

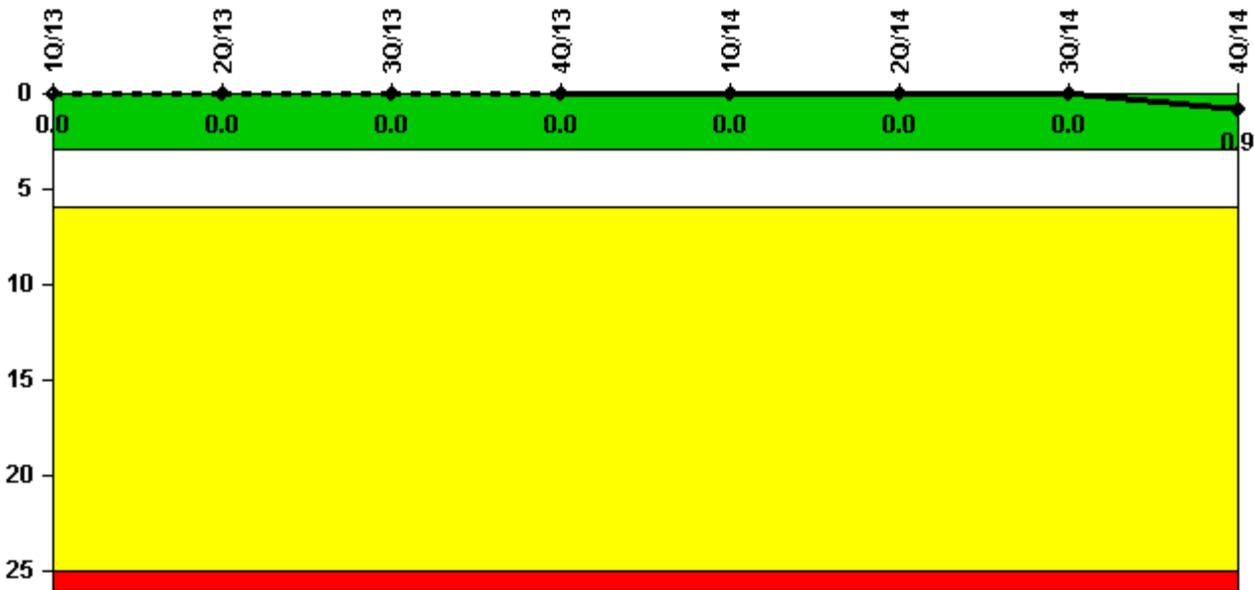
## D.C. Cook 1

### 4Q/2014 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

#### Unplanned Scrams per 7000 Critical Hrs



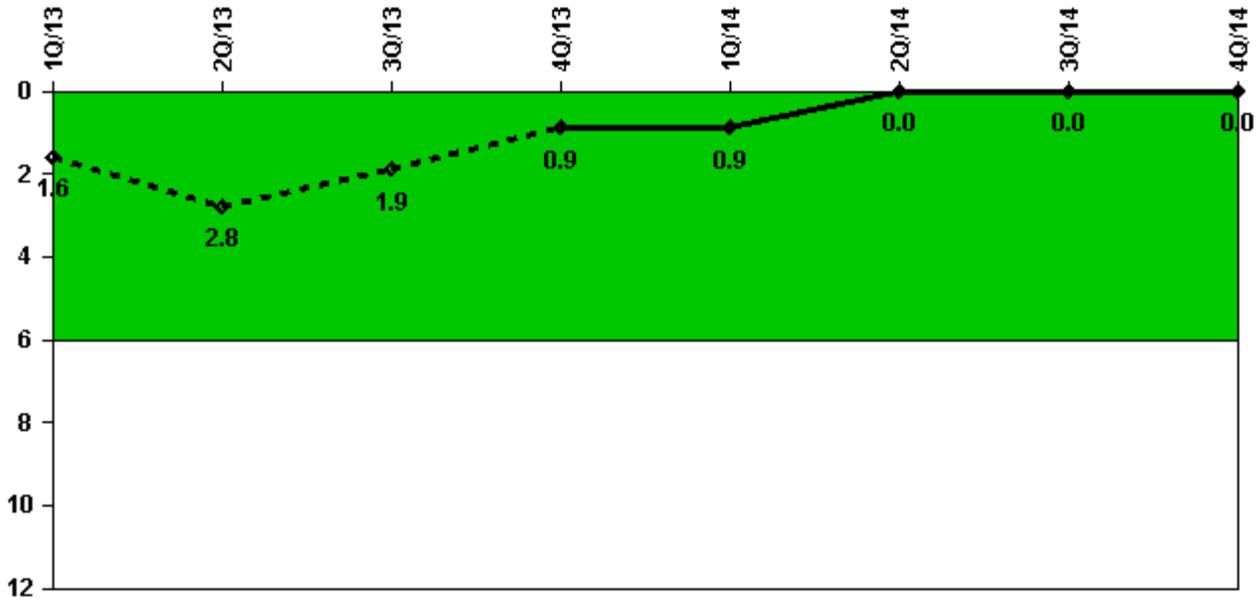
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

#### Notes

| Unplanned Scrams per 7000 Critical Hrs | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    | 1Q/14    | 2Q/14    | 3Q/14    | 4Q/14      |
|--|----------|----------|----------|----------|----------|----------|----------|------------|
| Unplanned scrams                       | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 1.0        |
| Critical hours                         | 2039.0   | 1052.9   | 2208.0   | 2209.0   | 2159.0   | 2184.0   | 2040.0   | 1612.5     |
| <b>Indicator value</b>                 | <b>0</b> | <b>0.9</b> |

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

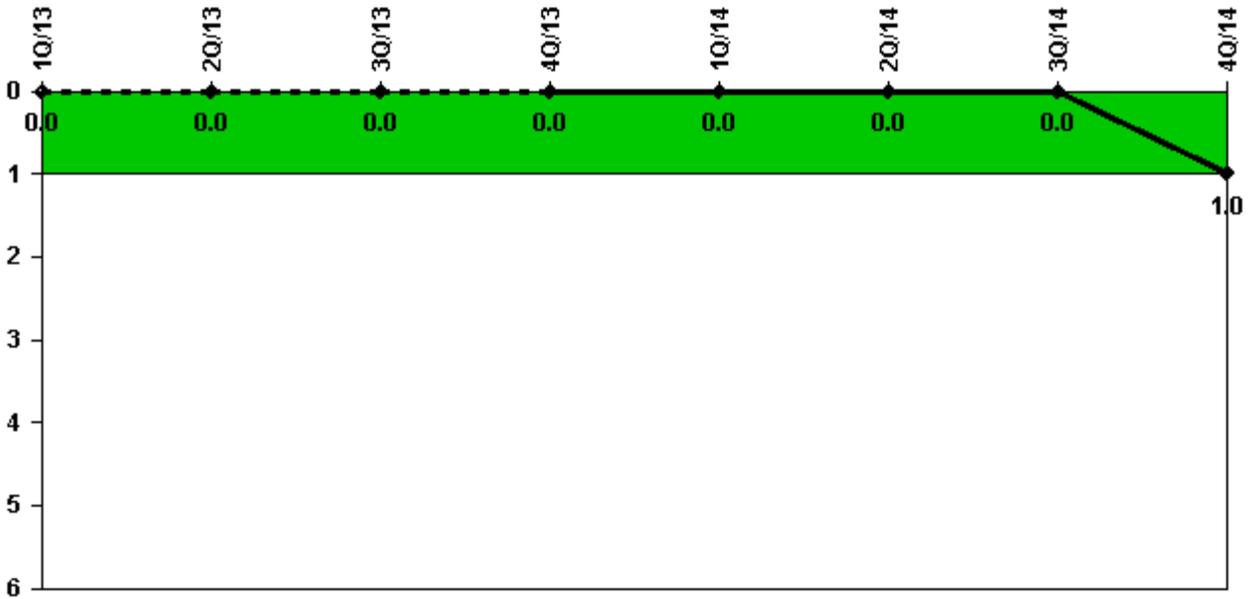
#### Notes

| Unplanned Power Changes per 7000 Critical Hrs | 1Q/13      | 2Q/13      | 3Q/13      | 4Q/13      | 1Q/14      | 2Q/14    | 3Q/14    | 4Q/14    |
|---|------------|------------|------------|------------|------------|----------|----------|----------|
| Unplanned power changes                       | 0          | 1.0        | 0          | 0          | 0          | 0        | 0        | 0        |
| Critical hours                                | 2039.0     | 1052.9     | 2208.0     | 2209.0     | 2159.0     | 2184.0   | 2040.0   | 1612.5   |
| <b>Indicator value</b>                        | <b>1.6</b> | <b>2.8</b> | <b>1.9</b> | <b>0.9</b> | <b>0.9</b> | <b>0</b> | <b>0</b> | <b>0</b> |

Licensee Comments:

2Q/13: Unplanned power change on May 22, 2013, from 88% to 48% due to electrohydraulic control fluid leak on East Main Feed Pump.

### Unplanned Scrams with Complications



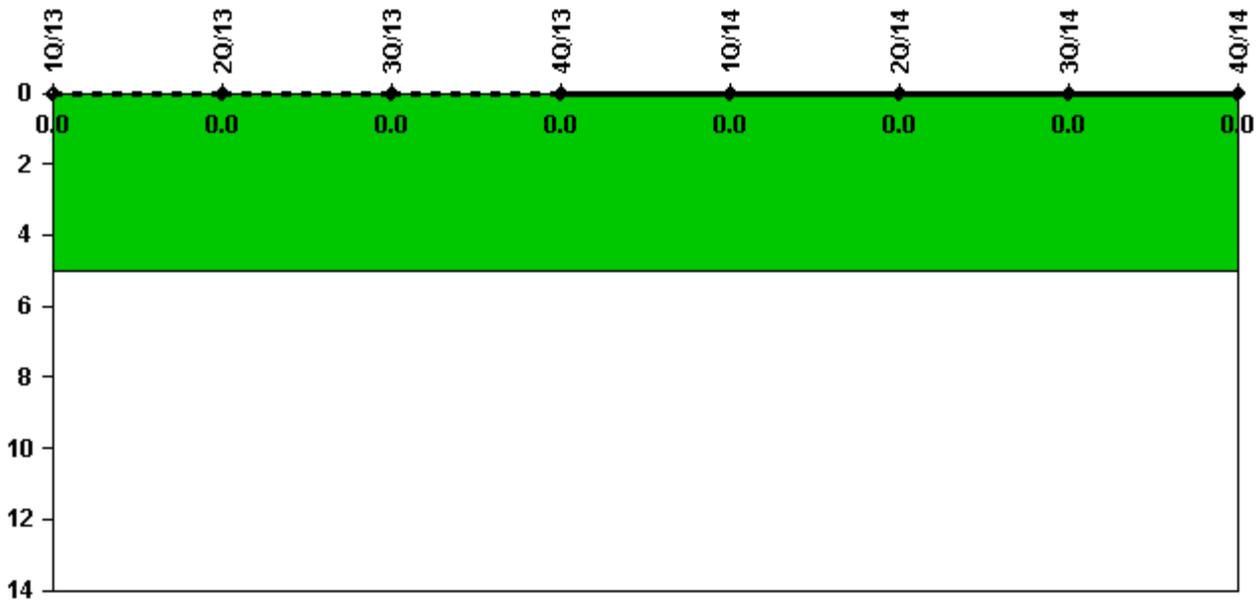
Thresholds: White > 1.0

#### Notes

| Unplanned Scrams with Complications | 1Q/13 | 2Q/13 | 3Q/13 | 4Q/13 | 1Q/14 | 2Q/14 | 3Q/14 | 4Q/14 |
|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Scrams with complications           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 1.0   |
| Indicator value                     | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 1.0   |

Licensee Comments: none

### Safety System Functional Failures (PWR)



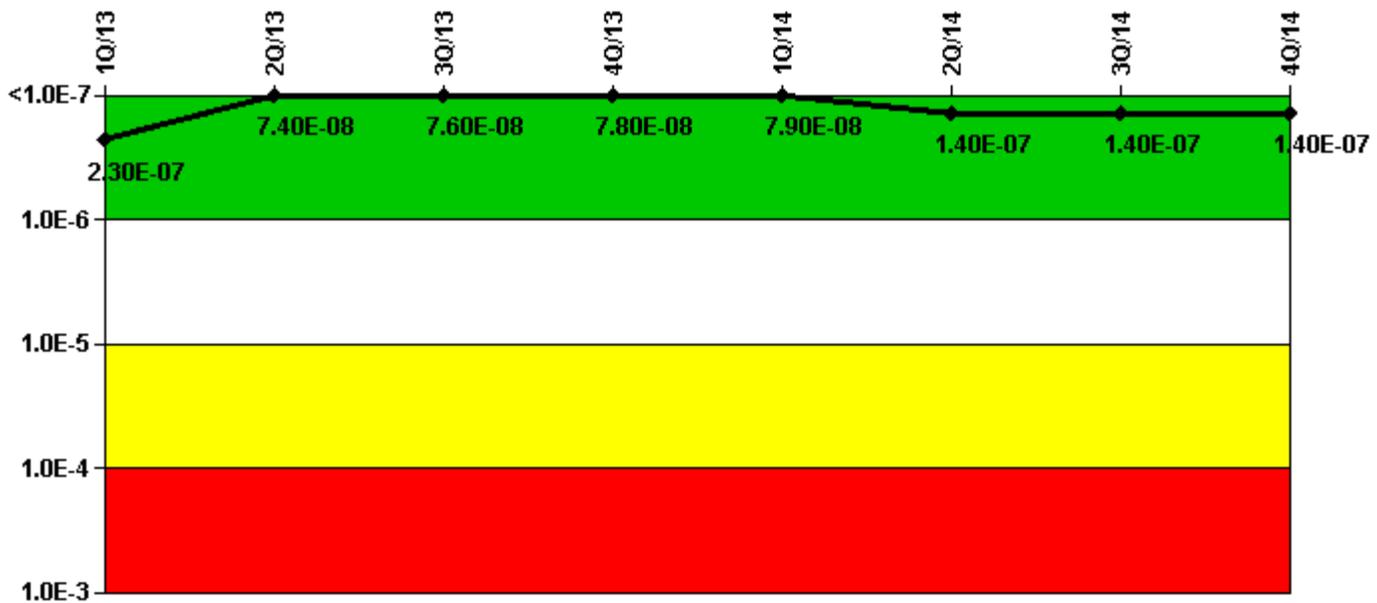
Thresholds: White > 5.0

#### Notes

| Safety System Functional Failures (PWR) | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    | 1Q/14    | 2Q/14    | 3Q/14    | 4Q/14    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| Safety System Functional Failures       | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        |
| <b>Indicator value</b>                  | <b>0</b> |

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 | 1Q/13    | 2Q/13     | 3Q/13    | 4Q/13    | 1Q/14    | 2Q/14    | 3Q/14    | 4Q/14    |
|---|----------|-----------|----------|----------|----------|----------|----------|----------|
| UAI (ΔCDF)  | 3.40E-10 | -1.71E-10 | 1.33E-10 | 1.78E-10 | 2.29E-10 | 4.32E-10 | 2.53E-10 | 2.50E-10 |
| URI (ΔCDF)  | 2.28E-07 | 7.45E-08  | 7.59E-08 | 7.74E-08 | 7.89E-08 | 1.35E-07 | 1.39E-07 | 1.41E-07 |
| PLE   | NO       | NO        | NO       | NO       | NO       | NO       | NO       | NO       |
| Indicator value   | 2.30E-07 | 7.40E-08  | 7.60E-08 | 7.80E-08 | 7.90E-08 | 1.40E-07 | 1.40E-07 | 1.40E-07 |

#### Licensee Comments:

1Q/14: Revised MSPI Basis Document to update Emergency Diesel Generator Load Run Test Demand estimates.

1Q/14: Revised MSPI Basis Document to update Emergency Diesel Generator Load Run Test Demand estimates.

4Q/13: Revised MSPI basis document to update Emergency Diesel Generator run hour estimates to exclude the run hours associated with (1) the first hour of run time after breaker closure and (2) unloaded run hours. This change does not affect the "color" of this indicator from 1st Quarter 2012 to present.

4Q/13: Revised MSPI basis document to update Emergency Diesel Generator run hour estimates to exclude the run hours associated with (1) the first hour of run time after breaker closure and (2) unloaded run hours. This change does not affect the "color" of this indicator from 1st Quarter 2012 to present.

3Q/13: Revised MSPI basis document to update Emergency Diesel Generator run hour estimates to exclude the run hours associated with (1) the first hour of run time after breaker closure and (2) unloaded run hours. This change does not affect the "color" of this indicator from 1st Quarter 2012 to present.

3Q/13: Revised MSPI basis document to update Emergency Diesel Generator run hour estimates to exclude the run hours associated with (1) the first hour of run time after breaker closure and (2) unloaded run hours. This change does not affect the "color" of this indicator from 1st Quarter 2012 to present.

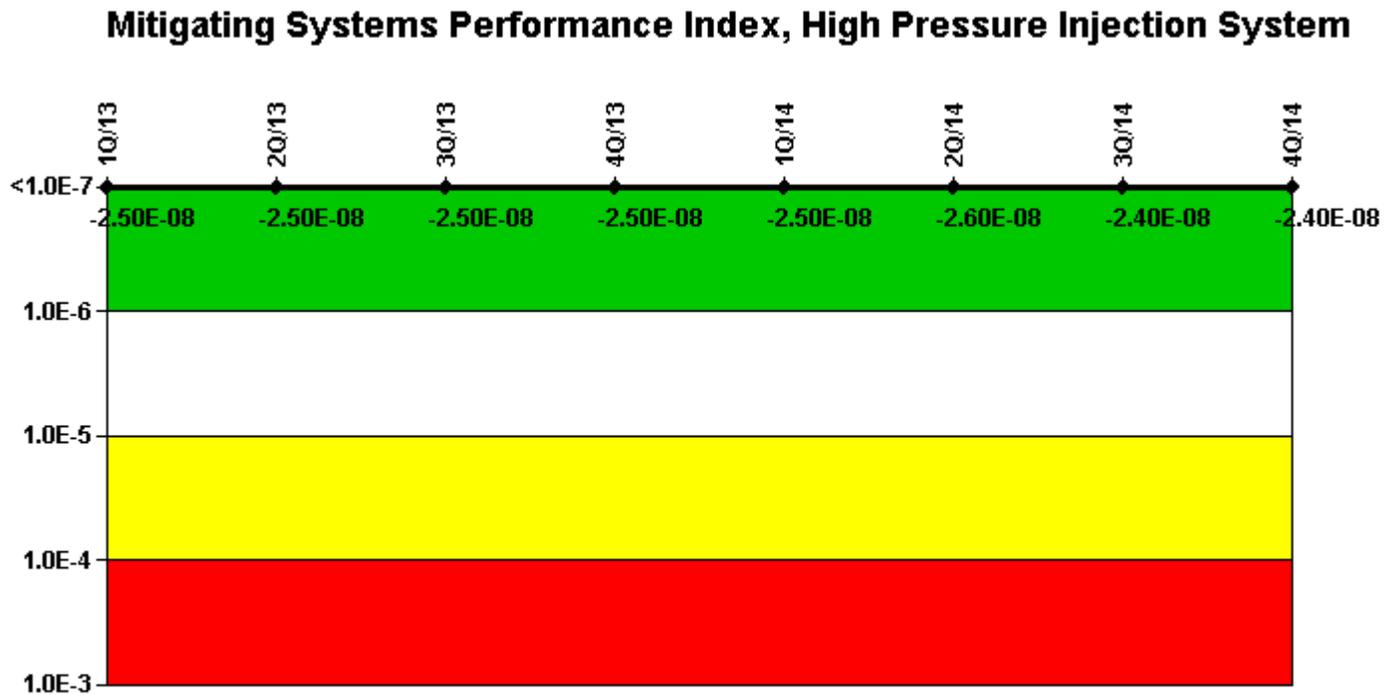
2Q/13: Revised MSPI basis document to update Emergency Diesel Generator run hour estimates to exclude the run hours associated with (1) the first hour of run time after breaker closure and (2) unloaded run hours. This change does not affect the "color" of this indicator from 1st Quarter 2012 to present.

2Q/13: Revised MSPI basis document to update Emergency Diesel Generator run hour estimates to exclude the run hours associated with (1) the first hour of run time after breaker closure and (2) unloaded run hours. This change does not affect the "color" of this indicator from 1st Quarter 2012 to present.

1Q/13: U1 CD EDG Fuel Injector failure during surveillance on 1/29/13. CD EDG available following repair on 1/30/13.

1Q/13: ICES report 302607 for 1/29/13 Unit 1 CD Diesel Generator Fuel Injector Leak was revised from MSPI Run Failure to No MSPI Failure based on conclusion that the Unit 1 CD Diesel Generator was operable for the identified condition as documented in Past Operability Determination Evaluation 2013-14944-8. This change does not result in a color change for this indicator.

1Q/13: U1 CD EDG Fuel Injector failure during surveillance on 1/29/13. CD EDG available following repair on 1/30/13. Revised MSPI basis document to update Emergency Diesel Generator run hour estimates to exclude the run hours associated with (1) the first hour of run time after breaker closure and (2) unloaded run hours. This change does not affect the "color" of this indicator from 1st Quarter 2012 to present.



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

## Notes

| <b>Mitigating Systems Performance Index, High Pressure Injection System</b> | <b>1Q/13</b>     | <b>2Q/13</b>     | <b>3Q/13</b>     | <b>4Q/13</b>     | <b>1Q/14</b>     | <b>2Q/14</b>     | <b>3Q/14</b>     | <b>4Q/14</b>     |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| UAI ( $\Delta$ CDF)   | 1.27E-11         | 1.68E-11         | 3.15E-11         | 3.29E-11         | 2.22E-11         | 8.47E-12         | 1.94E-12         | 1.95E-12         |
| URI ( $\Delta$ CDF)   | -2.46E-08        | -2.46E-08        | -2.46E-08        | -2.46E-08        | -2.46E-08        | -2.55E-08        | -2.40E-08        | -2.40E-08        |
| PLE   | NO               |
|   |                  |                  |                  |                  |                  |                  |                  |                  |
| <b>Indicator value</b>  | <b>-2.50E-08</b> | <b>-2.50E-08</b> | <b>-2.50E-08</b> | <b>-2.50E-08</b> | <b>-2.50E-08</b> | <b>-2.60E-08</b> | <b>-2.40E-08</b> | <b>-2.40E-08</b> |

## Licensee Comments:

3Q/13: The High Pressure Injection System MS07 data has been corrected to include additional unavailability hours that were not reported in the 3Q13 submittal. An additional 9.30 hours of unavailability in August 2013 were counted for Unit 1 A North SI Train and B West CCP Train. These changes did not result in a change in indicator color.

3Q/13: Revised the MSPI scope of monitored components for High Pressure Safety Injection HPSI to remove two injection pathway boundary valves, which was effective 2nd Quarter 2008. MSPI Basis document excludes these valves from the MSPI scope based on Birnbaum value  $< 1.0 \text{ E-}06$ . The MSPI basis document was revised to make this change in the 1st Quarter 2008. This change does not affect "color" of the indicator from 2nd Quarter 2008 to present.

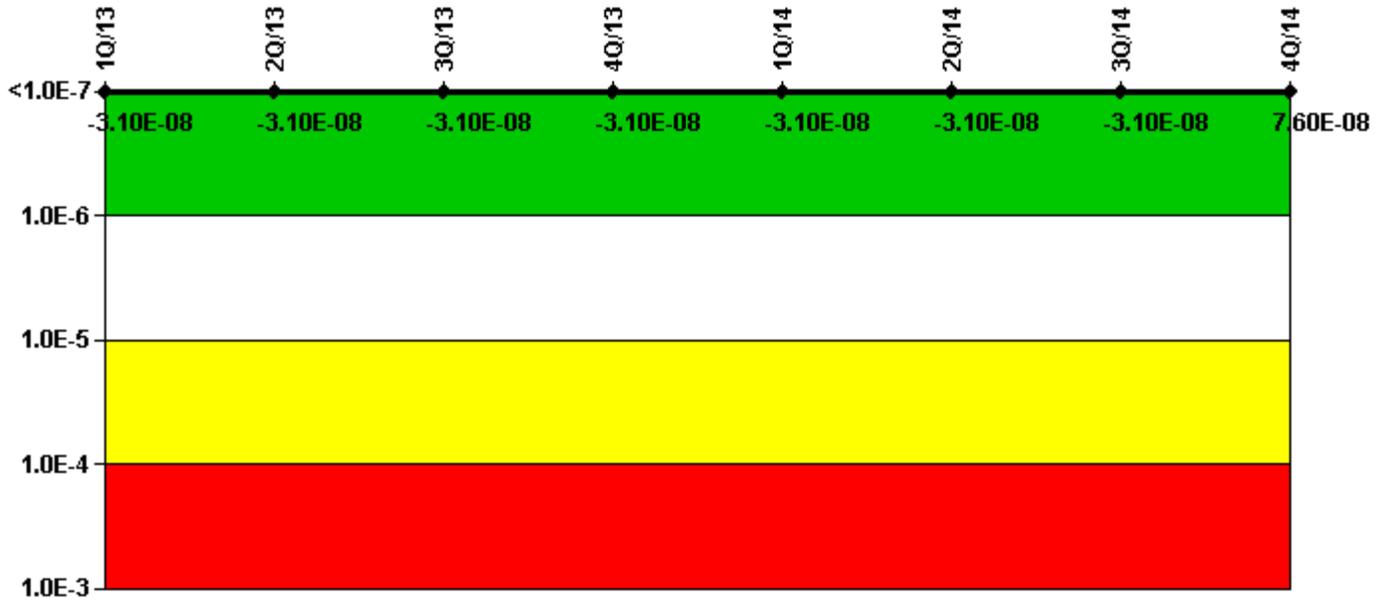
2Q/13: Revised the MSPI scope of monitored components for High Pressure Safety Injection HPSI to remove two injection pathway boundary valves, which was effective 2nd Quarter 2008. MSPI Basis document excludes these valves from the MSPI scope based on Birnbaum value  $< 1.0 \text{ E-}06$ . The MSPI basis document was revised to make this change in the 1st Quarter 2008. This change does not affect "color" of the indicator from 2nd Quarter 2008 to present.

2Q/13: Revised the MSPI scope of monitored components for High Pressure Safety Injection HPSI to remove two injection pathway boundary valves, which was effective 2nd Quarter 2008. MSPI Basis document excludes these valves from the MSPI scope based on Birnbaum value  $< 1.0 \text{ E-}06$ . The MSPI basis document was revised to make this change in the 1st Quarter 2008. This change does not affect "color" of the indicator from 2nd Quarter 2008 to present.

1Q/13: The High Pressure Injection System MS07 data has been corrected to include additional unavailability hours that were not reported in the 1Q13 submittal. An additional 7.67 hours of unavailability in February 2013 were counted for Unit 1 A North SI Train and B West CCP Train. These changes did not result in a change in indicator color.

1Q/13: Revised the MSPI scope of monitored components for High Pressure Safety Injection HPSI to remove two injection pathway boundary valves, which was effective 2nd Quarter 2008. MSPI Basis document excludes these valves from the MSPI scope based on Birnbaum value  $< 1.0 \text{ E-}06$ . The MSPI basis document was revised to make this change in the 1st Quarter 2008. This change does not affect "color" of the indicator from 2nd Quarter 2008 to present.

### Mitigating Systems Performance Index, Heat Removal System



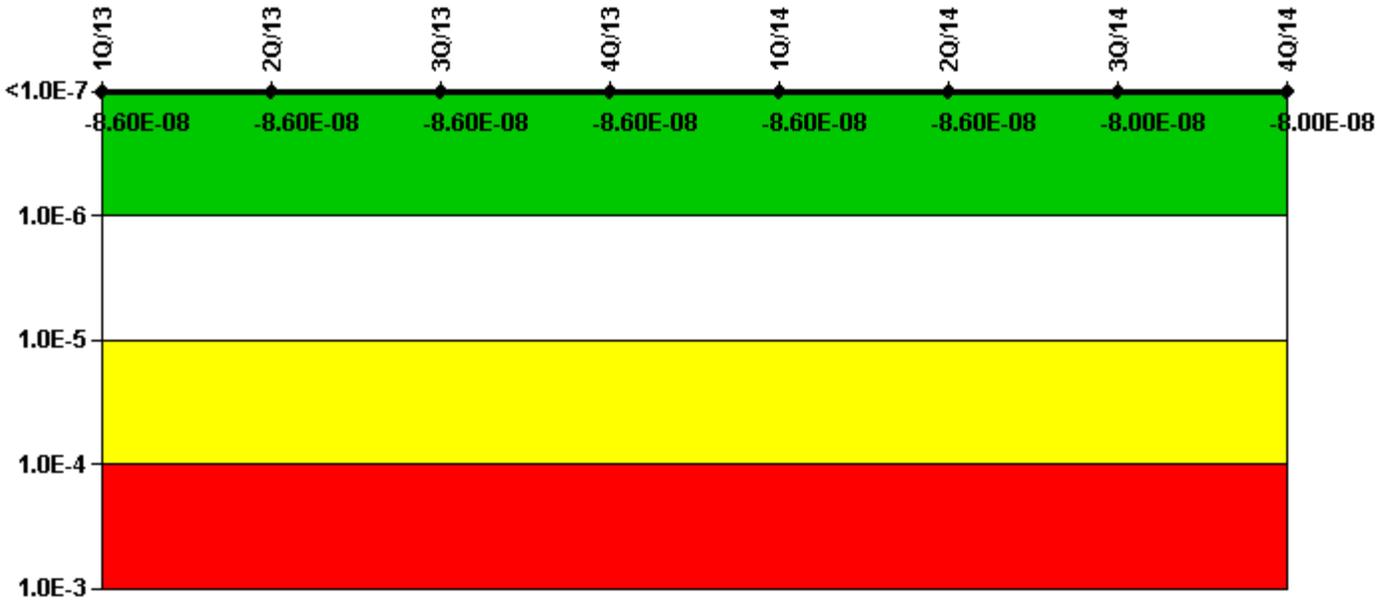
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

| Mitigating Systems Performance Index, Heat Removal System | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     | 2Q/14     | 3Q/14     | 4Q/14     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)                                       | -2.86E-11 | -2.78E-11 | -2.84E-11 | -2.84E-11 | -2.69E-11 | -2.84E-11 | -2.84E-11 | -2.84E-11 |
| URI ( $\Delta$ CDF)                                       | -3.15E-08 | -3.15E-08 | -3.15E-08 | -3.15E-08 | -3.15E-08 | -3.15E-08 | -3.06E-08 | 7.62E-08  |
| PLE   | NO        |
| Indicator value   | -3.10E-08 | 7.60E-08  |

Licensee Comments: none

### Mitigating Systems Performance Index, Residual Heat Removal System



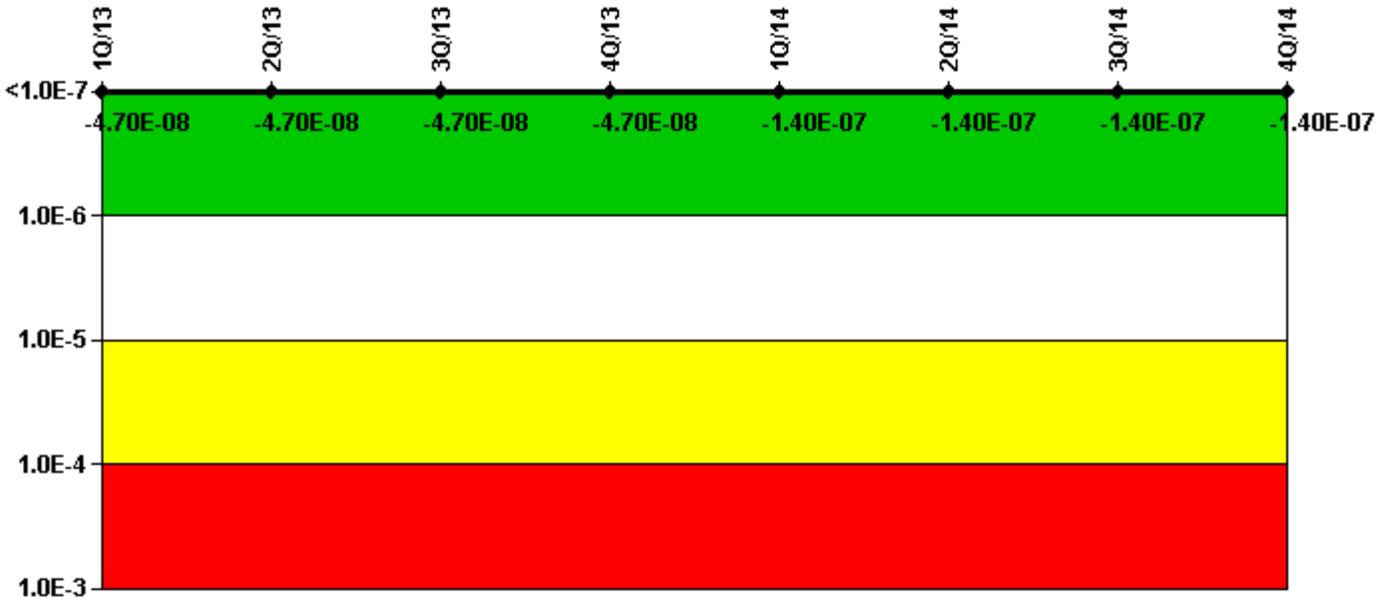
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

| Mitigating Systems Performance Index, Residual Heat Removal System | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     | 2Q/14     | 3Q/14     | 4Q/14     |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)  | -3.23E-13 |
| URI ( $\Delta$ CDF)  | -8.62E-08 | -8.62E-08 | -8.62E-08 | -8.62E-08 | -8.62E-08 | -8.62E-08 | -8.05E-08 | -8.05E-08 |
| PLE  | NO        |
| Indicator value  | -8.60E-08 | -8.60E-08 | -8.60E-08 | -8.60E-08 | -8.60E-08 | -8.60E-08 | -8.00E-08 | -8.00E-08 |

Licensee Comments: none

### Mitigating Systems Performance Index, Cooling Water Systems



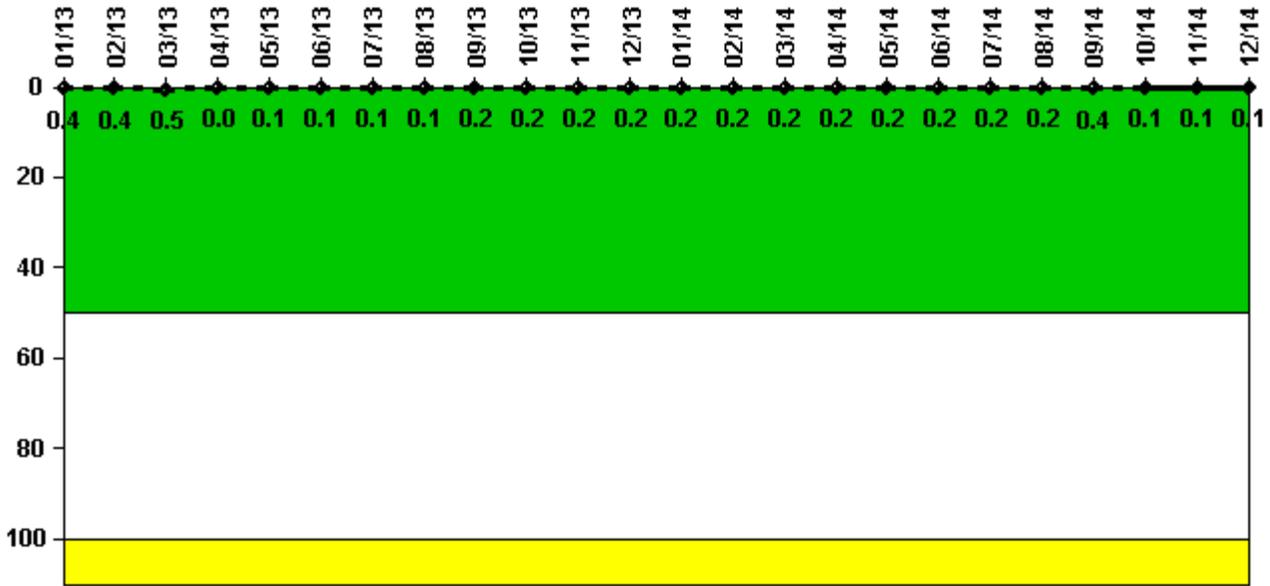
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

| Mitigating Systems Performance Index, Cooling Water Systems | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     | 2Q/14     | 3Q/14     | 4Q/14     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)   | 3.48E-11  | 7.02E-11  | 7.02E-11  | 7.02E-11  | 1.87E-11  | 5.21E-12  | 5.03E-12  | 1.60E-11  |
| URI ( $\Delta$ CDF)   | -4.69E-08 | -4.69E-08 | -4.69E-08 | -4.69E-08 | -1.43E-07 | -1.43E-07 | -1.42E-07 | -1.42E-07 |
| PLE   | NO        |
| Indicator value   | -4.70E-08 | -4.70E-08 | -4.70E-08 | -4.70E-08 | -1.40E-07 | -1.40E-07 | -1.40E-07 | -1.40E-07 |

Licensee Comments: none

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

#### Notes

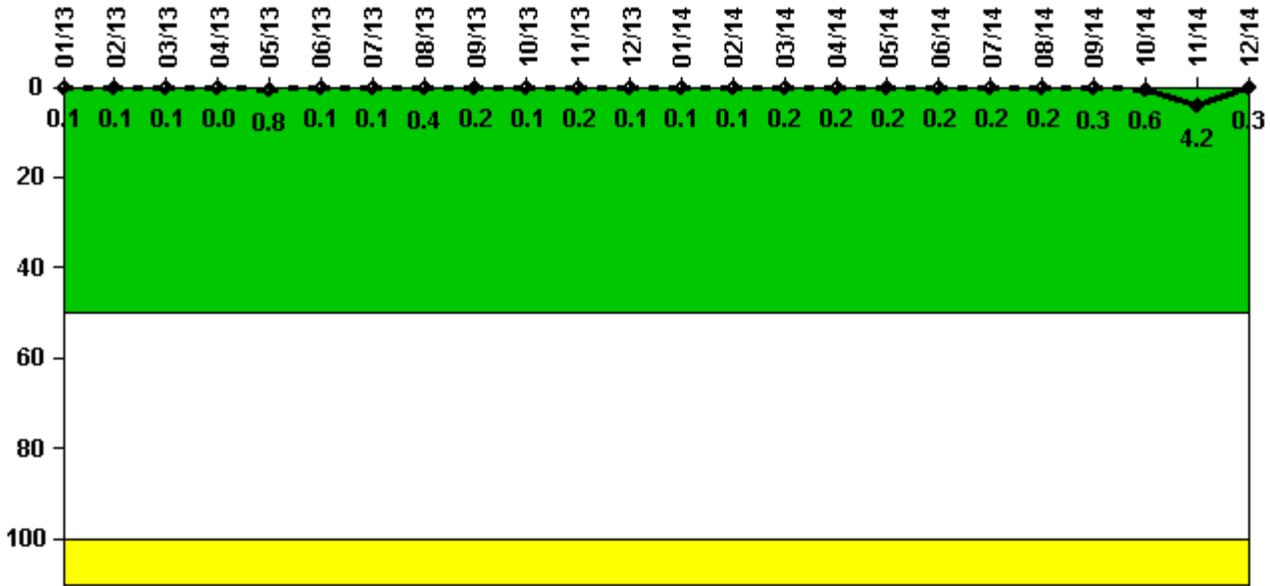
| Reactor Coolant System Activity | 1/13     | 2/13     | 3/13     | 4/13 | 5/13     | 6/13     | 7/13     | 8/13     | 9/13     | 10/13    | 11/13    | 12/13    |
|---------------------------------|----------|----------|----------|------|----------|----------|----------|----------|----------|----------|----------|----------|
| Maximum activity                | 0.001350 | 0.001390 | 0.001590 | 0    | 0.000329 | 0.000484 | 0.000491 | 0.000510 | 0.000551 | 0.000541 | 0.000591 | 0.000629 |
| Technical specification limit   | 0.4      | 0.4      | 0.4      | 0.4  | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      |
| Indicator value                 | 0.4      | 0.4      | 0.5      | 0    | 0.1      | 0.1      | 0.1      | 0.1      | 0.2      | 0.2      | 0.2      | 0.2      |

| 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                | 0.000656 | 0.000685 | 0.000713 | 0.000741 | 0.000764 | 0.000786 | 0.000834 | 0.000837 | 0.001350 | 0.000284 | 0.000490 | 0.000371 |
| Technical specification limit   | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      |
| Indicator value                 | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.4      | 0.1      | 0.1      | 0.1      |

Licensee Comments: none

### Reactor Coolant System Leakage



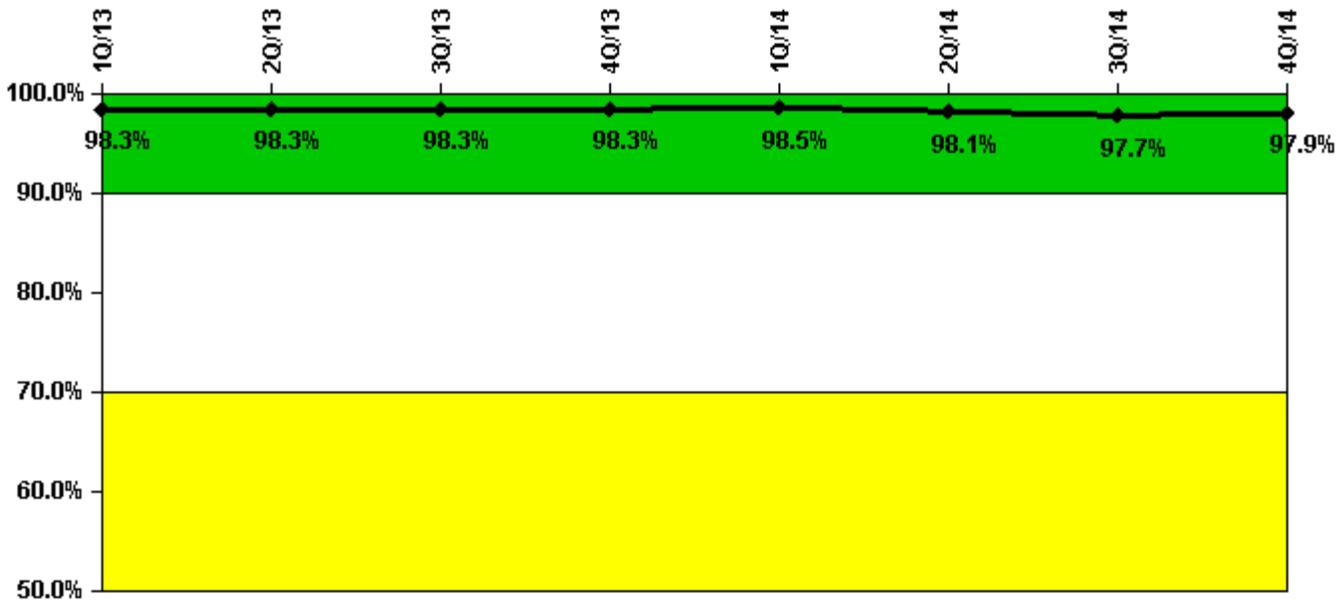
Thresholds: White > 50.0 Yellow > 100.0

#### Notes

| Reactor Coolant System Leakage | 1/13       | 2/13       | 3/13       | 4/13       | 5/13       | 6/13       | 7/13       | 8/13       | 9/13       | 10/13      | 11/13      | 12/13      |
|--------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Maximum leakage                | 0.011      | 0.012      | 0.012      | 0          | 0.091      | 0.011      | 0.009      | 0.043      | 0.020      | 0.008      | 0.018      | 0.013      |
| Technical specification limit  | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       |
| <b>Indicator value</b>         | <b>0.1</b> | <b>0.1</b> | <b>0.1</b> | <b>0</b>   | <b>0.8</b> | <b>0.1</b> | <b>0.1</b> | <b>0.4</b> | <b>0.2</b> | <b>0.1</b> | <b>0.2</b> | <b>0.1</b> |
| 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                | 0.015      | 0.015      | 0.024      | 0.019      | 0.024      | 0.021      | 0.022      | 0.025      | 0.027      | 0.070      | 0.452      | 0.032      |
| Technical specification limit  | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       | 10.8       |
| <b>Indicator value</b>         | <b>0.1</b> | <b>0.1</b> | <b>0.2</b> | <b>0.2</b> | <b>0.2</b> | <b>0.2</b> | <b>0.2</b> | <b>0.2</b> | <b>0.3</b> | <b>0.6</b> | <b>4.2</b> | <b>0.3</b> |

Licensee Comments: none

### Drill/Exercise Performance



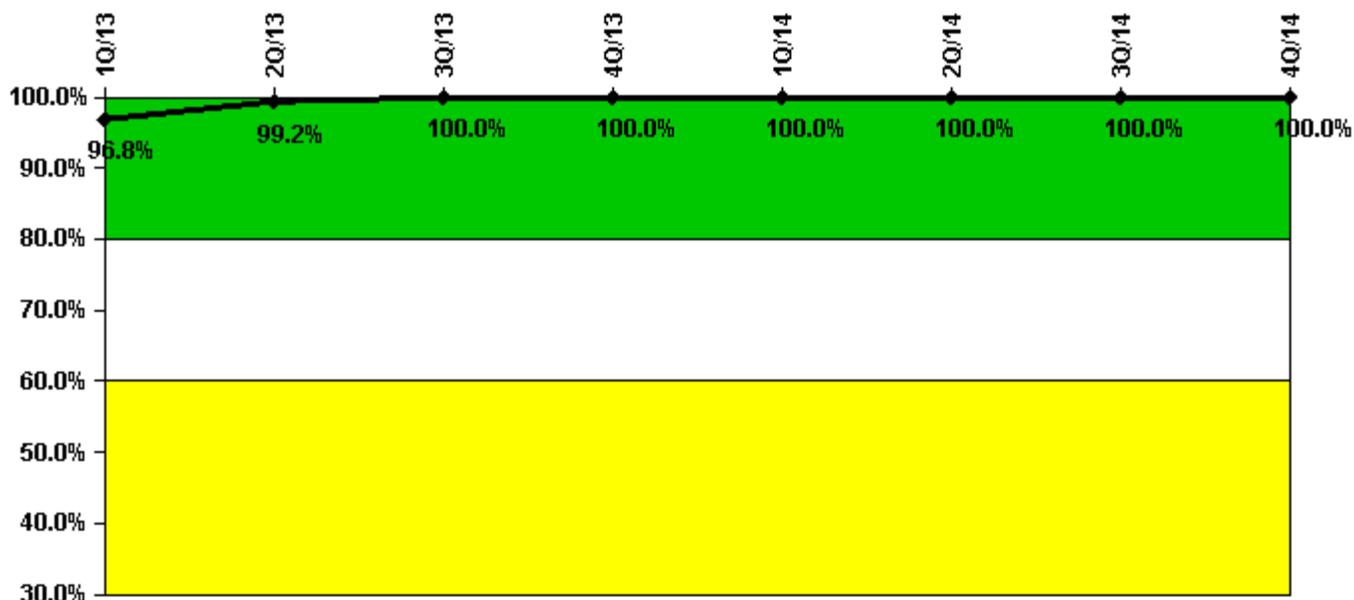
Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

| Drill/Exercise Performance | 1Q/13 | 2Q/13 | 3Q/13 | 4Q/13 | 1Q/14 | 2Q/14 | 3Q/14 | 4Q/14 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Successful opportunities   | 68.0  | 20.0  | 44.0  | 0     | 55.0  | 23.0  | 59.0  | 56.0  |
| Total opportunities        | 70.0  | 20.0  | 44.0  | 0     | 56.0  | 25.0  | 61.0  | 56.0  |
| Indicator value            | 98.3% | 98.3% | 98.3% | 98.3% | 98.5% | 98.1% | 97.7% | 97.9% |

Licensee Comments: none

### ERO Drill Participation



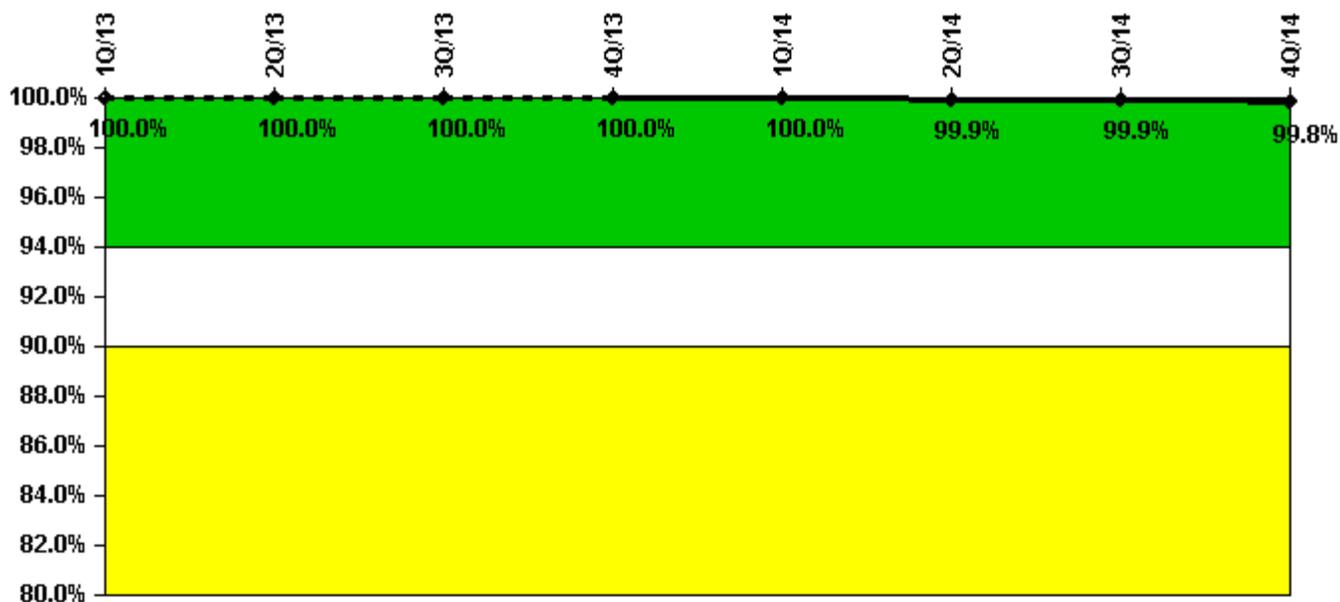
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

| ERO Drill Participation     | 1Q/13        | 2Q/13        | 3Q/13         | 4Q/13         | 1Q/14         | 2Q/14         | 3Q/14         | 4Q/14         |
|-----------------------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Participating Key personnel | 120.0        | 121.0        | 118.0         | 118.0         | 120.0         | 118.0         | 123.0         | 128.0         |
| Total Key personnel         | 124.0        | 122.0        | 118.0         | 118.0         | 120.0         | 118.0         | 123.0         | 128.0         |
|                             |              |              |               |               |               |               |               |               |
| <b>Indicator value</b>      | <b>96.8%</b> | <b>99.2%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> |

Licensee Comments: none

### Alert & Notification System



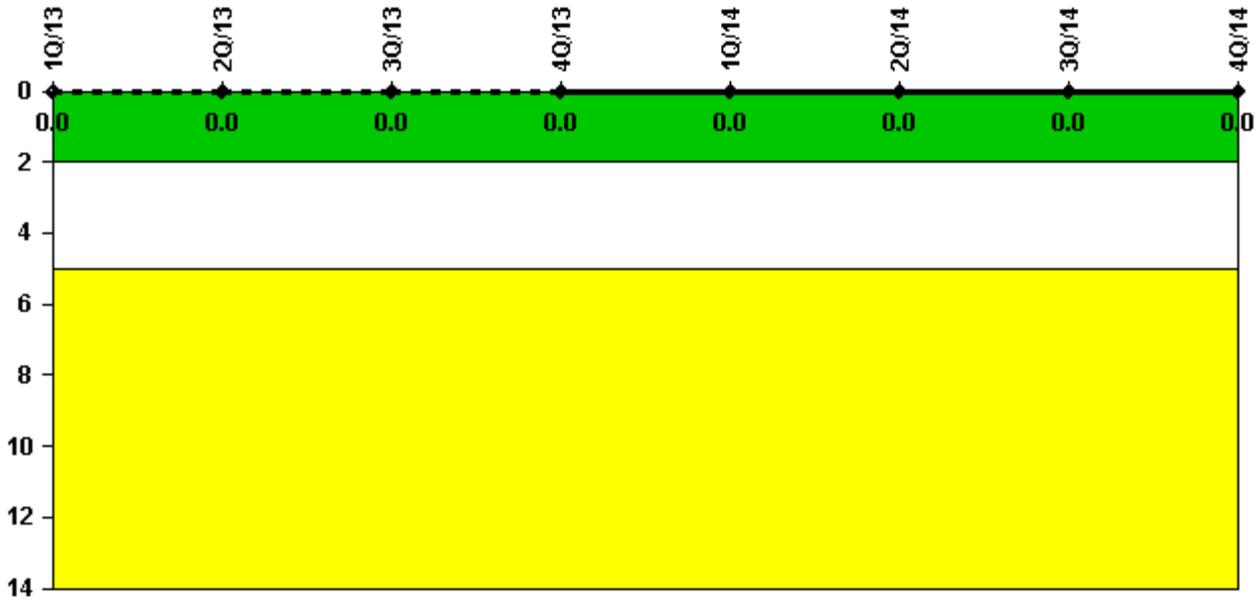
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

| Alert & Notification System | 1Q/13  | 2Q/13  | 3Q/13  | 4Q/13  | 1Q/14  | 2Q/14 | 3Q/14 | 4Q/14 |
|-----------------------------|--------|--------|--------|--------|--------|-------|-------|-------|
| Successful siren-tests      | 1120   | 1119   | 1120   | 1120   | 1119   | 1116  | 1119  | 1187  |
| Total sirens-tests          | 1120   | 1119   | 1120   | 1120   | 1120   | 1119  | 1120  | 1190  |
| Indicator value             | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 99.9% | 99.9% | 99.8% |

Licensee Comments: none

### Occupational Exposure Control Effectiveness



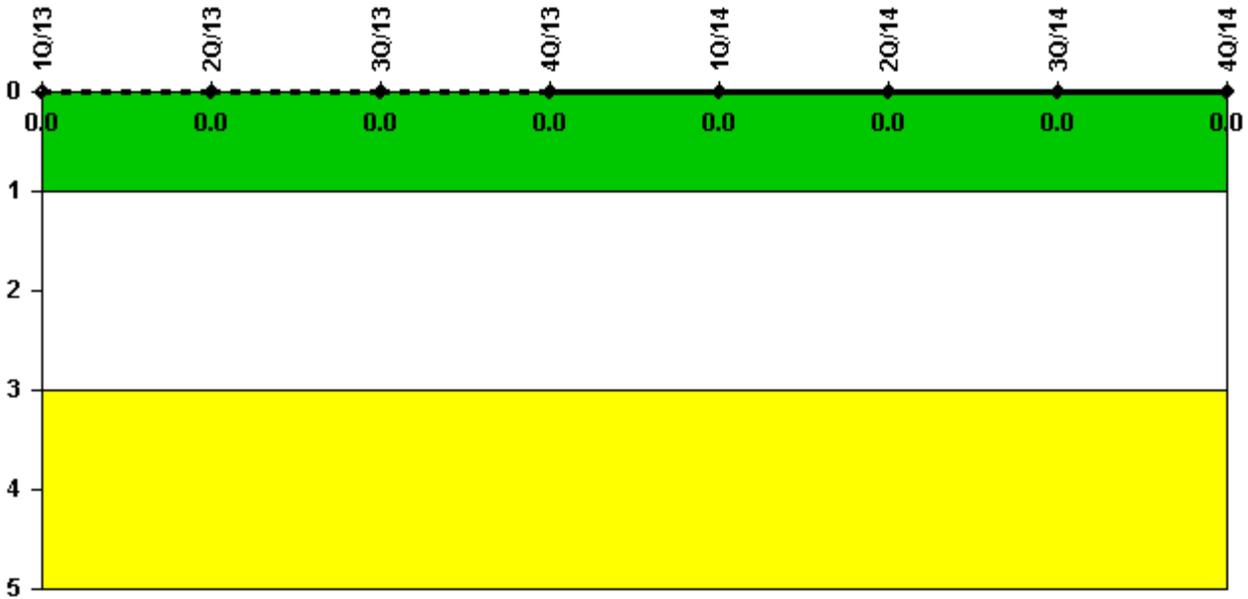
Thresholds: White > 2.0 Yellow > 5.0

#### Notes

| Occupational Exposure Control Effectiveness | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    | 1Q/14    | 2Q/14    | 3Q/14    | 4Q/14    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| 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> |

Licensee Comments: none

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

#### Notes

| RETS/ODCM Radiological Effluent | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    | 1Q/14    | 2Q/14    | 3Q/14    | 4Q/14    |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| RETS/ODCM occurrences           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        |
| <b>Indicator value</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: February 3, 2015*