

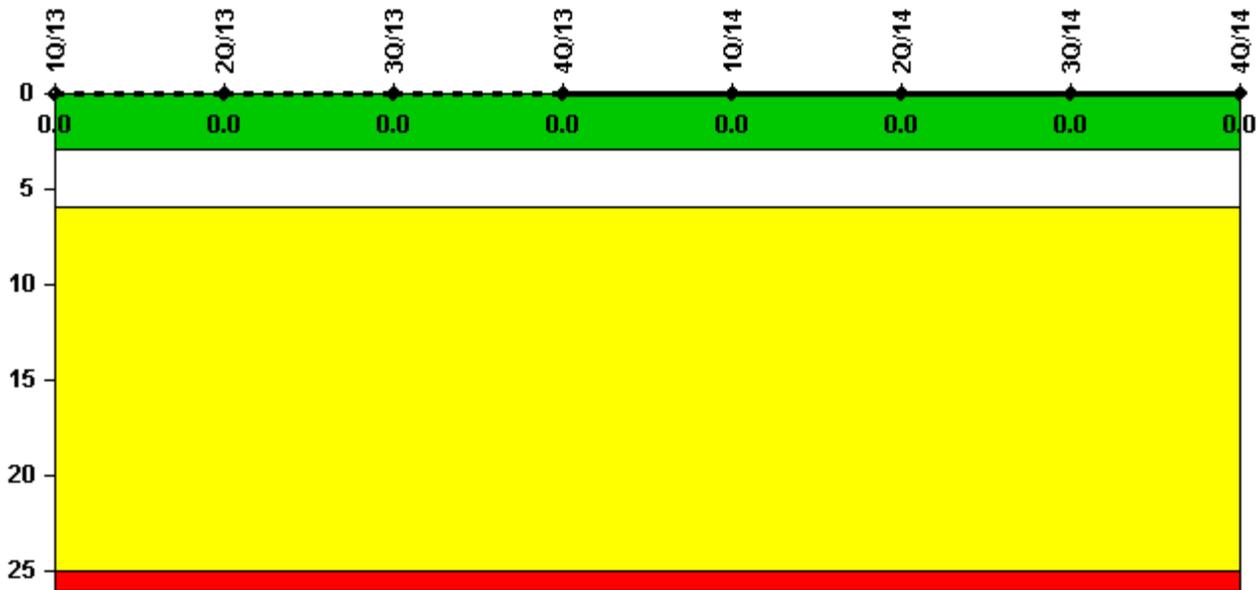
# Diablo Canyon 1

## 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

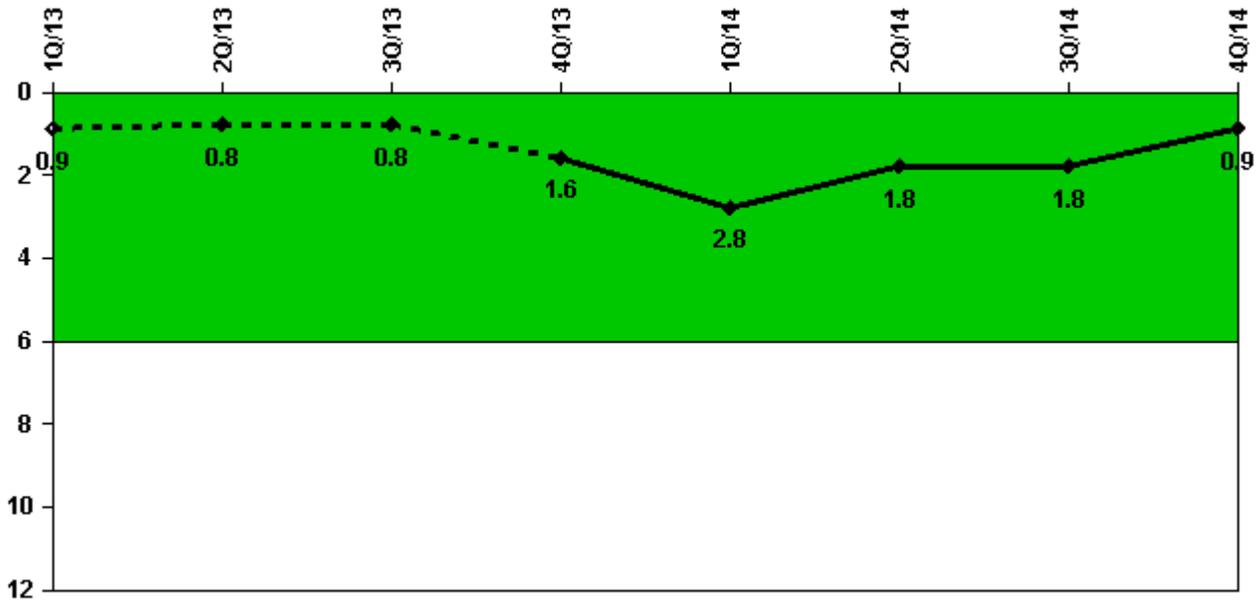
### Notes

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	0
Critical hours	2159.0	2067.9	2183.5	2209.0	1166.1	2184.0	2208.0	2190.0
<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/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
Unplanned power changes	0	1.0	0	1.0	1.0	0	0	0
Critical hours	2159.0	2067.9	2183.5	2209.0	1166.1	2184.0	2208.0	2190.0
<b>Indicator value</b>	<b>0.9</b>	<b>0.8</b>	<b>0.8</b>	<b>1.6</b>	<b>2.8</b>	<b>1.8</b>	<b>1.8</b>	<b>0.9</b>

### Licensee Comments:

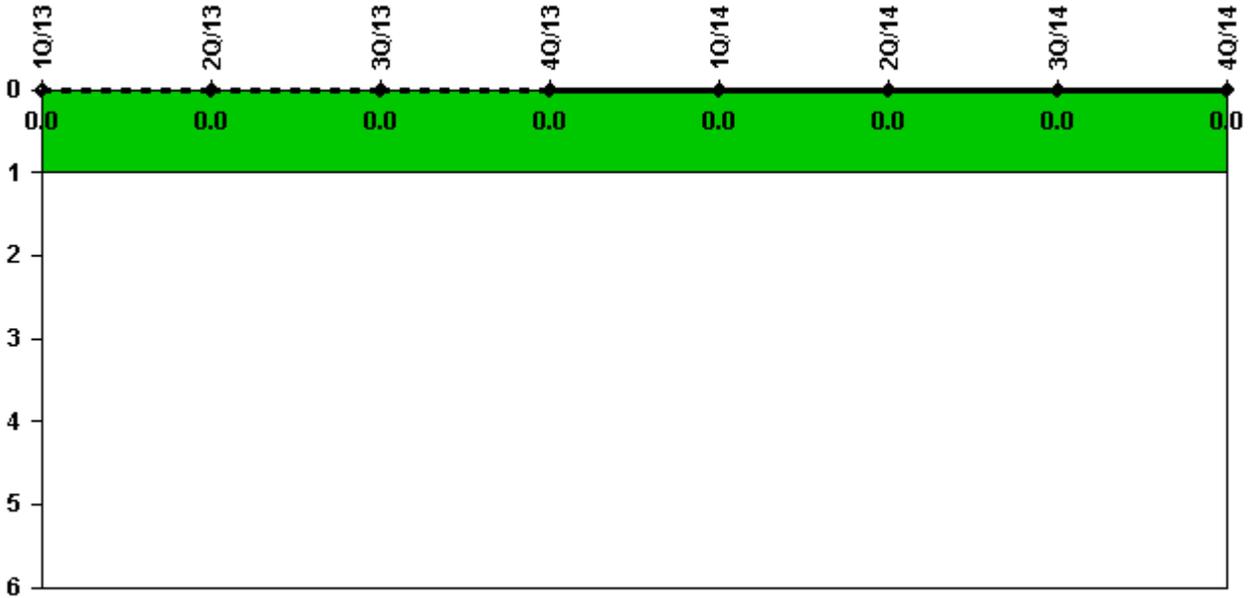
1Q/14: Diablo Canyon Unit 1 was in a planned refueling outage (Unit 1 Refueling Outage Eighteen) from February 9 to March 13, 2014. On March 16, during power ascension from the outage, seal leak off on Reactor Coolant Pump 1-3 was greater than expected. Operators reduced power and performed a controlled shutdown per plant procedures on March 16, 2014 for a forced outage due to an excessive seal leak off. Repairs were completed on March 27 and operators ended the forced outage. Unit 1 reached full power on March 29, 2014.

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.

### Unplanned Scrams with Complications



Thresholds: White > 1.0

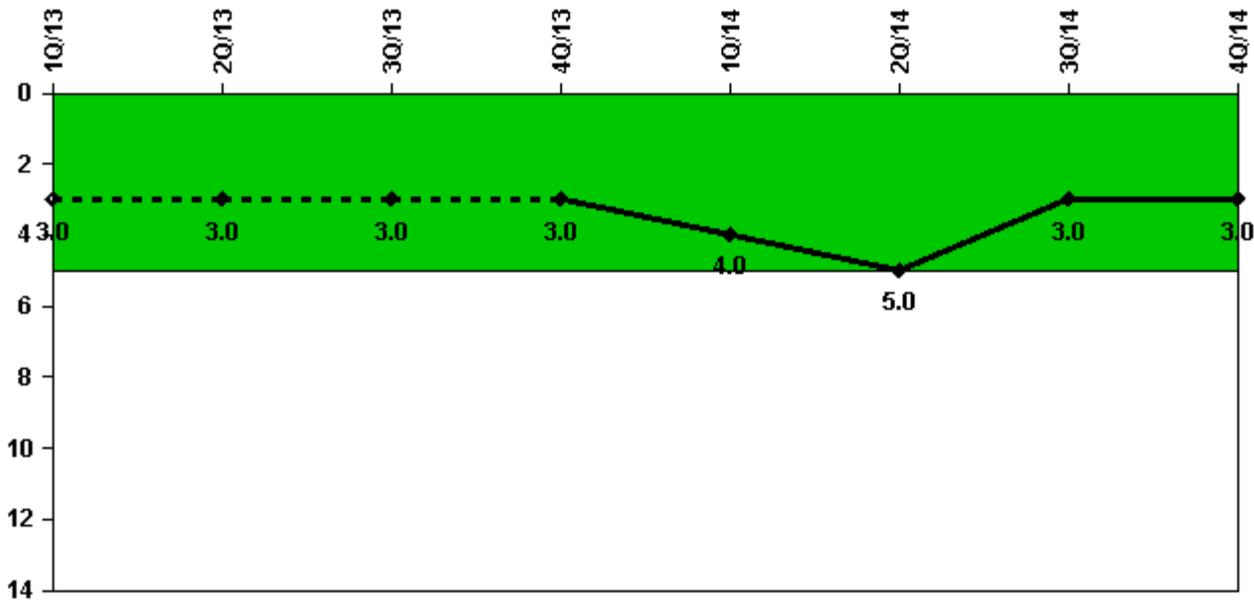
### Notes

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:

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/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
Safety System Functional Failures	1	0	2	0	2	1	0	0
<b>Indicator value</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>3</b>

#### Licensee Comments:

2Q/14: LER 1-2014-003-00 reported an unanalyzed condition regarding diesel exhaust plenum inadequate protection from tornado missiles. This constitutes a safety system functional failure. A supplement to the LER will be provided. Reference SAPN 50639263.

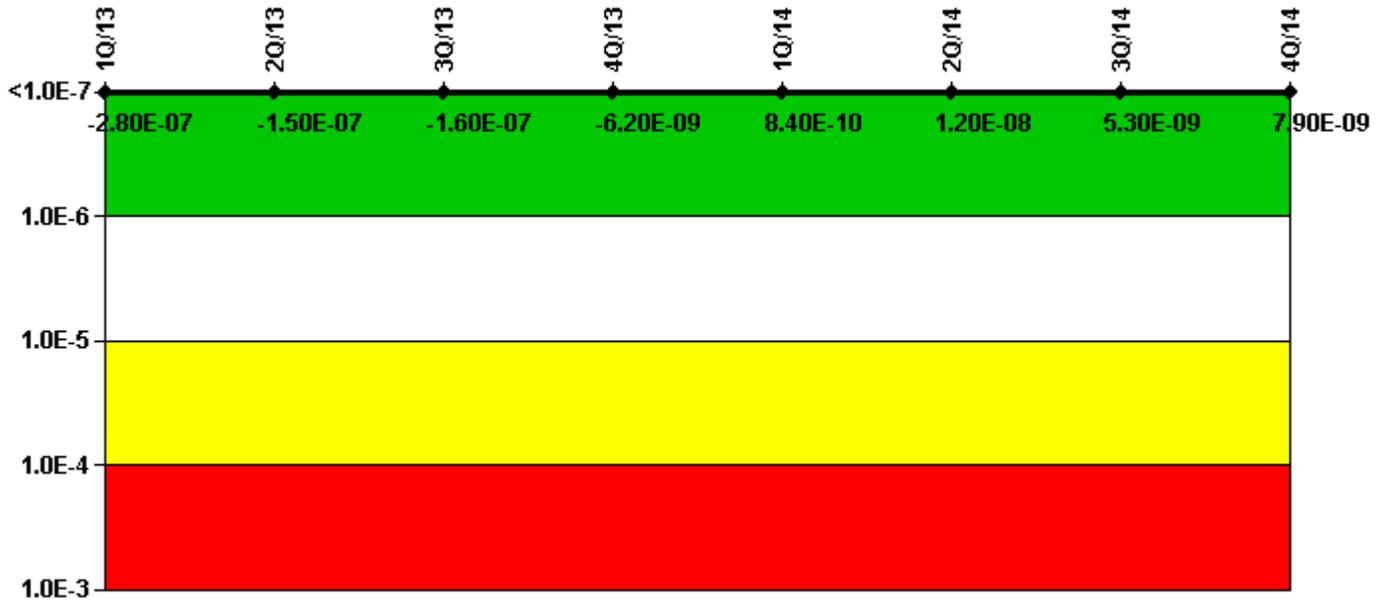
1Q/14: DCPD submitted two LERs in February 2014 that count as SSFFs. Reference LERs 1-2013-009-00 and 1-2013-010-00.

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

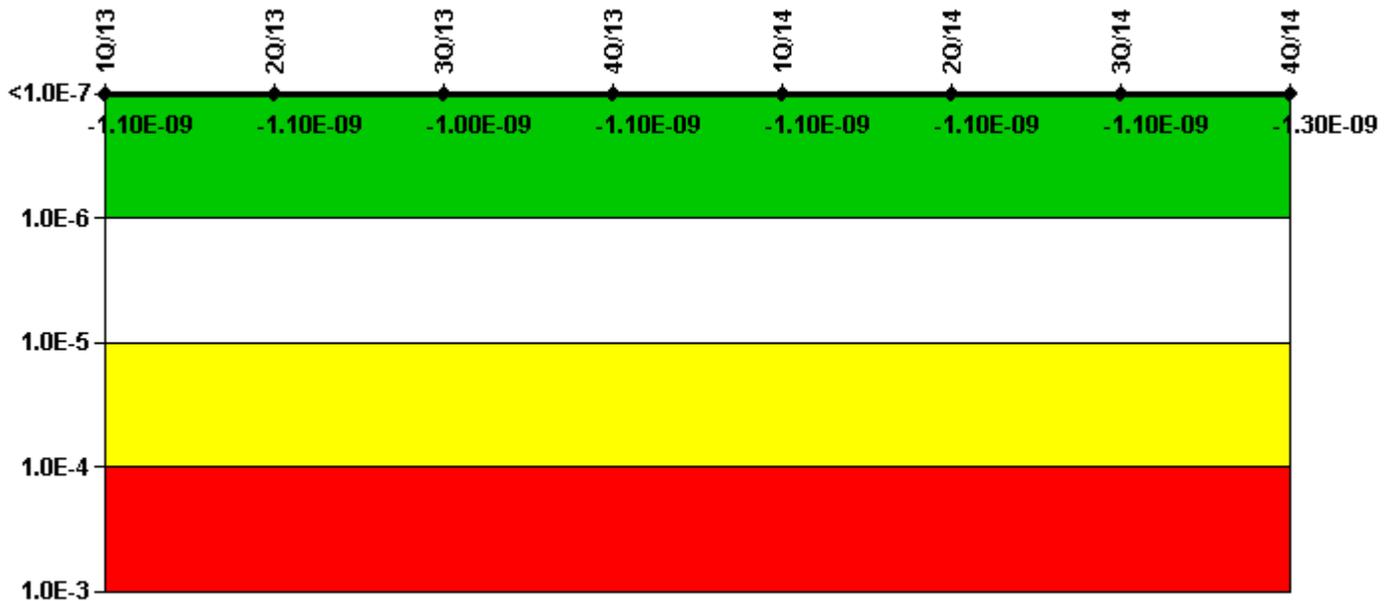
Mitigating Systems Performance Index, Emergency AC Power System	1Q/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
UAI ( $\Delta$ CDF)	$-1.82E-10$	$9.22E-09$	$1.18E-09$	$2.38E-08$	$2.72E-08$	$2.58E-08$	$1.52E-08$	$1.65E-08$
URI ( $\Delta$ CDF)	$-2.84E-07$	$-1.58E-07$	$-1.56E-07$	$-3.00E-08$	$-2.64E-08$	$-1.40E-08$	$-9.91E-09$	$-8.59E-09$
PLE	NO							
Indicator value	$-2.80E-07$	$-1.50E-07$	$-1.60E-07$	$-6.20E-09$	$8.40E-10$	$1.20E-08$	$5.30E-09$	$7.90E-09$

#### 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, Fussel-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

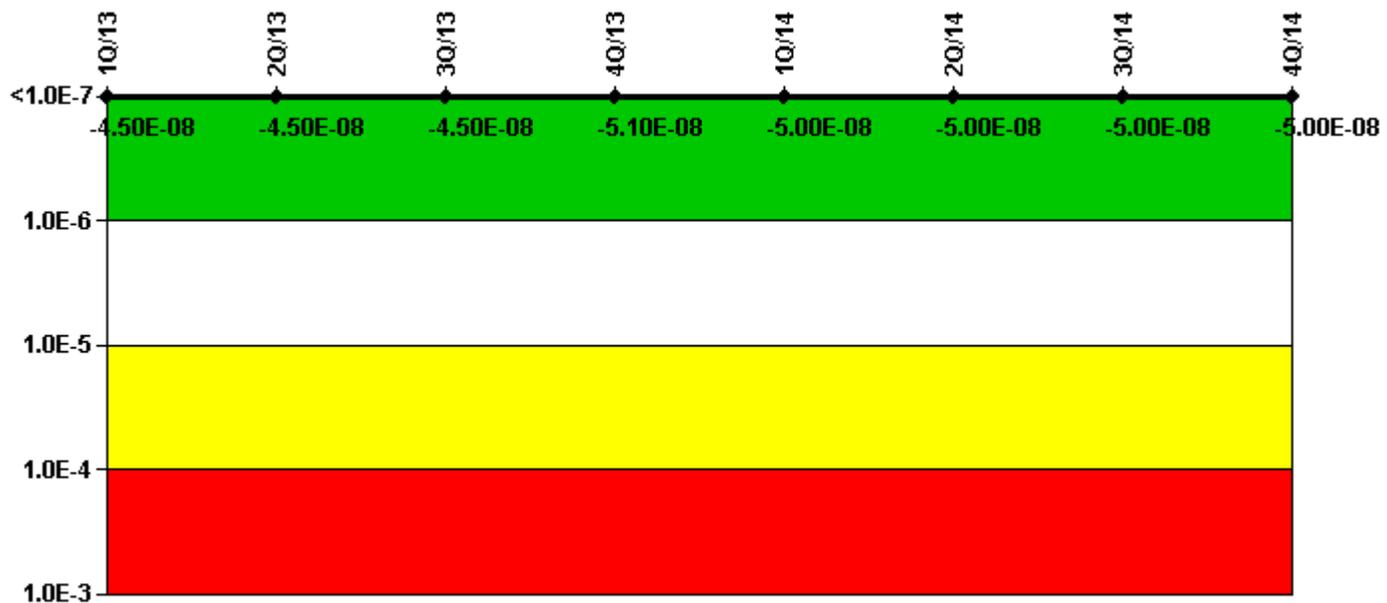
Mitigating Systems Performance Index, High Pressure Injection System	1Q/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
UAI ( $\Delta$ CDF)	4.00E-11	4.45E-11	8.61E-11	5.77E-11	3.94E-11	2.91E-11	6.69E-11	-1.42E-10
URI ( $\Delta$ CDF)	-1.13E-09							
PLE	NO							
Indicator value	-1.10E-09	-1.10E-09	-1.00E-09	-1.10E-09	-1.10E-09	-1.10E-09	-1.10E-09	-1.30E-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, Fussel-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/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
UAI ( $\Delta$ CDF)	4.73E-09	4.81E-09	4.83E-09	-7.78E-10	-2.90E-10	-2.90E-10	-2.90E-10	-2.80E-10
URI ( $\Delta$ CDF)	-4.97E-08							
PLE	NO							
Indicator value	-4.50E-08	-4.50E-08	-4.50E-08	-5.10E-08	-5.00E-08	-5.00E-08	-5.00E-08	-5.00E-08

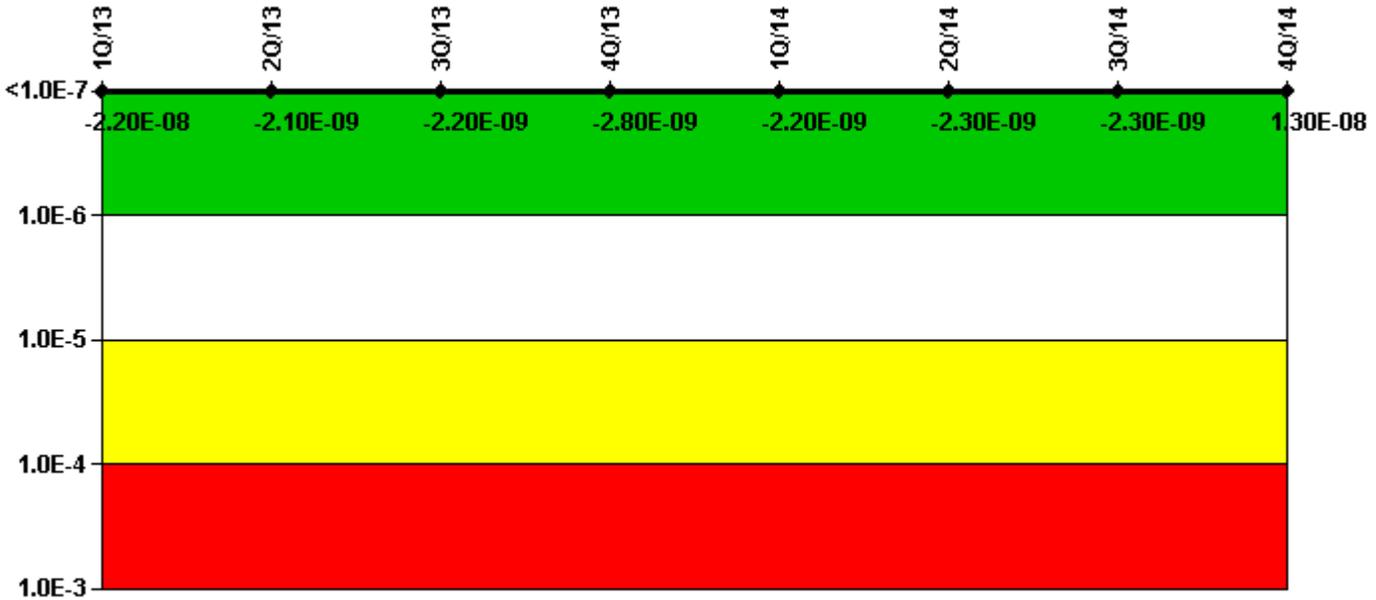
Licensee Comments:

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, Fussel-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/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
UAI (ΔCDF)	-5.60E-09	1.44E-08	1.44E-08	1.38E-08	1.44E-08	1.44E-08	1.44E-08	2.94E-08
URI (ΔCDF)	-1.64E-08	-1.65E-08	-1.66E-08	-1.66E-08	-1.67E-08	-1.67E-08	-1.68E-08	-1.68E-08
PLE	NO							
Indicator value	-2.20E-08	-2.10E-09	-2.20E-09	-2.80E-09	-2.20E-09	-2.30E-09	-2.30E-09	1.30E-08

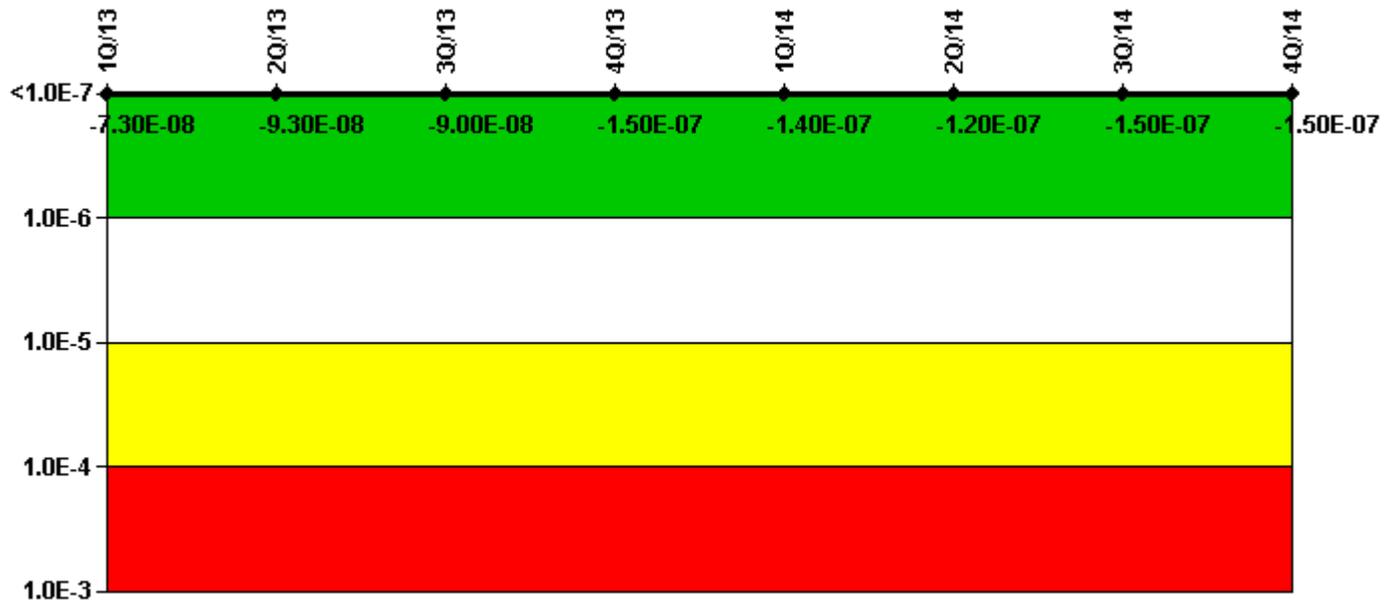
Licensee Comments:

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, Fussell-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 vales 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/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
UAI ( $\Delta$ CDF)	-2.08E-08	-4.07E-08	-3.79E-08	-1.01E-07	-8.72E-08	-6.45E-08	-1.00E-07	-9.40E-08
URI ( $\Delta$ CDF)	-5.20E-08							
PLE	NO							
Indicator value	-7.30E-08	-9.30E-08	-9.00E-08	-1.50E-07	-1.40E-07	-1.20E-07	-1.50E-07	-1.50E-07

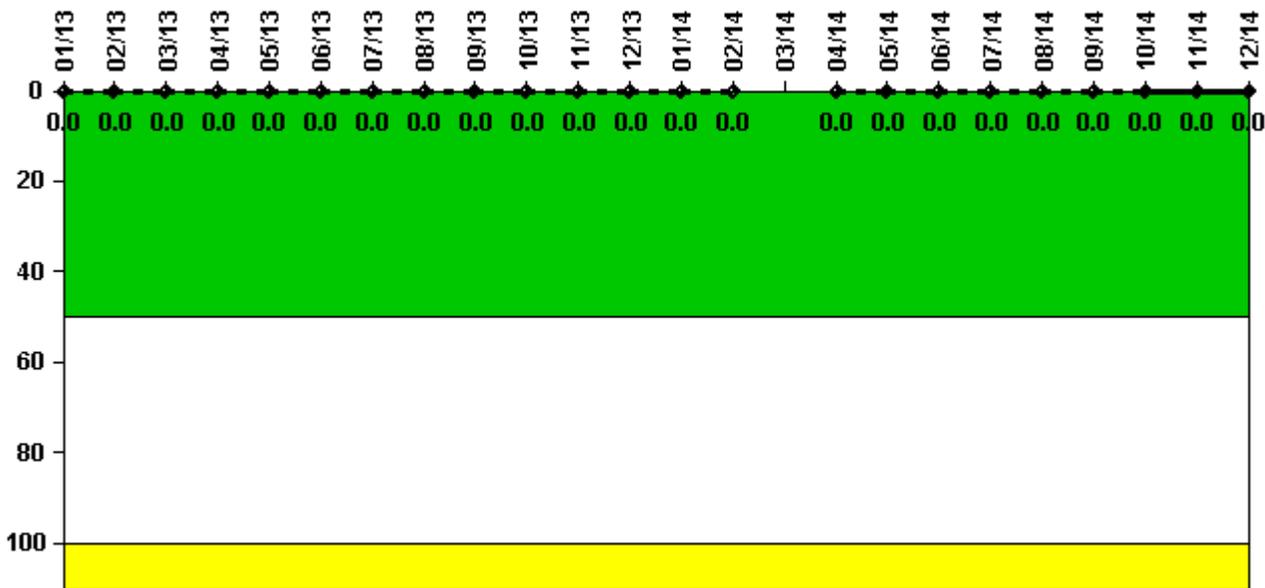
Licensee Comments:

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, Fussel-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 vales 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

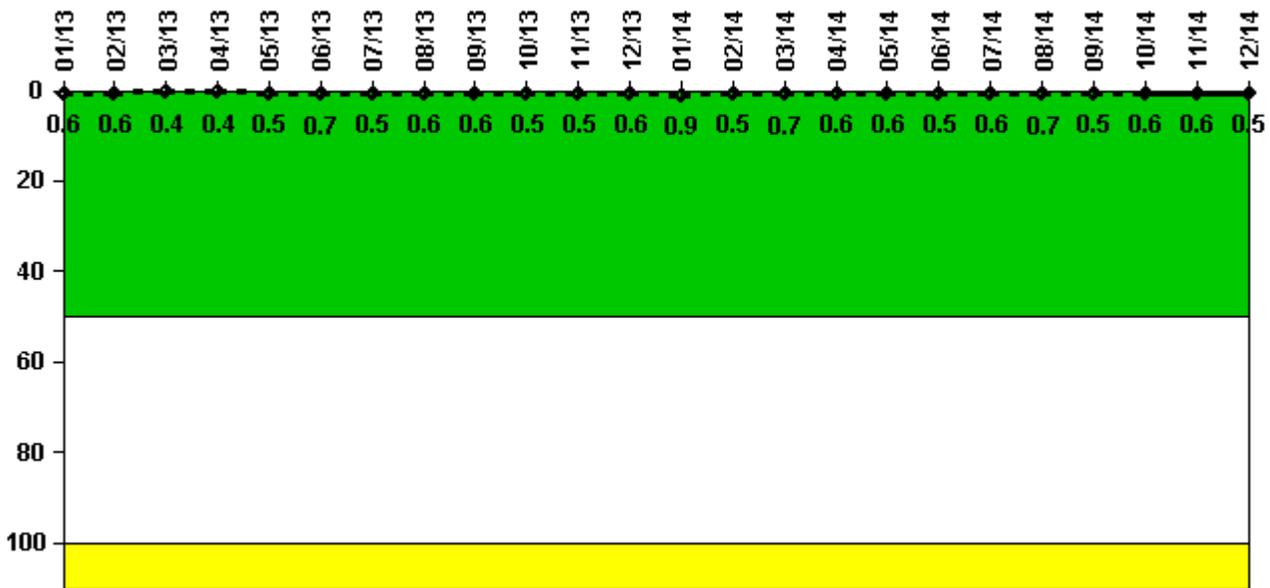
### Notes

Reactor Coolant System Activity	1/13	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
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	0.000081	0.000045	N/A	0.000030	0.000045	0.000047	0.000047	0.000038	0.000044	0.000045	0.000067	0.000048
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
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>0</b>								

Licensee Comments: none

### Reactor Coolant System Leakage



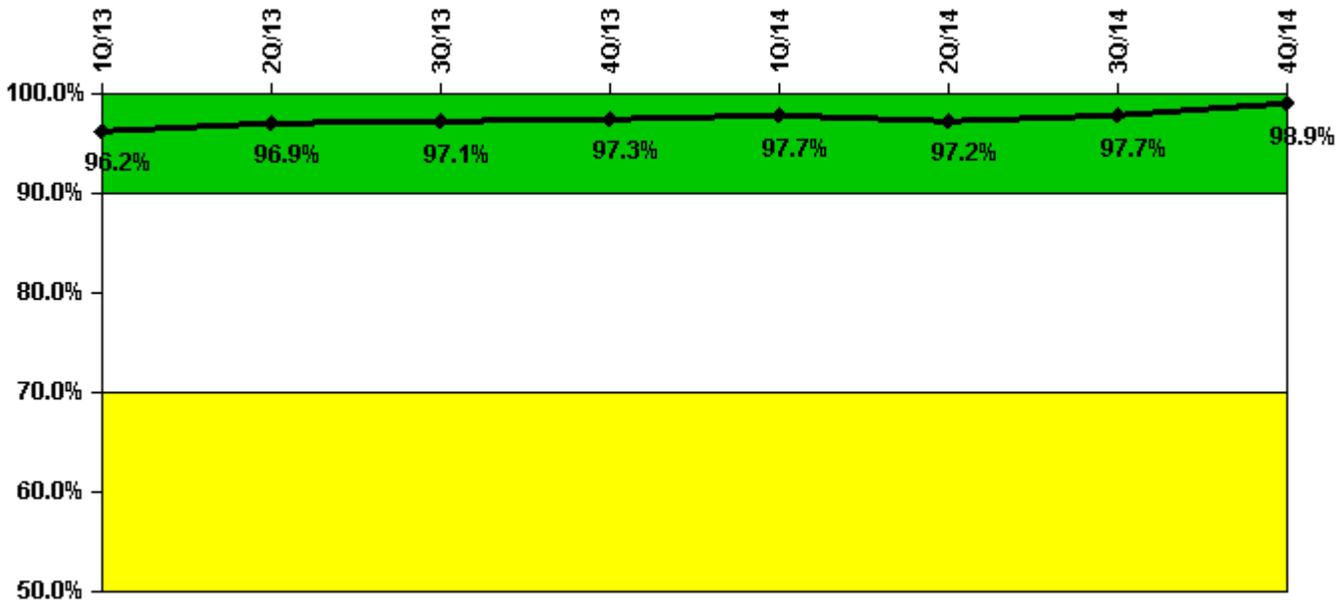
Thresholds: White > 50.0 Yellow > 100.0

### 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	0.061	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
<b>Indicator value</b>	<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>
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	0.091	0.051	0.066	0.064	0.059	0.049	0.060	0.066	0.051	0.056	0.058	0.054
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>0.9</b>	<b>0.5</b>	<b>0.7</b>	<b>0.6</b>	<b>0.6</b>	<b>0.5</b>	<b>0.6</b>	<b>0.7</b>	<b>0.5</b>	<b>0.6</b>	<b>0.6</b>	<b>0.5</b>

Licensee Comments: none

### Drill/Exercise Performance



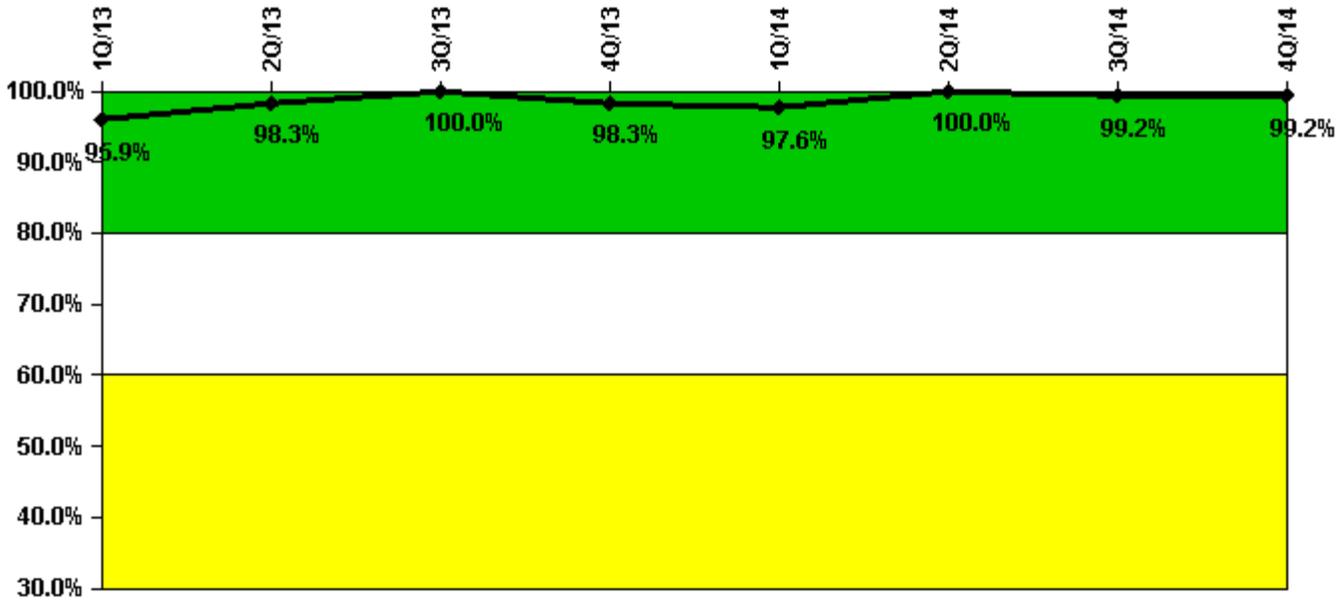
Thresholds: White < 90.0% Yellow < 70.0%

### Notes

Drill/Exercise Performance	1Q/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
Successful opportunities	8.0	37.0	29.0	42.0	19.0	64.0	33.0	26.0
Total opportunities	8.0	37.0	29.0	42.0	19.0	67.0	33.0	26.0
<b>Indicator value</b>	<b>96.2%</b>	<b>96.9%</b>	<b>97.1%</b>	<b>97.3%</b>	<b>97.7%</b>	<b>97.2%</b>	<b>97.7%</b>	<b>98.9%</b>

Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

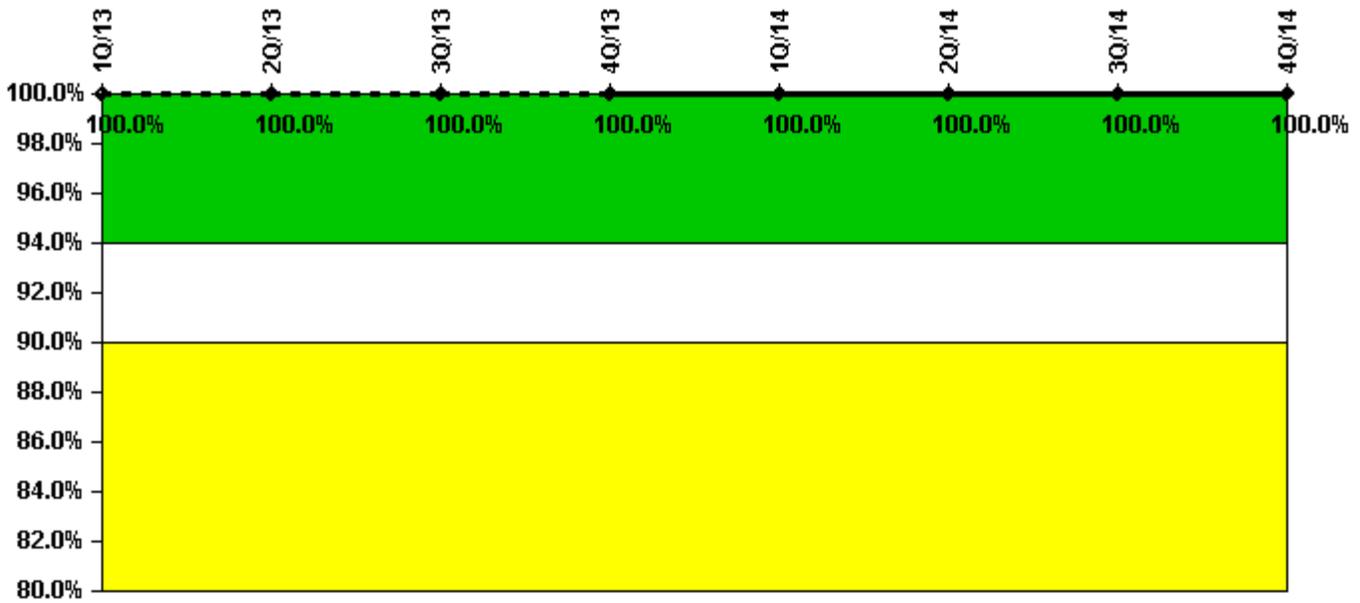
#### Notes

ERO Drill Participation	1Q/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
Participating Key personnel	117.0	119.0	115.0	118.0	120.0	117.0	120.0	118.0
Total Key personnel	122.0	121.0	115.0	120.0	123.0	117.0	121.0	119.0
Indicator value	95.9%	98.3%	100.0%	98.3%	97.6%	100.0%	99.2%	99.2%

Licensee Comments:

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

### Alert & Notification System



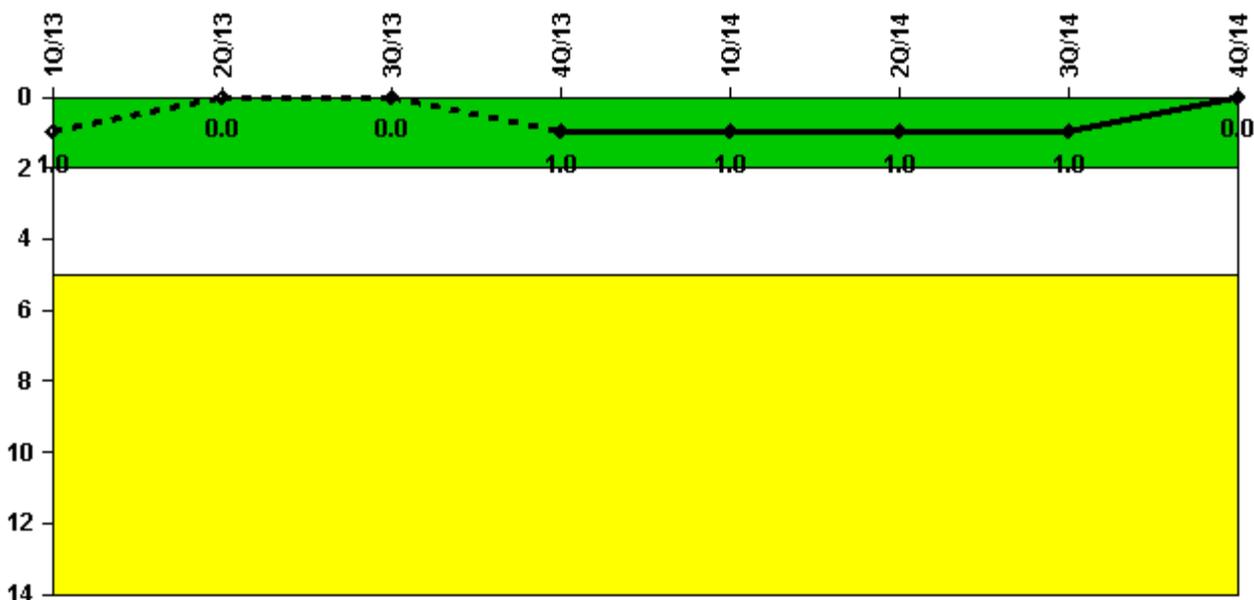
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

Alert & Notification System	1Q/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
Successful siren-tests	1046	917	1310	1048	917	917	1310	1048
Total sirens-tests	1047	917	1310	1048	917	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

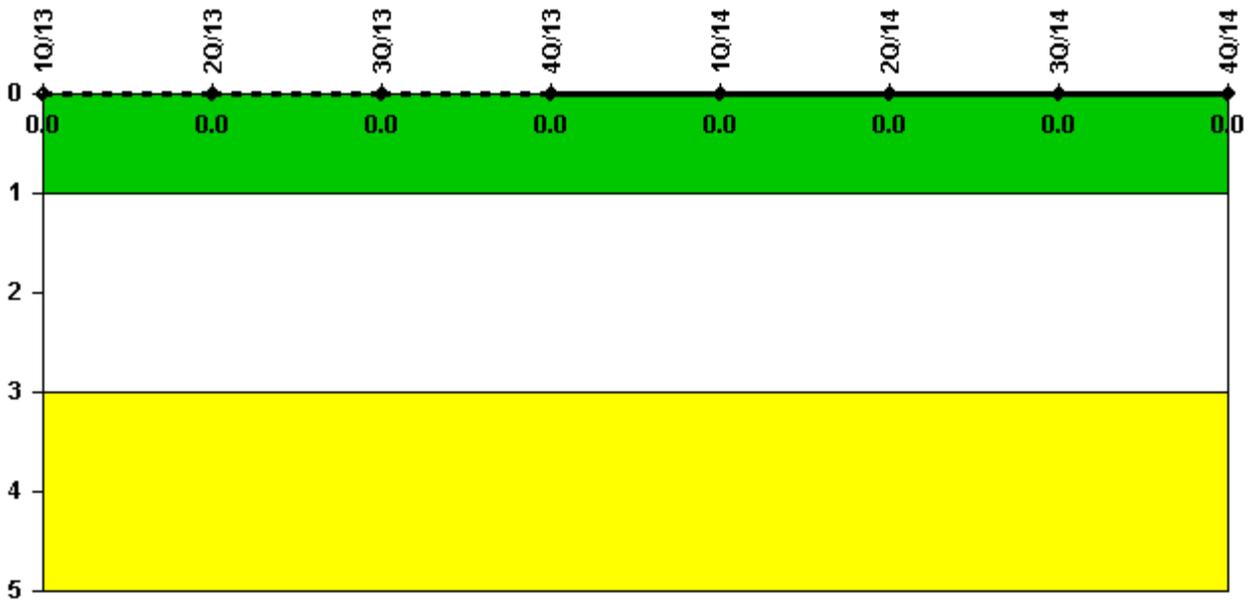
#### Notes

Occupational Exposure Control Effectiveness	1Q/13	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14
High radiation area occurrences	0	0	0	1	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>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</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

### 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
Indicator value	0	0	0	0	0	0	0	0

Licensee Comments: none

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page.

 [Action Matrix Summary](#) | [Inspection Findings Summary](#) | [PI Summary](#) | [Reactor Oversight Process](#)

*Last Modified: February 3, 2015*