

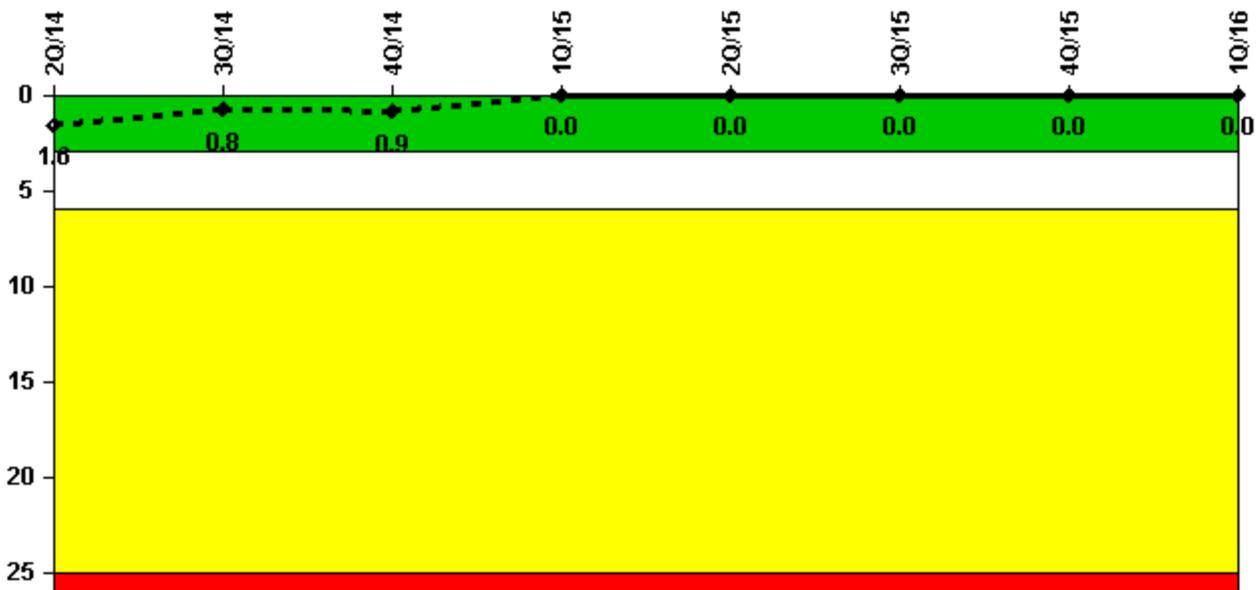
## Diablo Canyon 2

### 1Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

#### Unplanned Scrams per 7000 Critical Hrs



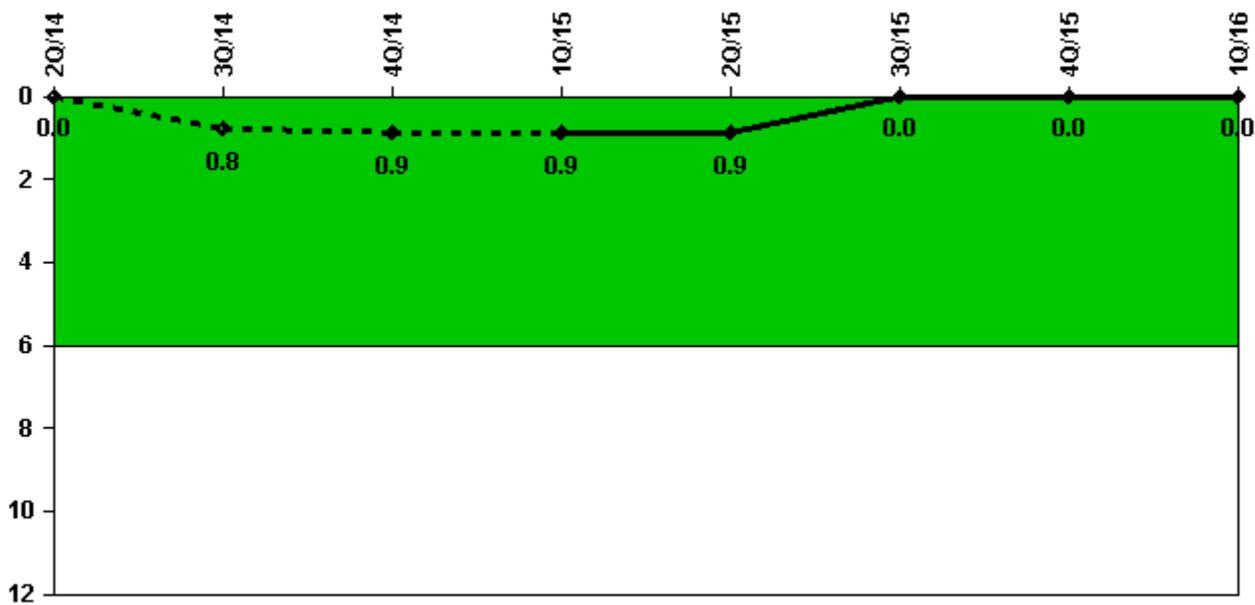
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

#### Notes

Unplanned Scrams per 7000 Critical Hrs	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2184.0	2136.8	1453.4	2159.0	2184.0	2208.0	2209.0	2183.0
<b>Indicator value</b>	<b>1.6</b>	<b>0.8</b>	<b>0.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

#### Notes

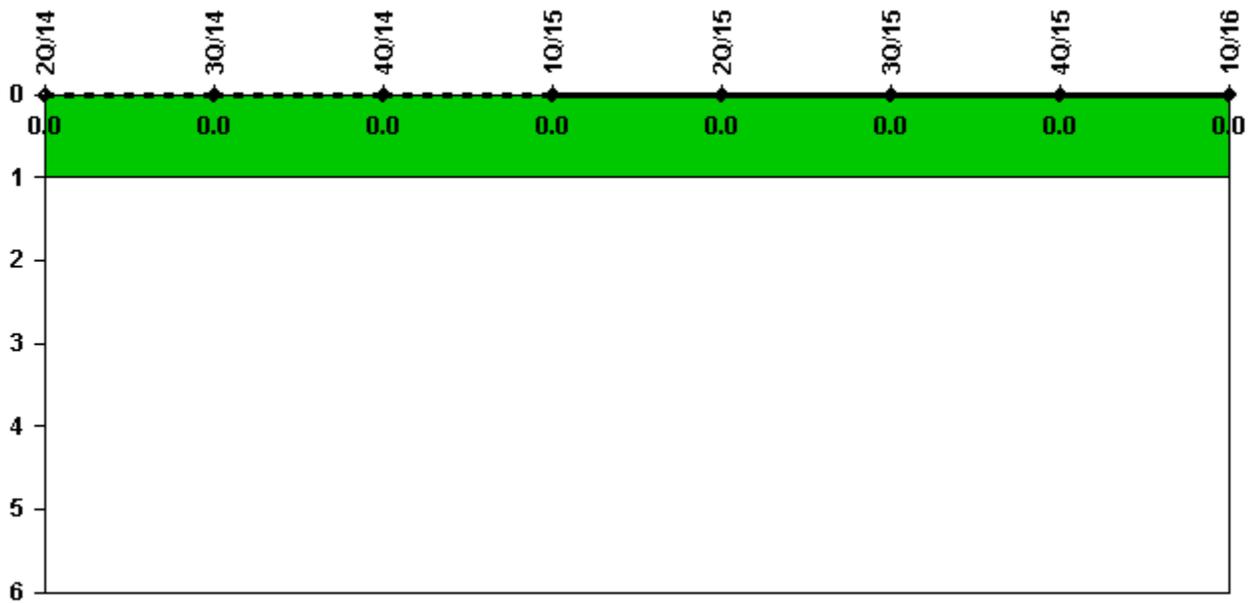
Unplanned Power Changes per 7000 Critical Hrs	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
Unplanned power changes	0	1.0	0	0	0	0	0	0
Critical hours	2184.0	2136.8	1453.4	2159.0	2184.0	2208.0	2209.0	2183.0
<b>Indicator value</b>	<b>0</b>	<b>0.8</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0</b>	<b>0</b>	<b>0</b>

#### Licensee Comments:

4Q/15: On December 11, 2015, Diablo Canyon Unit 2 was ramped to approximately 25 percent power due to ocean storm swells and biofouling of the condenser. The power change was made proactively in order to prevent a plant trip consistent with NEI 99-02, Revision 7, Appendix D FAQs for Diablo Canyon, and is therefore classified as unplanned, excluded per NEI 99-02. Reference SAPN 50828812.

3Q/14: On August 14, 2014, Diablo Canyon Unit 2 was shut down due to two diesel generators inoperable. During a planned maintenance outage window, a cracked fuel line bolt was discovered. During extent of condition investigations on the other diesel generators, an additional cracked bolt was identified. During restoration of the second diesel generator, a fuel oil leak was discovered on its fuel oil booster pump. The cracked bolts and fuel oil booster pump were replaced.

### Unplanned Scrams with Complications



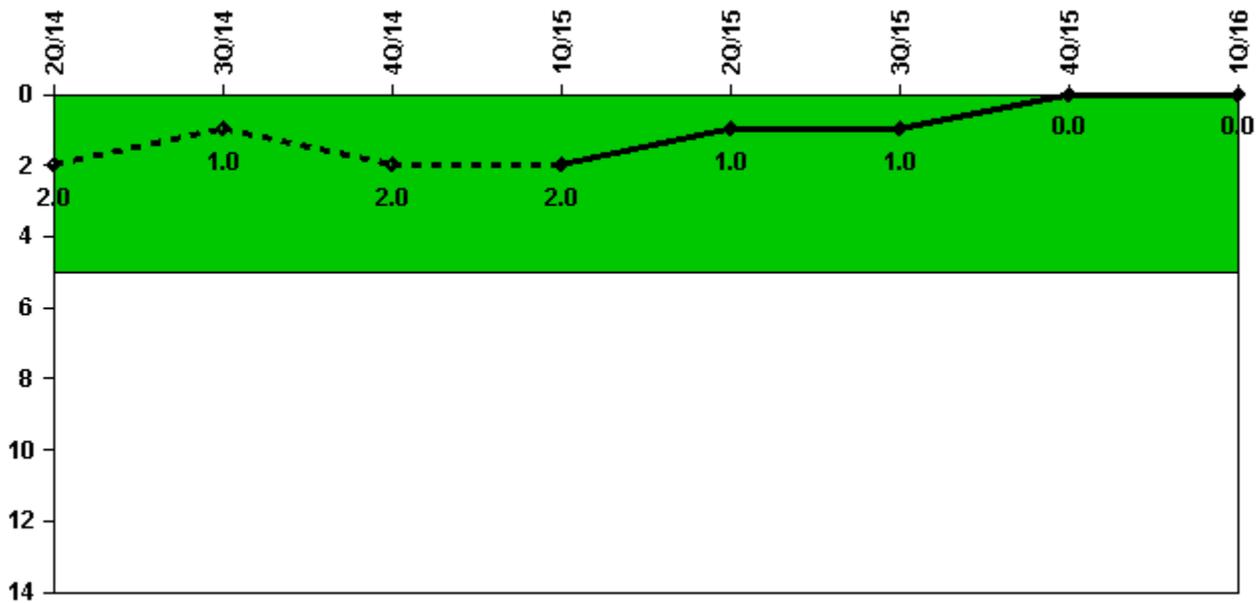
Thresholds: White > 1.0

#### Notes

Unplanned Scrams with Complications	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
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 (PWR)



Thresholds: White > 5.0

#### Notes

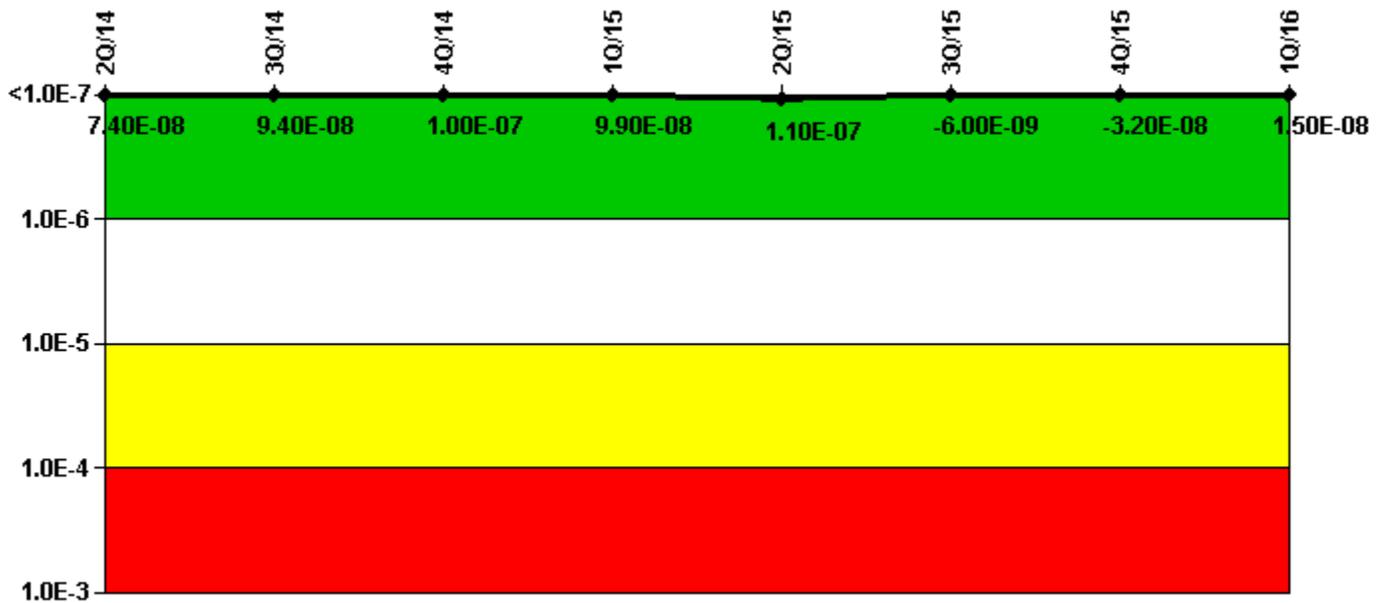
Safety System Functional Failures (PWR)	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
Safety System Functional Failures	1	0	1	0	0	0	0	0
<b>Indicator value</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>

Licensee Comments:

4Q/14: LER 2-2014-002-00 (PG&E Letter DCL-14-090) dated 10/14/2014 reports a SSFF for two diesel generators inoperable.

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.

### 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	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
UAI ( $\Delta$ CDF)	-2.10E-09	1.15E-08	1.61E-08	1.03E-08	2.10E-08	1.99E-08	-5.17E-09	4.13E-08
URI ( $\Delta$ CDF)	7.57E-08	8.28E-08	8.86E-08	8.86E-08	8.86E-08	-2.59E-08	-2.68E-08	-2.68E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	7.40E-08	9.40E-08	1.00E-07	9.90E-08	1.10E-07	-6.00E-09	-3.20E-08	1.50E-08

#### Licensee Comments:

4Q/15: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03 was approved on 7/30/2015. The Mitigating System Performance Index (MSPI) basis document revision 8 was approved on 1/20/2016 and contains the updated PRA parameters. The DC03 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities, and Human Reliability Analysis (HRA) 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.

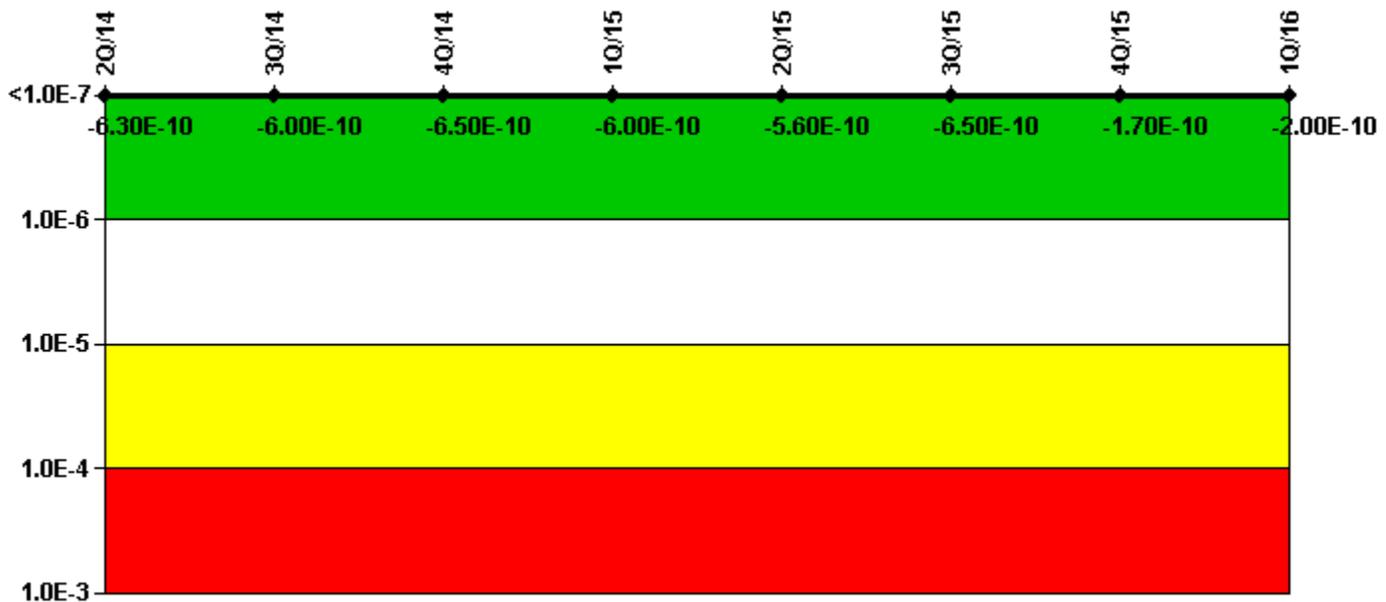
3Q/14: Per NEI 99-02, Revision 7, Table 1, the following is noted: The data for MSPI Emergency AC Power System is not complete. Engineering evaluation for three diesel events (August to September 2014) are waiting on input from a vendor (MPR) on past operability.

3Q/14: The data for MSPI Emergency AC Power System is not complete. Two diesel events (August 2014) are waiting past operability evaluations. In the interim, they are conservatively entered as "run failures."

3Q/14: The Emergency AC Power System analysis is now complete. All the diesel events (August 2014) have been analyzed by the outside vendor and it was determined the Diesel Emergency Generators would be able to perform their MSPI monitored function.

3Q/14: The data for MSPI Emergency AC Power System is not complete. Three diesel events (August to September 2014) are waiting past operability evaluations. In the interim, they are conservatively entered as "run failures."

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



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

#### Notes

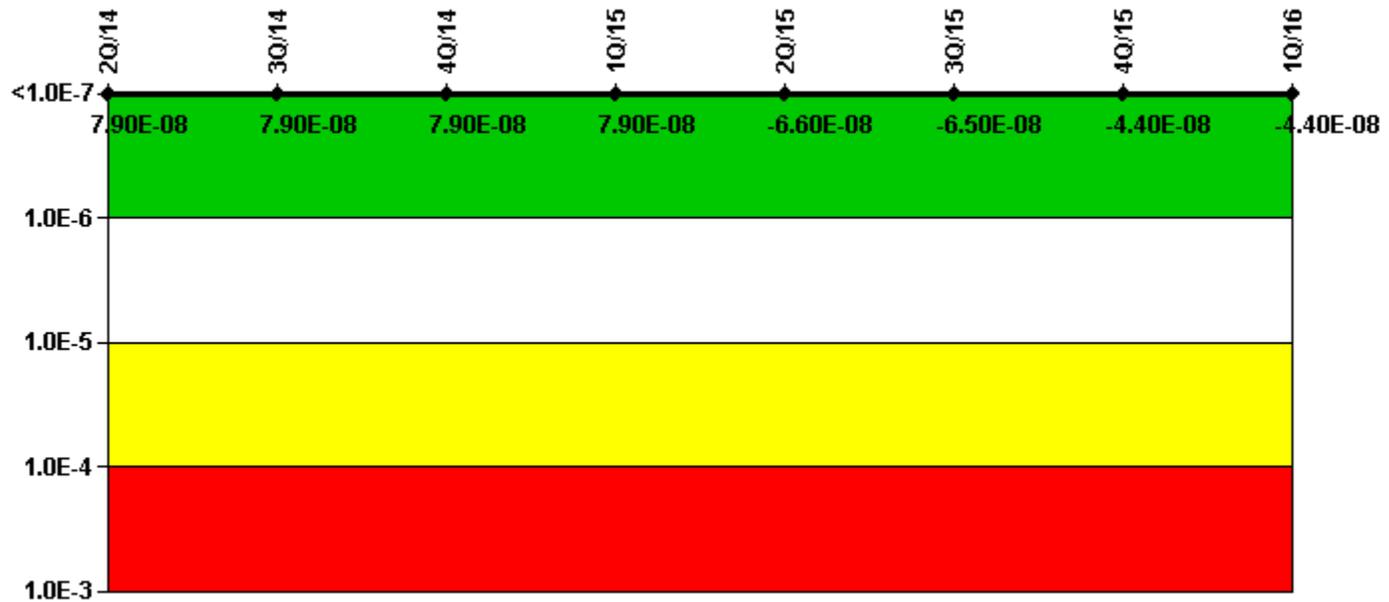
Mitigating Systems Performance Index, High Pressure Injection System	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
UAI (ΔCDF)	5.26E-10	5.54E-10	5.02E-10	5.59E-10	5.96E-10	5.10E-10	1.02E-10	6.96E-11
URI (ΔCDF)	-1.16E-09	-1.16E-09	-1.16E-09	-1.16E-09	-1.16E-09	-1.16E-09	-2.68E-10	-2.68E-10
PLE	NO							
Indicator value	-6.30E-10	-6.00E-10	-6.50E-10	-6.00E-10	-5.60E-10	-6.50E-10	-1.70E-10	-2.00E-10

Licensee Comments:

4Q/15: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03 was

approved on 7/30/2015. The Mitigating System Performance Index (MSPI) basis document revision 8 was approved on 1/20/2016 and contains the updated PRA parameters. The DC03 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities, and Human Reliability Analysis (HRA) 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.

### Mitigating Systems Performance Index, Heat Removal System



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

### Notes

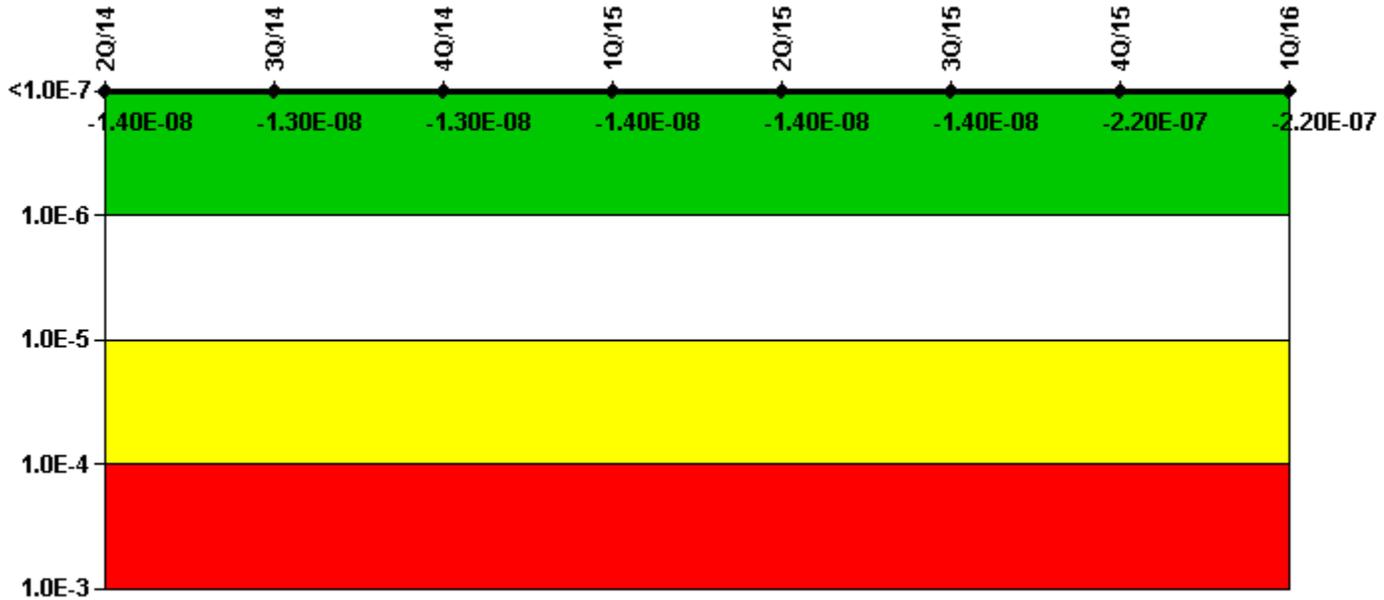
Mitigating Systems Performance Index, Heat Removal System	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
UAI (ΔCDF)	-1.15E-08	-1.19E-08	-1.19E-08	-1.19E-08	-1.25E-08	-1.19E-08	-1.78E-08	-1.78E-08
URI (ΔCDF)	9.06E-08	9.06E-08	9.06E-08	9.06E-08	-5.33E-08	-5.33E-08	-2.62E-08	-2.62E-08
PLE	NO							
Indicator value	7.90E-08	7.90E-08	7.90E-08	7.90E-08	-6.60E-08	-6.50E-08	-4.40E-08	-4.40E-08

### Licensee Comments:

4Q/15: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03 was approved on 7/30/2015. The Mitigating System Performance Index (MSPI) basis document revision 8 was approved on 1/20/2016 and contains the updated PRA parameters. The DC03 model revision is a periodic update

that incorporates new model data for initiating events, equipment failures probabilities, and Human Reliability Analysis (HRA) 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.

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



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

#### Notes

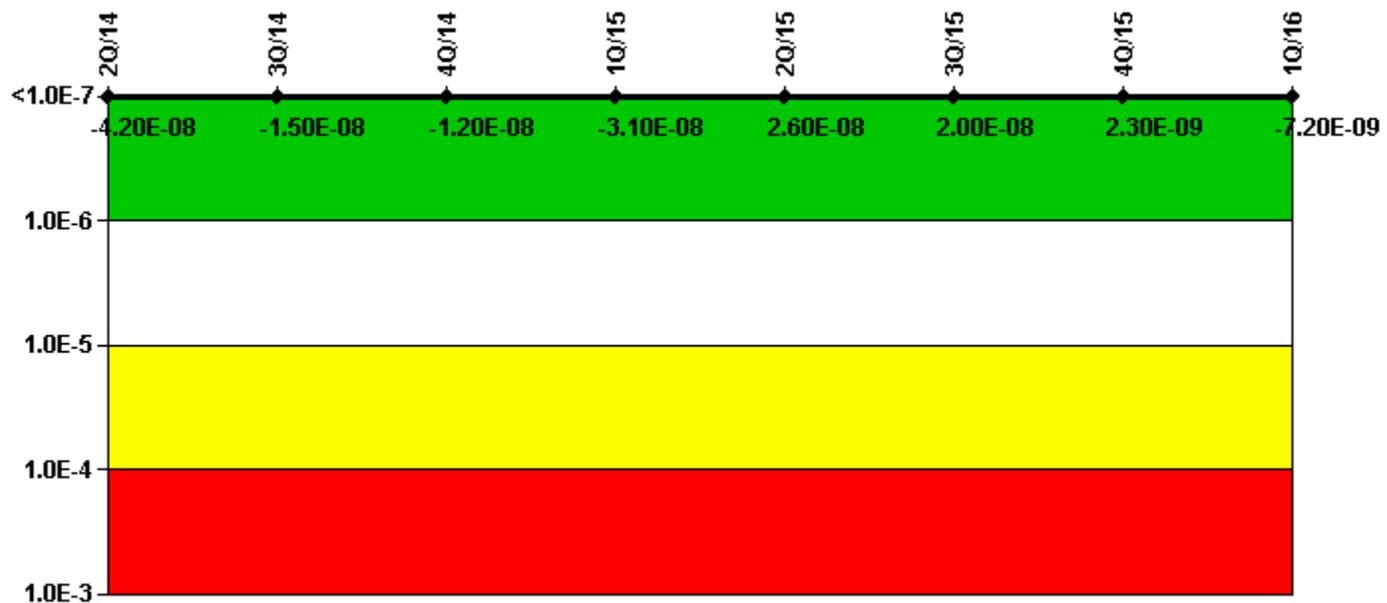
Mitigating Systems Performance Index, Residual Heat Removal System	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
UAI (ΔCDF)	-2.09E-09	-1.70E-09	-1.47E-09	-2.41E-09	-2.41E-09	-2.41E-09	-3.22E-08	-3.18E-08
URI (ΔCDF)	-1.17E-08	-1.17E-08	-1.18E-08	-1.18E-08	-1.19E-08	-1.19E-08	-1.90E-07	-1.90E-07
PLE	NO							
Indicator value	-1.40E-08	-1.30E-08	-1.30E-08	-1.40E-08	-1.40E-08	-1.40E-08	-2.20E-07	-2.20E-07

#### Licensee Comments:

4Q/15: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03 was approved on 7/30/2015. The Mitigating System Performance Index (MSPI) basis document revision 8 was approved on 1/20/2016 and contains the updated PRA parameters. The DC03 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities, and Human Reliability Analysis (HRA) 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.

### Mitigating Systems Performance Index, Cooling Water Systems



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

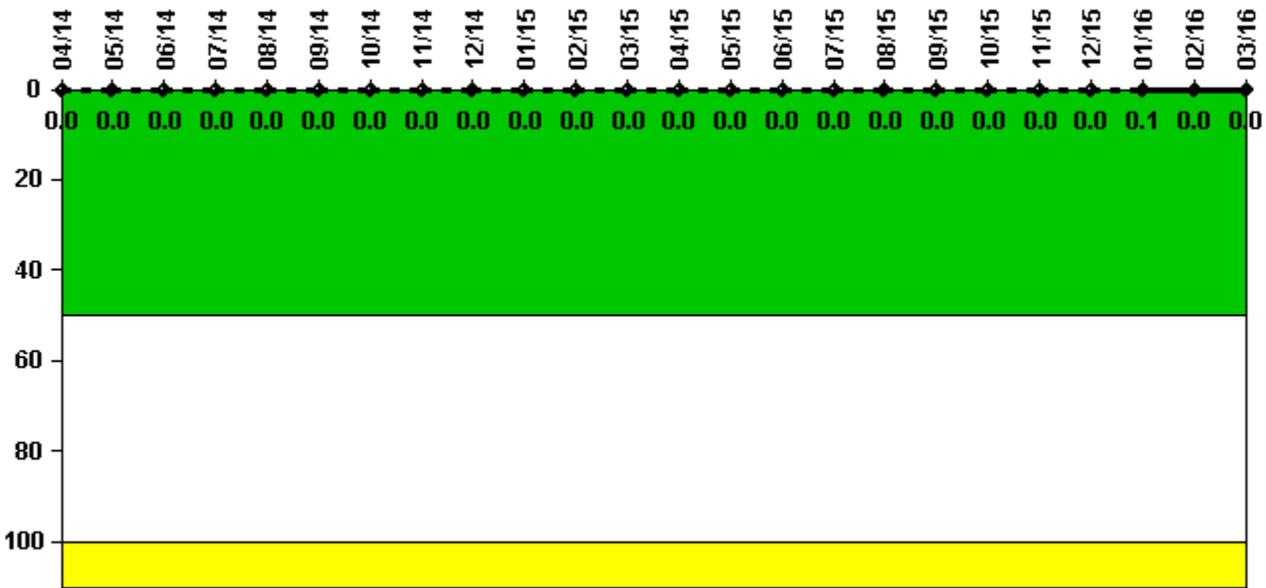
#### Notes

Mitigating Systems Performance Index, Cooling Water Systems	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
UAI ( $\Delta$ CDF)	5.11E-09	3.19E-08	3.45E-08	1.54E-08	7.24E-08	6.66E-08	1.94E-08	9.90E-09
URI ( $\Delta$ CDF)	-4.68E-08	-4.68E-08	-4.68E-08	-4.68E-08	-4.68E-08	-4.68E-08	-1.71E-08	-1.71E-08
PLE	NO							
Indicator value	-4.20E-08	-1.50E-08	-1.20E-08	-3.10E-08	2.60E-08	2.00E-08	2.30E-09	-7.20E-09

Licensee Comments:

4Q/15: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03 was approved on 7/30/2015. The Mitigating System Performance Index (MSPI) basis document revision 8 was approved on 1/20/2016 and contains the updated PRA parameters. The DC03 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities, and Human Reliability Analysis (HRA) 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.

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

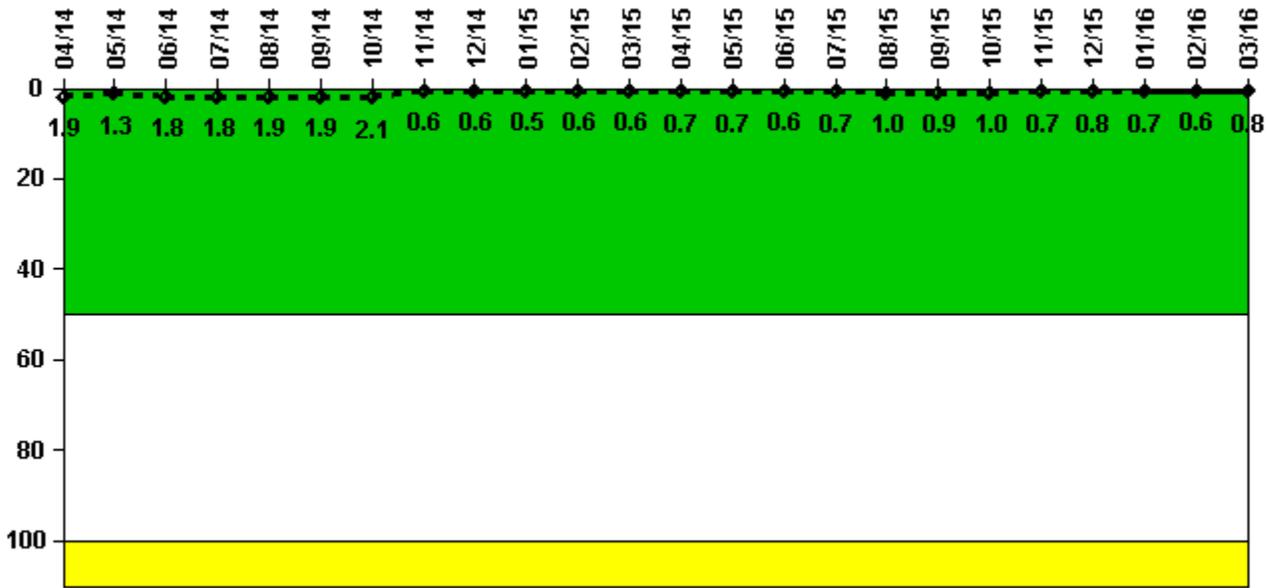
### Notes

Reactor Coolant System Activity	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14	1/15	2/15	3/15
Maximum activity	0.000118	0.000128	0.000126	0.000127	0.000138	0.000141	0.000097	0.000128	0.000141	0.000164	0.000172	0.000195
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	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16
Maximum activity	0.000212	0.000218	0.000323	0.000265	0.000269	0.000273	0.000286	0.000290	0.000313	0.000611	0.000352	0.000352
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	0.1	0	0
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Licensee Comments: none

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

### Notes

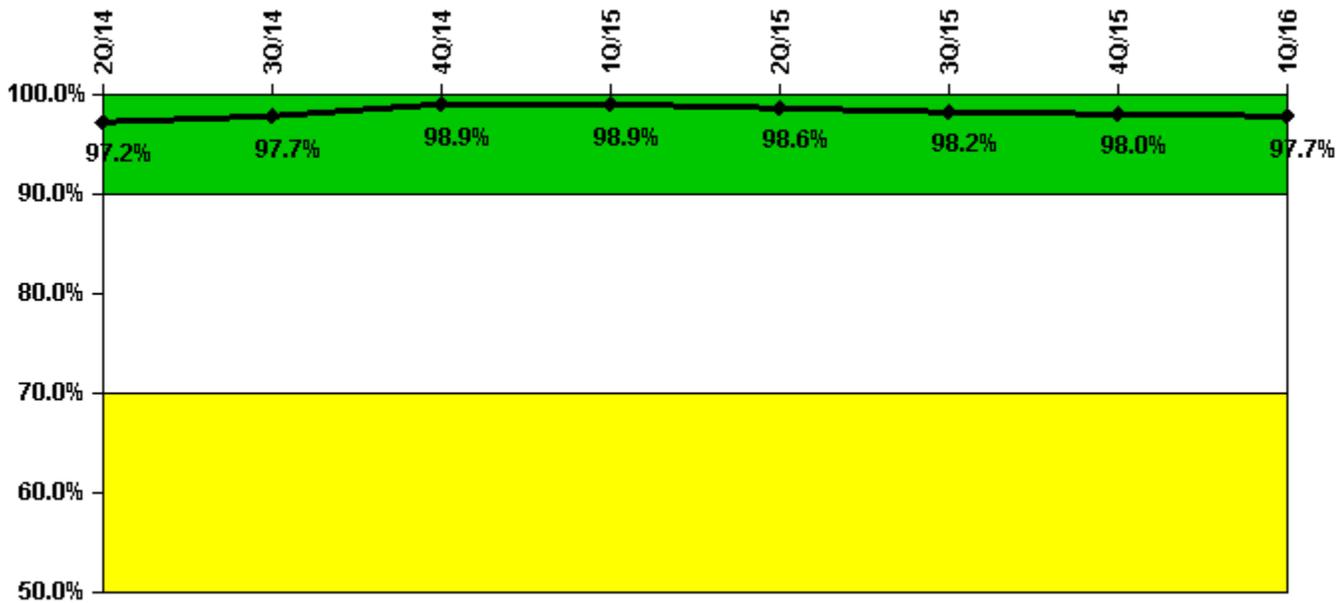
Reactor Coolant System Leakage	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14	1/15	2/15	3/15
Maximum leakage	0.189	0.133	0.178	0.177	0.194	0.191	0.212	0.062	0.057	0.052	0.056	0.059
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Indicator value	1.9	1.3	1.8	1.8	1.9	1.9	2.1	0.6	0.6	0.5	0.6	0.6

Reactor Coolant System Leakage	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16
Maximum leakage	0.074	0.071	0.061	0.074	0.097	0.091	0.099	0.069	0.082	0.073	0.064	0.080
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	0.7	0.7	0.6	0.7	1.0	0.9	1.0	0.7	0.8	0.7	0.6	0.8

Licensee Comments: none

### Drill/Exercise Performance



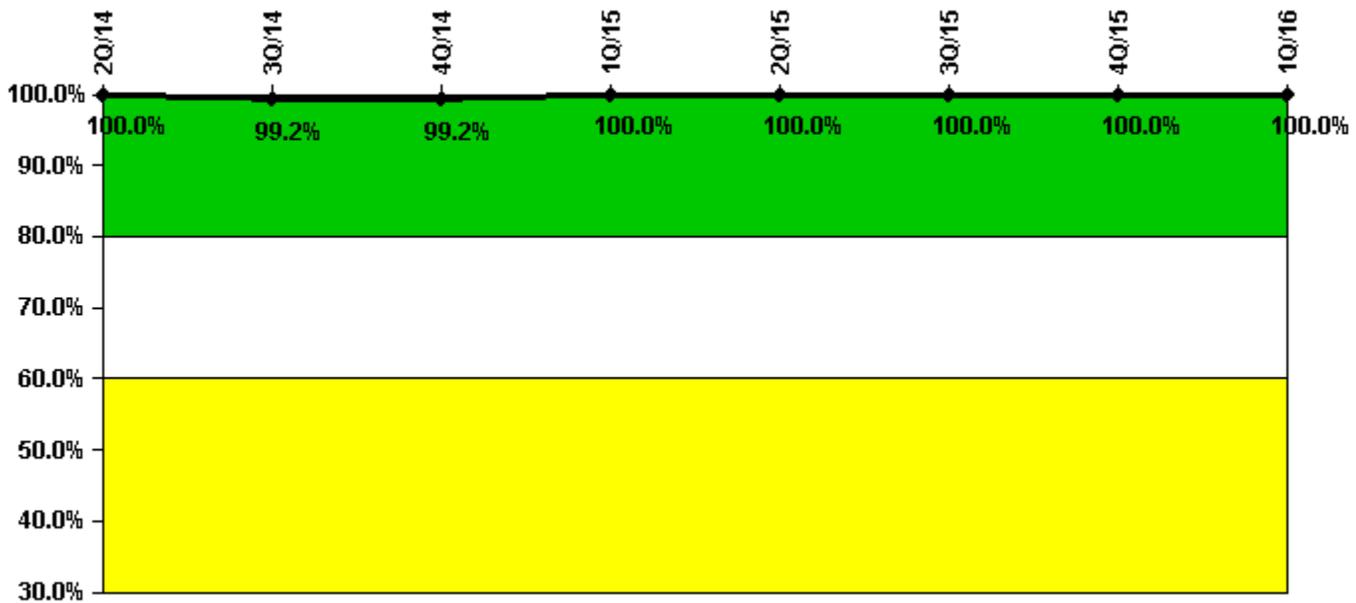
Thresholds: White < 90.0% Yellow < 70.0%

### Notes

Drill/Exercise Performance	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
Successful opportunities	64.0	33.0	26.0	30.0	43.0	22.0	4.0	37.0
Total opportunities	67.0	33.0	26.0	30.0	44.0	23.0	4.0	38.0
<b>Indicator value</b>	<b>97.2%</b>	<b>97.7%</b>	<b>98.9%</b>	<b>98.9%</b>	<b>98.6%</b>	<b>98.2%</b>	<b>98.0%</b>	<b>97.7%</b>

Licensee Comments: none

### ERO Drill Participation



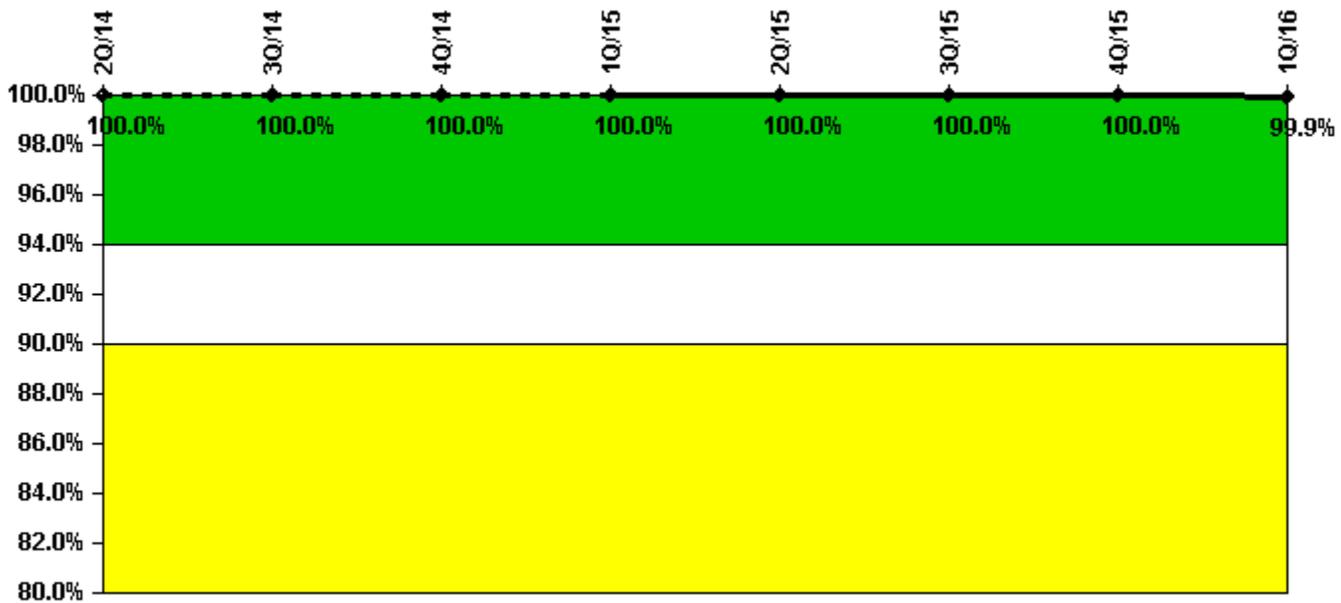
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

ERO Drill Participation	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
Participating Key personnel	117.0	120.0	118.0	120.0	117.0	121.0	119.0	121.0
Total Key personnel	117.0	121.0	119.0	120.0	117.0	121.0	119.0	121.0
Indicator value	100.0%	99.2%	99.2%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

### Alert & Notification System



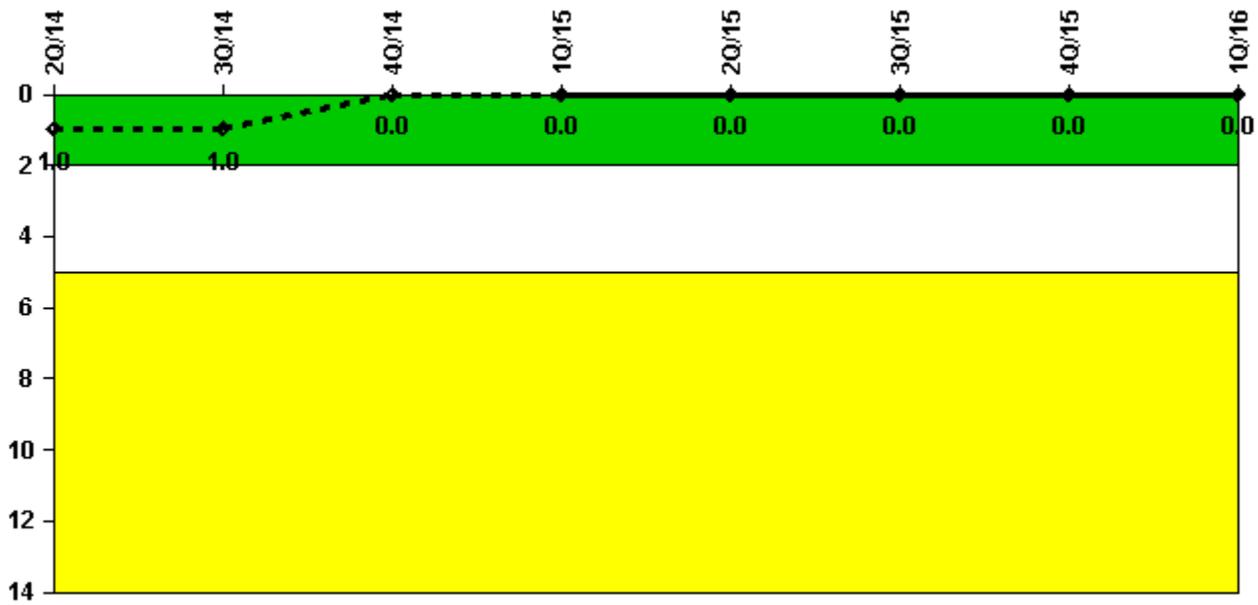
Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

Alert & Notification System	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
Successful siren-tests	917	1310	1048	917	1047	1178	1048	916
Total sirens-tests	917	1310	1048	917	1048	1179	1048	917
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.9%

Licensee Comments: none

### Occupational Exposure Control Effectiveness



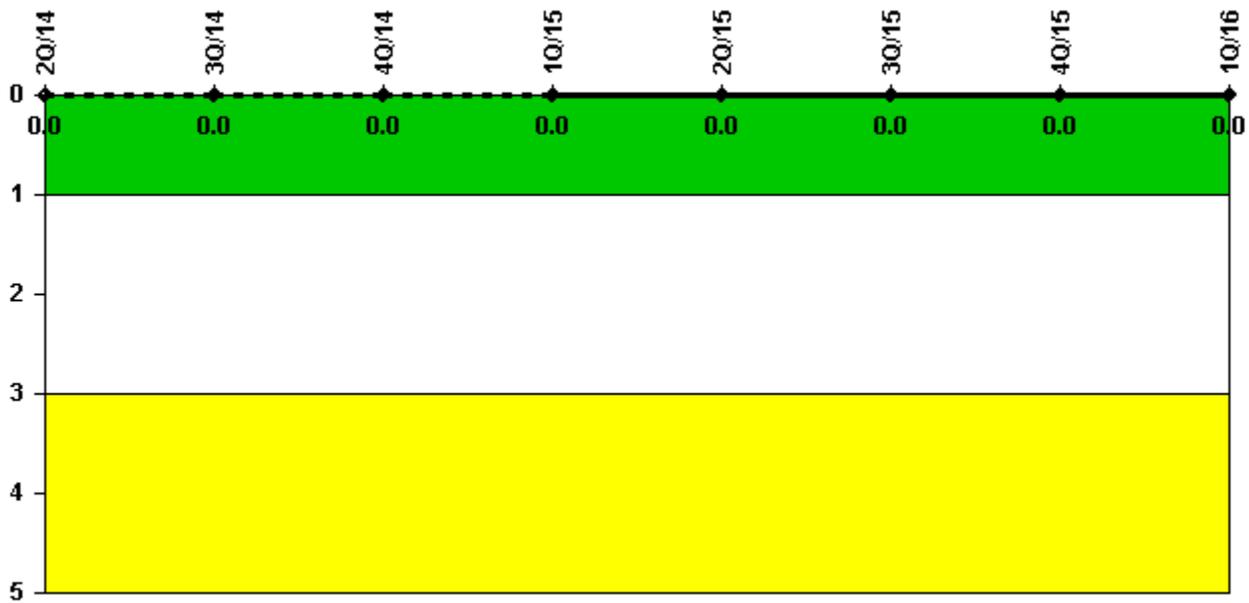
Thresholds: White > 2.0 Yellow > 5.0

#### Notes

Occupational Exposure Control Effectiveness	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
High radiation area occurrences	0	0	0	0	0	0	0	0
Very high radiation area occurrences	0	0	0	0	0	0	0	0
Unintended exposure occurrences	0	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Licensee Comments: none

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

#### Notes

RETS/ODCM Radiological Effluent	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16
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: April 23, 2016*