

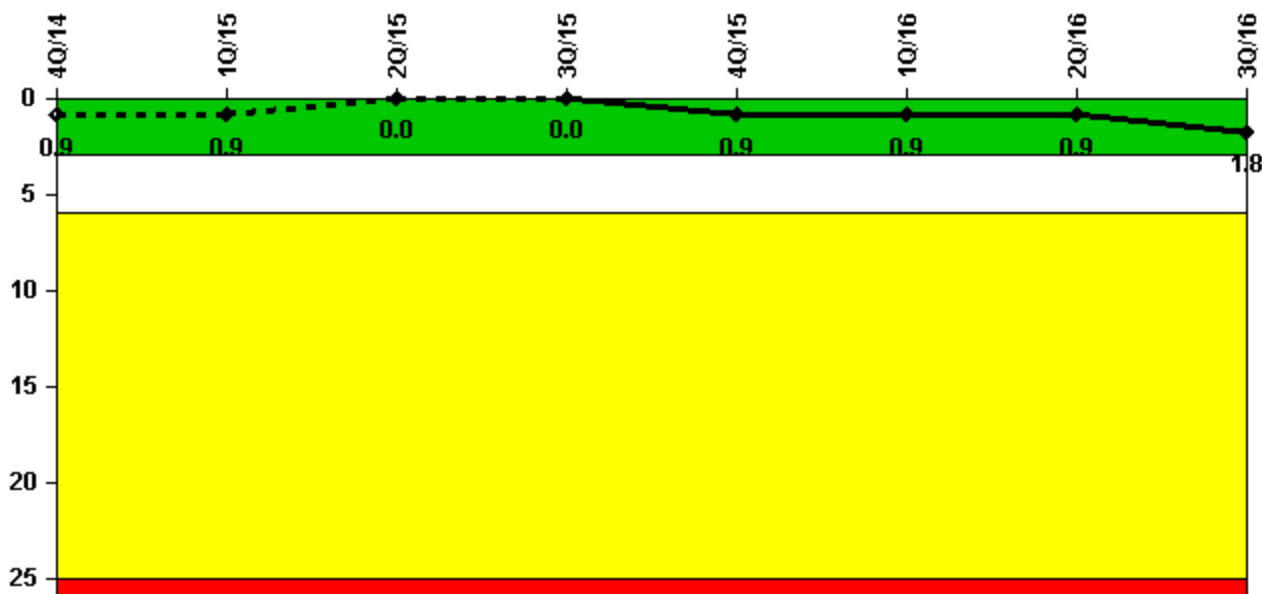
## Millstone 2

### 3Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

**Unplanned Scrams per 7000 Critical Hrs**



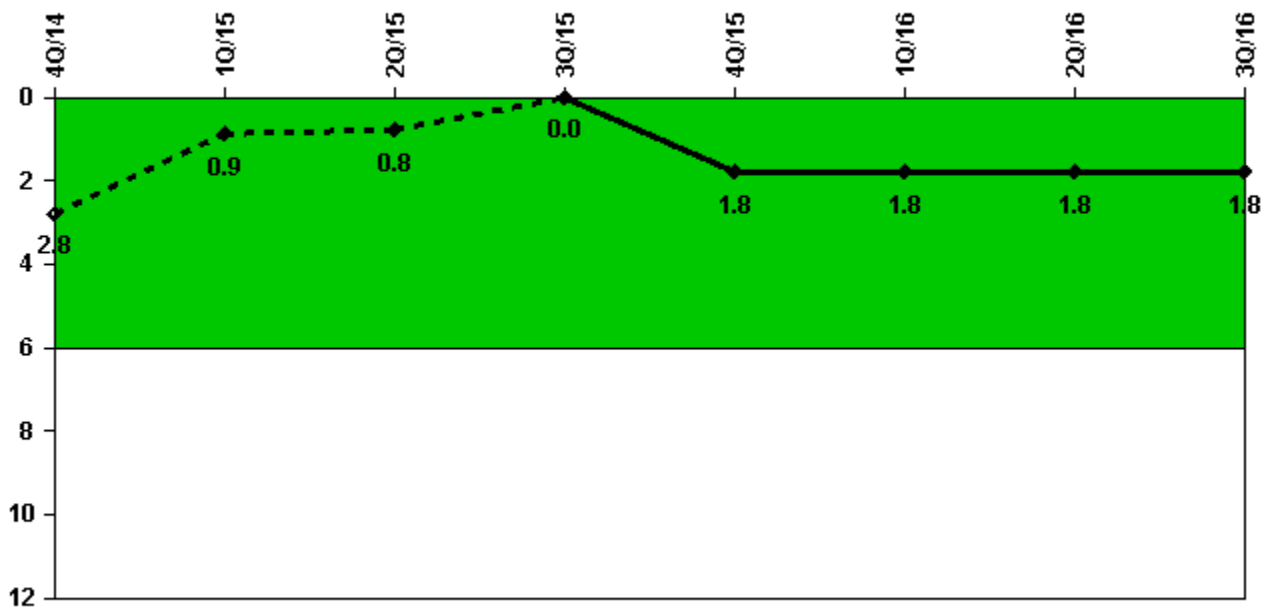
**Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0**

**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        | 1.0        | 0          | 0          | 1.0        |
| Critical hours                         | 2209.0     | 2159.0     | 2184.0   | 2208.0   | 1334.0     | 2183.0     | 2184.0     | 2168.2     |
| <b>Indicator value</b>                 | <b>0.9</b> | <b>0.9</b> | <b>0</b> | <b>0</b> | <b>0.9</b> | <b>0.9</b> | <b>0.9</b> | <b>1.8</b> |

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



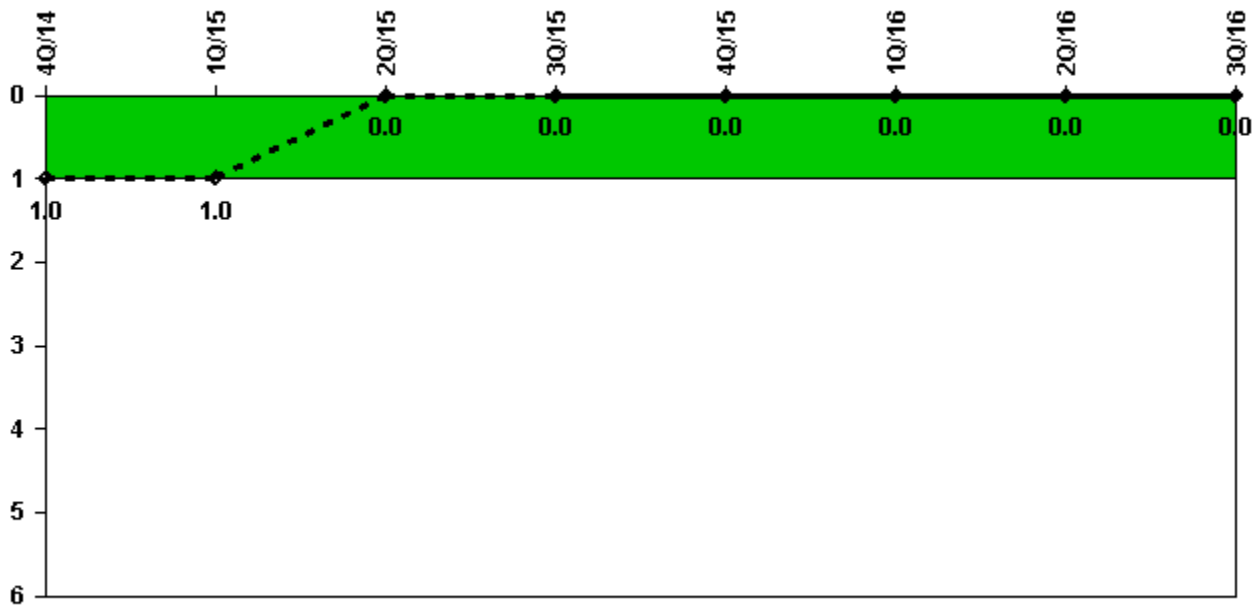
Thresholds: White > 6.0

#### 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          | 0          | 0        | 2.0        | 0          | 0          | 0          |
| Critical hours                                | 2209.0     | 2159.0     | 2184.0     | 2208.0   | 1334.0     | 2183.0     | 2184.0     | 2168.2     |
| <b>Indicator value</b>                        | <b>2.8</b> | <b>0.9</b> | <b>0.8</b> | <b>0</b> | <b>1.8</b> | <b>1.8</b> | <b>1.8</b> | <b>1.8</b> |

Licensee Comments: none

### Unplanned Scrams with Complications



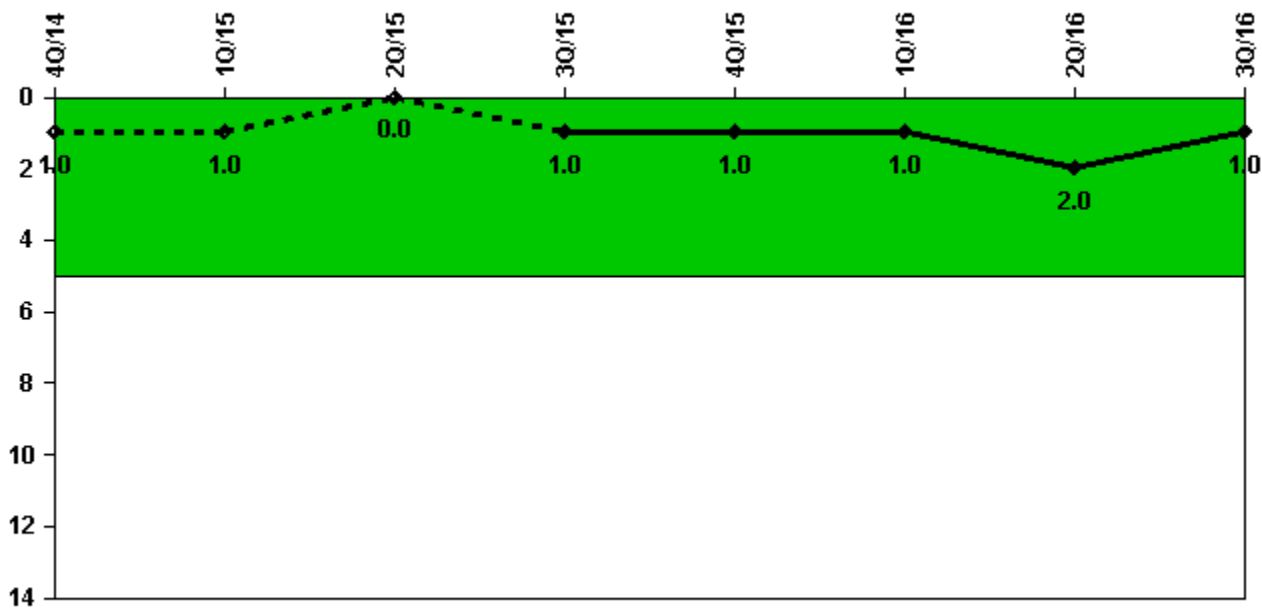
Thresholds: White > 1.0

#### 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>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 (PWR)



Thresholds: White > 5.0

#### Notes

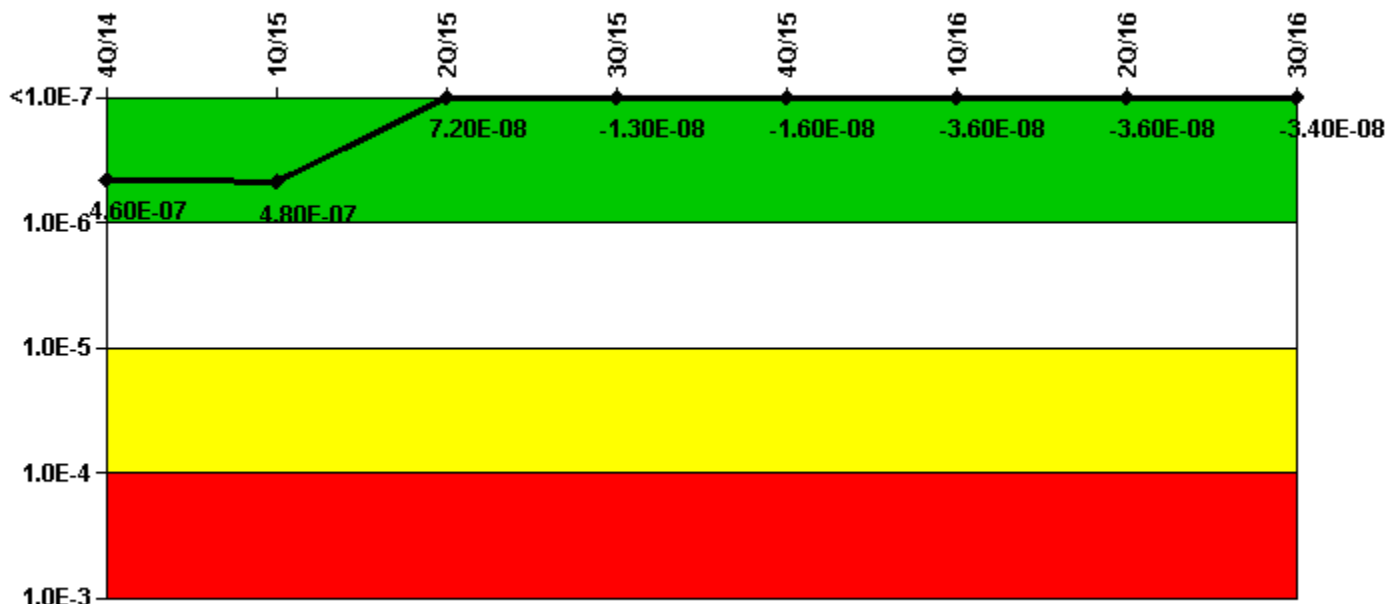
| Safety System Functional Failures (PWR) | 4Q/14    | 1Q/15    | 2Q/15    | 3Q/15    | 4Q/15    | 1Q/16    | 2Q/16    | 3Q/16    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| Safety System Functional Failures       | 0        | 0        | 0       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

Licensee Comments:

2Q/16: LER 2016-001-00, Turbine Driven Auxiliary Feedwater Pump Room HELB Door Left Open

3Q/15: LER 2015-002-00, Degraded Emergency Core Cooling System Check Valve

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



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

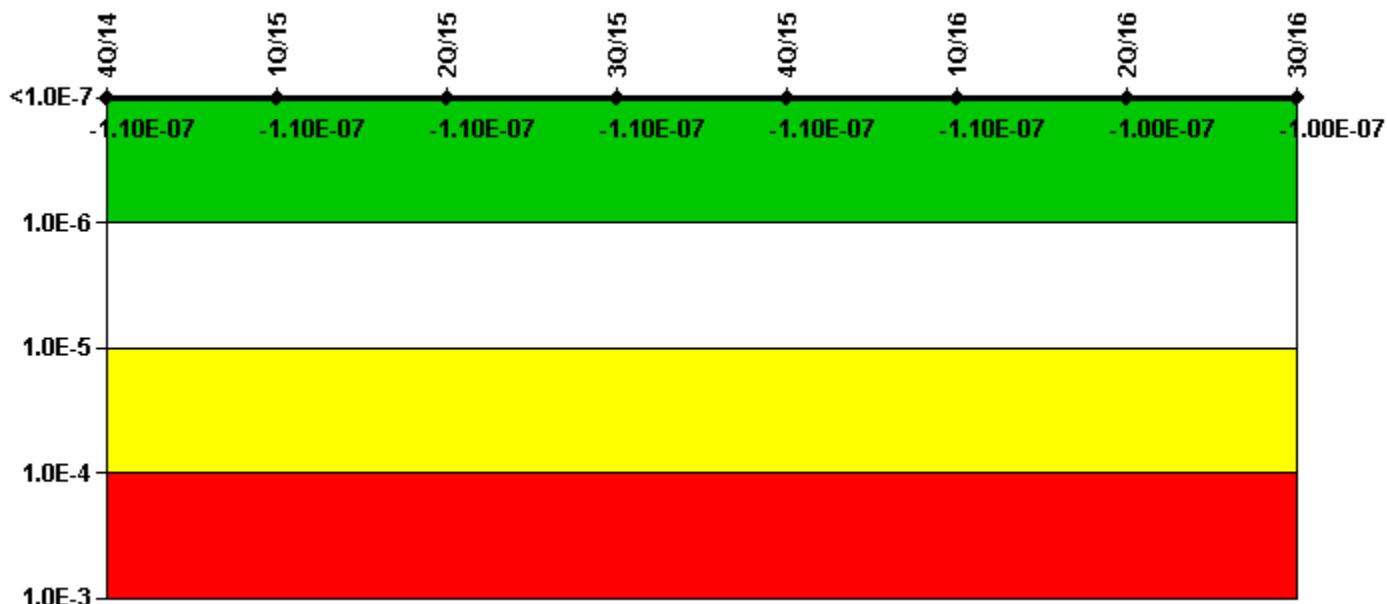
#### Notes

| 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)  | 4.51E-08 | 4.84E-08 | 2.46E-08 | 1.14E-08  | 7.91E-09  | -1.14E-08 | -1.14E-08 | -1.14E-08 |
| URI (ΔCDF)  | 4.18E-07 | 4.30E-07 | 4.72E-08 | -2.49E-08 | -2.44E-08 | -2.49E-08 | -2.44E-08 | -2.27E-08 |
| PLE   | NO       | NO       | NO       | NO        | NO        | NO        | NO        | NO        |
| Indicator value   | 4.60E-07 | 4.80E-07 | 7.20E-08 | -1.30E-08 | -1.60E-08 | -3.60E-08 | -3.60E-08 | -3.40E-08 |

#### Licensee Comments:

4Q/14: Changed PRA Parameter(s). Updated the 'B' baseline unavailability effective for the 4th quarter, to remove one overhaul due to only one overhaul being performed in the 3 year period. This is consistent with assumptions in the Basis Document.

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



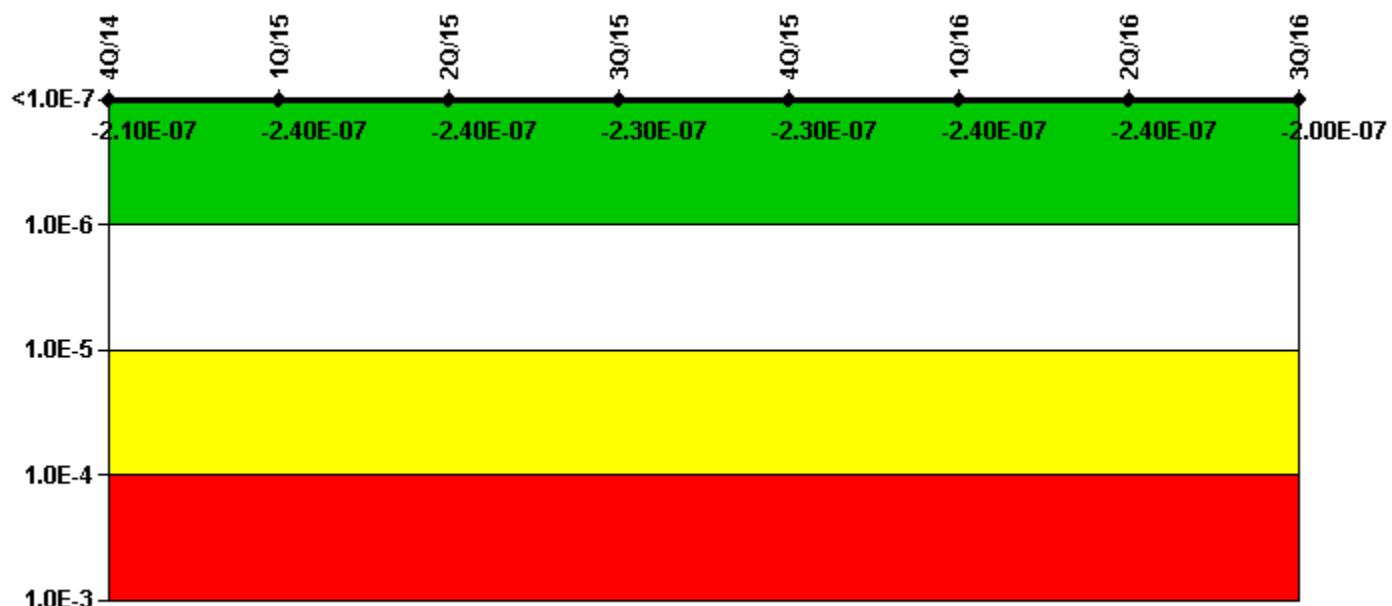
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### 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)  | -6.40E-08 | -6.40E-08 | -6.40E-08 | -6.40E-08 | -6.40E-08 | -6.40E-08 | -6.40E-08 | -6.40E-08 |
| URI ( $\Delta$ CDF)  | -4.21E-08 | -4.15E-08 | -4.15E-08 | -4.12E-08 | -4.18E-08 | -4.12E-08 | -4.06E-08 | -4.09E-08 |
| PLE  | NO        | NO        | NO        | NO        | NO        | NO        | NO        | NO        |
| Indicator value  | -1.10E-07 | -1.10E-07 | -1.10E-07 | -1.10E-07 | -1.10E-07 | -1.10E-07 | -1.00E-07 | -1.00E-07 |

Licensee Comments: none

### Mitigating Systems Performance Index, Heat Removal System



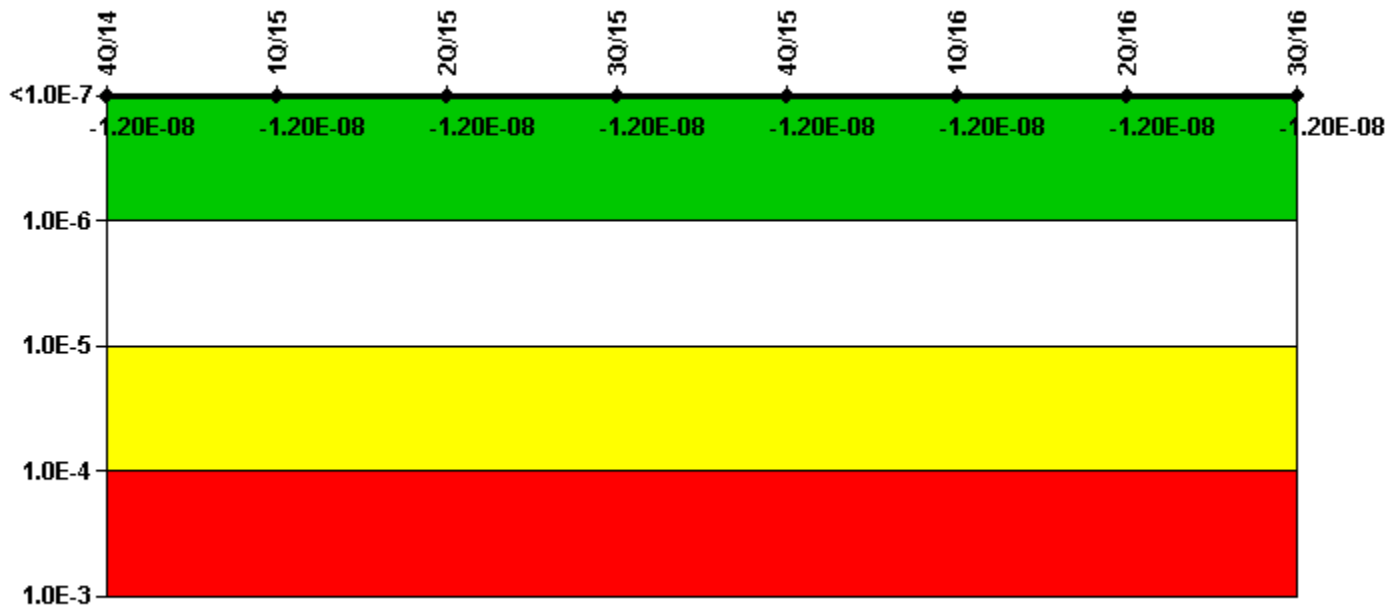
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

| Mitigating Systems Performance Index, Heat Removal System | 4Q/14     | 1Q/15     | 2Q/15     | 3Q/15     | 4Q/15     | 1Q/16     | 2Q/16     | 3Q/16     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)                                       | -5.65E-08 | -8.57E-08 | -8.56E-08 | -8.61E-08 | -8.60E-08 | -8.75E-08 | -8.77E-08 | -5.28E-08 |
| URI ( $\Delta$ CDF)                                       | -1.51E-07 | -1.51E-07 | -1.51E-07 | -1.47E-07 | -1.47E-07 | -1.48E-07 | -1.48E-07 | -1.48E-07 |
| PLE   | NO        | NO        | NO        | NO        | NO        | NO        | NO        | NO        |
| Indicator value   | -2.10E-07 | -2.40E-07 | -2.40E-07 | -2.30E-07 | -2.30E-07 | -2.40E-07 | -2.40E-07 | -2.00E-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

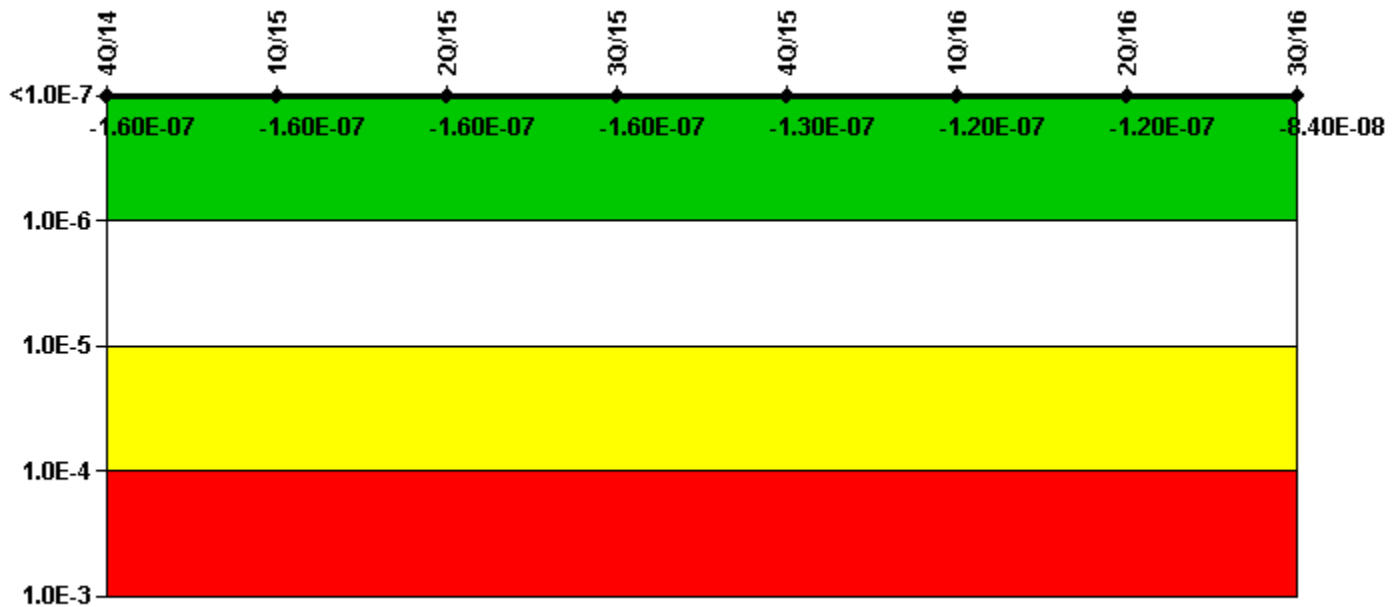
| Mitigating Systems Performance Index, Residual Heat Removal System | 4Q/14     | 1Q/15     | 2Q/15     | 3Q/15     | 4Q/15     | 1Q/16     | 2Q/16     | 3Q/16     |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)  | -5.84E-11 | -5.46E-11 | 2.05E-11  | 1.61E-11  | 1.33E-11  | 1.33E-10  | -1.28E-10 | -5.34E-11 |
| URI ( $\Delta$ CDF)  | -1.20E-08 | -1.20E-08 | -1.20E-08 | -1.23E-08 | -1.25E-08 | -1.23E-08 | -1.23E-08 | -1.23E-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:

3Q/16: The first quarter 2015 demand data was corrected to include an additional valve demand. This did not result in a change to the calculated MSPI. It did not result in the indicator value crossing the GREEN/WHITE threshold.



### Mitigating Systems Performance Index, Cooling Water Systems



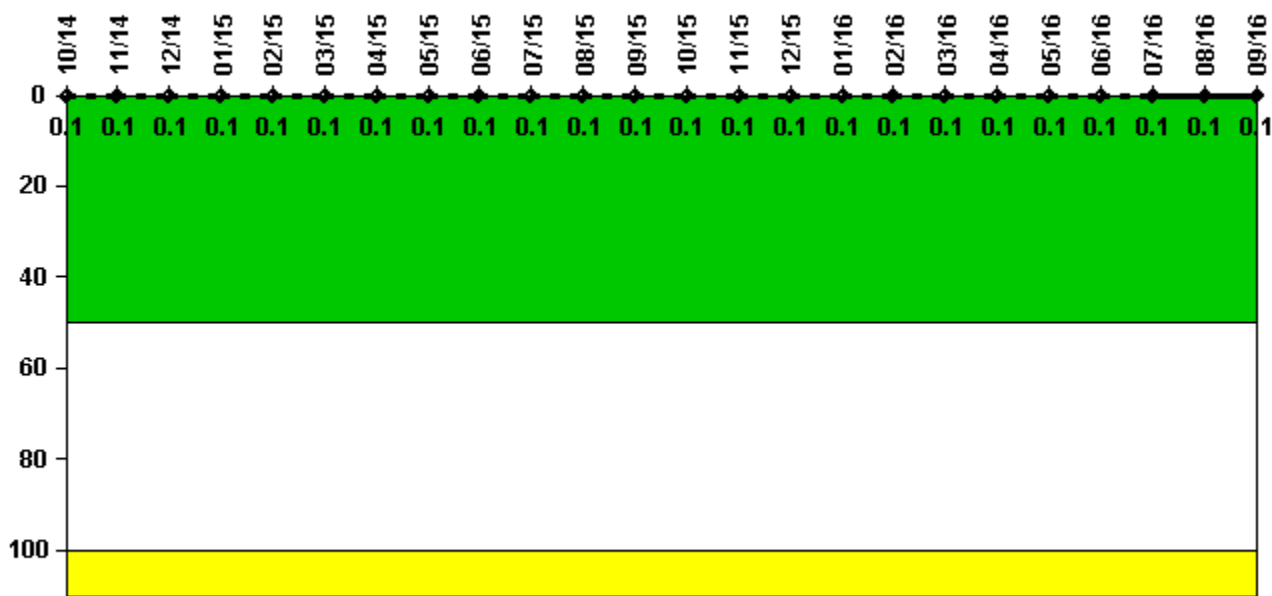
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### 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)   | -2.96E-09 | -2.96E-09 | -2.96E-09 | -2.69E-09 | 2.54E-08  | 3.39E-08  | 3.46E-08  | 7.12E-08  |
| URI ( $\Delta$ CDF)   | -1.55E-07 | -1.55E-07 | -1.55E-07 | -1.55E-07 | -1.55E-07 | -1.55E-07 | -1.55E-07 | -1.55E-07 |
| PLE   | NO        | NO        | NO        | NO        | NO        | NO        | NO        | NO        |
| Indicator value   | -1.60E-07 | -1.60E-07 | -1.60E-07 | -1.60E-07 | -1.30E-07 | -1.20E-07 | -1.20E-07 | -8.40E-08 |

Licensee Comments: none

### Reactor Coolant System Activity



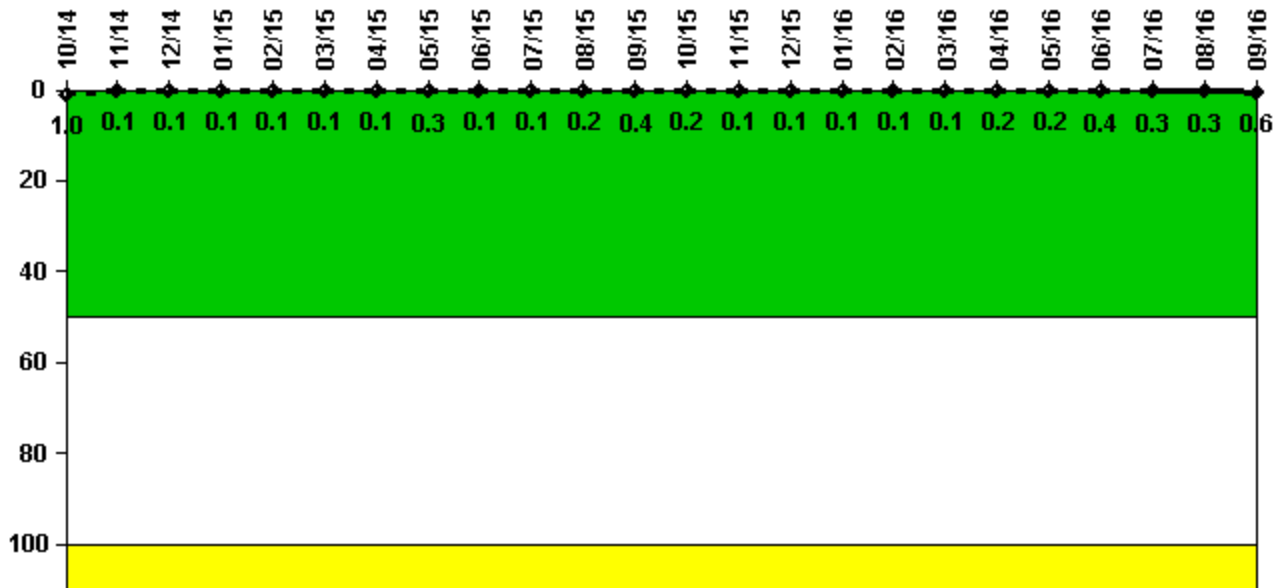
Thresholds: White > 50.0 Yellow > 100.0

#### 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                | 0.000972 | 0.000973 | 0.000988 | 0.001100 | 0.001080 | 0.001090 | 0.001140 | 0.001210 | 0.001190 | 0.001270 | 0.001430 | 0.001390 |
| 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 | 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                | 0.001260 | 0.000768 | 0.000832 | 0.000913 | 0.000882 | 0.000979 | 0.000971 | 0.001020 | 0.001030 | 0.001050 | 0.001190 | 0.001110 |
| 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**

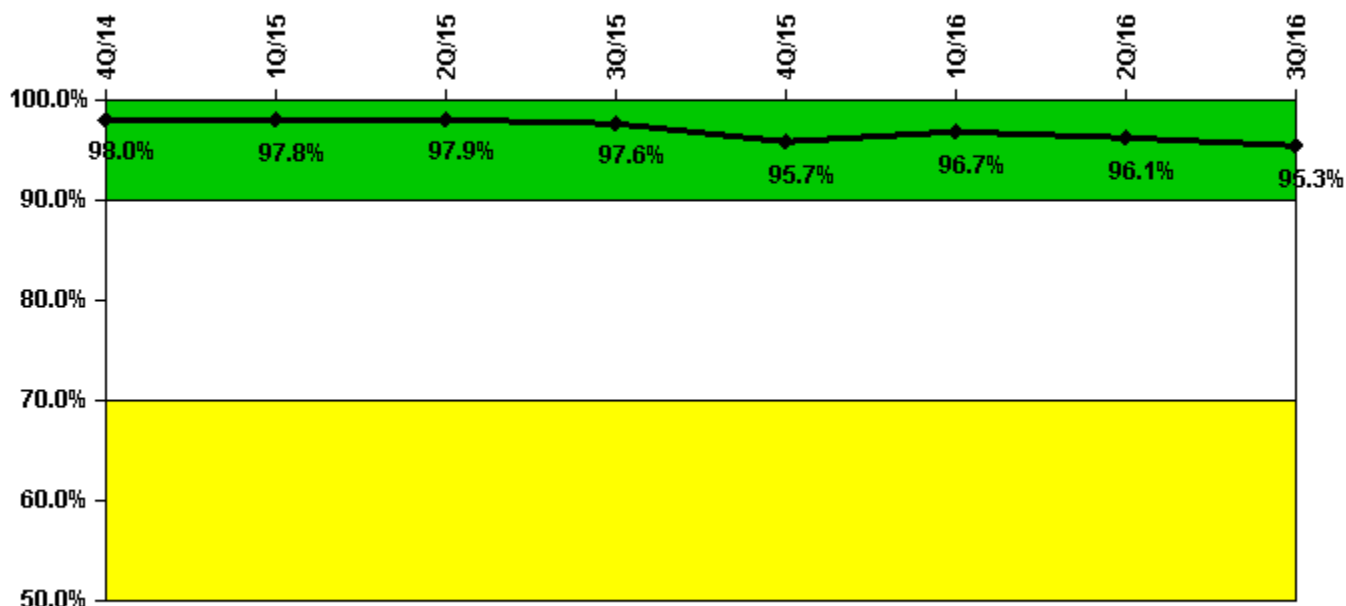
| Reactor Coolant System Leakage | 10/14      | 11/14      | 12/14      | 1/15       | 2/15       | 3/15       | 4/15       | 5/15       | 6/15       | 7/15       | 8/15       | 9/15       |
|--------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Maximum leakage                | 0.096      | 0.005      | 0.008      | 0.011      | 0.005      | 0.012      | 0.009      | 0.033      | 0.005      | 0.008      | 0.021      | 0.038      |
| 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>1.0</b> | <b>0.1</b> | <b>0.1</b> | <b>0.1</b> | <b>0.1</b> | <b>0.1</b> | <b>0.1</b> | <b>0.3</b> | <b>0.1</b> | <b>0.1</b> | <b>0.2</b> | <b>0.4</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                | 0.023      | 0.010      | 0.007      | 0.006      | 0.008      | 0.009      | 0.015      | 0.018      | 0.038      | 0.025      | 0.034      | 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       |
| <b>Indicator value</b>         | <b>0.2</b> | <b>0.1</b> | <b>0.1</b> | <b>0.1</b> | <b>0.1</b> | <b>0.1</b> | <b>0.2</b> | <b>0.2</b> | <b>0.4</b> | <b>0.3</b> | <b>0.3</b> | <b>0.6</b> |

Licensee Comments: none

### Drill/Exercise Performance



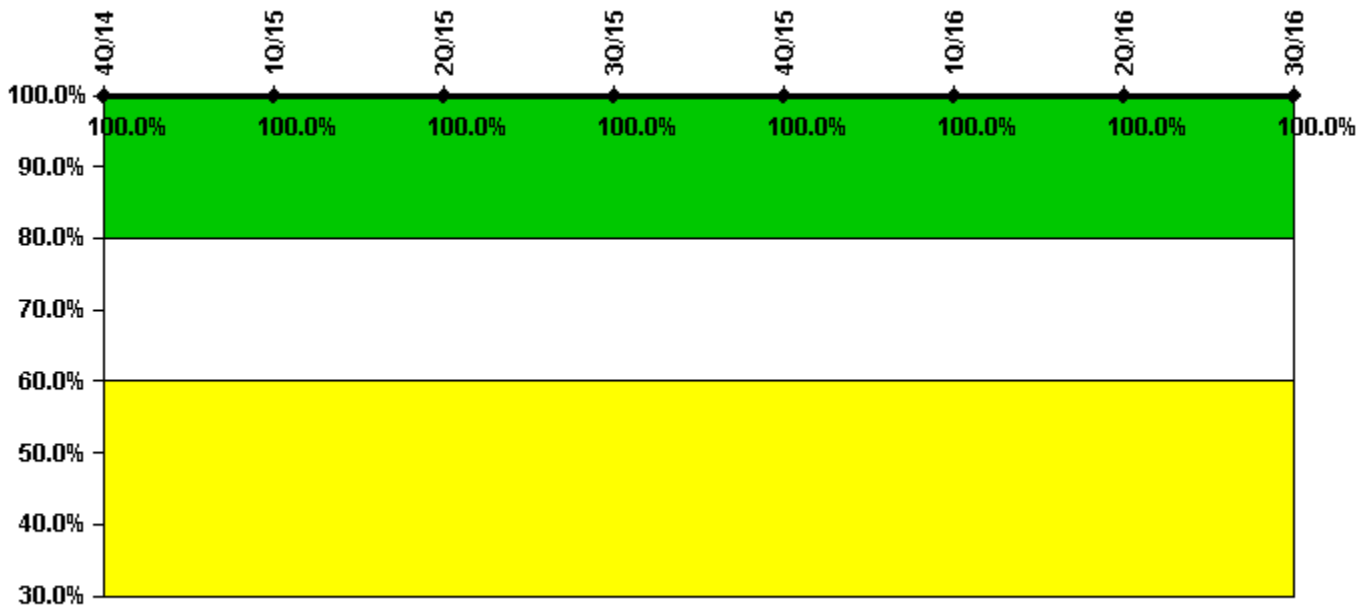
Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

| Drill/Exercise Performance | 4Q/14 | 1Q/15 | 2Q/15 | 3Q/15 | 4Q/15 | 1Q/16 | 2Q/16 | 3Q/16 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Successful opportunities   | 6.0   | 23.0  | 36.0  | 30.0  | 24.0  | 36.0  | 16.0  | 31.0  |
| Total opportunities        | 6.0   | 23.0  | 36.0  | 32.0  | 28.0  | 37.0  | 17.0  | 33.0  |
| Indicator value            | 98.0% | 97.8% | 97.9% | 97.6% | 95.7% | 96.7% | 96.1% | 95.3% |

Licensee Comments: none

### ERO Drill Participation



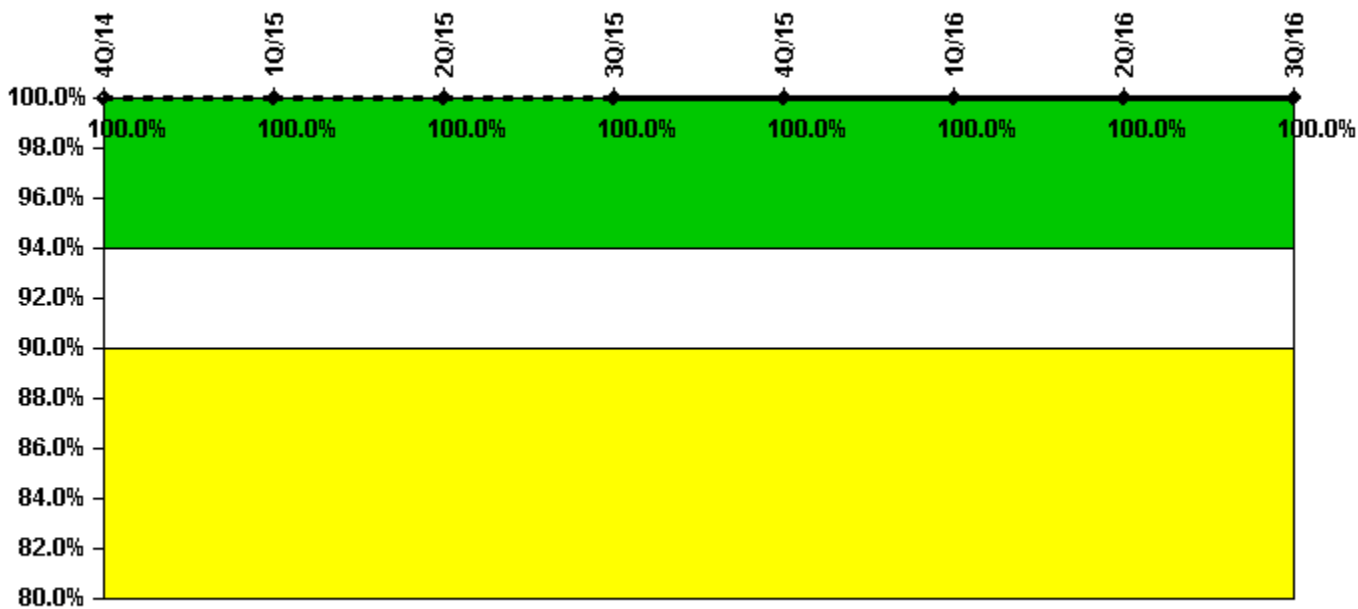
Thresholds: White < 80.0% Yellow < 60.0%

**Notes**

| ERO Drill Participation     | 4Q/14  | 1Q/15  | 2Q/15  | 3Q/15  | 4Q/15  | 1Q/16  | 2Q/16  | 3Q/16  |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Participating Key personnel | 126.0  | 127.0  | 123.0  | 120.0  | 120.0  | 120.0  | 114.0  | 118.0  |
| Total Key personnel         | 126.0  | 127.0  | 123.0  | 120.0  | 120.0  | 120.0  | 114.0  | 118.0  |
| Indicator value             | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Licensee Comments: none

### Alert & Notification System



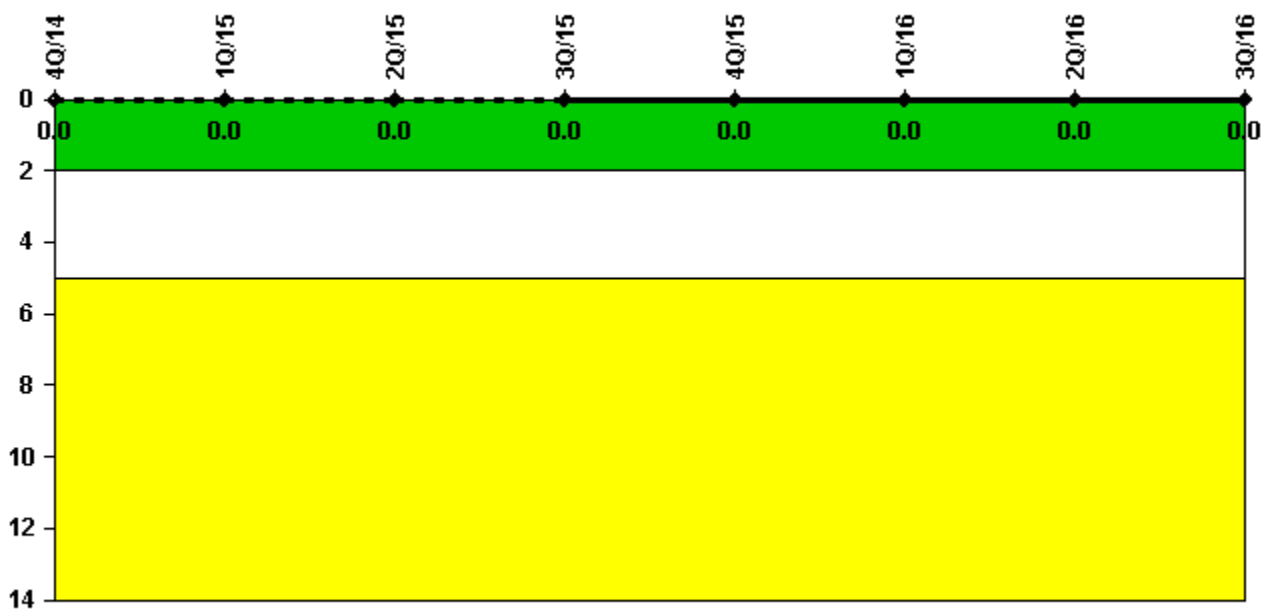
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

| Alert & Notification System | 4Q/14  | 1Q/15  | 2Q/15  | 3Q/15  | 4Q/15  | 1Q/16  | 2Q/16  | 3Q/16  |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Successful siren-tests      | 553    | 474    | 553    | 528    | 499    | 553    | 474    | 553    |
| Total sirens-tests          | 553    | 474    | 553    | 528    | 499    | 553    | 474    | 553    |
| 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



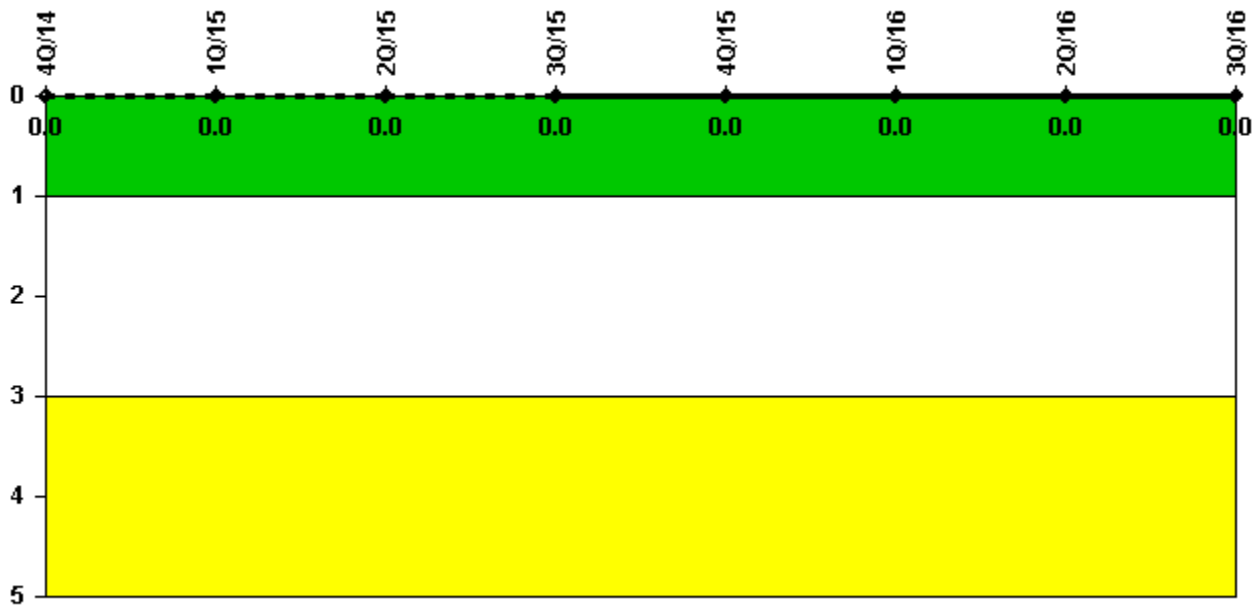
Thresholds: White > 2.0 Yellow > 5.0

#### 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        |
| <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*