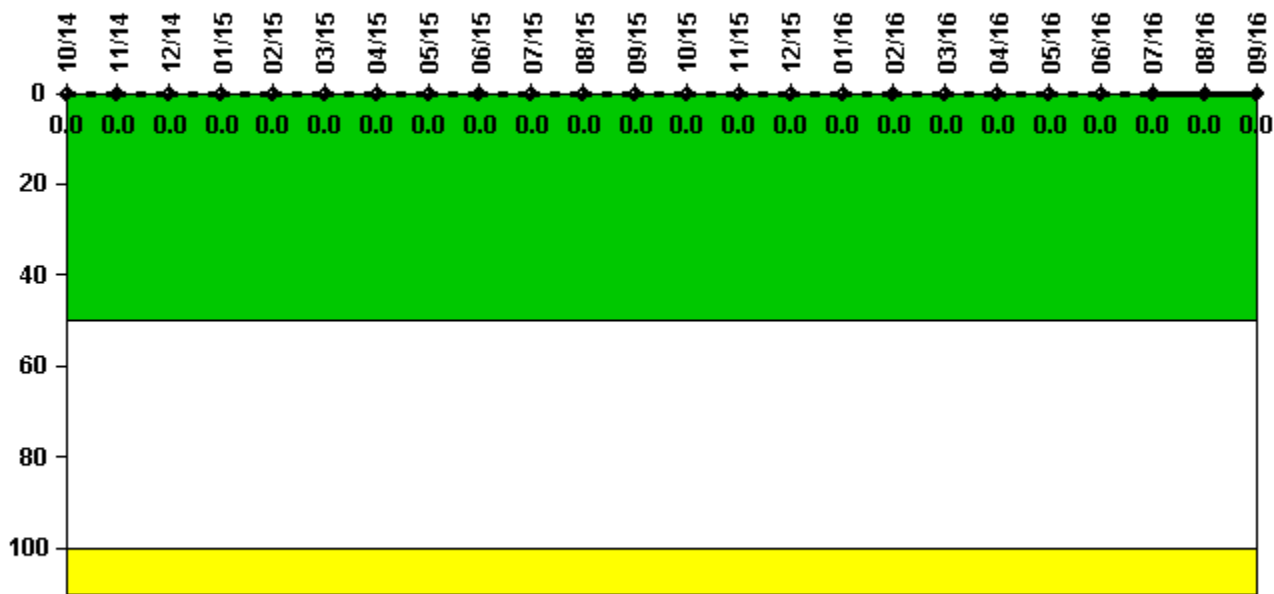
Licensee Comments:

3Q/16: Changed PRA Parameter(s).

2Q/16: Changed PRA Parameter(s).

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

### Reactor Coolant System Activity



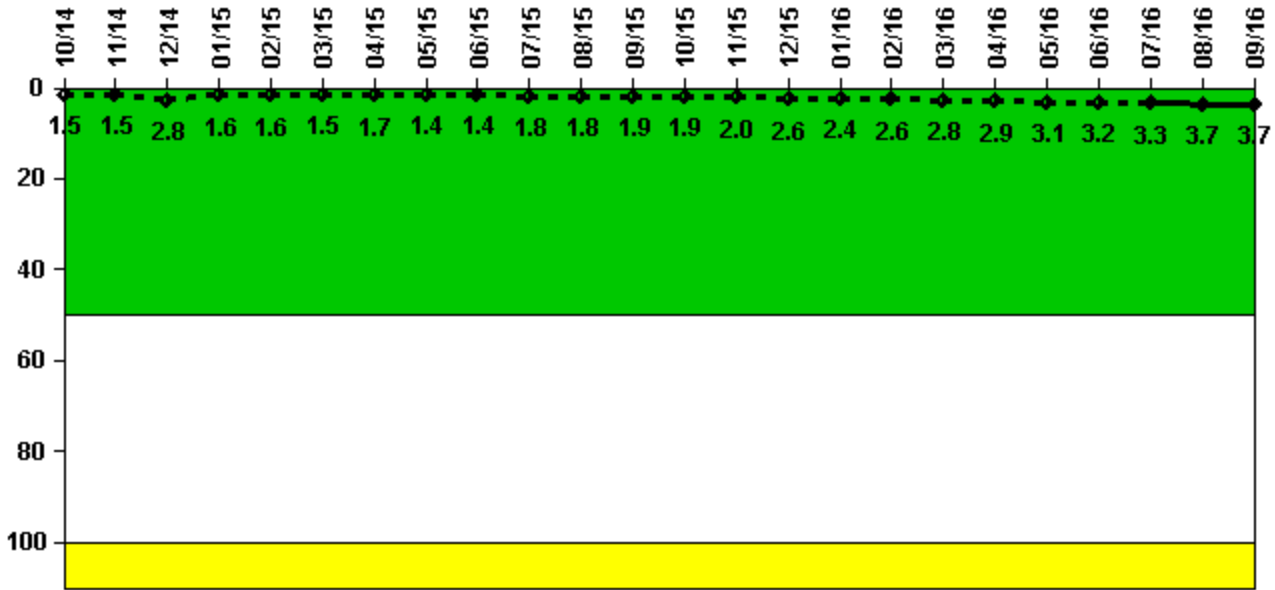
Thresholds: White > 50.0 Yellow > 100.0

#### 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	0.000251	0.000263	0.000270	0.000277	0.000290	0.000254	0.000194	0.000152	0.000151	0.000167	0.000162	0.000183
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	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	0.000191	0.000178	0.000197	0.000214	0.000221	0.000227	0.000229	0.000249	0.000248	0.000476	0.000376	0.000261
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



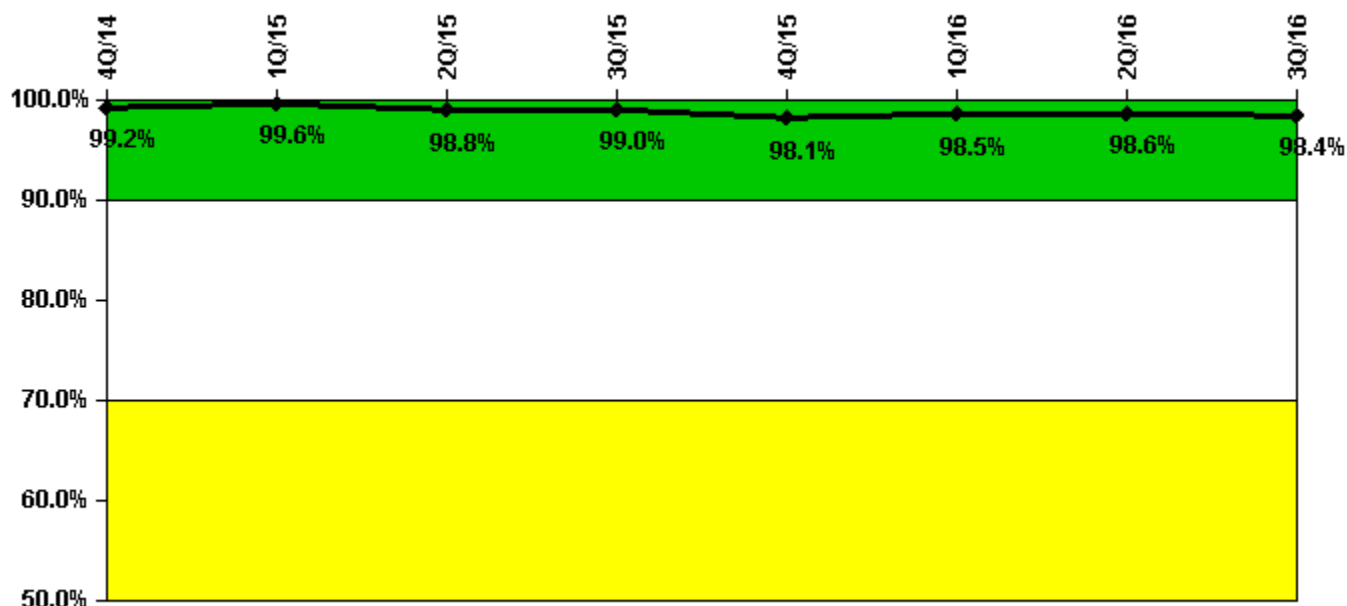
Thresholds: White > 50.0 Yellow > 100.0

#### Notes

Reactor Coolant System Leakage	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	0.151	0.146	0.280	0.162	0.159	0.150	0.166	0.141	0.144	0.176	0.179	0.193
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
<b>Indicator value</b>	<b>1.5</b>	<b>1.5</b>	<b>2.8</b>	<b>1.6</b>	<b>1.6</b>	<b>1.5</b>	<b>1.7</b>	<b>1.4</b>	<b>1.4</b>	<b>1.8</b>	<b>1.8</b>	<b>1.9</b>
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	0.189	0.201	0.255	0.242	0.258	0.279	0.292	0.308	0.315	0.326	0.369	0.368
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
<b>Indicator value</b>	<b>1.9</b>	<b>2.0</b>	<b>2.6</b>	<b>2.4</b>	<b>2.6</b>	<b>2.8</b>	<b>2.9</b>	<b>3.1</b>	<b>3.2</b>	<b>3.3</b>	<b>3.7</b>	<b>3.7</b>

Licensee Comments: none

### Drill/Exercise Performance



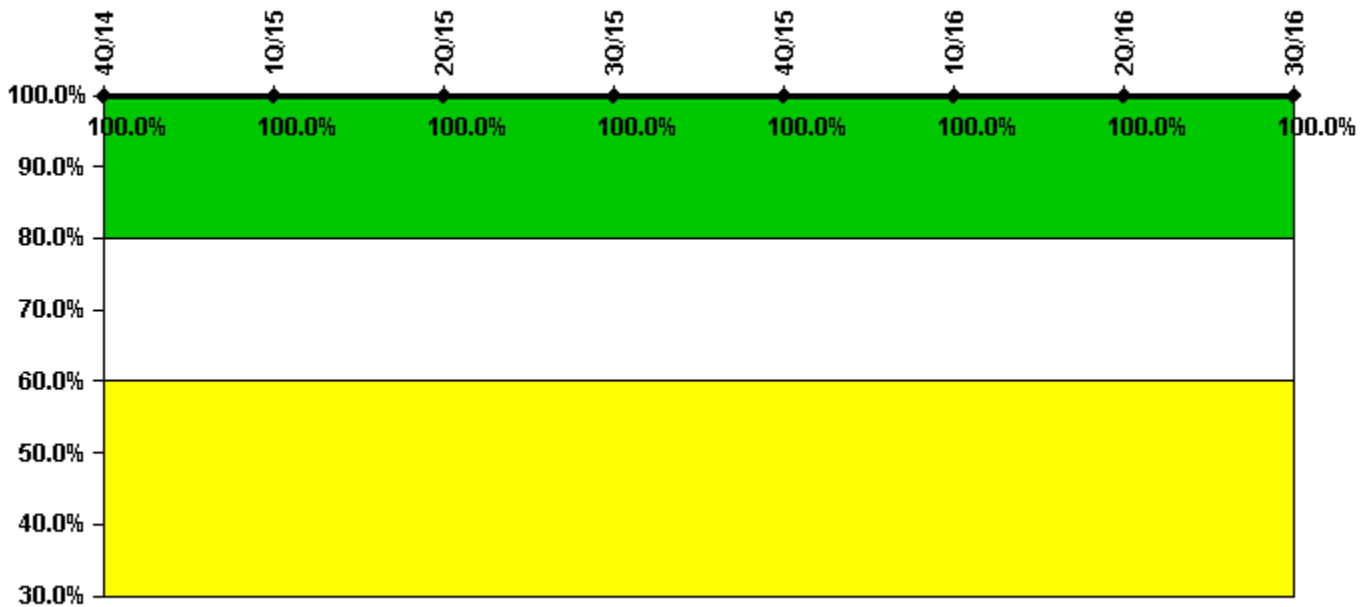
Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

Drill/Exercise Performance	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Successful opportunities	11.0	5.0	20.0	92.0	16.0	28.0	13.0	57.0
Total opportunities	11.0	5.0	22.0	92.0	18.0	28.0	13.0	57.0
Indicator value	99.2%	99.6%	98.8%	99.0%	98.1%	98.5%	98.6%	98.4%

Licensee Comments: none

### ERO Drill Participation



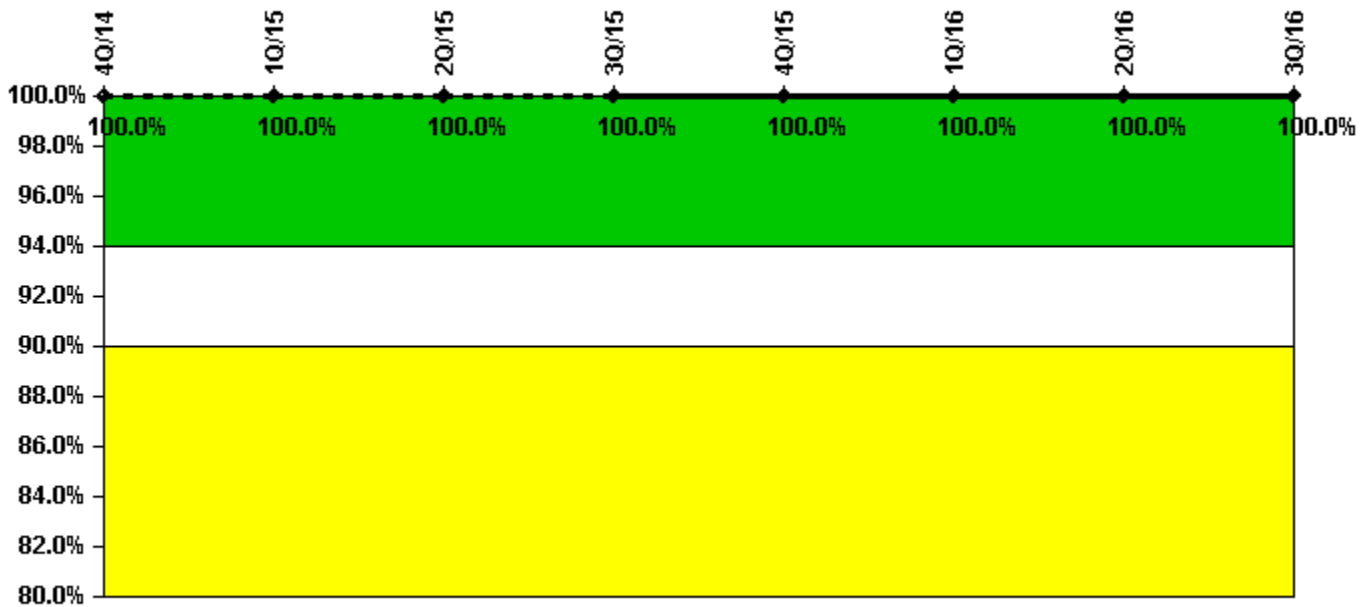
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

ERO Drill Participation	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Participating Key personnel	165.0	161.0	160.0	160.0	162.0	164.0	161.0	160.0
Total Key personnel	165.0	161.0	160.0	160.0	162.0	164.0	161.0	160.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

### Alert & Notification System



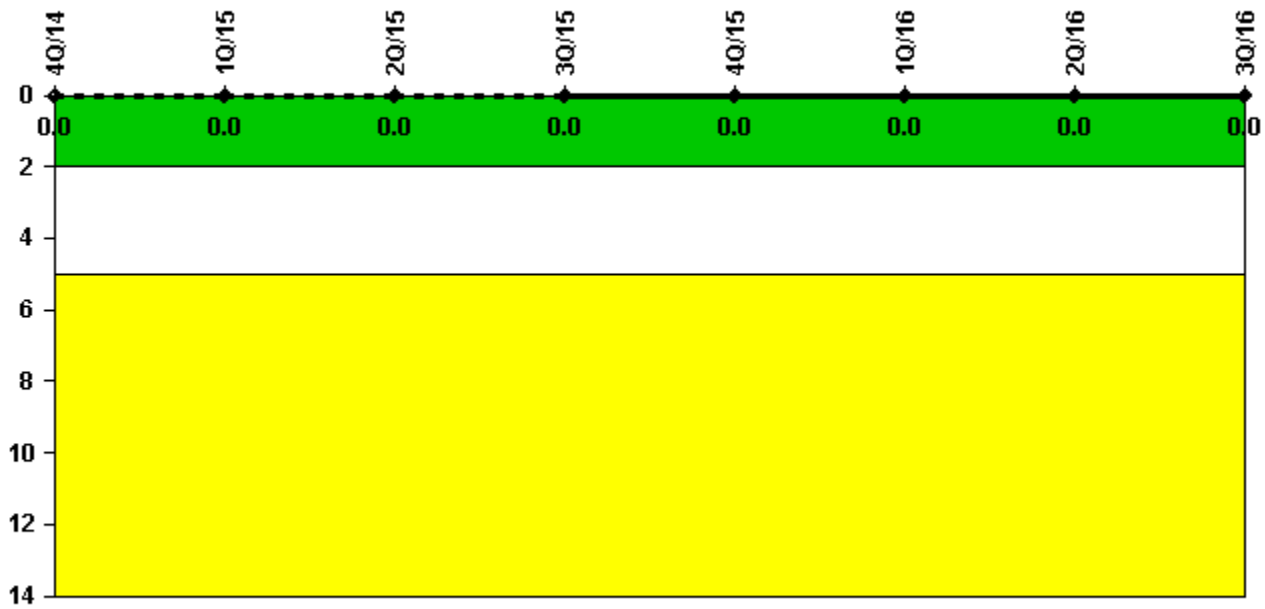
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

Alert & Notification System	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16
Successful siren-tests	476	476	476	476	476	476	476	476
Total sirens-tests	476	476	476	476	476	476	476	476
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

### Occupational Exposure Control Effectiveness



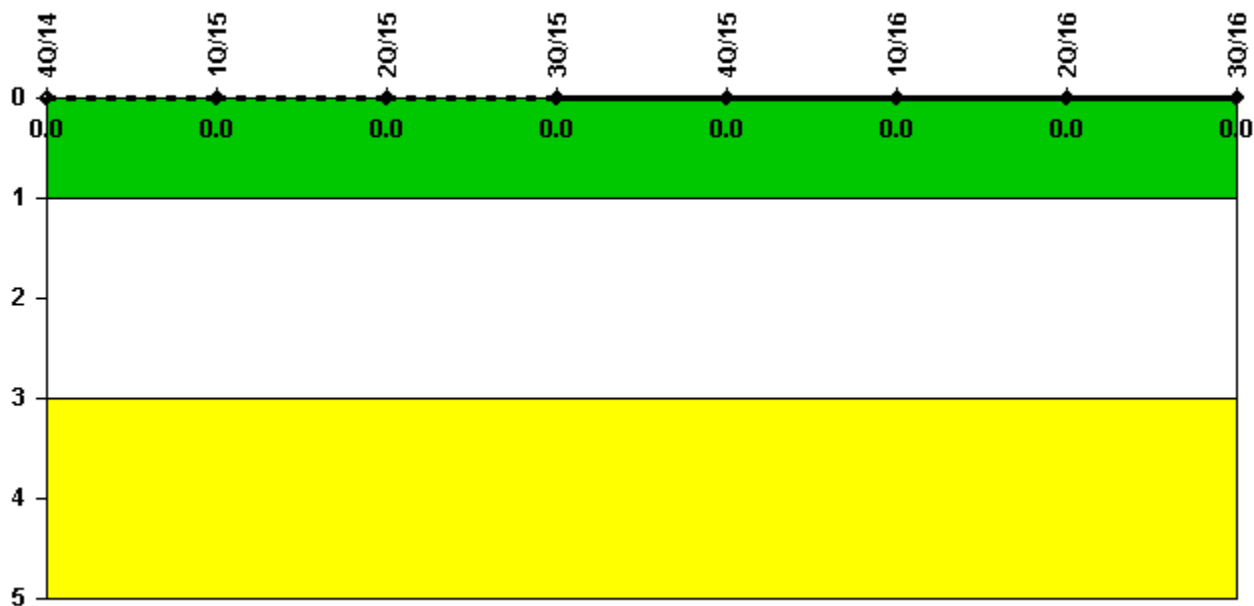
Thresholds: White > 2.0 Yellow > 5.0

#### 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	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	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
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: October 23, 2016*