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## Diablo Canyon 1 – Quarterly Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

### 4Q/2017 Performance Indicators

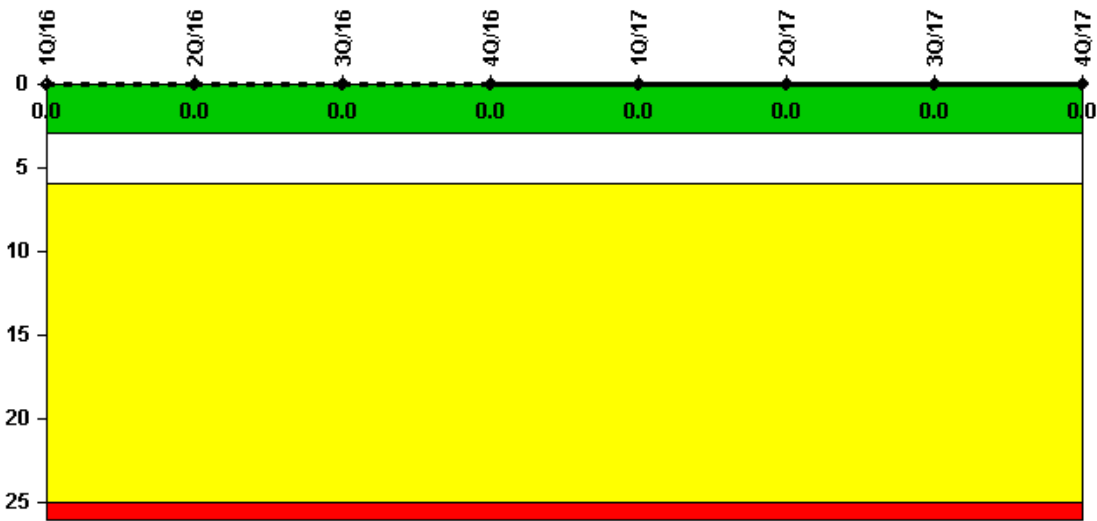
The solid trend line represents the current reporting period.

Licensee's General Comments: none

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- Unplanned Power Changes per 7000 Critical Hours (IE03)
- Unplanned Scrams with Complications (IE04)
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- Emergency AC Power Systems (MS06)
- High Pressure Injection Systems (MS07)
- Heat Removal Systems (MS08)
- Residual Heat Removal Systems (MS09)
- Cooling Water Systems (MS10)
- Reactor Coolant System Activity (BI01)
- Reactor Coolant System Leakage (BI02)
- Drill/Exercise Performance (EP01)
- Emergency Response Organization Drill Participation (EP02)
- Alert and Notification System Reliability (EP03)
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- Protected Area Equipment (PP01)

### Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

**Notes**

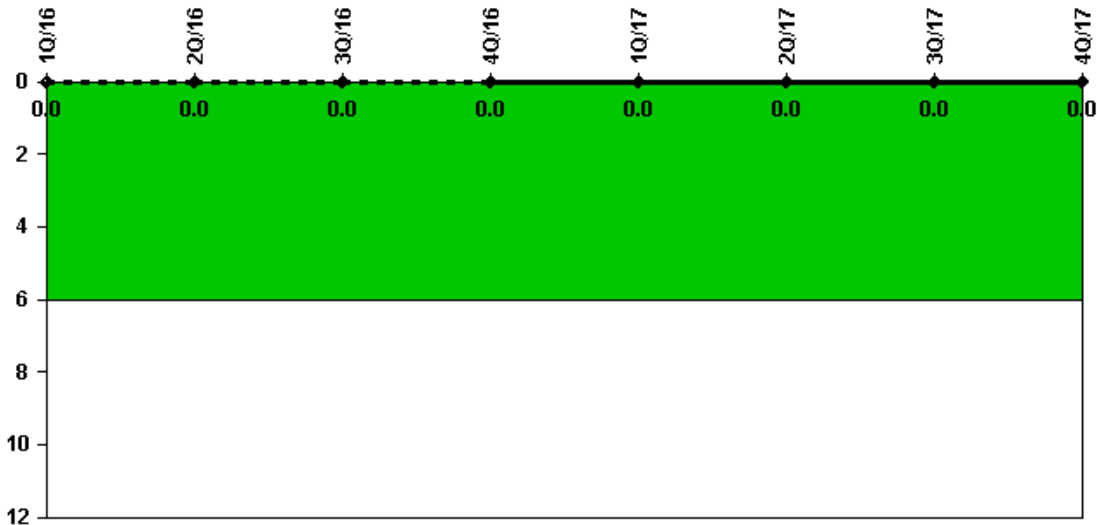
Unplanned Scrams per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2183.0	2184.0	2208.0	2209.0	2159.0	776.9	2208.0	2209.0

Indicator value	0	0	0	0	0	0	0	0
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Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

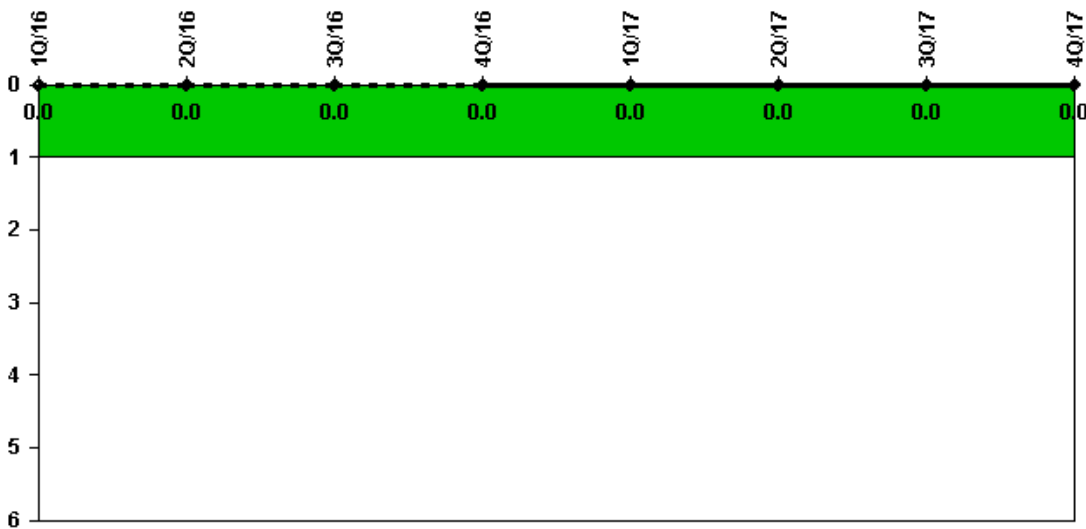
**Notes**

Unplanned Power Changes per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	2183.0	2184.0	2208.0	2209.0	2159.0	776.9	2208.0	2209.0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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Licensee Comments: none

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

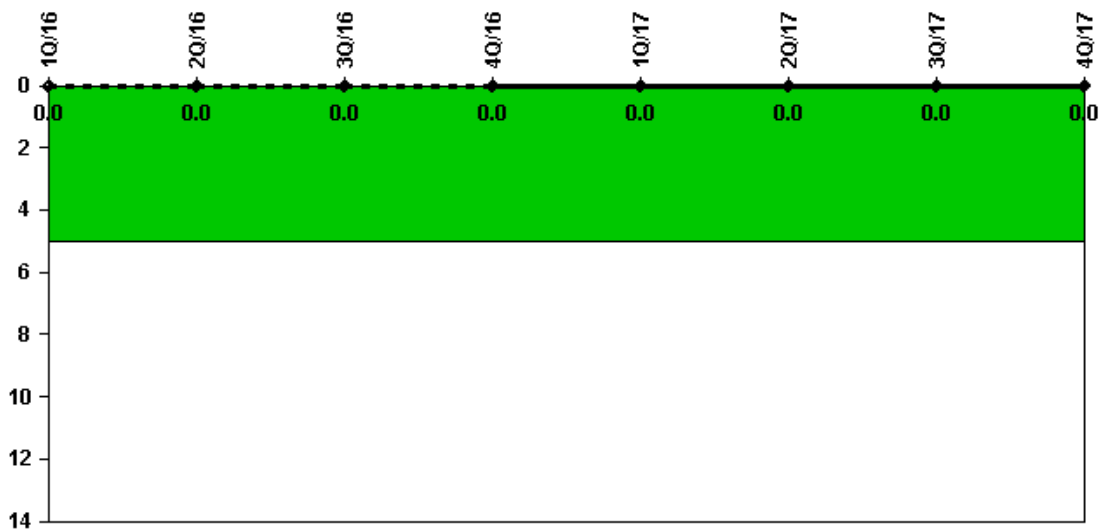
**Notes**

Unplanned Scrams with Complications	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Scrams with complications	0	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

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Licensee Comments: none

### Safety System Functional Failures (PWR)



Thresholds: White > 5.0

**Notes**

Safety System Functional Failures (PWR) 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

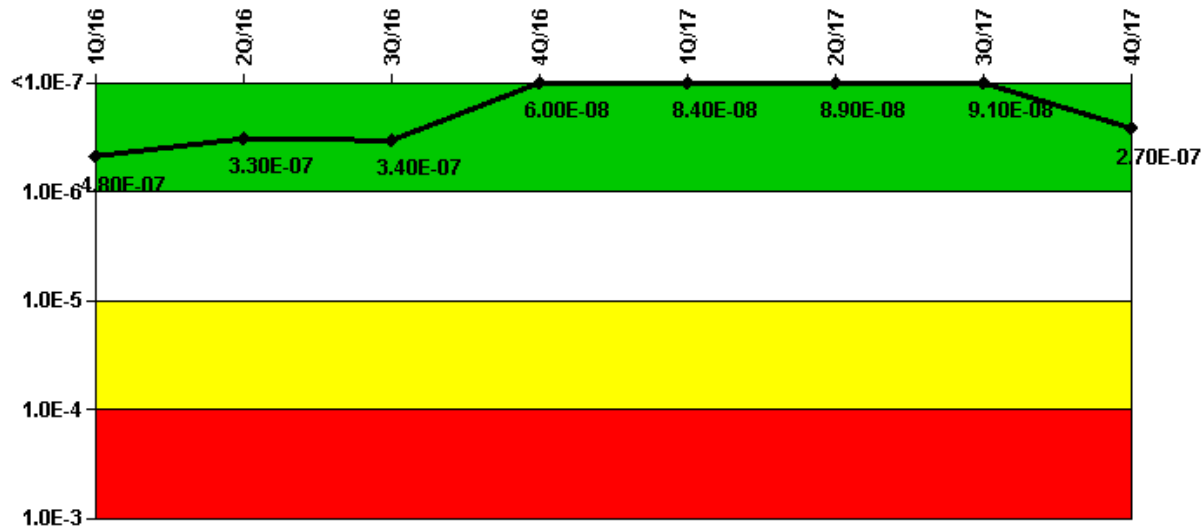
Safety System Functional Failures 0 0 0 0 0 0 0 0

Indicator value 0 0 0 0 0 0 0 0

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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**

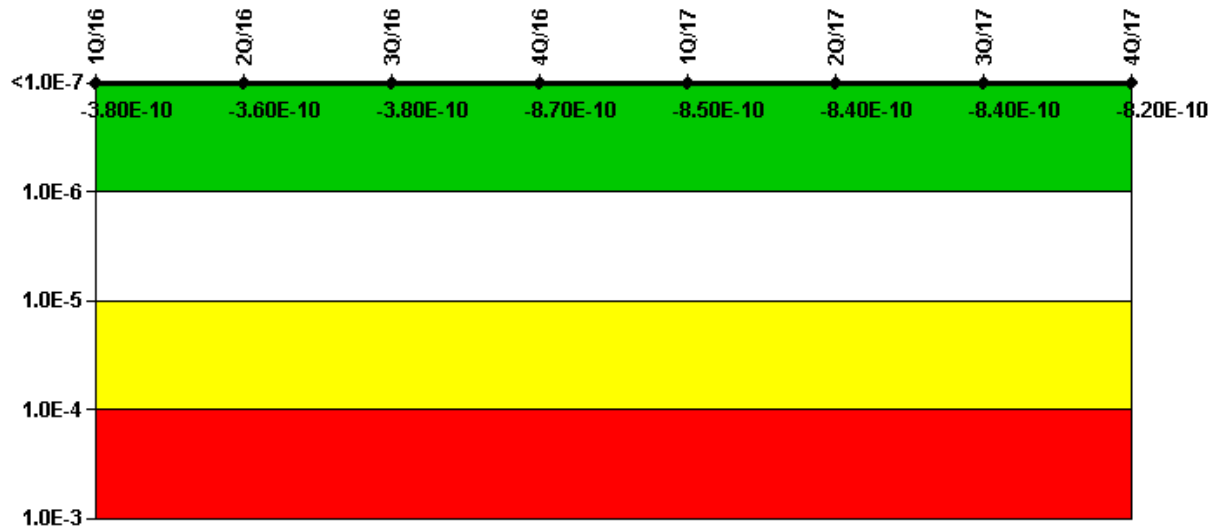
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	6.00E-08	4.10E-08	4.91E-08	3.34E-09	2.80E-08	3.27E-08	3.46E-08	4.00E-08
URI (ΔCDF)	4.22E-07	2.84E-07	2.91E-07	5.64E-08	5.64E-08	5.64E-08	5.64E-08	2.26E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>4.80E-07</b>	<b>3.30E-07</b>	<b>3.40E-07</b>	<b>6.00E-08</b>	<b>8.40E-08</b>	<b>8.90E-08</b>	<b>9.10E-08</b>	<b>2.70E-07</b>

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Licensee Comments:

4Q/16: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03A was approved on 9/30/2016. The Mitigating System Performance Index (MSPI) basis document revision 10 was approved on 10/6/2016 and contains the updated PRA parameters. The DC03A model revision is an update that incorporates the new Reactor Coolant Pump (RCP) shutdown seals and other minor system updates. As a result of this update, the Core Damage Frequency and Fussel-Vessely importance for all monitored trains and components were revised.

**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/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-1.19E-10	-1.01E-10	-1.21E-10	-1.13E-10	-8.93E-11	-8.15E-11	-8.15E-11	-6.46E-11
URI (ΔCDF)	-2.60E-10	-2.60E-10	-2.60E-10	-7.59E-10	-7.59E-10	-7.59E-10	-7.59E-10	-7.59E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO

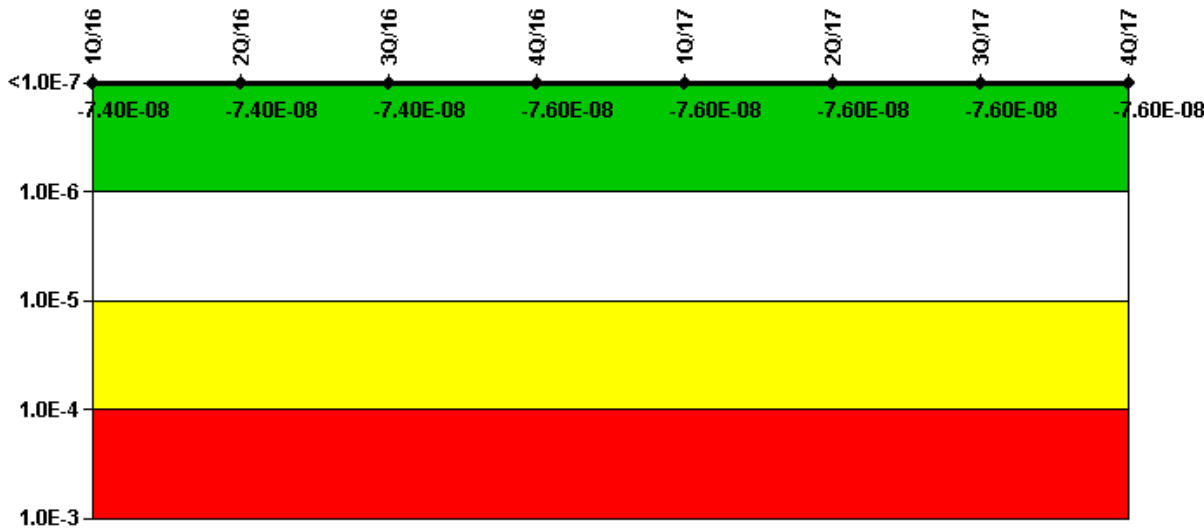
<b>Indicator value</b>	<b>-3.80E-10</b>	<b>-3.60E-10</b>	<b>-3.80E-10</b>	<b>-8.70E-10</b>	<b>-8.50E-10</b>	<b>-8.40E-10</b>	<b>-8.40E-10</b>	<b>-8.20E-10</b>
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**Licensee Comments:**

4Q/16: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03A was approved on 9/30/2016. The Mitigating System Performance Index (MSPI) basis document revision 10 was approved on 10/6/2016 and contains the updated PRA parameters. The DC03A model revision is an update that incorporates the new Reactor Coolant Pump (RCP) shutdown seals and other minor system updates. As a result of this update, the Core Damage Frequency and Fussel-Vessely importance 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**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-1.78E-08	-1.78E-08	-1.78E-08	-1.85E-08	-1.85E-08	-1.85E-08	-1.85E-08	-1.85E-08
URI (ΔCDF)	-5.62E-08	-5.62E-08	-5.62E-08	-5.79E-08	-5.79E-08	-5.79E-08	-5.79E-08	-5.79E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-7.40E-08</b>	<b>-7.40E-08</b>	<b>-7.40E-08</b>	<b>-7.60E-08</b>	<b>-7.60E-08</b>	<b>-7.60E-08</b>	<b>-7.60E-08</b>	<b>-7.60E-08</b>

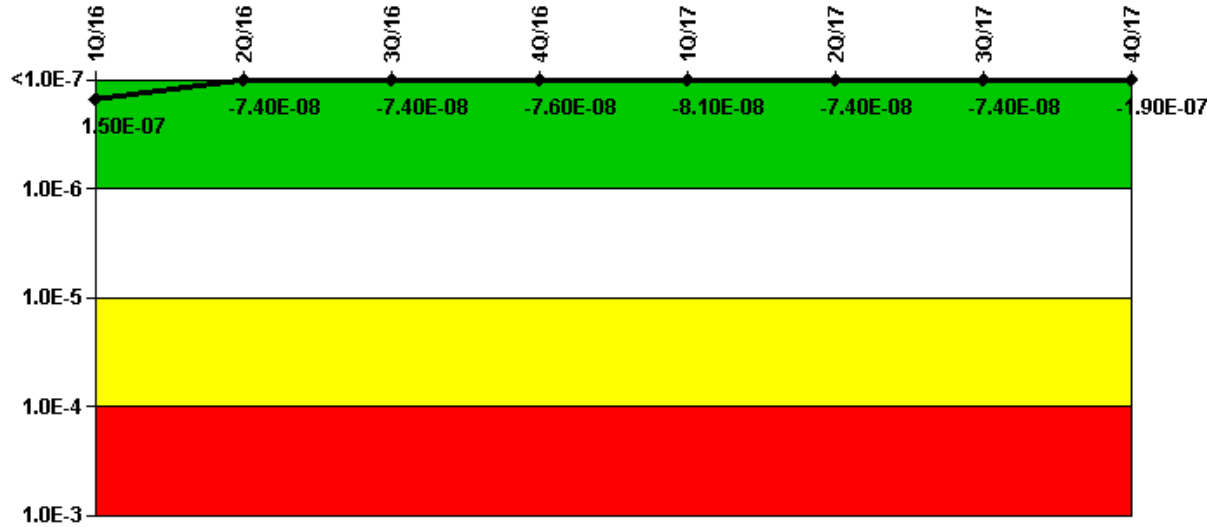
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**Licensee Comments:**

4Q/16: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03A was approved on 9/30/2016. The Mitigating System Performance Index (MSPI) basis document revision 10 was approved on 10/6/2016 and contains the updated PRA parameters. The DC03A model revision is an update that incorporates the new Reactor Coolant Pump (RCP) shutdown

seals and other minor system updates. As a result of this update, the Core Damage Frequency and Fussel-Vessely importance 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

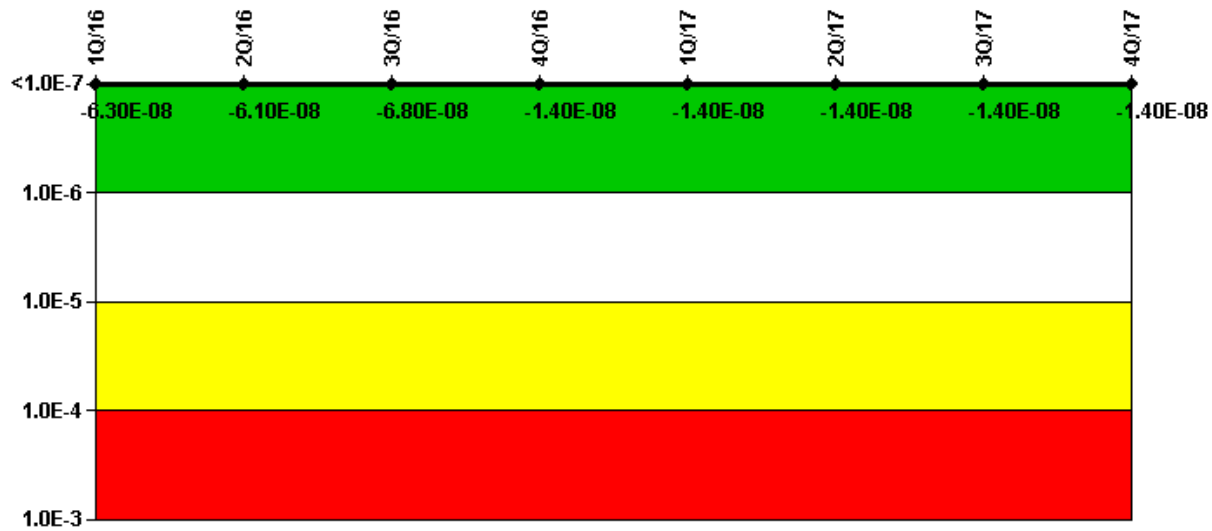
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI ( $\Delta$ CDF)	3.86E-07	1.63E-07	1.63E-07	1.01E-07	9.61E-08	1.03E-07	1.03E-07	-1.53E-08
URI ( $\Delta$ CDF)	-2.37E-07	-2.37E-07	-2.37E-07	-1.77E-07	-1.77E-07	-1.77E-07	-1.77E-07	-1.77E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>1.50E-07</b>	<b>-7.40E-08</b>	<b>-7.40E-08</b>	<b>-7.60E-08</b>	<b>-8.10E-08</b>	<b>-7.40E-08</b>	<b>-7.40E-08</b>	<b>-1.90E-07</b>

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#### Licensee Comments:

4Q/16: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03A was approved on 9/30/2016. The Mitigating System Performance Index (MSPI) basis document revision 10 was approved on 10/6/2016 and contains the updated PRA parameters. The DC03A model revision is an update that incorporates the new Reactor Coolant Pump (RCP) shutdown seals and other minor system updates. As a result of this update, the Core Damage Frequency and Fussel-Vessely importance 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**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-4.10E-08	-3.93E-08	-4.57E-08	-8.78E-09	-8.76E-09	-8.76E-09	-8.76E-09	-8.76E-09
URI (ΔCDF)	-2.20E-08	-2.20E-08	-2.20E-08	-4.90E-09	-4.90E-09	-4.90E-09	-4.90E-09	-4.90E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-6.30E-08</b>	<b>-6.10E-08</b>	<b>-6.80E-08</b>	<b>-1.40E-08</b>	<b>-1.40E-08</b>	<b>-1.40E-08</b>	<b>-1.40E-08</b>	<b>-1.40E-08</b>

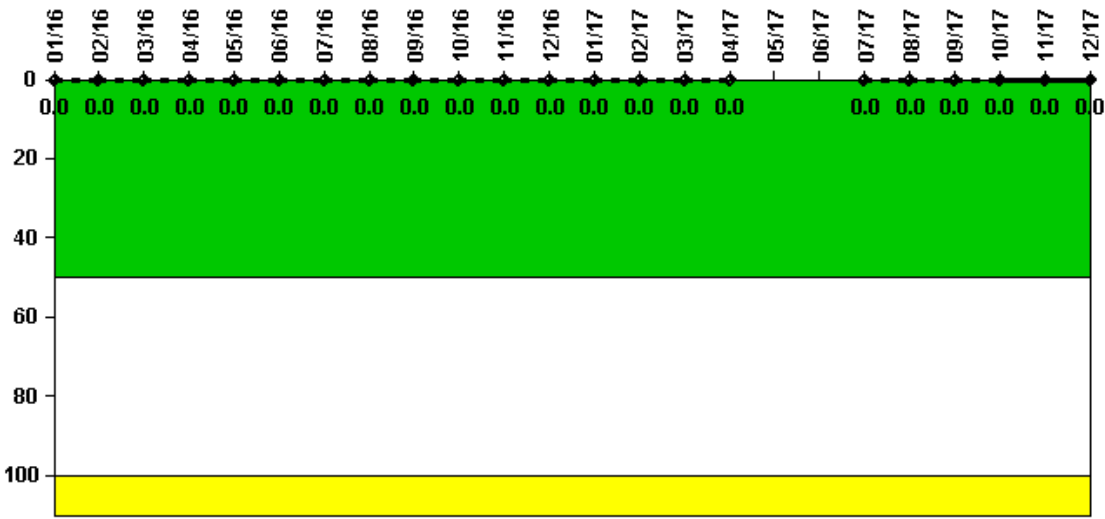
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Licensee Comments:

4Q/16: Changed PRA Parameter(s). Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC03A was approved on 9/30/2016. The Mitigating System Performance Index (MSPI) basis document revision 10 was approved on 10/6/2016 and contains the updated PRA parameters. The DC03A model revision is an update that incorporates the new Reactor Coolant Pump (RCP) shutdown seals and other minor system updates. As a result of this update, the Core Damage Frequency and Fussel-Vessely importance for all monitored trains and components were revised.



### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

**Notes**

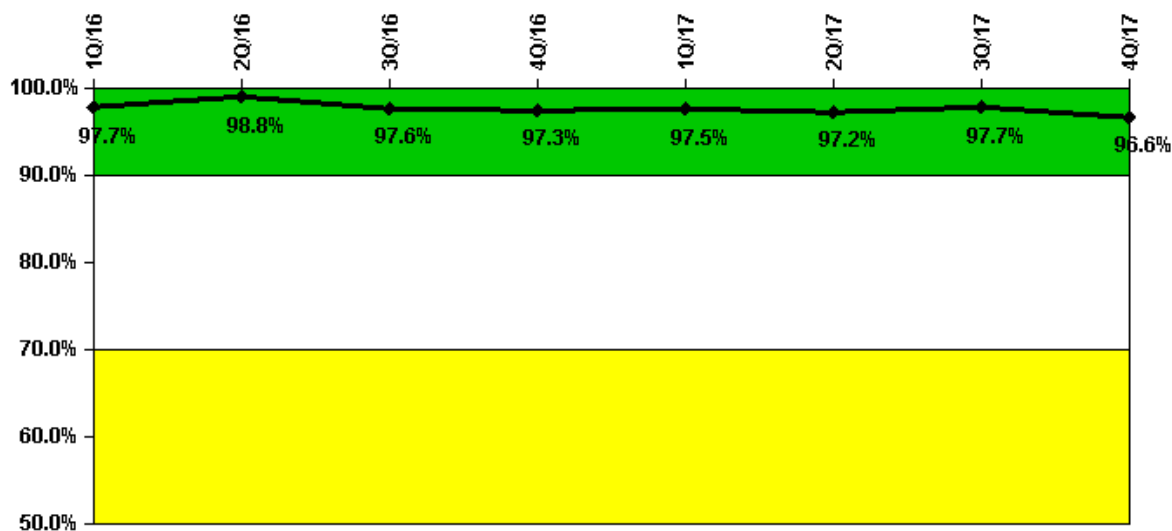
Reactor Coolant System Activity	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16
Maximum activity	0.000044	0.000050	0.000046	0.000062	0.000053	0.000054	0.000057	0.000055	0.000067	0.000050	0.000047	0.000053
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0
Reactor Coolant System Activity	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17
Maximum activity	0.000054	0.000053	0.000056	0.000075	N/A	N/A	0.000044	0.000050	0.000051	0.000058	0.000059	0.000063
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	N/A	0	0	0	0	0	0

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Licensee Comments: none



### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

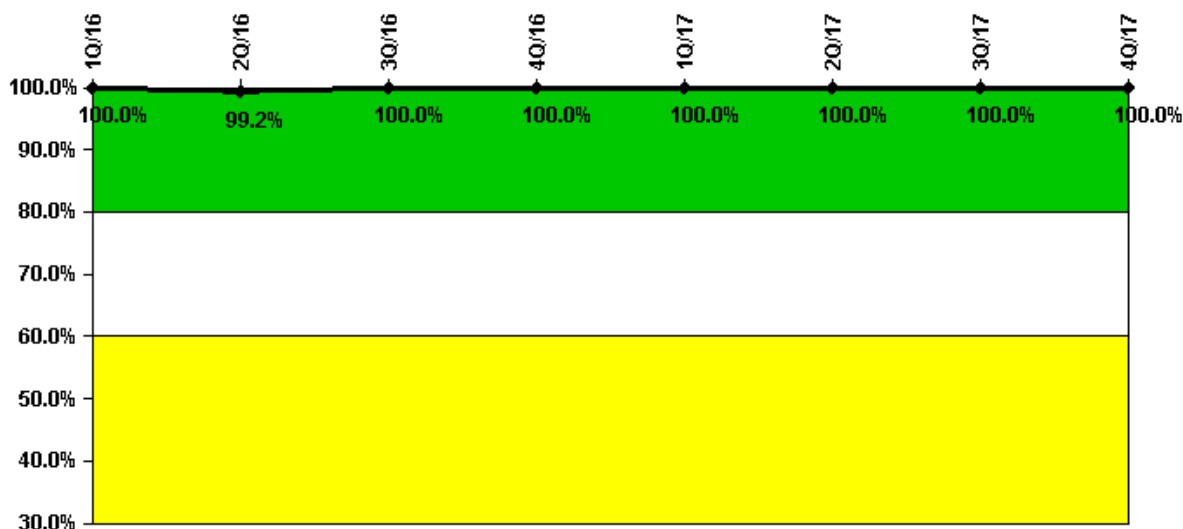
Drill/Exercise Performance	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful opportunities	37.0	48.0	33.0	37.0	44.0	16.0	39.0	34.0
Total opportunities	38.0	48.0	36.0	38.0	44.0	17.0	39.0	38.0

Indicator value                    97.7% 98.8% 97.6% 97.3% 97.5% 97.2% 97.7% 96.6%

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Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

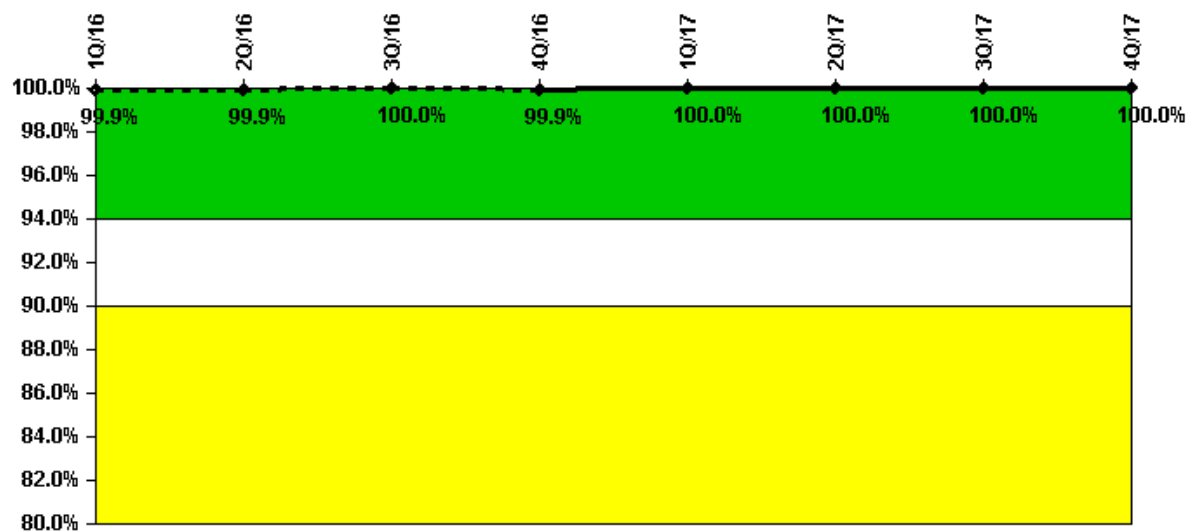
ERO Drill Participation	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Participating Key personnel	121.0	122.0	127.0	124.0	132.0	131.0	129.0	128.0
Total Key personnel	121.0	123.0	127.0	124.0	132.0	131.0	129.0	128.0

**Indicator value**                    **100.0% 99.2% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%**

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Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

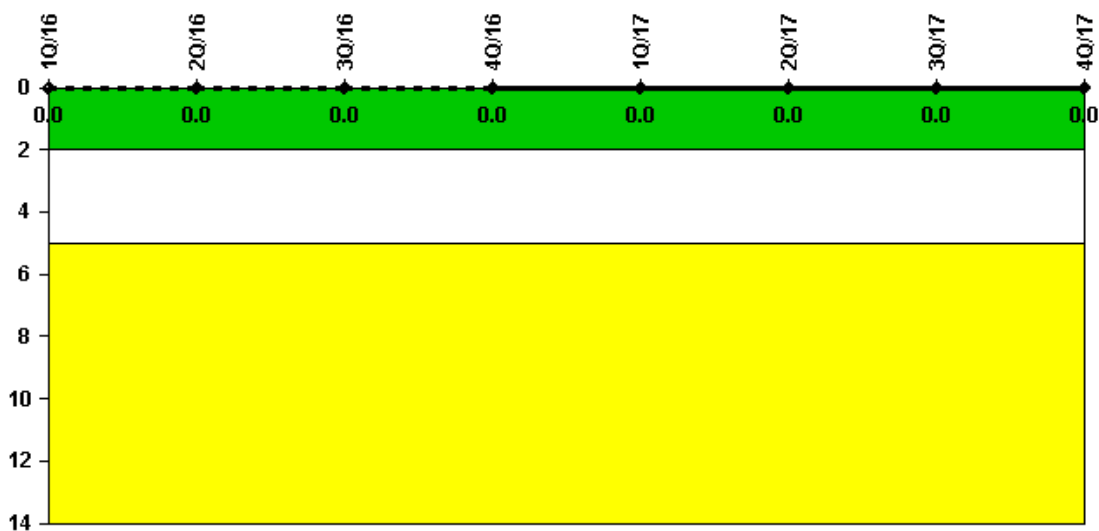
Alert & Notification System	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful siren-tests	916	1047	1179	1047	917	1048	1179	1048
Total sirens-tests	917	1048	1179	1048	917	1048	1179	1048

**Indicator value**                    **99.9%** **99.9%** **100.0%** **99.9%** **100.0%** **100.0%** **100.0%** **100.0%**

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Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

**Notes**

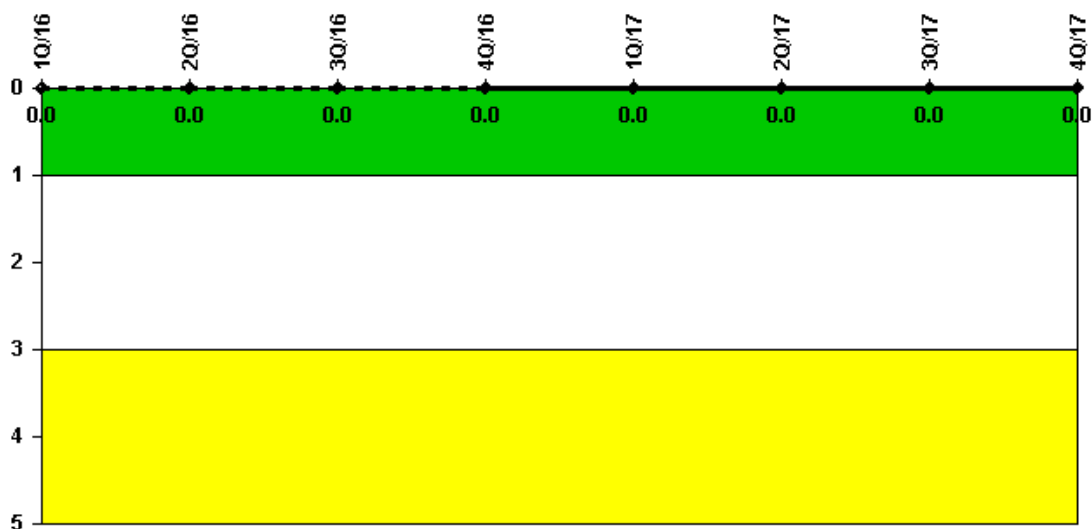
**Occupational Exposure Control Effectiveness** 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

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>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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Licensee Comments: none

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

**Notes**

**RETS/ODCM Radiological Effluent** 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

RETS/ODCM occurrences                    0    0    0    0    0    0    0    0

**Indicator value**                            0    0    0    0    0    0    0    0

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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.

Current data as of: February 1, 2018

Page Last Reviewed/Updated Monday, November 06, 2017