



Home > Nuclear Reactors > Operating Reactors > Reactor Oversight Process > Plant Summaries> Calvert Cliffs 2 > Quarterly Performance Indicators

## Calvert Cliffs 2 – Quarterly Performance Indicators

### 3Q/2017 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: The Calvert Cliffs PRA model of record was updated in Dec 2015 as model revision CA015A. The MSPI Bases document was also revised in December 2015 (CA-MSPI-001 Rev 5). Revised PRA coefficients resulting from this update became effective in the 1st quarter of 2016.

On this page:

- Unplanned Scrams (IE01)
- Unplanned Power Changes per 7000 Critical Hours (IE03)
- Unplanned Scrams with Complications (IE04)
- Safety System Functional Failures (MS05)
- 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)
- Occupational Exposure Control Effectiveness (OR01)
- RETS/OCDM Radiological Effluent Occurrence (PR01)
- Protected Area Equipment (PP01)



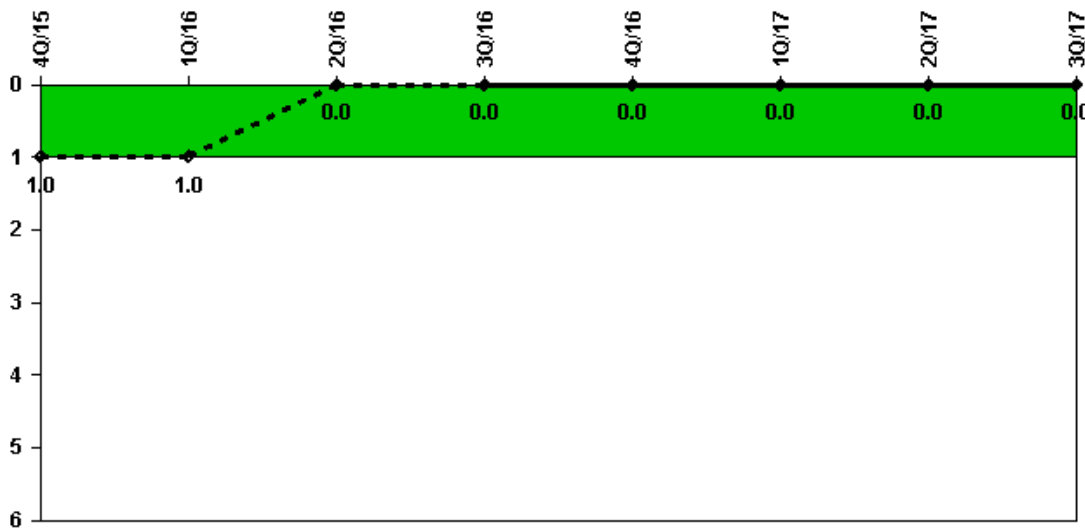
**Notes**

Unplanned Power Changes per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned power changes	0	0	0	0	0	0	0	1.0
Critical hours	2095.1	2183.0	2184.0	2208.0	2183.8	1673.2	2184.0	2208.0
<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>0.8</b>

▲ TOP

Licensee Comments: none

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

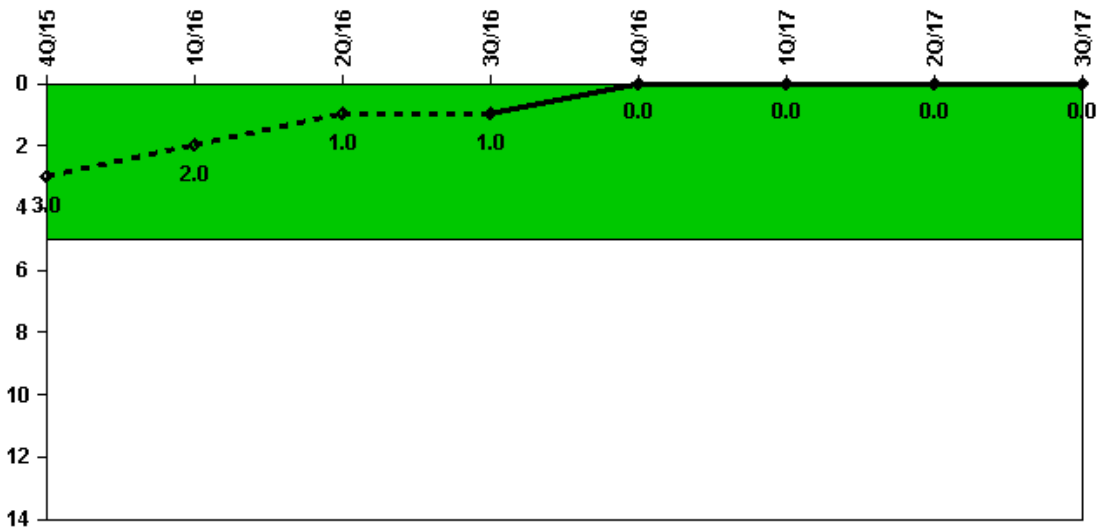
**Notes**

Unplanned Scrams with Complications	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Scrams with complications	0	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>1.0</b>	<b>1.0</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>

▲ TOP

Licensee Comments: none

### Safety System Functional Failures (PWR)



Thresholds: White > 5.0

#### Notes

Safety System Functional Failures (PWR) 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

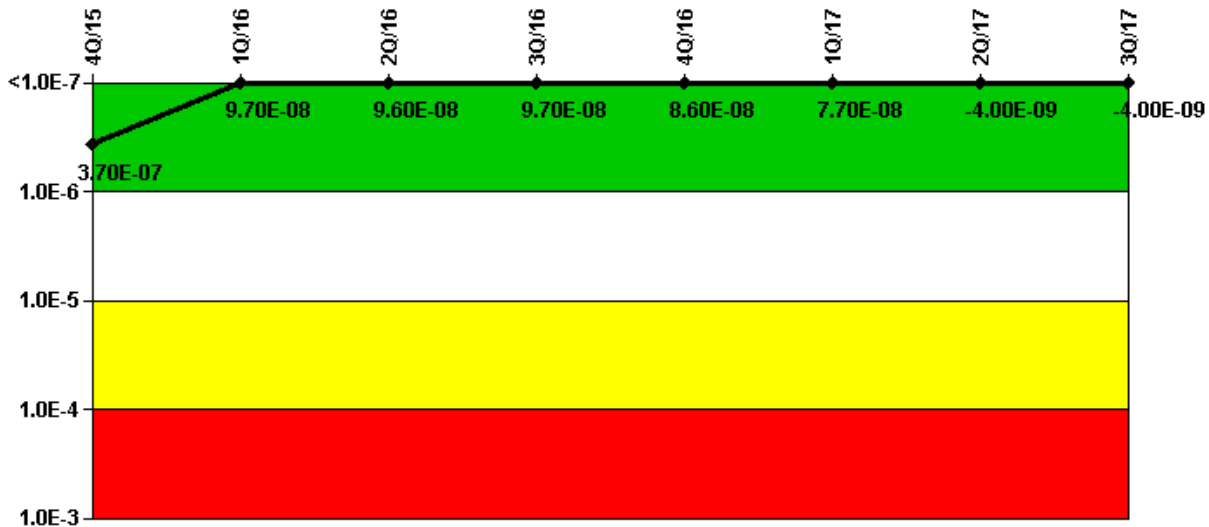
Safety System Functional Failures 1 0 0 0 0 0 0 0

Indicator value 3 2 1 1 0 0 0 0

▲ TOP

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**

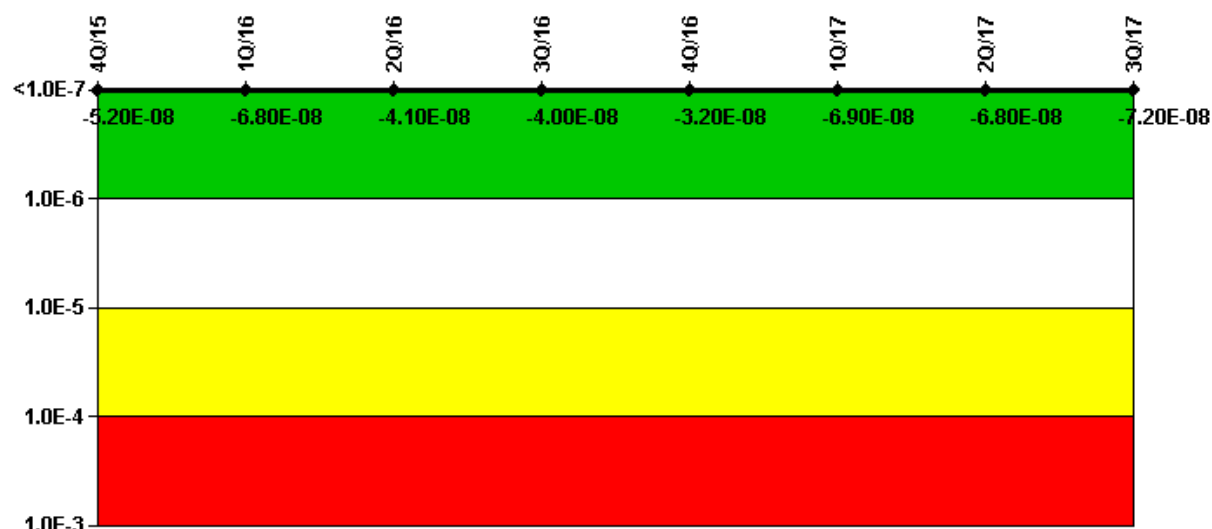
**Mitigating Systems Performance Index, Emergency AC Power System**

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	5.93E-08	8.00E-09	5.97E-09	5.64E-09	-4.09E-09	-6.64E-09	-1.62E-08	-1.62E-08
URI (ΔCDF)	3.14E-07	8.91E-08	8.98E-08	9.15E-08	8.99E-08	8.34E-08	1.22E-08	1.22E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>3.70E-07</b>	<b>9.70E-08</b>	<b>9.60E-08</b>	<b>9.70E-08</b>	<b>8.60E-08</b>	<b>7.70E-08</b>	<b>-4.00E-09</b>	<b>-4.00E-09</b>

▲ TOP

Licensee Comments: none

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



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

**Notes**

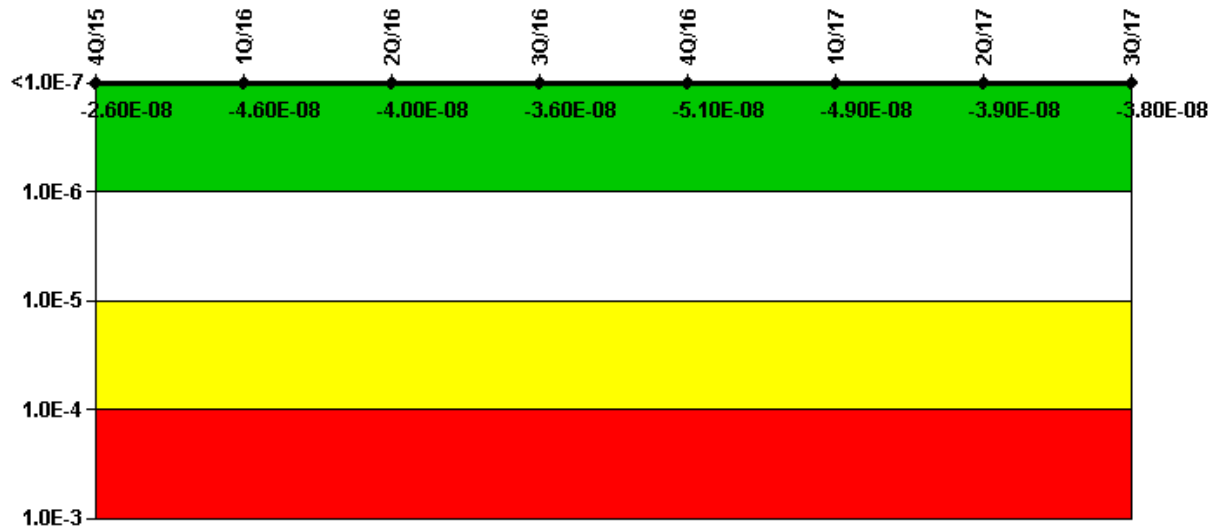
**Mitigating Systems Performance Index, High Pressure Injection System**

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	-6.18E-09	-2.67E-08	1.55E-09	2.16E-09	9.05E-09	-2.41E-08	-2.42E-08	-2.67E-08
URI (ΔCDF)	-4.62E-08	-4.13E-08	-4.27E-08	-4.20E-08	-4.13E-08	-4.45E-08	-4.38E-08	-4.50E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-5.20E-08</b>	<b>-6.80E-08</b>	<b>-4.10E-08</b>	<b>-4.00E-08</b>	<b>-3.20E-08</b>	<b>-6.90E-08</b>	<b>-6.80E-08</b>	<b>-7.20E-08</b>

▲ TOP

Licensee Comments: none

### Mitigating Systems Performance Index, Heat Removal System



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

#### Notes

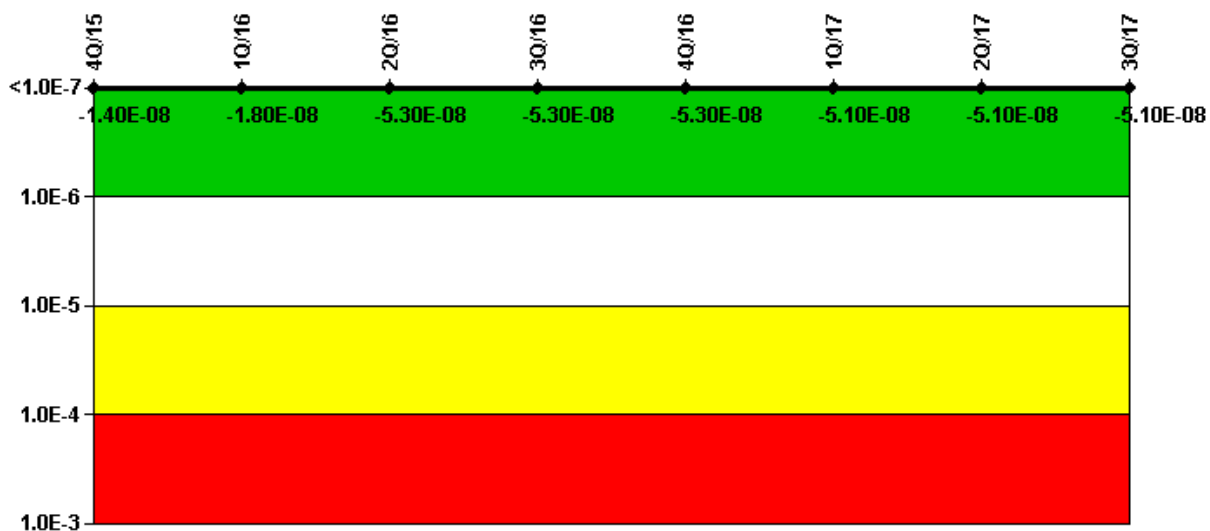
#### Mitigating Systems Performance Index, Heat Removal System

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI ( $\Delta$ CDF)	-1.02E-09	-8.56E-09	-1.89E-09	2.72E-09	-1.20E-08	-9.91E-09	2.12E-09	3.00E-09
URI ( $\Delta$ CDF)	-2.51E-08	-3.71E-08	-3.78E-08	-3.88E-08	-3.86E-08	-3.95E-08	-4.09E-08	-4.09E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-2.60E-08</b>	<b>-4.60E-08</b>	<b>-4.00E-08</b>	<b>-3.60E-08</b>	<b>-5.10E-08</b>	<b>-4.90E-08</b>	<b>-3.90E-08</b>	<b>-3.80E-08</b>

TOP

Licensee Comments: none

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



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

**Notes**

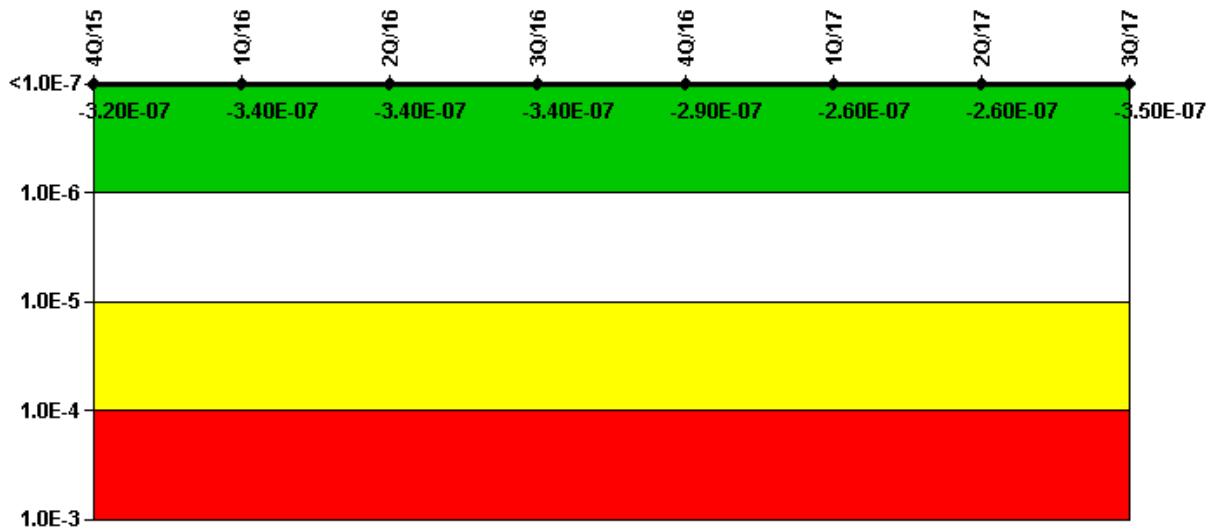
**Mitigating Systems Performance Index, Residual Heat Removal System**

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	-8.96E-09	-1.31E-08	-4.82E-08	-4.82E-08	-4.82E-08	-4.54E-08	-4.54E-08	-4.54E-08
URI (ΔCDF)	-4.65E-09	-4.78E-09	-5.03E-09	-4.92E-09	-4.92E-09	-5.56E-09	-5.76E-09	-5.95E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.40E-08</b>	<b>-1.80E-08</b>	<b>-5.30E-08</b>	<b>-5.30E-08</b>	<b>-5.30E-08</b>	<b>-5.10E-08</b>	<b>-5.10E-08</b>	<b>-5.10E-08</b>

▲ TOP

Licensee Comments: none

### 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**

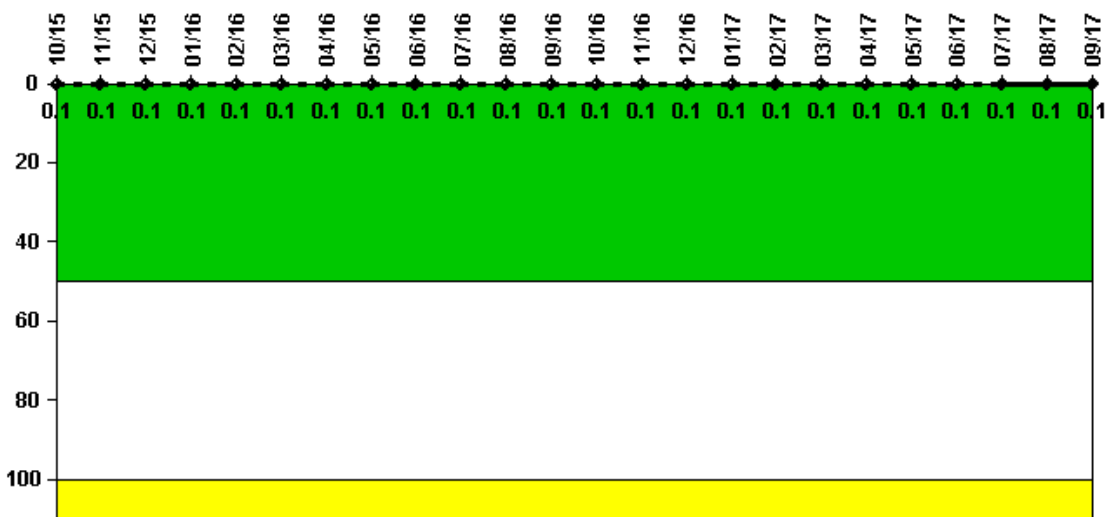
	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	-1.00E-07	-8.91E-08	-8.97E-08	-9.03E-08	-4.53E-08	-1.24E-08	-1.24E-08	-1.02E-07
URI (ΔCDF)	-2.23E-07	-2.50E-07	-2.50E-07	-2.50E-07	-2.50E-07	-2.49E-07	-2.49E-07	-2.49E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-3.20E-07</b>	<b>-3.40E-07</b>	<b>-3.40E-07</b>	<b>-3.40E-07</b>	<b>-2.90E-07</b>	<b>-2.60E-07</b>	<b>-2.60E-07</b>	<b>-3.50E-07</b>

▲ TOP

Licensee Comments: none



### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

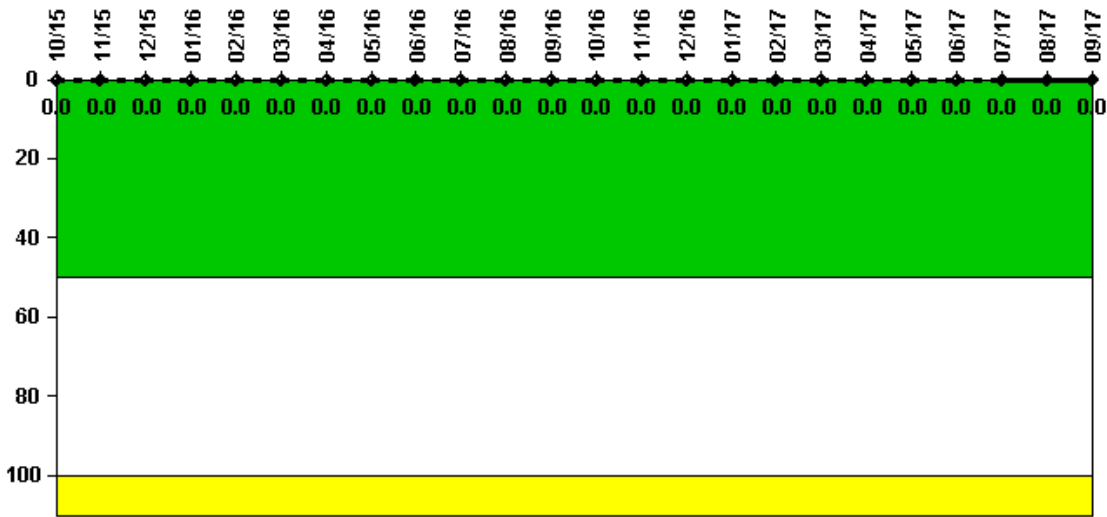
**Notes**

Reactor Coolant System Activity	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum activity	0.000394	0.000406	0.000431	0.000415	0.000444	0.000417	0.000303	0.000322	0.000484	0.000531	0.000540	0.000535
Technical specification limit	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
<b>Indicator value</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
Reactor Coolant System Activity	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum activity	0.000598	0.000592	0.000369	0.000694	0.000349	0.000276	0.000283	0.000316	0.000313	0.000328	0.000345	0.000367
Technical specification limit	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
<b>Indicator value</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>

▲ TOP

Licensee Comments: none

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

#### Notes

Reactor Coolant System Leakage	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum leakage	0	0	0	0	0	0	0	0	0	0	0	0
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 0 0 0 0 0 0 0 0 0 0 0 0

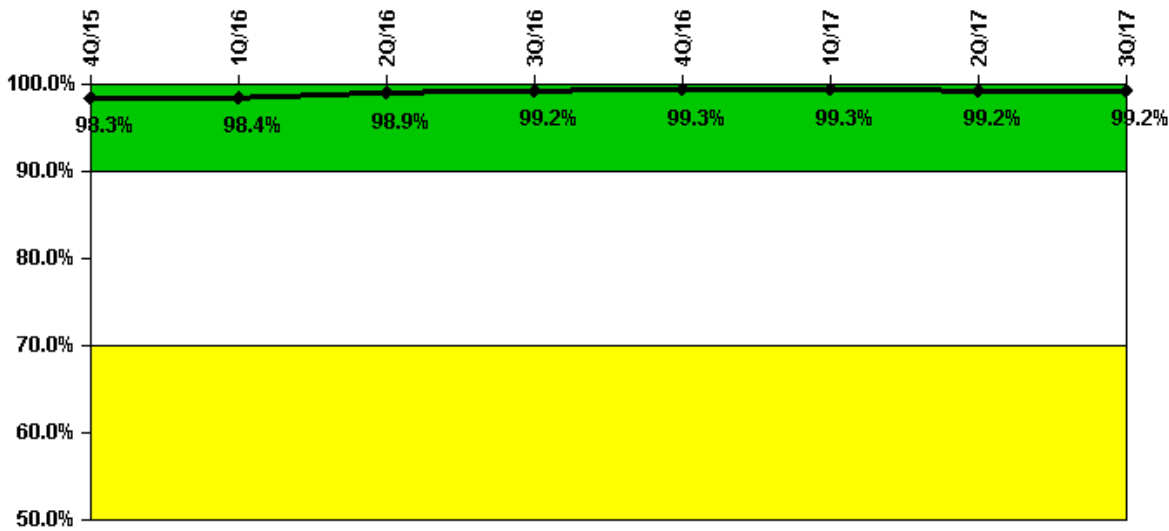
Reactor Coolant System Leakage	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum leakage	0	0	0	0	0	0	0	0	0	0	0	0
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

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

▲ TOP

Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

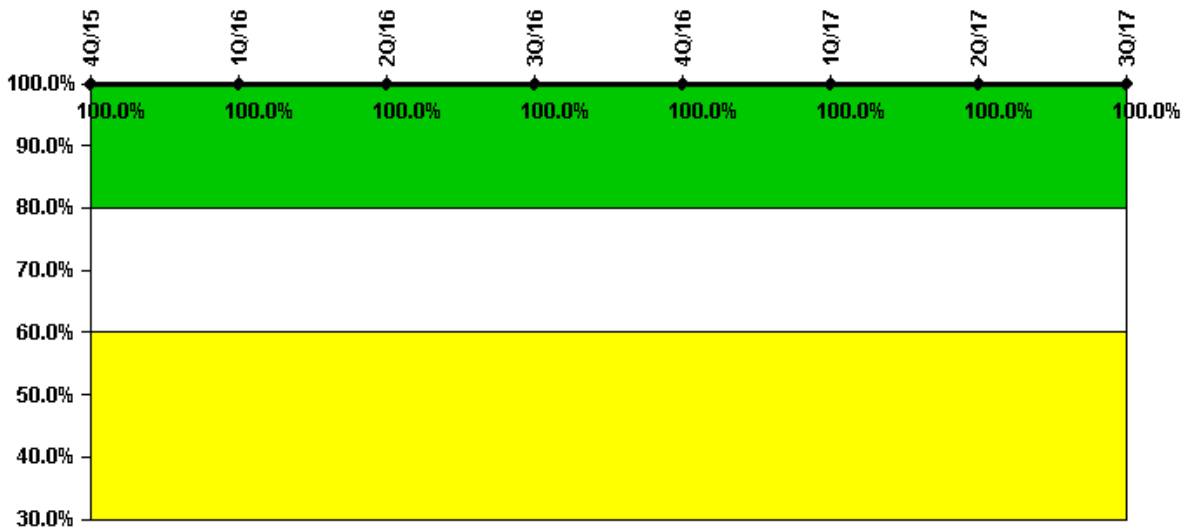
Drill/Exercise Performance	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful opportunities	60.0	42.0	30.0	74.0	71.0	8.0	45.0	63.0
Total opportunities	60.0	42.0	30.0	74.0	72.0	8.0	46.0	64.0

**Indicator value**                    **98.3% 98.4% 98.9% 99.2% 99.3% 99.3% 99.2% 99.2%**

▲ TOP

Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

**Notes**

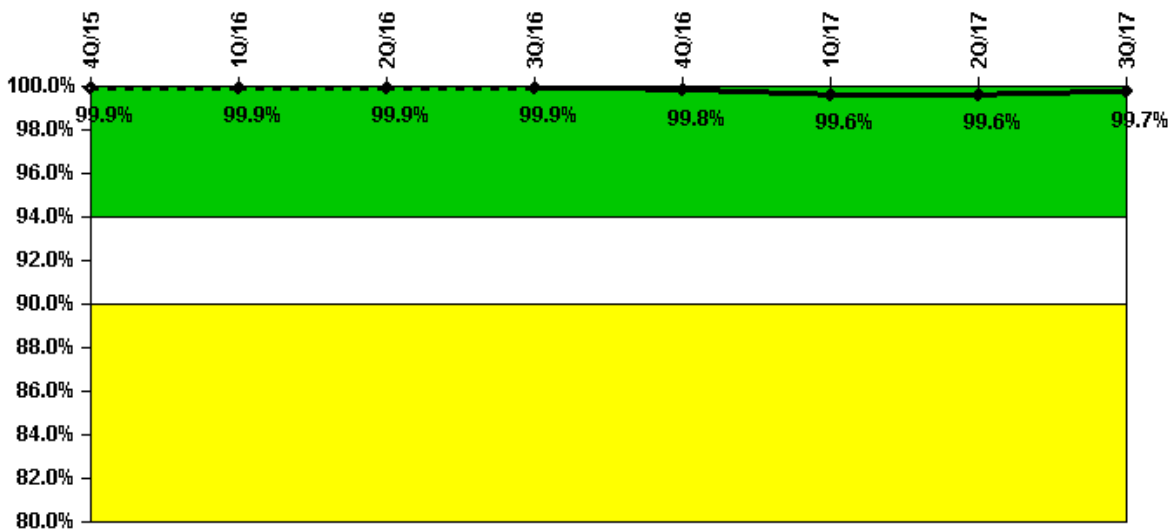
ERO Drill Participation	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Participating Key personnel	46.0	52.0	55.0	51.0	52.0	48.0	50.0	49.0
Total Key personnel	46.0	52.0	55.0	51.0	52.0	48.0	50.0	49.0

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

▲ TOP

Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

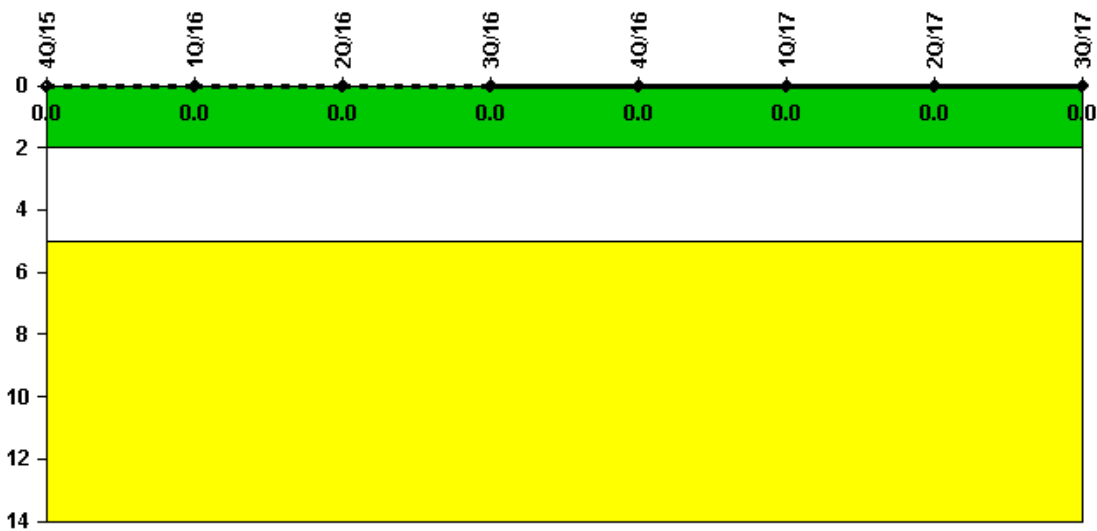
Alert & Notification System	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful siren-tests	948	949	948	946	945	943	947	949
Total sirens-tests	949	949	949	949	949	949	949	949

Indicator value                    99.9% 99.9% 99.9% 99.9% 99.8% 99.6% 99.6% 99.7%

▲ TOP

Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

**Notes**

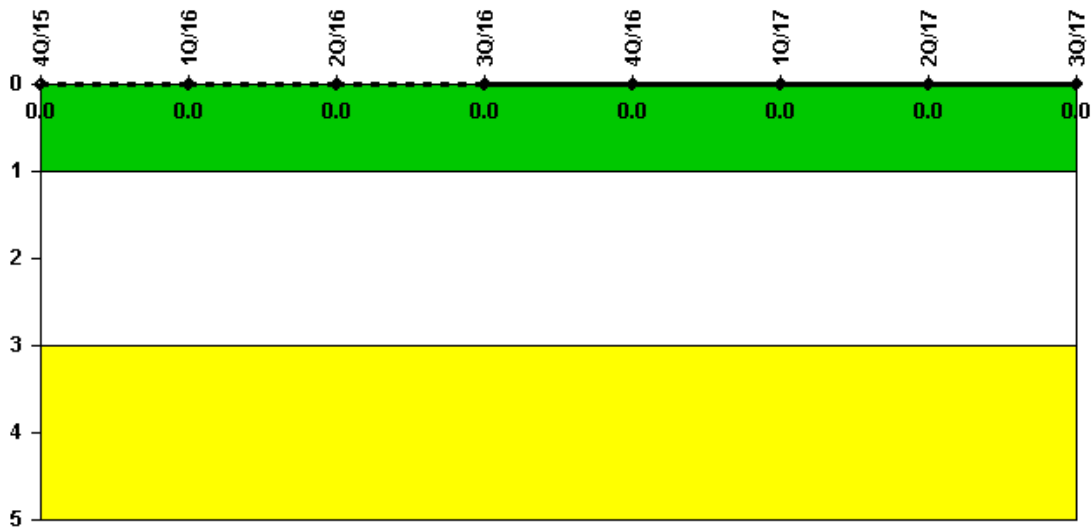
**Occupational Exposure Control Effectiveness** 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

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>

▲ TOP

Licensee Comments: none

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

**Notes**

**RETS/ODCM Radiological Effluent** 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

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

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

[TOP](#)

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: October 31, 2017*

*Page Last Reviewed/Updated Monday, November 06, 2017*