

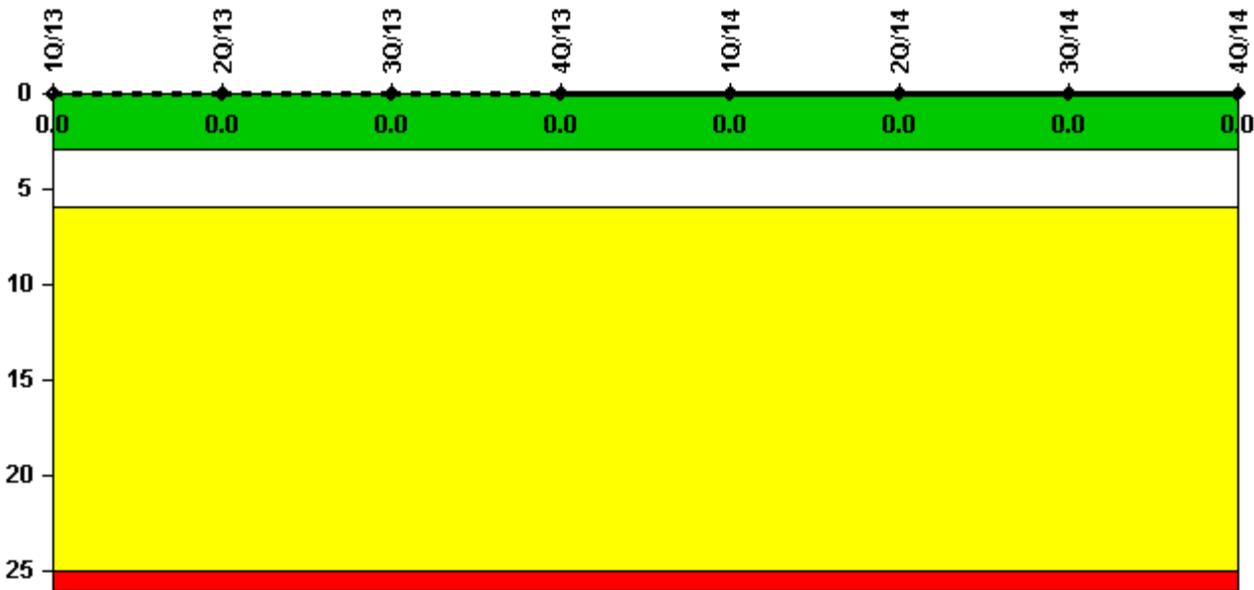
## Brunswick 2

### 4Q/2014 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

#### Unplanned Scrams per 7000 Critical Hrs



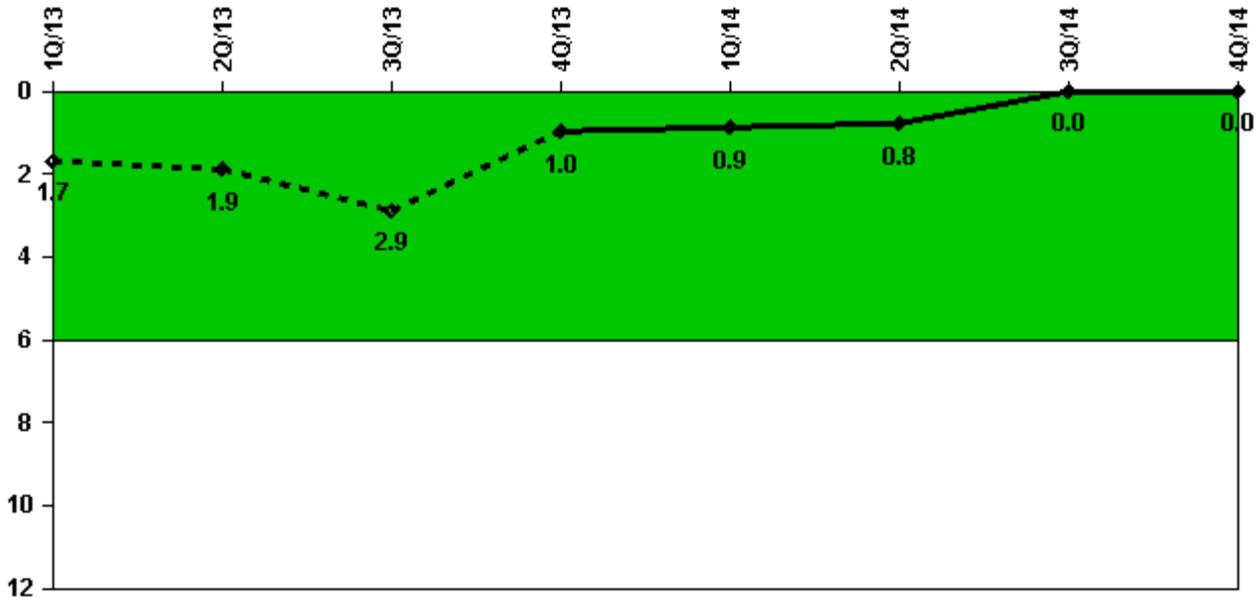
**Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0**

#### 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        | 0        |
| Critical hours                         | 1460.9   | 1353.3   | 2208.0   | 2209.0   | 2159.0   | 2184.0   | 2208.0   | 2209.0   |
| <b>Indicator value</b>                 | <b>0</b> |

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

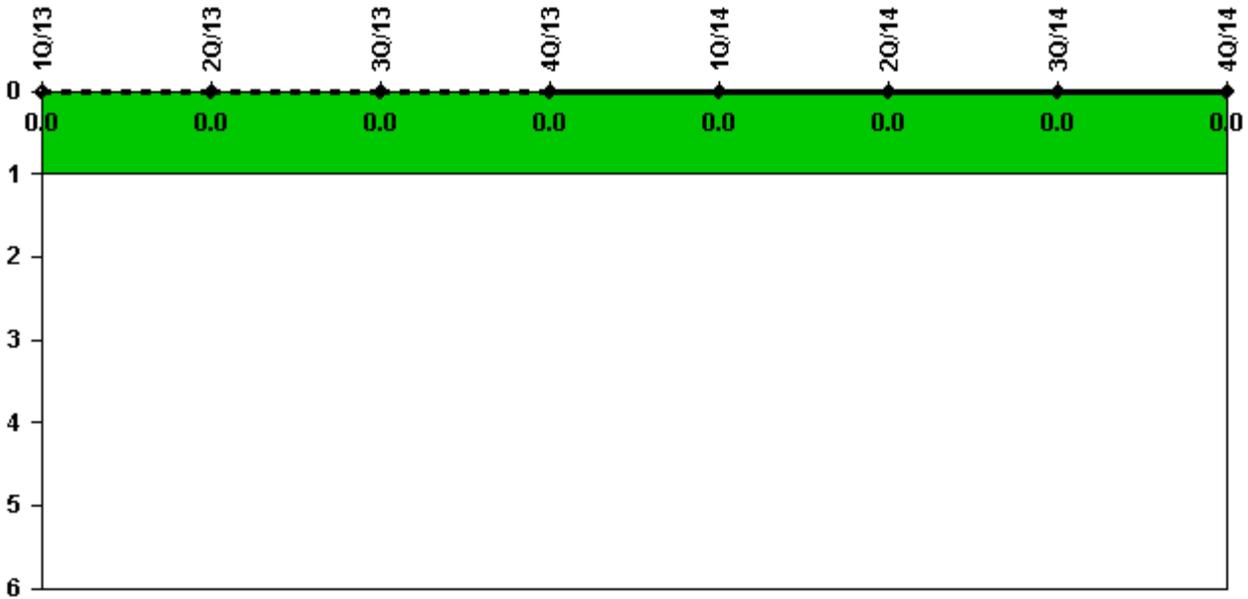
#### Notes

| 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          | 0          | 1.0        | 0          | 0          | 0          | 0        | 0        |
| Critical hours                                | 1460.9     | 1353.3     | 2208.0     | 2209.0     | 2159.0     | 2184.0     | 2208.0   | 2209.0   |
| <b>Indicator value</b>                        | <b>1.7</b> | <b>1.9</b> | <b>2.9</b> | <b>1.0</b> | <b>0.9</b> | <b>0.8</b> | <b>0</b> | <b>0</b> |

Licensee Comments:

1Q/14: In March a revised data sheet for December 2013 was provided that reclassified the Unplanned Power Change from unplanned to unplanned, but excluded. A change file will be submitted during this quarter.

### Unplanned Scrams with Complications



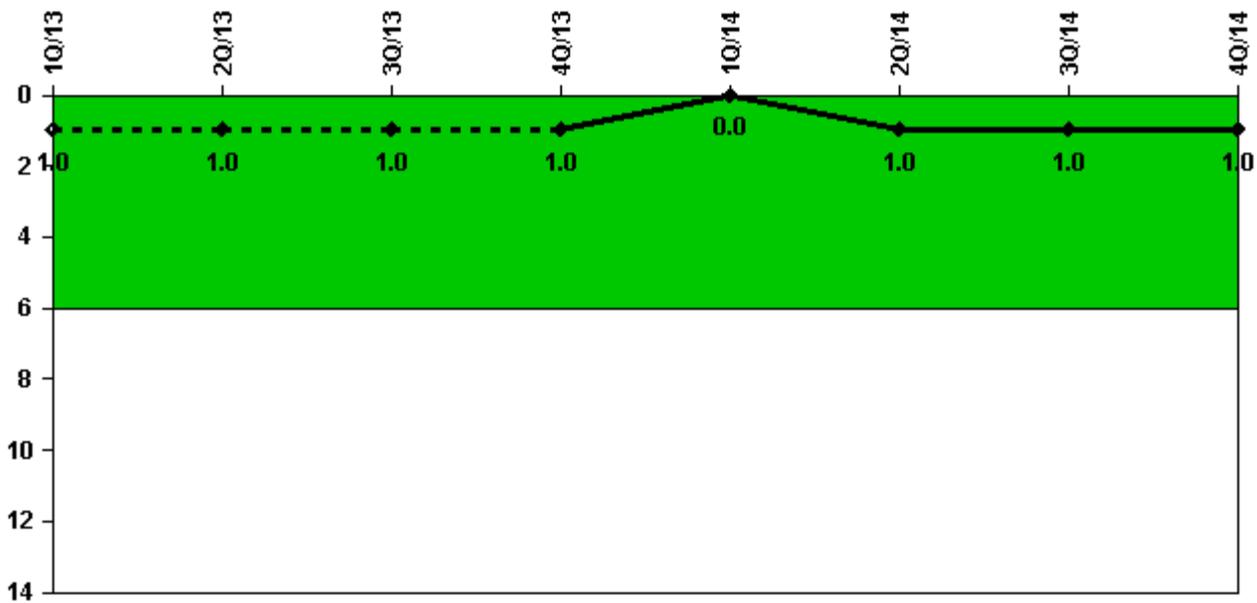
Thresholds: White > 1.0

#### 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          | 0          |
|                                     |            |            |            |            |            |            |            |            |
| <b>Indicator value</b>              | <b>0.0</b> |

Licensee Comments: none

### Safety System Functional Failures (BWR)



Thresholds: White > 6.0

### Notes

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

### Licensee Comments:

2Q/14: LER 2-2014-001, dated 5/2/14, reported one event where simultaneous opening of the secondary containment airlock doors resulted in a SSFF. A SSFF reported in November 2013 was removed based on the retraction of LER 1-2013-003 by letter dated 6/13/14. Additionally, a SSFF reported in June 2014 was removed based on the cancellation of LER 2-2014-002 by letter dated 12/04/14. A change file was created in December 2014. These changes did not affect the "color" of the indicator.

2Q/14: LER 2-2014-001, dated 5/2/14, reported one event where simultaneous opening of the secondary containment airlock doors resulted in a SSFF. LER 2-2014-002, dated 6/19/14, reported one event where a through-wall leak in the Unit 2 Reactor Building roof drain pipe resulted in a SSFF of Secondary Containment. Additionally, a SSFF reported in November 2013 was removed based on the retraction of LER 1-2013-003 by letter dated 6/13/14. A change file was created in June 2014.

4Q/13: LER 2-2013-002, was submitted on 05/28/13 for the loss of safety function of 2-E11-F048 from vibration induced failure. Subsequently, further evaluation determined that the valve remained operable and no loss of safety function occurred. Therefore, the SSFF reported in May 2013 is no longer valid and has been removed from the performance indicator. Also, LER 1-2013-003 was submitted on 11/14/2013 for operation prohibited by Tech Specs when past operability evaluation determined that the Service Water system for both Unit 1 and Unit 2 may have not been able to perform its safety function due to postulated flooding.

4Q/13: LER 2-2013-002, was submitted on 05/28/13 for the loss of safety function of 2-E11-F048 from

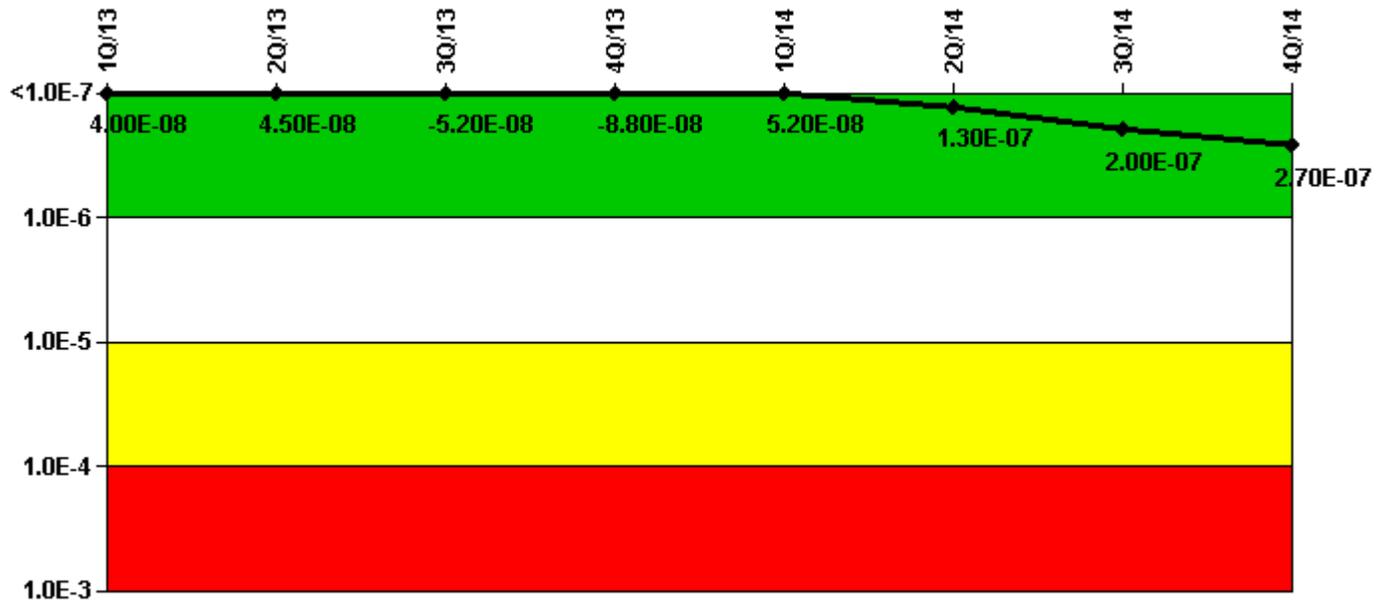
vibration induced failure. Subsequently, further evaluation determined that the valve remained operable and no loss of safety function occurred. Therefore, the SSFF reported in May 2013 is no longer valid and has been removed from the performance indicator. Also, LER 1-02013-003 was submitted on 11/14/2013 for operation prohibited by Tech Specs when past operability evaluation determined that the Service Water system for both Unit 1 and Unit 2 may have not been able to perform its safety function due to postulated flooding.

2Q/13: LER 2-2013-002 was submitted on May 28, 2013, for loss of safety function due to the A Loop of RHR being declared inoperable when a valve was discovered with broken yoke-to-bonnet stud, while the B Loop was inoperable due to scheduled maintenance.

2Q/13: LER 2-2013-002 was submitted on May 28, 2013, for loss of safety function due to the A Loop of RHR being declared inoperable when a valve was discovered with broken yoke-to-bonnet stud, while the B Loop was inoperable due to scheduled maintenance.

1Q/13: LER 1-2012-007 was submitted on February 12, 2013, for an MSPI Safety System Functional Failure (SSFF) that occurred on Unit 1 and Unit 2 for the loss of Control Room Emergency Ventilation (CREV). The loss of CREV occurred due to a human performance error during implementation of a plant modification. It is applicable to both Units since Brunswick has a shared control room.

### 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)  | 2.10E-08 | 2.42E-08 | 2.19E-08 | 2.97E-08 | 1.69E-07 | 1.85E-07 | 1.92E-07 | 1.98E-07 |

|                        |                 |                 |                  |                  |                 |                 |                 |                 |
|------------------------|-----------------|-----------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|
| URI (ΔCDF)             | 1.92E-08        | 2.05E-08        | -7.38E-08        | -1.18E-07        | -1.17E-07       | -5.04E-08       | 9.75E-09        | 7.62E-08        |
| PLE                    | NO              | NO              | NO               | NO               | NO              | NO              | NO              | NO              |
| <b>Indicator value</b> | <b>4.00E-08</b> | <b>4.50E-08</b> | <b>-5.20E-08</b> | <b>-8.80E-08</b> | <b>5.20E-08</b> | <b>1.30E-07</b> | <b>2.00E-07</b> | <b>2.70E-07</b> |

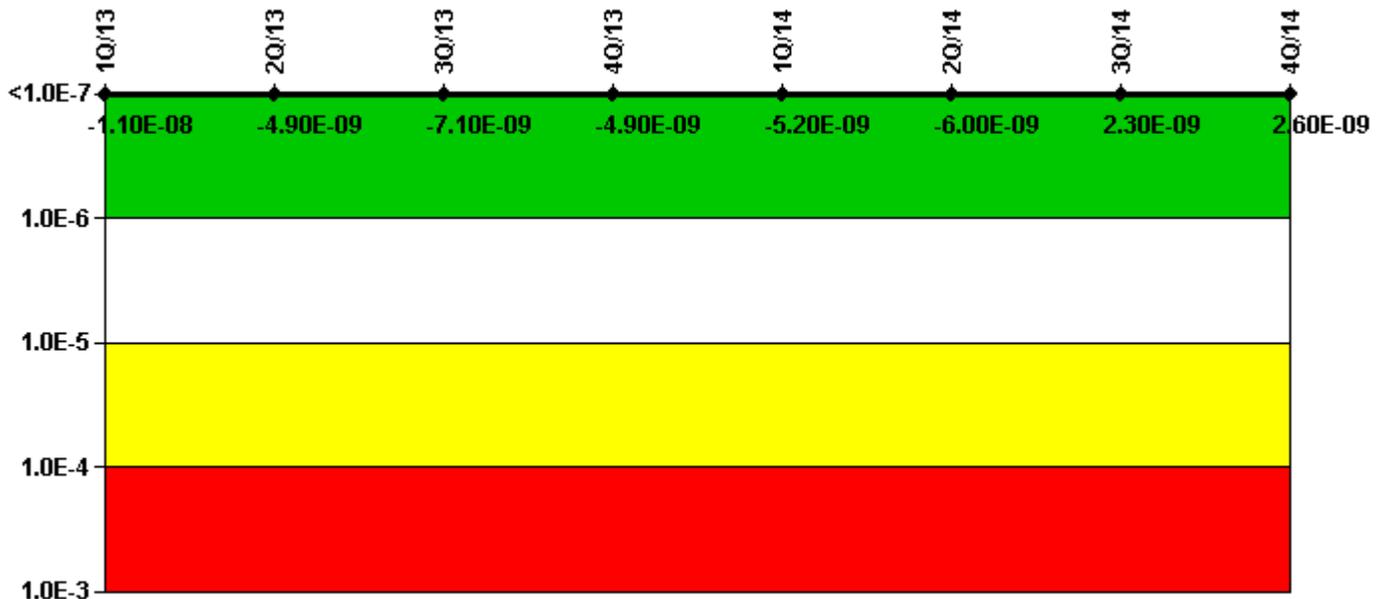
Licensee Comments:

3Q/14: EDG test was not recognized as unavailability in August 2014. This was corrected in November 2014. This change does not affect the "color" of the indicator.

4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

2Q/13: EDG test was not recognized as unavailability in August 2014. This was corrected in November 2014. This change does not affect the "color" of the indicator.

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



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

Notes

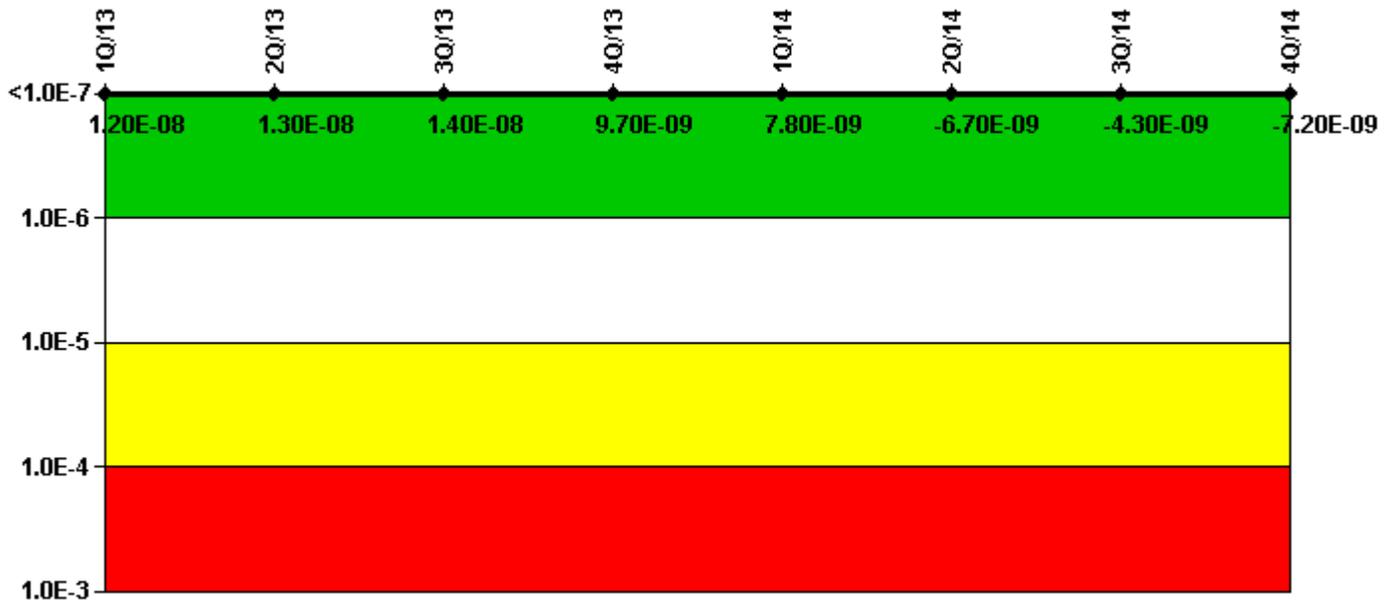
|  |       |       |       |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|-------|-------|
| Mitigating Systems Performance Index, High Pressure Injection System | 1Q/13 | 2Q/13 | 3Q/13 | 4Q/13 | 1Q/14 | 2Q/14 | 3Q/14 | 4Q/14 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|

|                        |                  |                  |                  |                  |                  |                  |                 |                 |
|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|
| UAI (ΔCDF)             | -2.86E-09        | 3.70E-09         | 1.58E-09         | 1.16E-09         | 8.75E-10         | 9.26E-11         | 8.44E-09        | 8.68E-09        |
| URI (ΔCDF)             | -8.63E-09        | -8.63E-09        | -8.63E-09        | -6.11E-09        | -6.11E-09        | -6.11E-09        | -6.11E-09       | -6.11E-09       |
| PLE                    | NO               | NO               | NO               | NO               | NO               | NO               | NO              | NO              |
| <b>Indicator value</b> | <b>-1.10E-08</b> | <b>-4.90E-09</b> | <b>-7.10E-09</b> | <b>-4.90E-09</b> | <b>-5.20E-09</b> | <b>-6.00E-09</b> | <b>2.30E-09</b> | <b>2.60E-09</b> |

Licensee Comments:

4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

### Mitigating Systems Performance Index, Heat Removal System



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

Notes

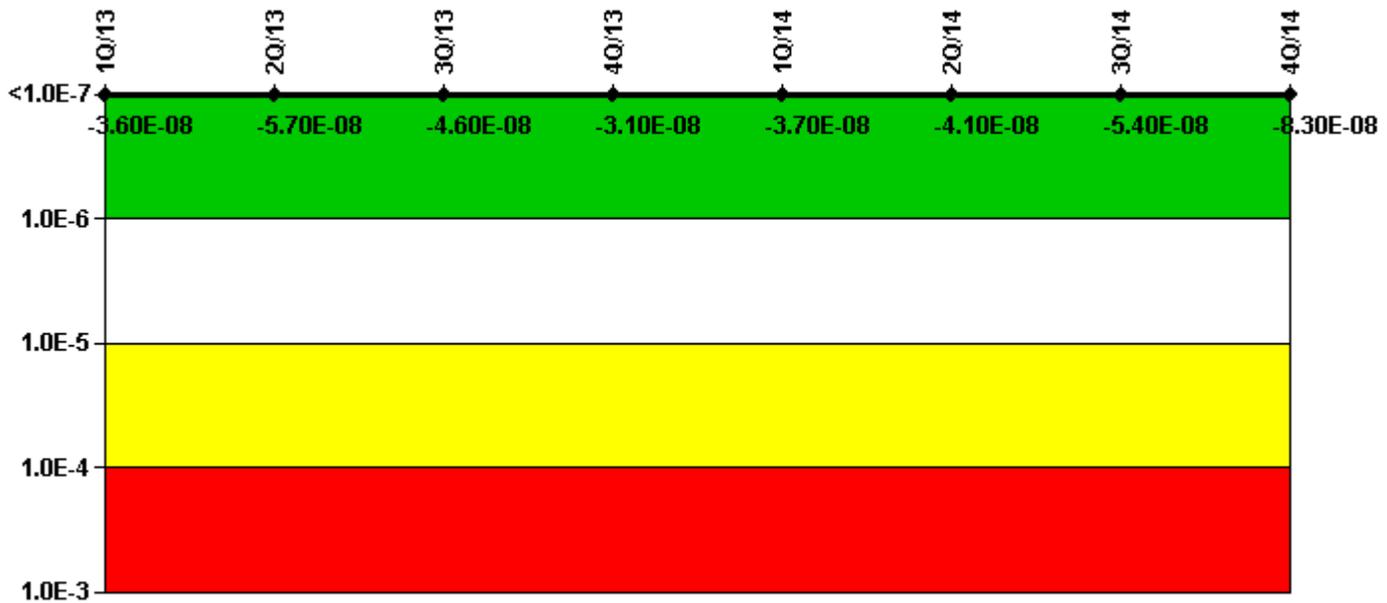
| Mitigating Systems Performance Index, Heat Removal System | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     | 2Q/14     | 3Q/14     | 4Q/14     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI (ΔCDF)  | 1.28E-08  | 1.37E-08  | 1.55E-08  | 1.05E-08  | 8.66E-09  | 4.27E-09  | 6.65E-09  | 3.82E-09  |
| URI (ΔCDF)  | -1.19E-09 | -1.19E-09 | -1.19E-09 | -8.26E-10 | -8.26E-10 | -1.10E-08 | -1.10E-08 | -1.10E-08 |

|                        |                 |                 |                 |                 |                 |                  |                  |                  |
|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| PLE                    | NO              | NO              | NO              | NO              | NO              | NO               | NO               | NO               |
| <b>Indicator value</b> | <b>1.20E-08</b> | <b>1.30E-08</b> | <b>1.40E-08</b> | <b>9.70E-09</b> | <b>7.80E-09</b> | <b>-6.70E-09</b> | <b>-4.30E-09</b> | <b>-7.20E-09</b> |

Licensee Comments:

4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

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



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

### Notes

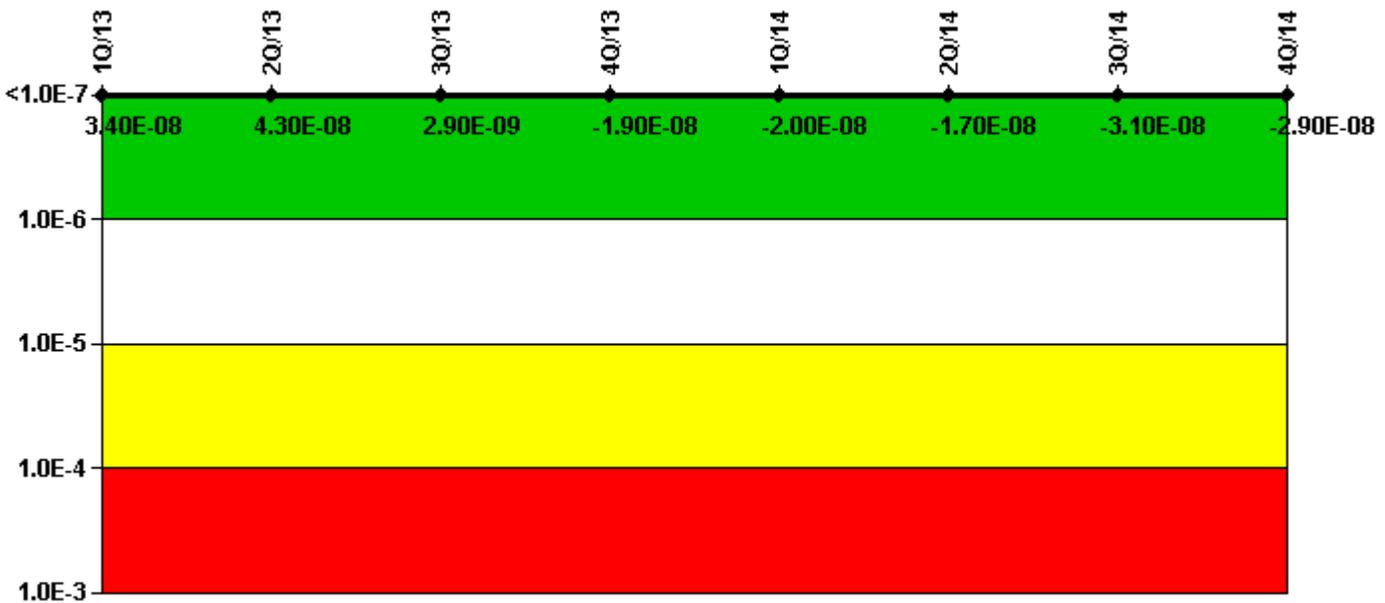
| Mitigating Systems Performance Index, Residual Heat Removal System | 1Q/13          | 2Q/13          | 3Q/13          | 4Q/13          | 1Q/14          | 2Q/14          | 3Q/14          | 4Q/14          |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| UAI (ΔCDF)   | 4.38E-08       | 2.37E-08       | 3.47E-08       | 3.75E-08       | 3.06E-08       | 2.67E-08       | 1.37E-08       | -1.44E-08      |
| URI (ΔCDF)   | -8.03E-08      | -8.03E-08      | -8.03E-08      | -6.81E-08      | -6.81E-08      | -6.81E-08      | -6.81E-08      | -6.81E-08      |
| PLE  | NO             |
|  |                |                |                |                |                |                |                |                |
|  | <b>-3.60E-</b> | <b>-5.70E-</b> | <b>-4.60E-</b> | <b>-3.10E-</b> | <b>-3.70E-</b> | <b>-4.10E-</b> | <b>-5.40E-</b> | <b>-8.30E-</b> |

|                 |    |    |    |    |    |    |    |    |
|-----------------|----|----|----|----|----|----|----|----|
| Indicator value | 08 | 08 | 08 | 08 | 08 | 08 | 08 | 08 |
|-----------------|----|----|----|----|----|----|----|----|

Licensee Comments:

4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

### Mitigating Systems Performance Index, Cooling Water Systems



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

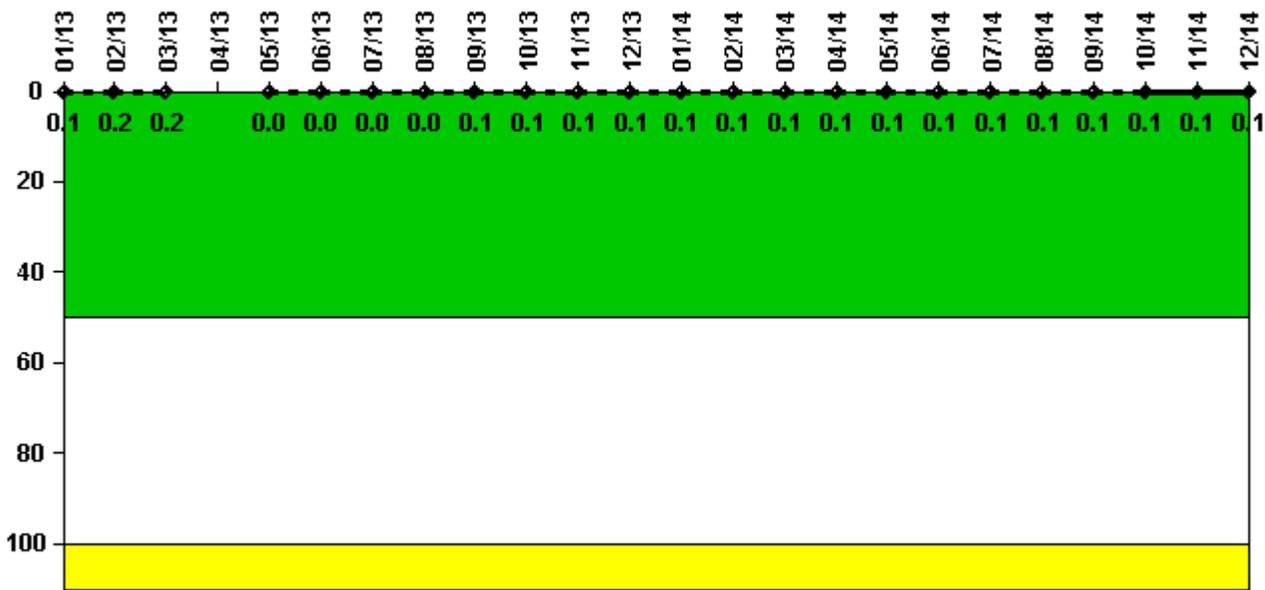
### Notes

| Mitigating Systems Performance Index, Cooling Water Systems | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     | 1Q/14     | 2Q/14     | 3Q/14     | 4Q/14     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI (ΔCDF)  | 3.73E-08  | 4.57E-08  | 5.44E-09  | -2.06E-09 | -2.74E-09 | 7.65E-10  | -1.57E-08 | -1.32E-08 |
| URI (ΔCDF)  | -3.73E-09 | -2.39E-09 | -2.51E-09 | -1.72E-08 | -1.73E-08 | -1.74E-08 | -1.55E-08 | -1.55E-08 |
| PLE   | NO        |
| Indicator value   | 3.40E-08  | 4.30E-08  | 2.90E-09  | -1.90E-08 | -2.00E-08 | -1.70E-08 | -3.10E-08 | -2.90E-08 |

Licensee Comments:

4Q/13: Changed PRA Parameter(s). The plants PRA model was revised in the 3rd quarter of 2013. The MSPI Basis Document was revised in the 4th quarter of 2013, and the resulting new MSPI coefficients were entered into CDE for the applicable systems. New MSPI coefficients existed on all five MSPI systems, along with change to the CDF.

### 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                | 0.000207 | 0.000314 | 0.000345 | N/A  | 0.000074 | 0.000086 | 0.000089 | 0.000097 | 0.000105 | 0.000106 | 0.000102 | 0.000106 |
| Technical specification limit   | 0.2      | 0.2      | 0.2      | 0.2  | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      |
| Indicator value                 | 0.1      | 0.2      | 0.2      | N/A  | 0        | 0        | 0        | 0        | 0.1      | 0.1      | 0.1      | 0.1      |

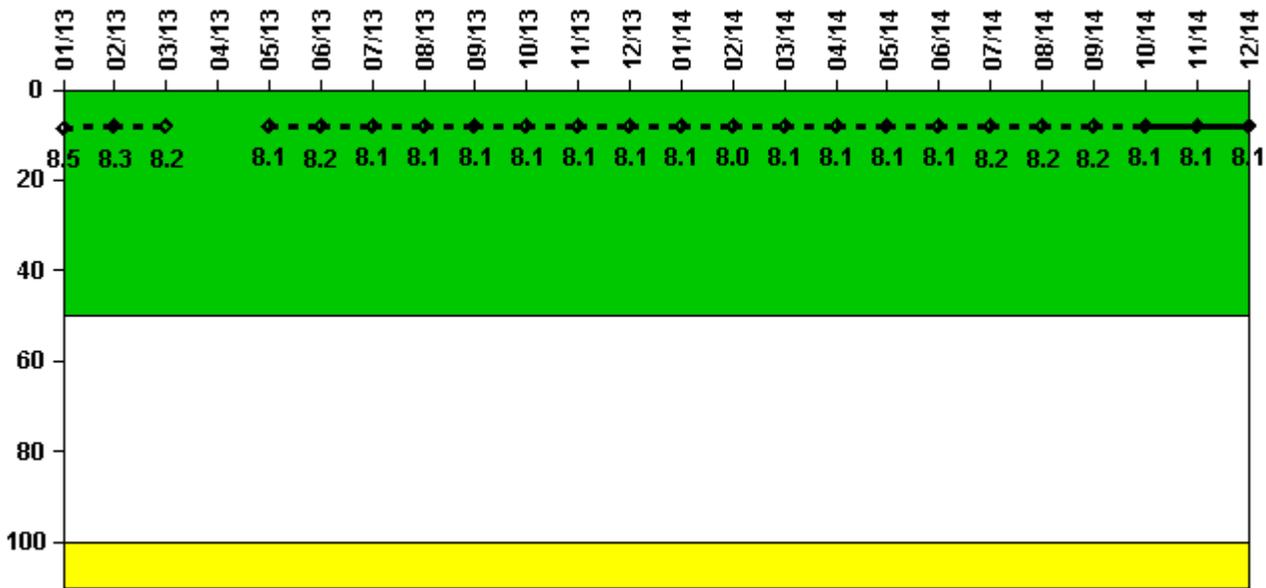
| Reactor Coolant System Activity | 1/14     | 2/14     | 3/14     | 4/14     | 5/14     | 6/14     | 7/14     | 8/14     | 9/14     | 10/14    | 11/14    | 12/14    |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Maximum activity                | 0.000101 | 0.000106 | 0.000117 | 0.000109 | 0.000106 | 0.000106 | 0.000101 | 0.000137 | 0.000105 | 0.000122 | 0.000105 | 0.000109 |
| Technical specification limit   | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      | 0.2      |

|                        |            |            |            |            |            |            |            |            |            |            |            |            |
|------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>Indicator value</b> | <b>0.1</b> |
|------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|

Licensee Comments:

6/13: RCS Specific Activity calculations were unavailable for the month of April due to existing plant conditions while Unit 2 was in refueling outage B221R1 the entire month.

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

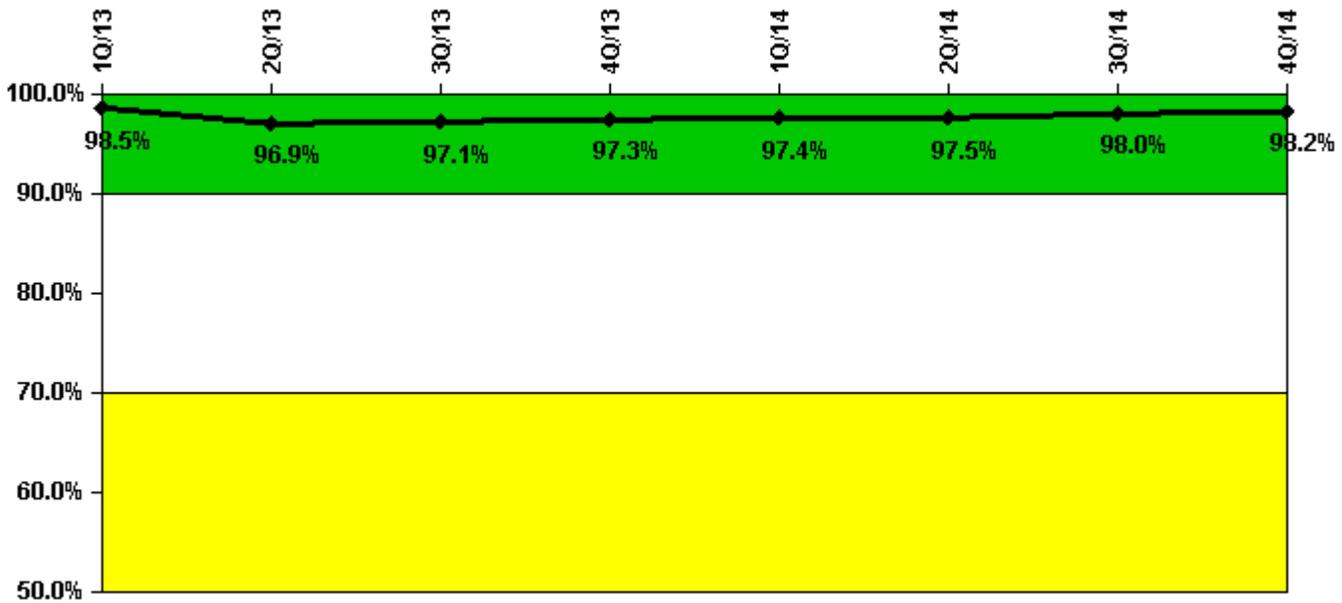
### Notes

| <b>Reactor Coolant System Leakage</b> | <b>1/13</b> | <b>2/13</b> | <b>3/13</b> | <b>4/13</b> | <b>5/13</b> | <b>6/13</b> | <b>7/13</b> | <b>8/13</b> | <b>9/13</b> | <b>10/13</b> | <b>11/13</b> | <b>12/13</b> |
|---------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| Maximum leakage                       | 2.120       | 2.080       | 2.040       | N/A         | 2.020       | 2.060       | 2.030       | 2.035       | 2.037       | 2.028        | 2.037        | 2.016        |
| Technical specification limit         | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0         | 25.0         | 25.0         |
| <b>Indicator value</b>                | <b>8.5</b>  | <b>8.3</b>  | <b>8.2</b>  | <b>N/A</b>  | <b>8.1</b>  | <b>8.2</b>  | <b>8.1</b>  | <b>8.1</b>  | <b>8.1</b>  | <b>8.1</b>   | <b>8.1</b>   | <b>8.1</b>   |
| <b>Reactor Coolant System Leakage</b> | <b>1/14</b> | <b>2/14</b> | <b>3/14</b> | <b>4/14</b> | <b>5/14</b> | <b>6/14</b> | <b>7/14</b> | <b>8/14</b> | <b>9/14</b> | <b>10/14</b> | <b>11/14</b> | <b>12/14</b> |
| Maximum leakage                       | 2.018       | 2.010       | 2.024       | 2.028       | 2.026       | 2.029       | 2.042       | 2.047       | 2.061       | 2.029        | 2.036        | 2.026        |
| Technical specification limit         | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 25.0         | 25.0         | 25.0         |
| <b>Indicator value</b>                | <b>8.1</b>  | <b>8.0</b>  | <b>8.1</b>  | <b>8.1</b>  | <b>8.1</b>  | <b>8.1</b>  | <b>8.2</b>  | <b>8.2</b>  | <b>8.2</b>  | <b>8.1</b>   | <b>8.1</b>   | <b>8.1</b>   |

Licensee Comments:

6/13: RCS Leakage calculations were unavailable for the month of April due to existing plant conditions while Unit 2 was in refueling outage B221R1 the entire month.

### Drill/Exercise Performance



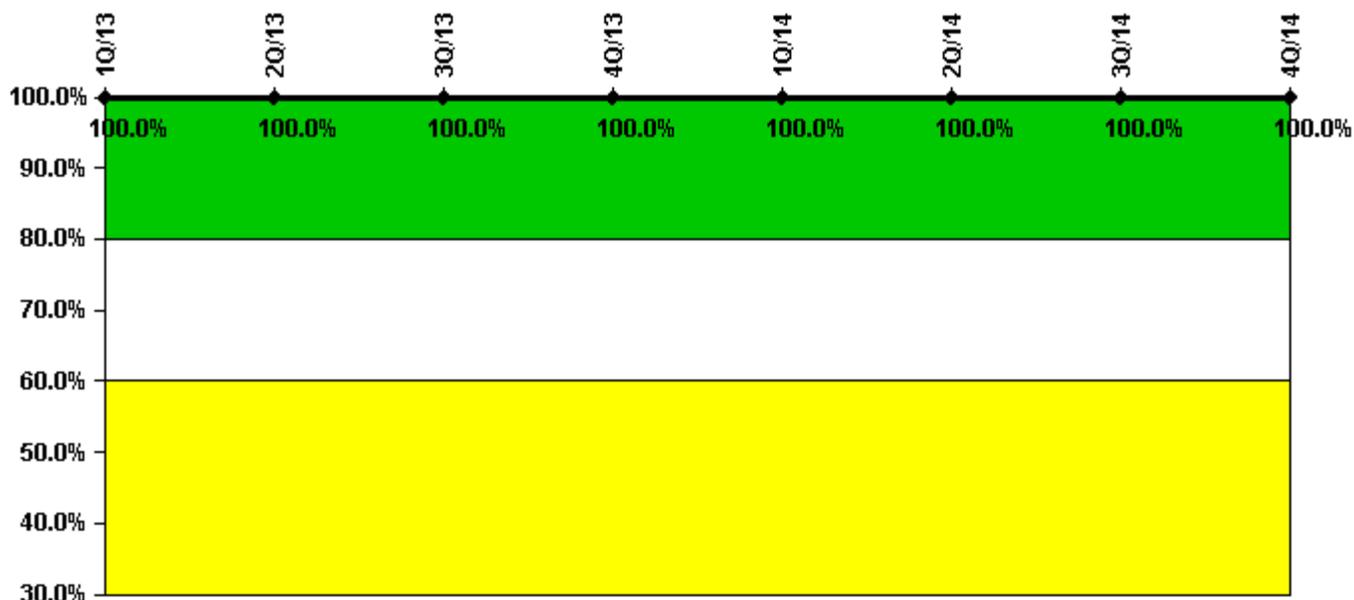
Thresholds: White < 90.0% Yellow < 70.0%

### Notes

| Drill/Exercise Performance | 1Q/13 | 2Q/13 | 3Q/13 | 4Q/13 | 1Q/14 | 2Q/14 | 3Q/14 | 4Q/14 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Successful opportunities   | 22.0  | 25.0  | 18.0  | 54.0  | 20.0  | 22.0  | 33.0  | 19.0  |
| Total opportunities        | 22.0  | 28.0  | 18.0  | 54.0  | 20.0  | 23.0  | 33.0  | 19.0  |
| Indicator value            | 98.5% | 96.9% | 97.1% | 97.3% | 97.4% | 97.5% | 98.0% | 98.2% |

Licensee Comments: none

### ERO Drill Participation



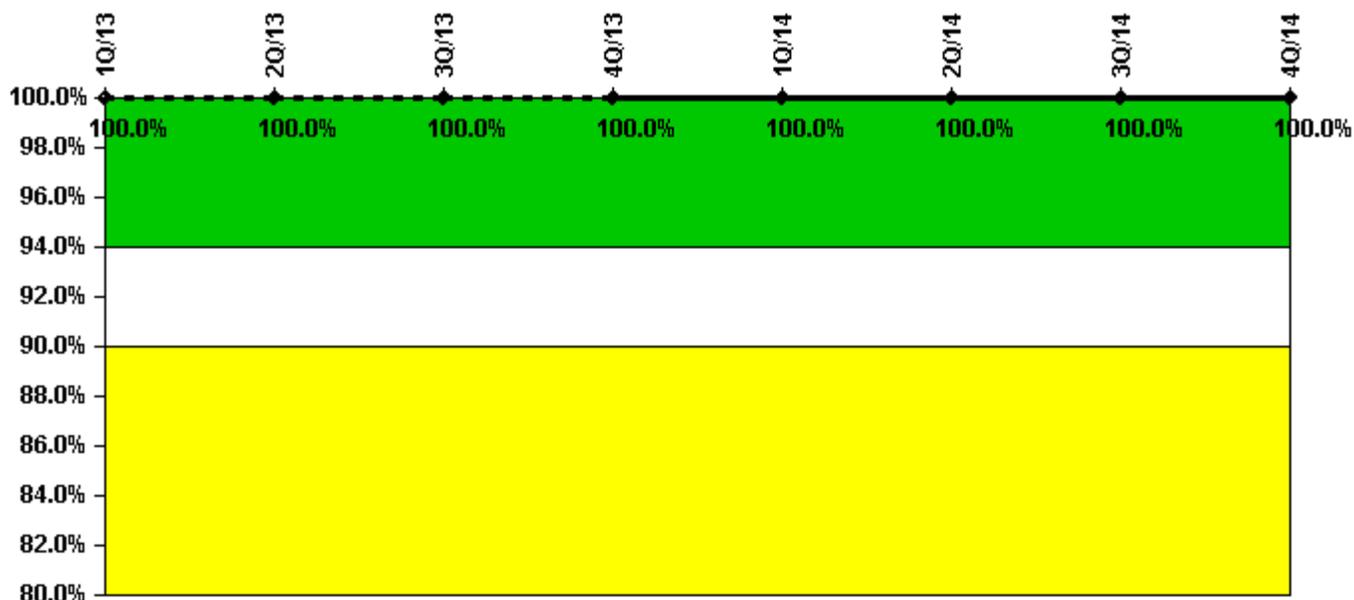
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

| ERO Drill Participation     | 1Q/13  | 2Q/13  | 3Q/13  | 4Q/13  | 1Q/14  | 2Q/14  | 3Q/14  | 4Q/14  |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Participating Key personnel | 98.0   | 94.0   | 95.0   | 98.0   | 95.0   | 100.0  | 94.0   | 92.0   |
| Total Key personnel         | 98.0   | 94.0   | 95.0   | 98.0   | 95.0   | 100.0  | 94.0   | 92.0   |
| Indicator value             | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Licensee Comments: none

### Alert & Notification System



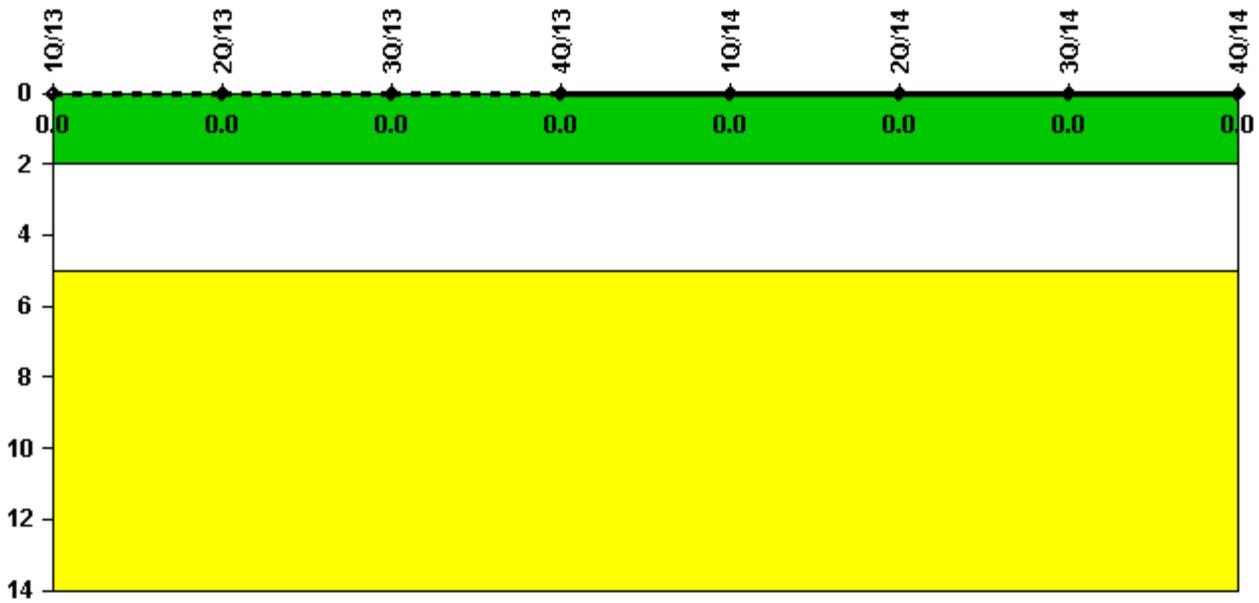
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

| Alert & Notification System | 1Q/13  | 2Q/13  | 3Q/13  | 4Q/13  | 1Q/14  | 2Q/14  | 3Q/14  | 4Q/14  |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Successful siren-tests      | 532    | 532    | 532    | 608    | 494    | 532    | 570    | 570    |
| Total sirens-tests          | 532    | 532    | 532    | 608    | 494    | 532    | 570    | 570    |
| 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



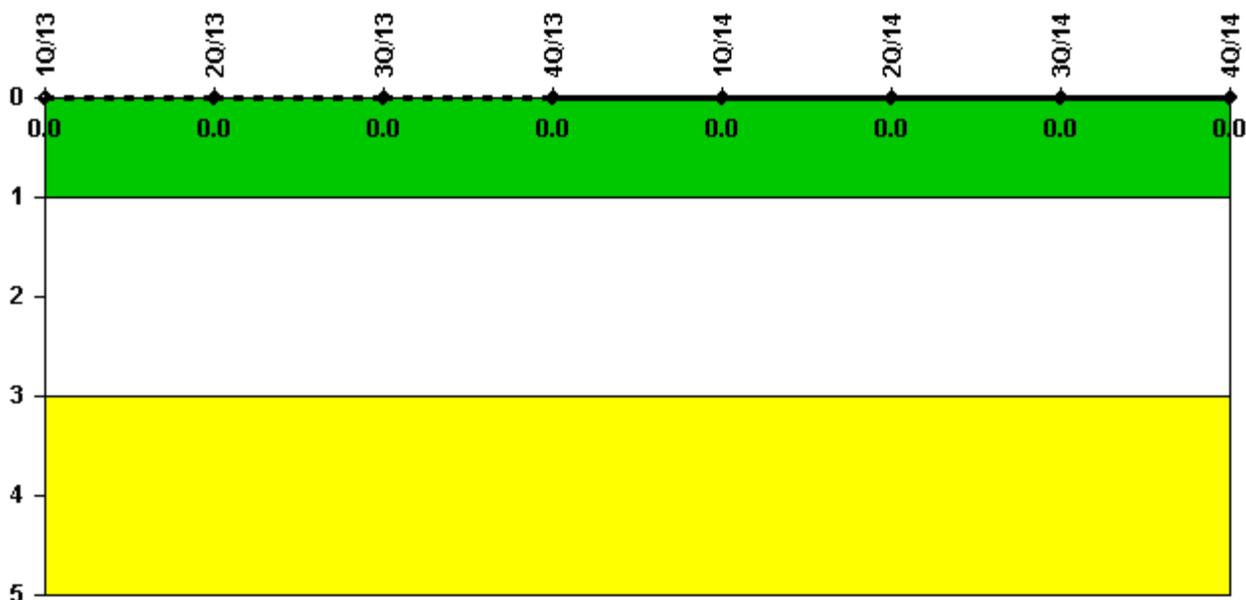
Thresholds: White > 2.0 Yellow > 5.0

#### Notes

| Occupational Exposure Control Effectiveness | 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*