

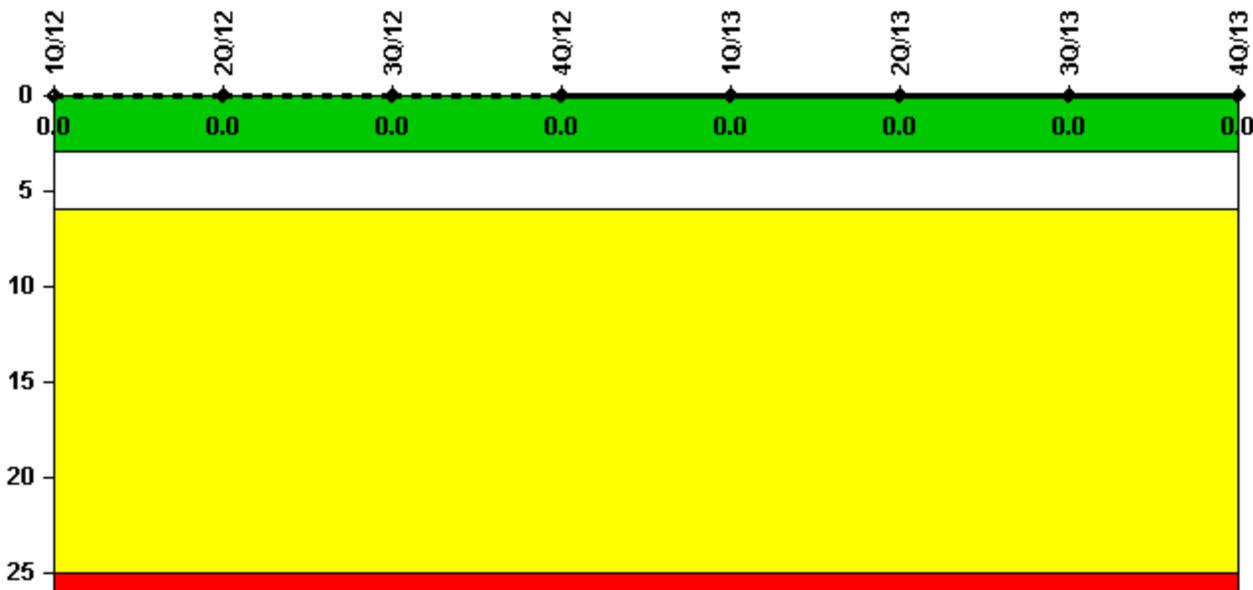
# Diablo Canyon 1

## 4Q/2013 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

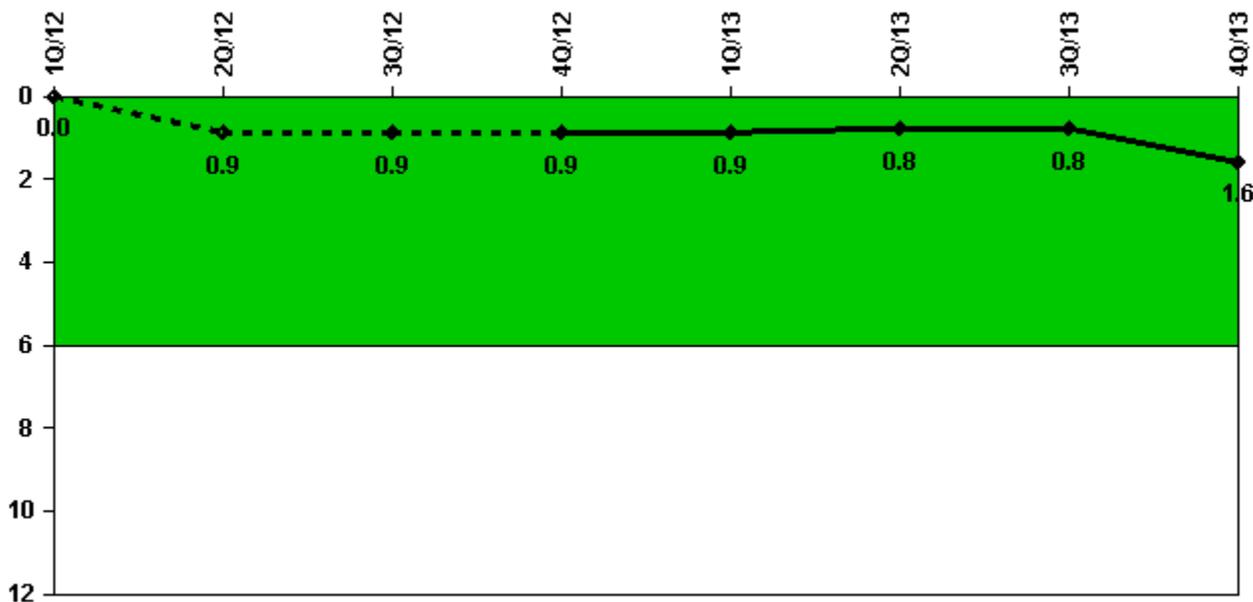
### Notes

| Unplanned Scrams per 7000 Critical Hrs | 1Q/12    | 2Q/12    | 3Q/12    | 4Q/12    | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    |
|--|----------|----------|----------|----------|----------|----------|----------|----------|
| Unplanned scrams                       | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        |
| Critical hours                         | 2183.0   | 893.4    | 2208.0   | 2209.0   | 2159.0   | 2067.9   | 2183.5   | 2209.0   |
| <b>Indicator value</b>                 | <b>0</b> |

Licensee Comments:

1Q/13: Unit 1 operated at approximately 100 percent power for the first quarter of 2013. There were no initiating events.

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

#### Notes

| Unplanned Power Changes per 7000 Critical Hrs | 1Q/12    | 2Q/12      | 3Q/12      | 4Q/12      | 1Q/13      | 2Q/13      | 3Q/13      | 4Q/13      |
|---|----------|------------|------------|------------|------------|------------|------------|------------|
| Unplanned power changes                       | 0        | 1.0        | 0          | 0          | 0          | 1.0        | 0          | 1.0        |
| Critical hours                                | 2183.0   | 893.4      | 2208.0     | 2209.0     | 2159.0     | 2067.9     | 2183.5     | 2209.0     |
| <b>Indicator value</b>                        | <b>0</b> | <b>0.9</b> | <b>0.9</b> | <b>0.9</b> | <b>0.9</b> | <b>0.8</b> | <b>0.8</b> | <b>1.6</b> |

#### Licensee Comments:

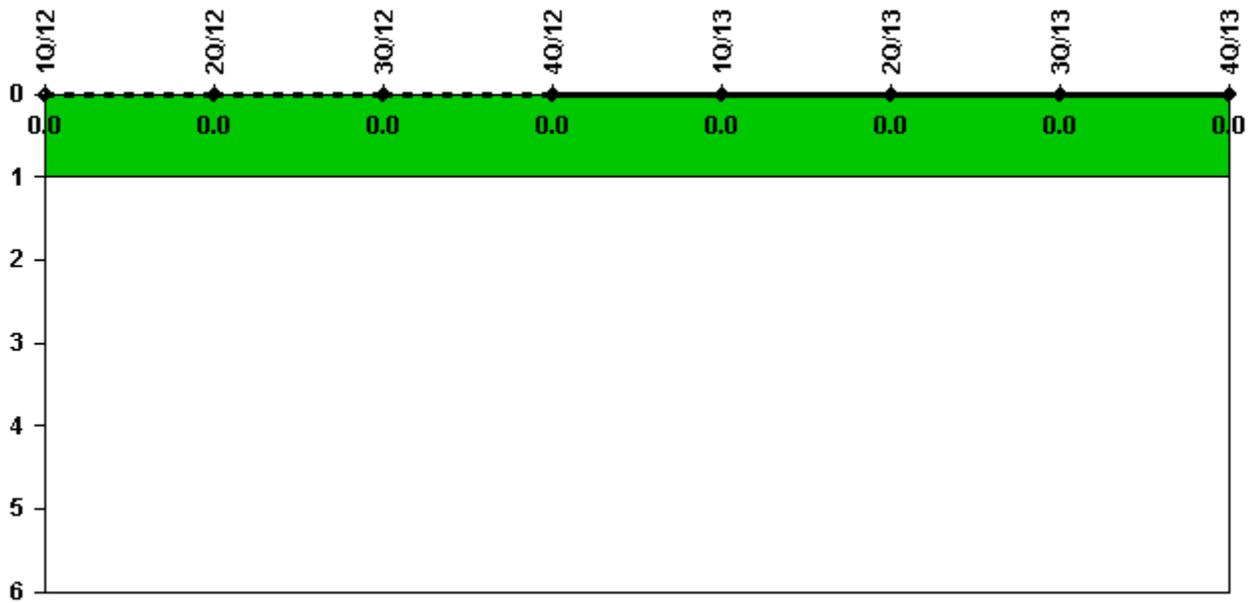
4Q/13: On October 14, 2013, plant control systems automatically ramped Unit 1 to 50 percent power due to a trip of Main Feedwater Pump 1-1. Following repairs, Operators ramped the unit to back to full power on October 16, 2013. See DCL-13-117 (LER 1-2013-007-0) for additional information.

2Q/13: DCPD Unit 1 had one unplanned power change in June 2013. Unit 1 was shut down to repair a socket weld for an RHR relief valve common to both RHR trains.

1Q/13: Unit 1 operated at approximately 100 percent power for the first quarter of 2013. There were no initiating events.

2Q/12: On June 19, 2012, during power ascension following refueling outage 17, operators noted high vibration in a main feedwater pump, and reduced power to facilitate corrective maintenance (unplanned power change). Reference SAPN 50492737.

### Unplanned Scrams with Complications



Thresholds: White > 1.0

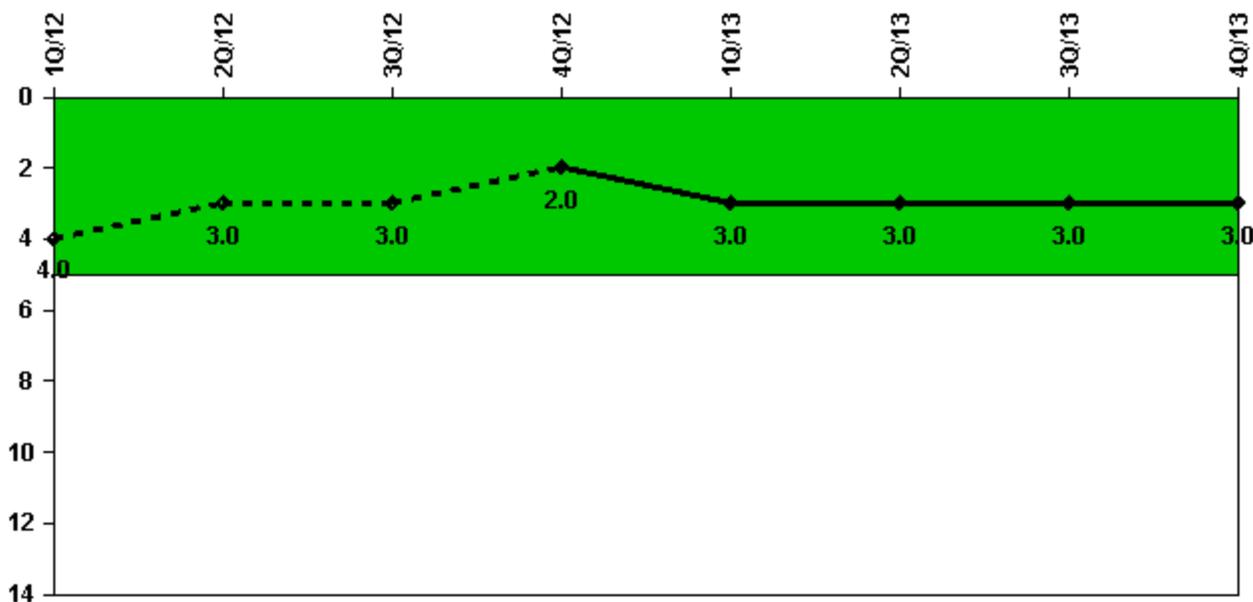
#### Notes

| Unplanned Scrams with Complications | 1Q/12      | 2Q/12      | 3Q/12      | 4Q/12      | 1Q/13      | 2Q/13      | 3Q/13      | 4Q/13      |
|-------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Scrams with complications           | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          |
|                                     |            |            |            |            |            |            |            |            |
| <b>Indicator value</b>              | <b>0.0</b> |

Licensee Comments:

1Q/13: Unit 1 operated at approximately 100 percent power for the first quarter of 2013. There were no initiating events.

### Safety System Functional Failures (PWR)



Thresholds: White > 5.0

#### Notes

| Safety System Functional Failures (PWR) | 1Q/12    | 2Q/12    | 3Q/12    | 4Q/12    | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| Safety System Functional Failures       | 0        | 0        | 2        | 0        | 1        | 0        | 2        | 0        |
| <b>Indicator value</b>                  | <b>4</b> | <b>3</b> | <b>3</b> | <b>2</b> | <b>3</b> | <b>3</b> | <b>3</b> | <b>3</b> |

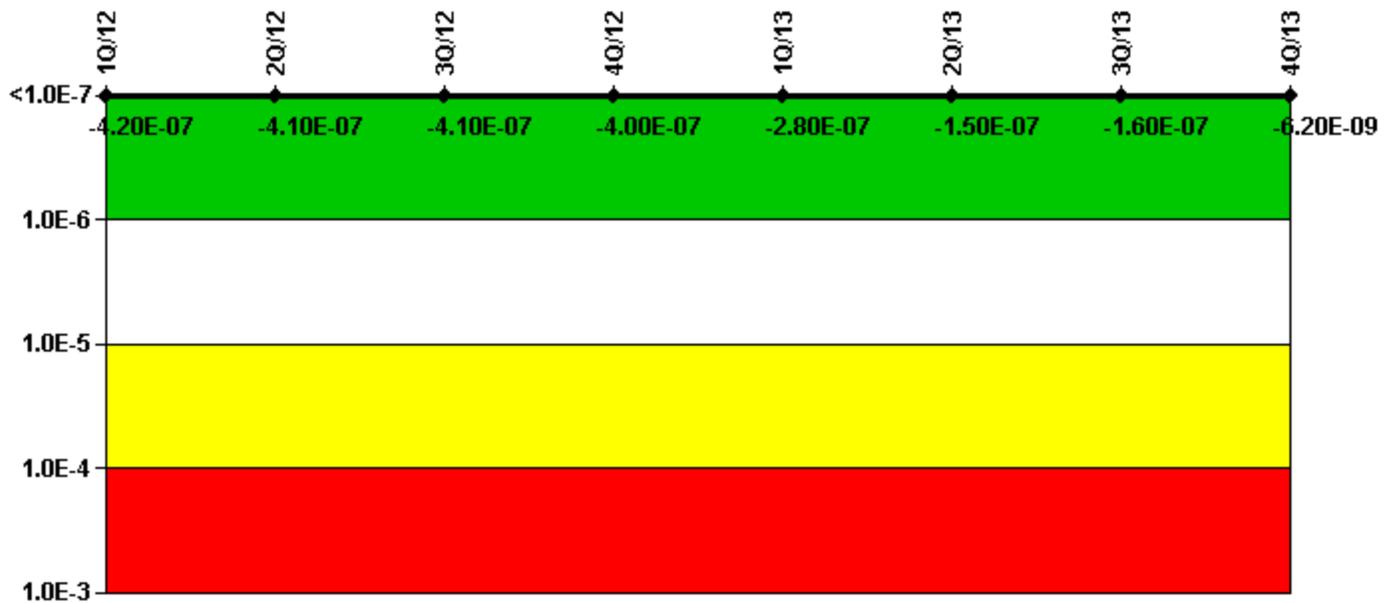
Licensee Comments:

3Q/13: LER 1-2013-005-00 was submitted on August 22, 2013 for both trains of the residual heat removal system inoperable due to a circumferential crack on a socket weld. LER 1-2013-004-00 was submitted on August 22, 2013 for all three Unit 1 EDGs Inoperable.

1Q/13: Unit 1 recorded 1 safety system functional failure for the first quarter of 2013. DCL-13-005 reported that inadequate design controls resulted in loss of the control room ventilation system. See LER 1-2012-008-00. (LER # added to comment field 6-13-13)

1Q/13: Unit 1 recorded 1 safety system functional failure for the first quarter of 2013. DCL-13-005 reported that inadequate design controls resulted in loss of the control room ventilation system.

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



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

#### Notes

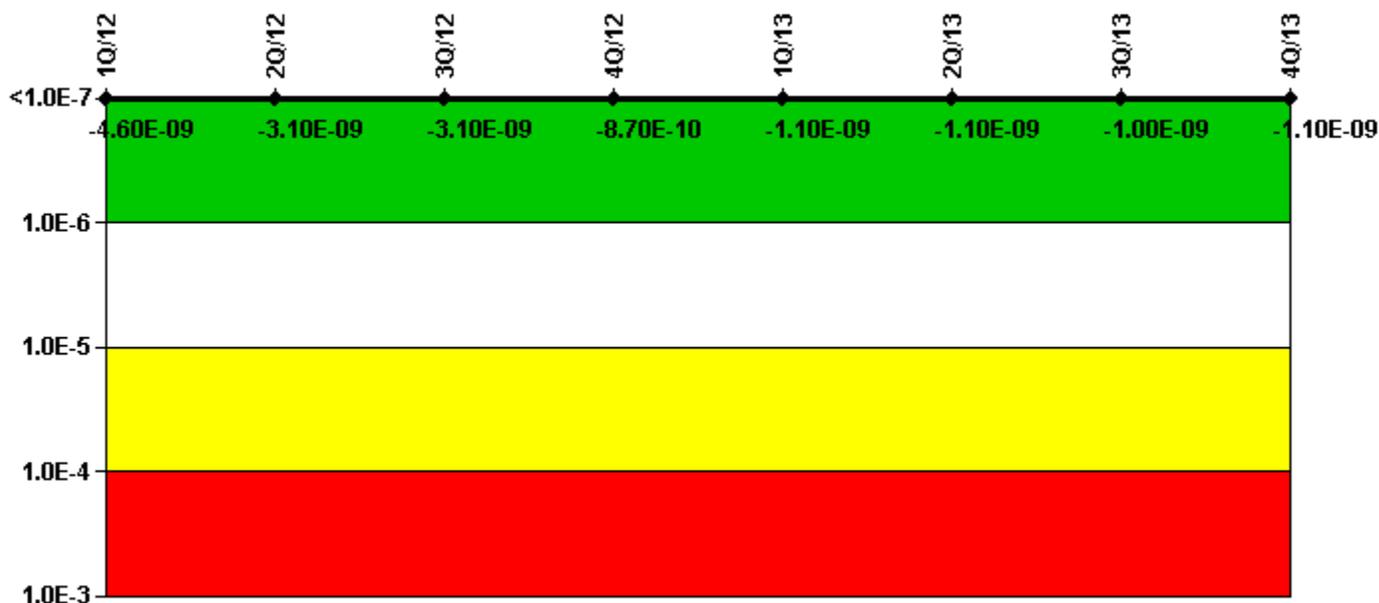
| Mitigating Systems Performance Index, Emergency AC Power System | 1Q/12     | 2Q/12     | 3Q/12     | 4Q/12     | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)   | -1.01E-09 | 3.71E-09  | 5.26E-09  | 5.31E-09  | -1.82E-10 | 9.22E-09  | 1.18E-09  | 2.38E-08  |
| URI ( $\Delta$ CDF)   | -4.20E-07 | -4.16E-07 | -4.12E-07 | -4.07E-07 | -2.84E-07 | -1.58E-07 | -1.56E-07 | -3.00E-08 |
| PLE   | NO        |
| Indicator value   | -4.20E-07 | -4.10E-07 | -4.10E-07 | -4.00E-07 | -2.80E-07 | -1.50E-07 | -1.60E-07 | -6.20E-09 |

#### Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussler-Vessely and basic event probabilities for all monitored trains and components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control valves scoped into the Residual Heat Removal system which were previously screened out due to low Birnbaum values.

1Q/13: 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 | 1Q/12     | 2Q/12     | 3Q/12     | 4Q/12     | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI (ΔCDF)   | -3.21E-09 | -1.70E-09 | -1.72E-09 | 5.15E-10  | 4.00E-11  | 4.45E-11  | 8.61E-11  | 5.77E-11  |
| URI (ΔCDF)   | -1.39E-09 | -1.39E-09 | -1.39E-09 | -1.39E-09 | -1.13E-09 | -1.13E-09 | -1.13E-09 | -1.13E-09 |
| PLE  | NO        |
| Indicator value  | -4.60E-09 | -3.10E-09 | -3.10E-09 | -8.70E-10 | -1.10E-09 | -1.10E-09 | -1.00E-09 | -1.10E-09 |

#### Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussler-Vessely and basic event probabilities for all monitored trains and components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control valves scoped into the Residual Heat Removal system which were previously screened out due to low Birnbaum values.

1Q/13: 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

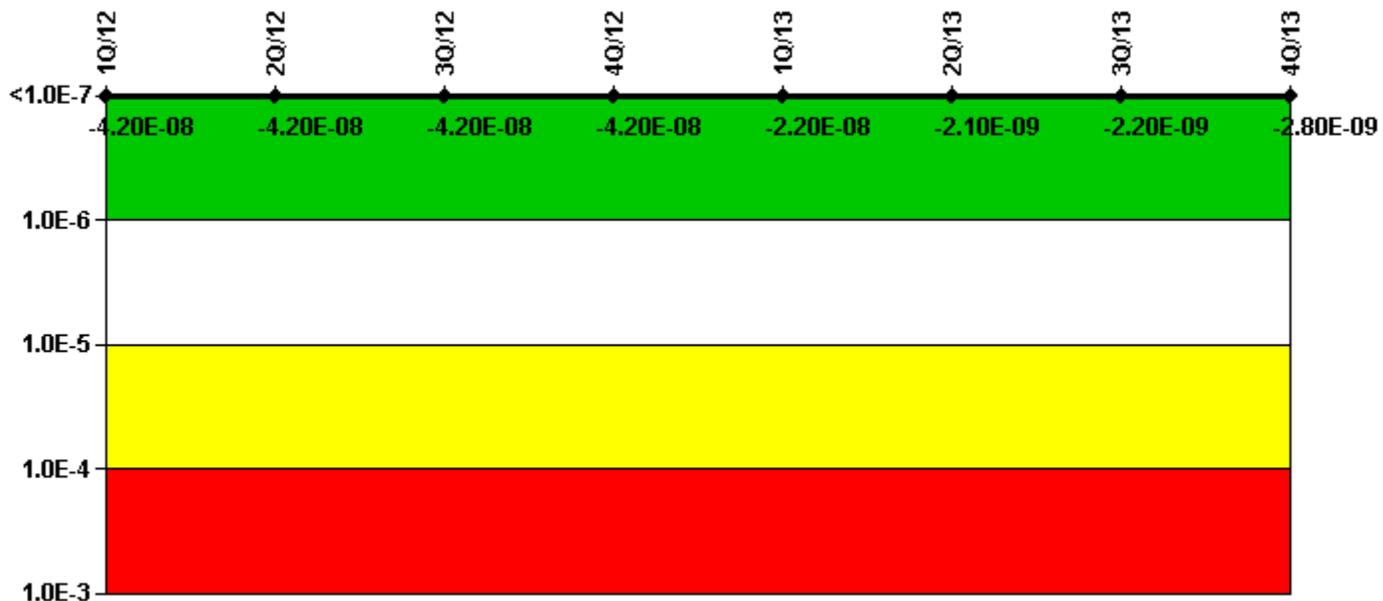
| Mitigating Systems Performance Index, Heat Removal System | 1Q/12     | 2Q/12     | 3Q/12     | 4Q/12     | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)                                       | -1.92E-08 | 9.98E-10  | 2.13E-09  | 2.13E-09  | 4.73E-09  | 4.81E-09  | 4.83E-09  | -7.78E-10 |
| URI ( $\Delta$ CDF)                                       | -8.37E-08 | -8.37E-08 | -8.37E-08 | -8.37E-08 | -4.97E-08 | -4.97E-08 | -4.97E-08 | -4.97E-08 |
| PLE   | NO        |
| Indicator value   | -1.00E-07 | -8.30E-08 | -8.20E-08 | -8.20E-08 | -4.50E-08 | -4.50E-08 | -4.50E-08 | -5.10E-08 |

#### Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussler-Vessely and basic event probabilities for all monitored trains and components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control valves scoped into the Residual Heat Removal system which were previously screened out due to low Birnbaum values.

1Q/13: 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

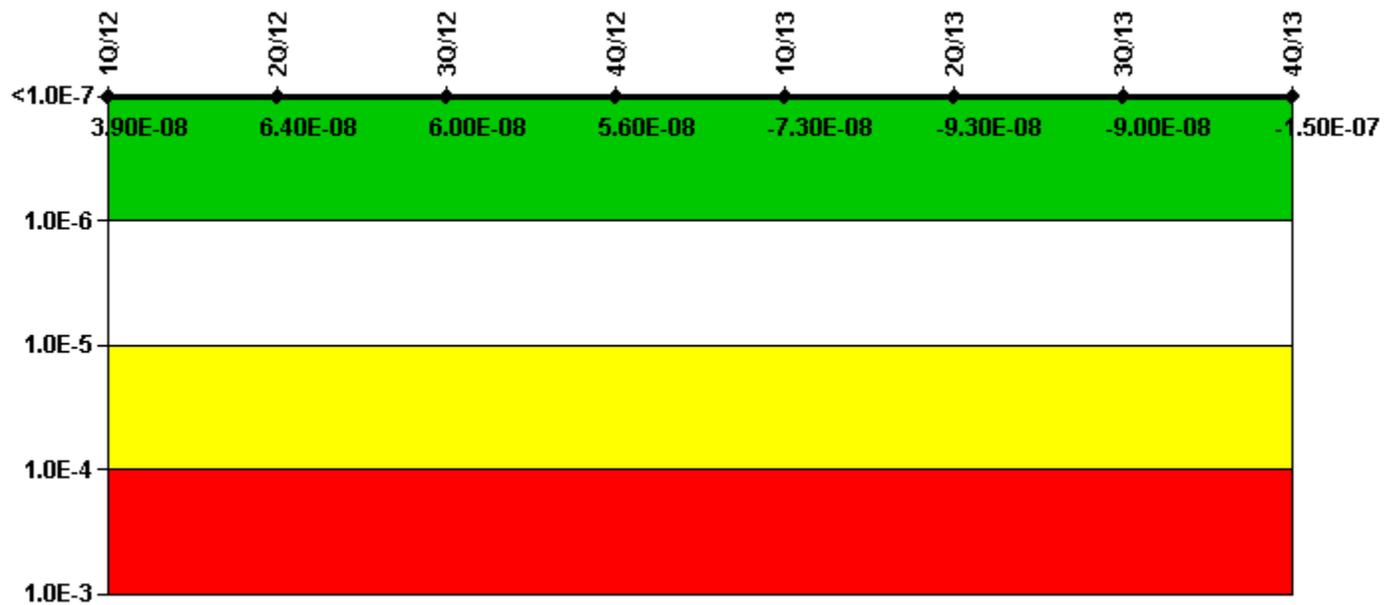
| Mitigating Systems Performance Index, Residual Heat Removal System | 1Q/12     | 2Q/12     | 3Q/12     | 4Q/12     | 1Q/13     | 2Q/13     | 3Q/13     | 4Q/13     |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| UAI ( $\Delta$ CDF)  | -5.94E-09 | -5.94E-09 | -5.94E-09 | -5.94E-09 | -5.60E-09 | 1.44E-08  | 1.44E-08  | 1.38E-08  |
| URI ( $\Delta$ CDF)  | -3.64E-08 | -3.64E-08 | -3.64E-08 | -3.64E-08 | -1.64E-08 | -1.65E-08 | -1.66E-08 | -1.66E-08 |
| PLE  | NO        |
| Indicator value  | -4.20E-08 | -4.20E-08 | -4.20E-08 | -4.20E-08 | -2.20E-08 | -2.10E-09 | -2.20E-09 | -2.80E-09 |

#### Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussler-Vessely and basic event probabilities for all monitored trains and components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control valves scoped into the Residual Heat Removal system which were previously screened out due to low Birnbaum values.

1Q/13: 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/12           | 2Q/12           | 3Q/12           | 4Q/12           | 1Q/13            | 2Q/13            | 3Q/13            | 4Q/13            |
|---|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
| UAI ( $\Delta$ CDF)   | 6.65E-08        | 9.12E-08        | 8.73E-08        | 8.27E-08        | -2.08E-08        | -4.07E-08        | -3.79E-08        | -1.01E-07        |
| URI ( $\Delta$ CDF)   | -2.70E-08       | -2.70E-08       | -2.70E-08       | -2.70E-08       | -5.20E-08        | -5.20E-08        | -5.20E-08        | -5.20E-08        |
| PLE   | NO              | NO              | NO              | NO              | NO               | NO               | NO               | NO               |
| Indicator value   | <b>3.90E-08</b> | <b>6.40E-08</b> | <b>6.00E-08</b> | <b>5.60E-08</b> | <b>-7.30E-08</b> | <b>-9.30E-08</b> | <b>-9.00E-08</b> | <b>-1.50E-07</b> |

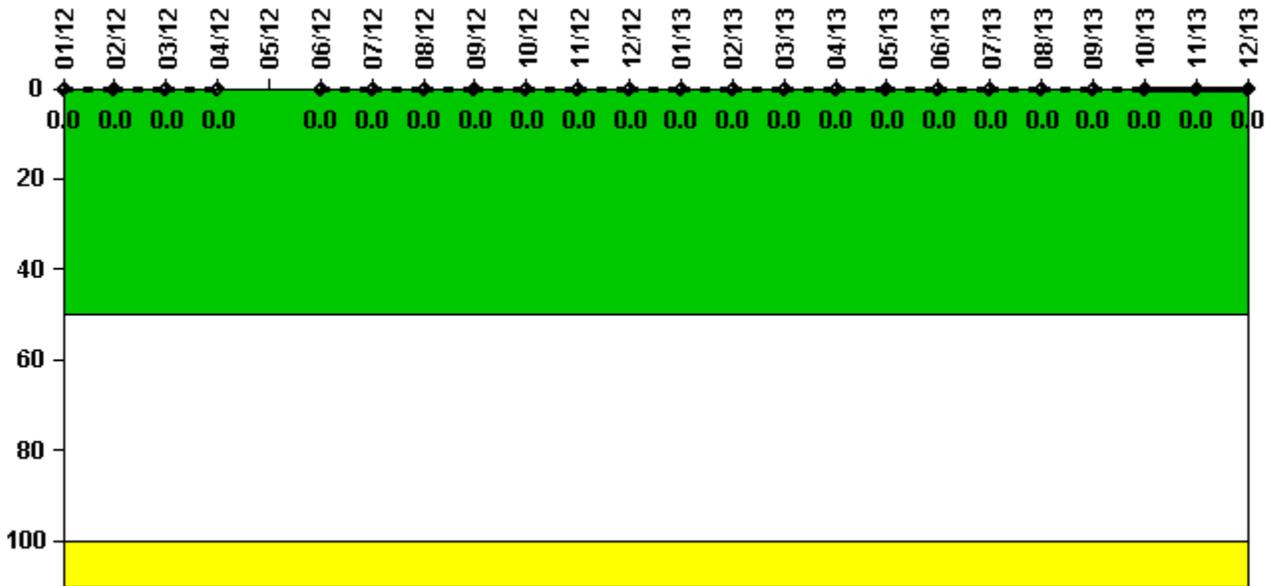
Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussler-Vessely and basic event probabilities for all monitored trains and components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control valves scoped into the Residual Heat Removal system which were previously screened out due to low

Birnbaum values.

1Q/13: Changed PRA Parameter(s).

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

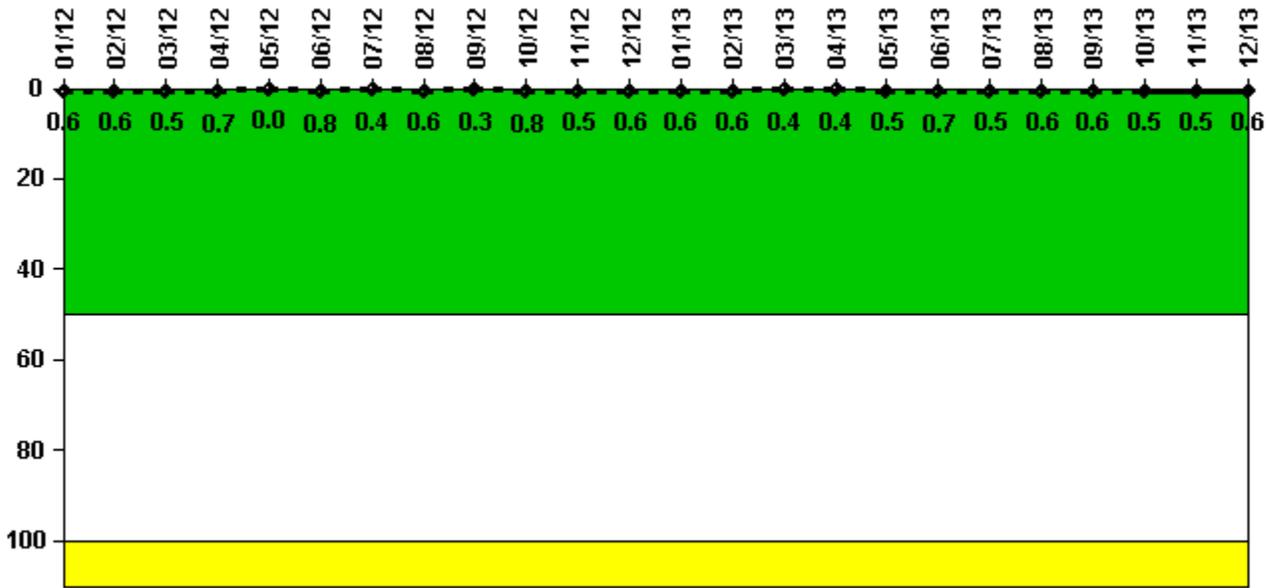
### Notes

| Reactor Coolant System Activity | 1/12     | 2/12     | 3/12     | 4/12     | 5/12     | 6/12     | 7/12     | 8/12     | 9/12     | 10/12    | 11/12    | 12/12    |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Maximum activity                | 0.000128 | 0.000120 | 0.000116 | 0.000090 | N/A      | 0.000055 | 0.000057 | 0.000065 | 0.000057 | 0.000062 | 0.000059 | 0.000062 |
| 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        | N/A      | 0        | 0        | 0        | 0        | 0        | 0        | 0        |
| 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                | 0.000065 | 0.000064 | 0.000068 | 0.000073 | 0.000070 | 0.000105 | 0.000117 | 0.000066 | 0.000075 | 0.000075 | 0.000080 | 0.000081 |
| 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

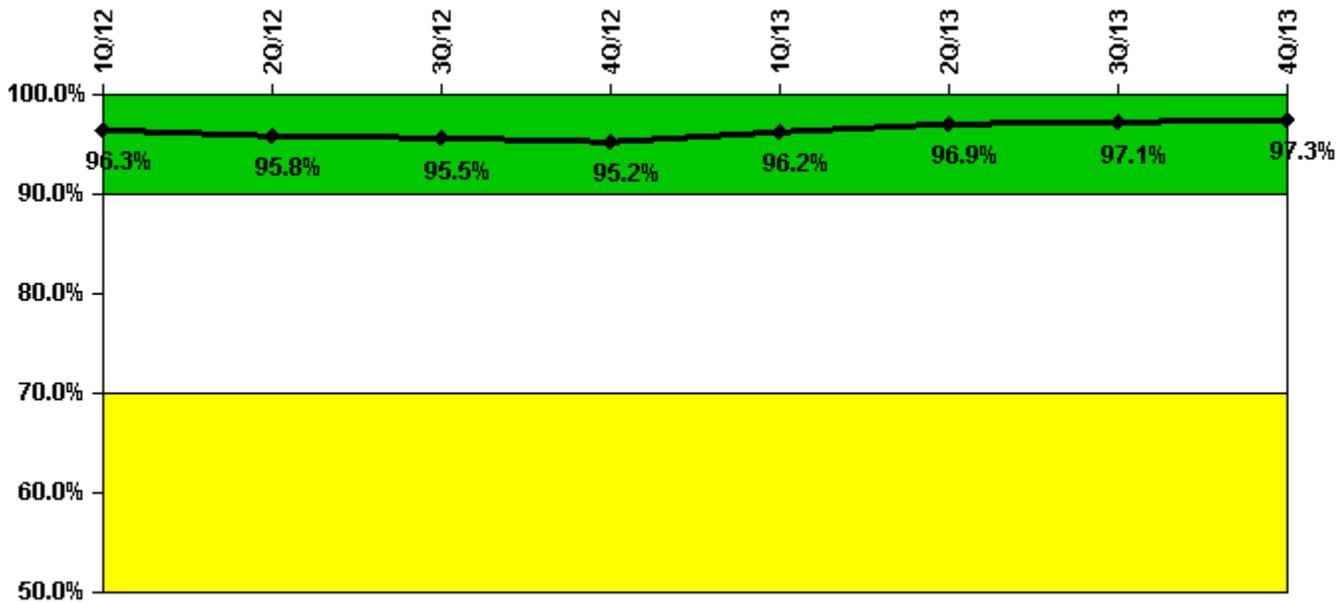
| Reactor Coolant System Leakage | 1/12       | 2/12       | 3/12       | 4/12       | 5/12     | 6/12       | 7/12       | 8/12       | 9/12       | 10/12      | 11/12      | 12/12      |
|--------------------------------|------------|------------|------------|------------|----------|------------|------------|------------|------------|------------|------------|------------|
| Maximum leakage                | 0.058      | 0.059      | 0.046      | 0.070      | 0        | 0.075      | 0.044      | 0.058      | 0.033      | 0.075      | 0.049      | 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       |
| Indicator value                | <b>0.6</b> | <b>0.6</b> | <b>0.5</b> | <b>0.7</b> | <b>0</b> | <b>0.8</b> | <b>0.4</b> | <b>0.6</b> | <b>0.3</b> | <b>0.8</b> | <b>0.5</b> | <b>0.6</b> |

| 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                | 0.061      | 0.056      | 0.041      | 0.040      | 0.050      | 0.070      | 0.049      | 0.055      | 0.061      | 0.052      | 0.050      | 0.061      |
| 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                | <b>0.6</b> | <b>0.6</b> | <b>0.4</b> | <b>0.4</b> | <b>0.5</b> | <b>0.7</b> | <b>0.5</b> | <b>0.6</b> | <b>0.6</b> | <b>0.5</b> | <b>0.5</b> | <b>0.6</b> |

Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

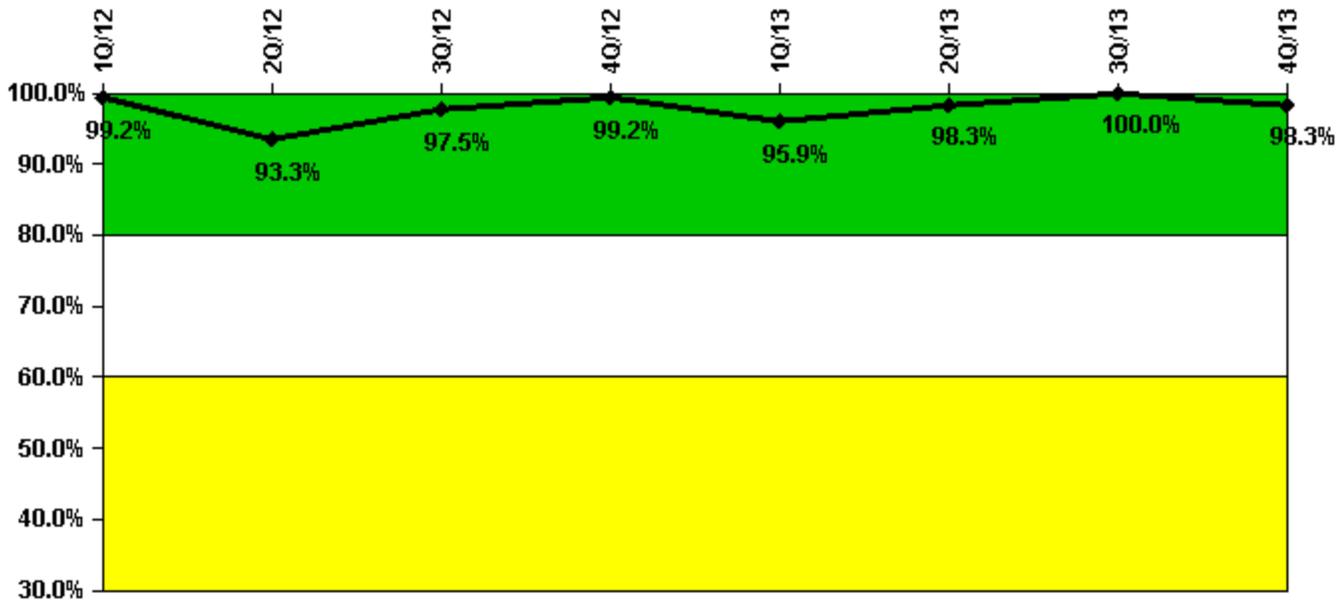
### Notes

| Drill/Exercise Performance | 1Q/12        | 2Q/12        | 3Q/12        | 4Q/12        | 1Q/13        | 2Q/13        | 3Q/13        | 4Q/13        |
|----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Successful opportunities   | 56.0         | 6.0          | 52.0         | 22.0         | 8.0          | 37.0         | 29.0         | 42.0         |
| Total opportunities        | 58.0         | 6.0          | 54.0         | 25.0         | 8.0          | 37.0         | 29.0         | 42.0         |
|                            |              |              |              |              |              |              |              |              |
| <b>Indicator value</b>     | <b>96.3%</b> | <b>95.8%</b> | <b>95.5%</b> | <b>95.2%</b> | <b>96.2%</b> | <b>96.9%</b> | <b>97.1%</b> | <b>97.3%</b> |

### Licensee Comments:

1Q/12: The January 2012 Successful drill, exercise, and event opportunities was changed from 39 to 38 due to a change in a January 2012 simulator session. The simulator session score was changed from 2 for 2 to a score of 1 for 2. This change does not impact the color of the performance indicator. This change reflects FAQ (13-07) that was made ???Final??? on 1/15/2014.

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

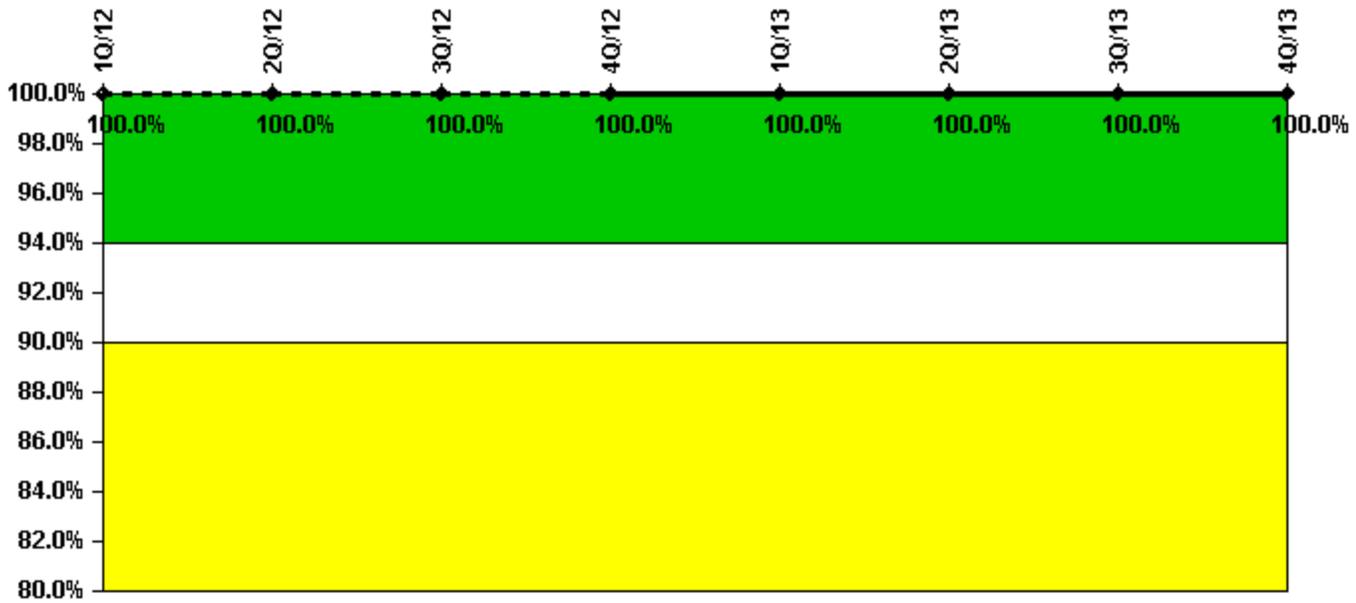
#### Notes

| ERO Drill Participation     | 1Q/12 | 2Q/12 | 3Q/12 | 4Q/12 | 1Q/13 | 2Q/13 | 3Q/13  | 4Q/13 |
|-----------------------------|-------|-------|-------|-------|-------|-------|--------|-------|
| Participating Key personnel | 117.0 | 112.0 | 116.0 | 119.0 | 117.0 | 119.0 | 115.0  | 118.0 |
| Total Key personnel         | 118.0 | 120.0 | 119.0 | 120.0 | 122.0 | 121.0 | 115.0  | 120.0 |
| Indicator value             | 99.2% | 93.3% | 97.5% | 99.2% | 95.9% | 98.3% | 100.0% | 98.3% |

Licensee Comments:

3Q/13: Total Key ERO personnel adjusted due to mis-calculation.

### Alert & Notification System



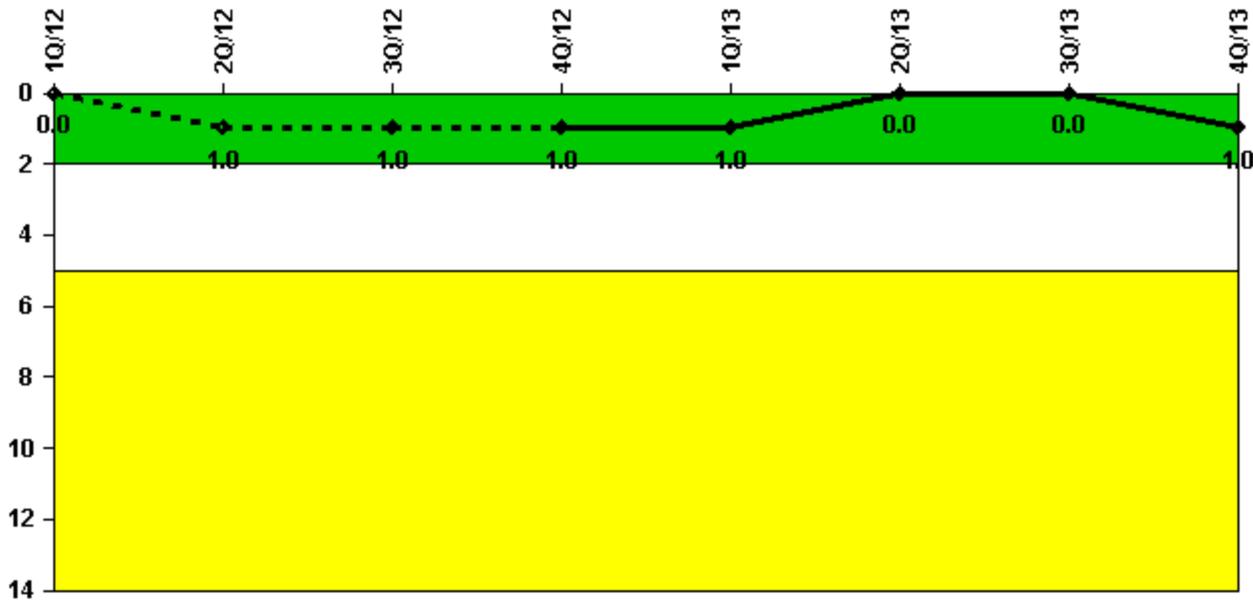
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

| Alert & Notification System | 1Q/12  | 2Q/12  | 3Q/12  | 4Q/12  | 1Q/13  | 2Q/13  | 3Q/13  | 4Q/13  |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Successful siren-tests      | 1048   | 916    | 1310   | 917    | 1046   | 917    | 1310   | 1048   |
| Total sirens-tests          | 1048   | 917    | 1310   | 917    | 1047   | 917    | 1310   | 1048   |
| 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/12    | 2Q/12    | 3Q/12    | 4Q/12    | 1Q/13    | 2Q/13    | 3Q/13    | 4Q/13    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| High radiation area occurrences             | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 1        |
| 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>1</b> | <b>1</b> | <b>1</b> | <b>1</b> | <b>0</b> | <b>0</b> | <b>1</b> |

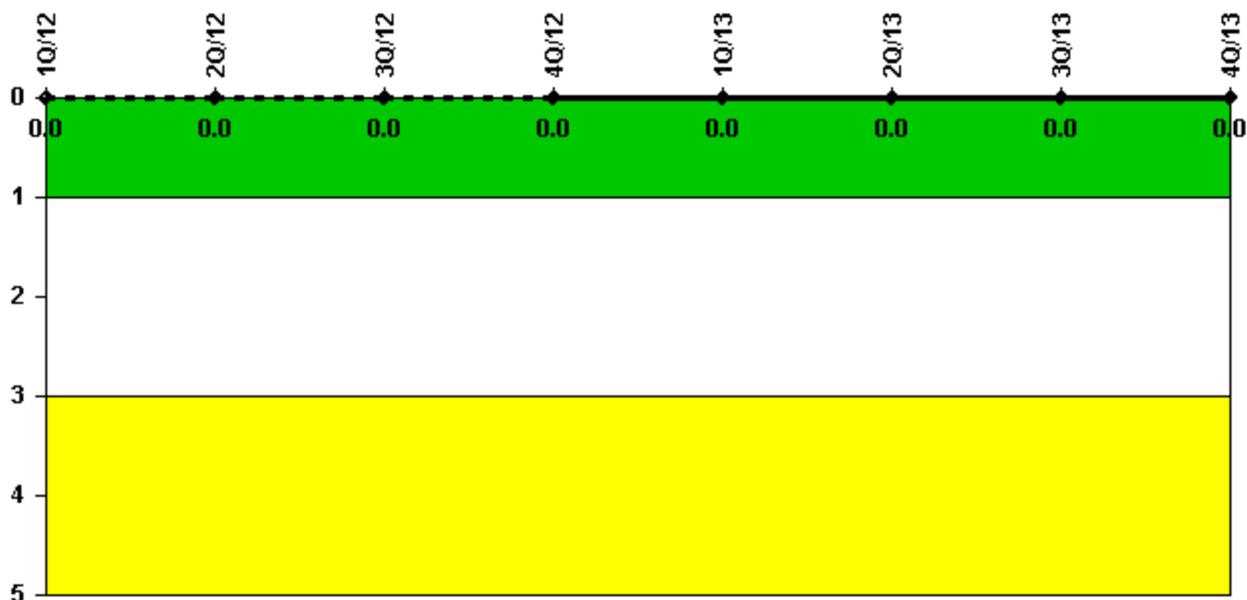
#### Licensee Comments:

1Q/13: 50538483 identified a potential access path through a pipe chase between the Letdown Orifice Room and the Regenerative Heat Exchanger room. This was later determined to not be a violation of DCPD Technical Specification 5.7.2. Retracted

4Q/12: Data approved by manager T. Irving. Approval checked by M. Richardson per request of T. Irving due to technical issues.

1Q/12: A March 2012 "High radiation area occurrence" was retracted in July 2012, following completion of the cause evaluation. The change has no impact on the color of the indicator. The basis for the retraction is contained in SAPN 50499040.

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

#### Notes

| RETS/ODCM Radiological Effluent | 1Q/12 | 2Q/12 | 3Q/12 | 4Q/12 | 1Q/13 | 2Q/13 | 3Q/13 | 4Q/13 |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| RETS/ODCM occurrences           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Indicator value                 | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |

Licensee Comments:

4Q/12: Data approved by manager T. Irving. Approval checked by M. Richardson per request of T. Irving due to technical issues.

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: January 22, 2014*