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## **Surry 2 – Quarterly Performance Indicators**

### **1Q/2017 Performance Indicators**

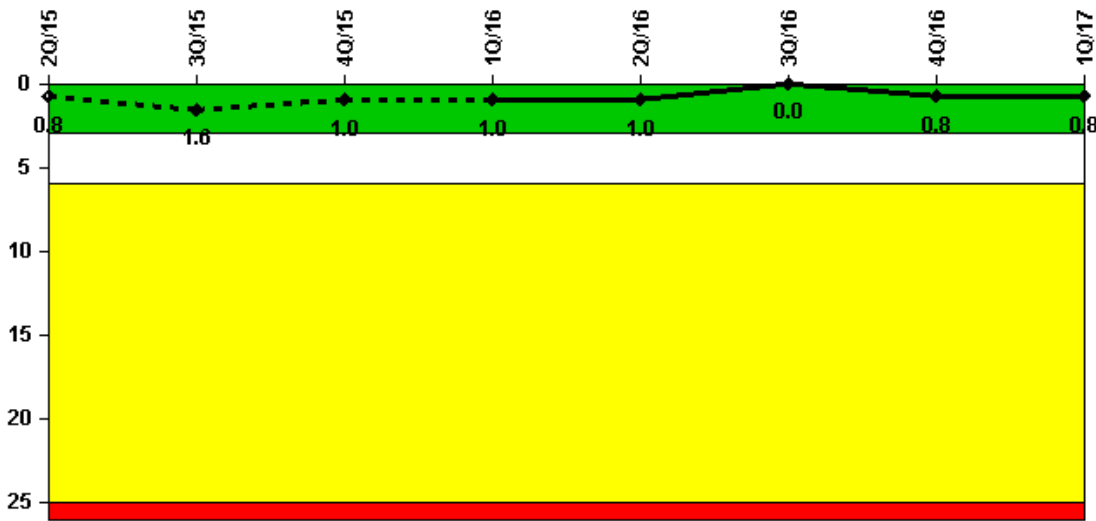
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

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- Unplanned Power Changes per 7000 Critical Hours (IE03)
- Unplanned Scrams with Complications (IE04)
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- High Pressure Injection Systems (MS07)
- Heat Removal Systems (MS08)
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- Cooling Water Systems (MS10)
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- Occupational Exposure Control Effectiveness (OR01)
- RETS/OCDM Radiological Effluent Occurrence (PR01)
- Protected Area Equipment (PP01)

### Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

**Notes**

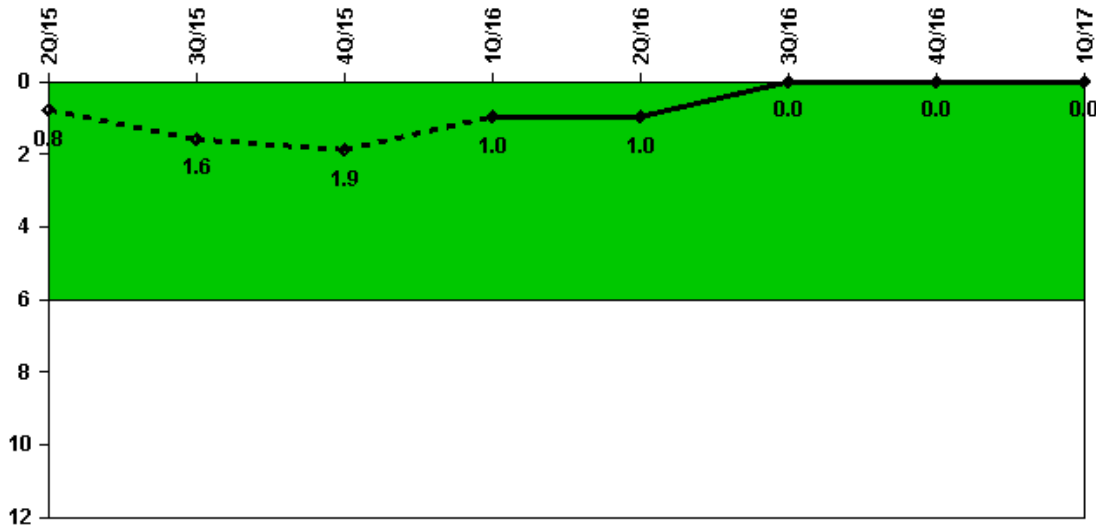
Unplanned Scrams per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned scrams	0	1.0	0	0	0	0	1.0	0
Critical hours	2184.0	1991.7	943.8	2183.0	2184.0	2208.0	2118.7	2159.0

Indicator value	0.8	1.6	1.0	1.0	1.0	0	0.8	0.8
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Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

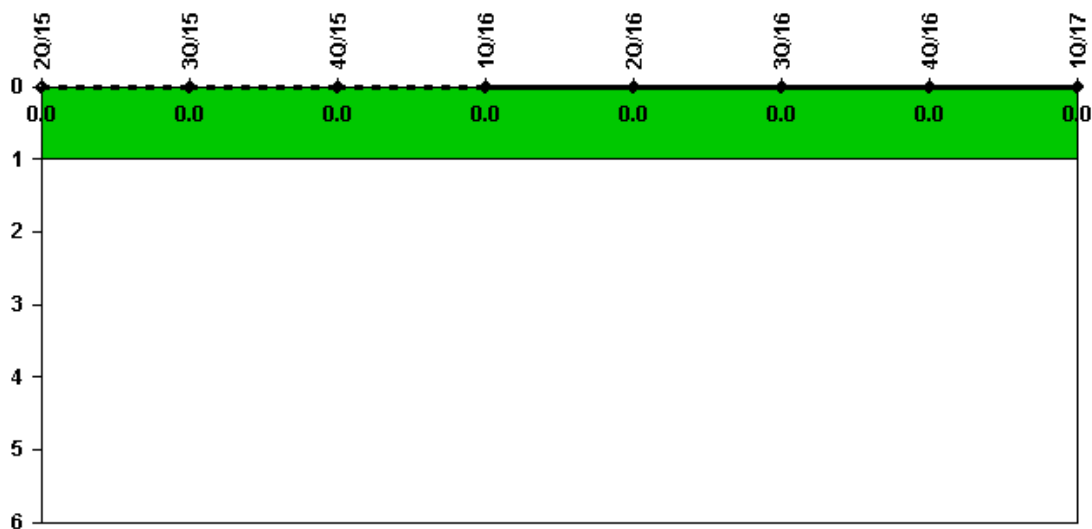
**Notes**

Unplanned Power Changes per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned power changes	0	1.0	0	0	0	0	0	0
Critical hours	2184.0	1991.7	943.8	2183.0	2184.0	2208.0	2118.7	2159.0
<b>Indicator value</b>	<b>0.8</b>	<b>1.6</b>	<b>1.9</b>	<b>1.0</b>	<b>1.0</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

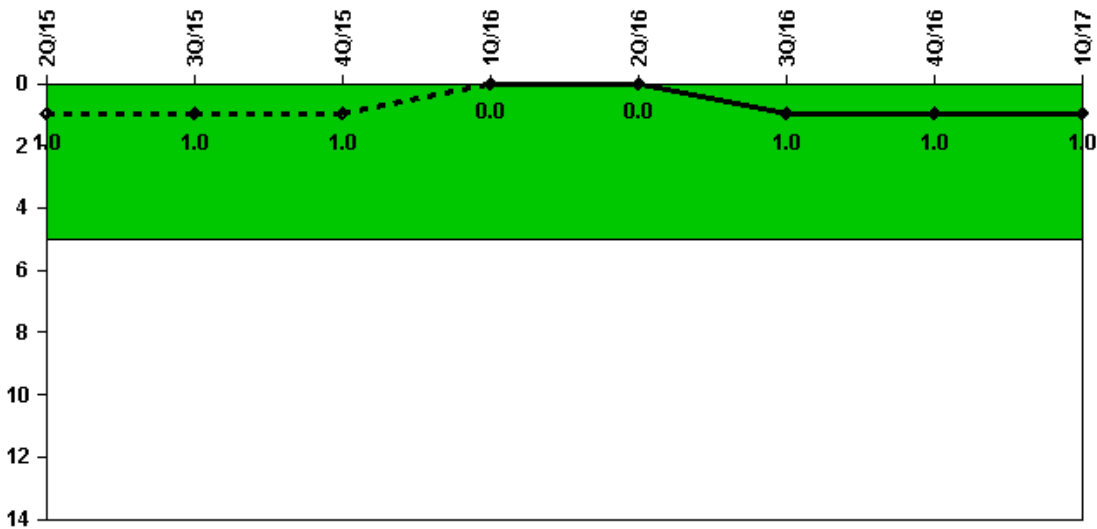
**Notes**

Unplanned Scrams with Complications	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/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) 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17

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

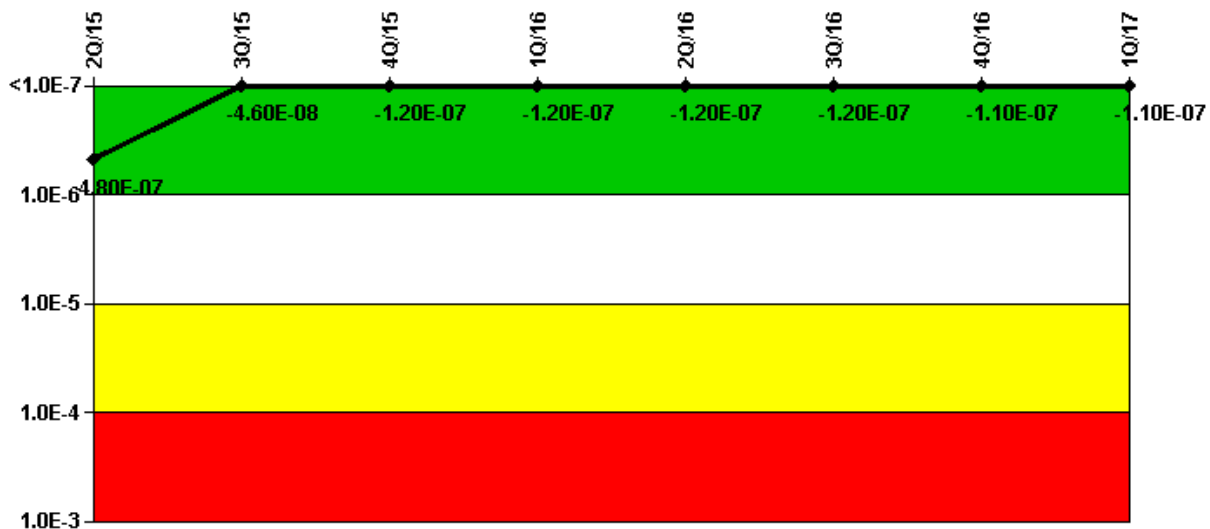
Indicator value 1 1 1 0 0 1 1 1

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Licensee Comments:

2Q/15: An assessment revealed a SSFF for March 2015 (see LER 50-280, 50-281/2015-001-00). Historical data was corrected with no change in color.

### 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**

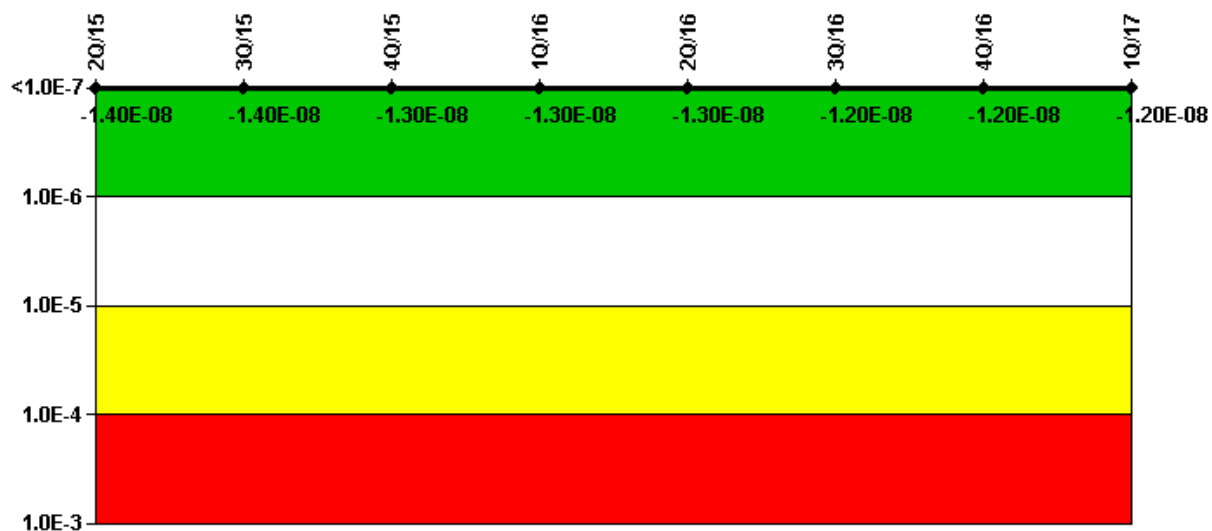
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-1.06E-09	-1.33E-08	-1.61E-08	-1.61E-08	-1.58E-08	-1.58E-08	-1.25E-08	-1.25E-08
URI (ΔCDF)	4.83E-07	-3.22E-08	-1.02E-07	-1.03E-07	-1.03E-07	-1.03E-07	-1.02E-07	-1.02E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>4.80E-07</b>	<b>-4.60E-08</b>	<b>-1.20E-07</b>	<b>-1.20E-07</b>	<b>-1.20E-07</b>	<b>-1.20E-07</b>	<b>-1.10E-07</b>	<b>-1.10E-07</b>

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Licensee Comments:

2Q/15: Risk Cap Invoked.

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



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

**Notes**

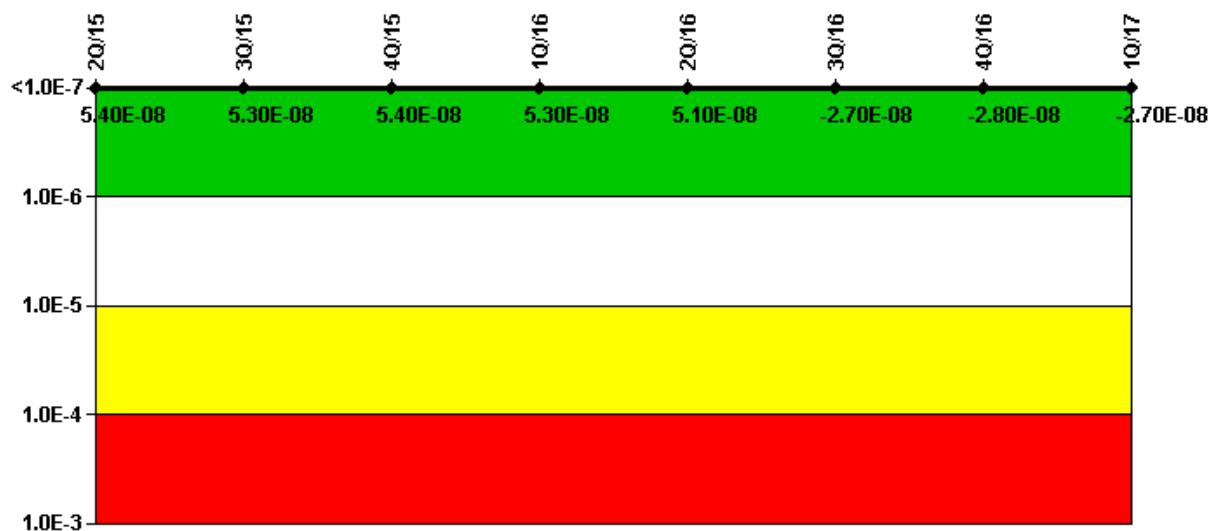
**Mitigating Systems Performance Index, High Pressure Injection System**

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-6.29E-10	-7.17E-10	1.59E-10	-3.84E-11	-5.44E-11	1.06E-10	1.10E-10	1.07E-10
URI (ΔCDF)	-1.36E-08	-1.36E-08	-1.34E-08	-1.33E-08	-1.31E-08	-1.26E-08	-1.25E-08	-1.21E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.40E-08</b>	<b>-1.40E-08</b>	<b>-1.30E-08</b>	<b>-1.30E-08</b>	<b>-1.30E-08</b>	<b>-1.20E-08</b>	<b>-1.20E-08</b>	<b>-1.20E-08</b>

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Licensee Comments: none

### Mitigating Systems Performance Index, Heat Removal System



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

**Notes**

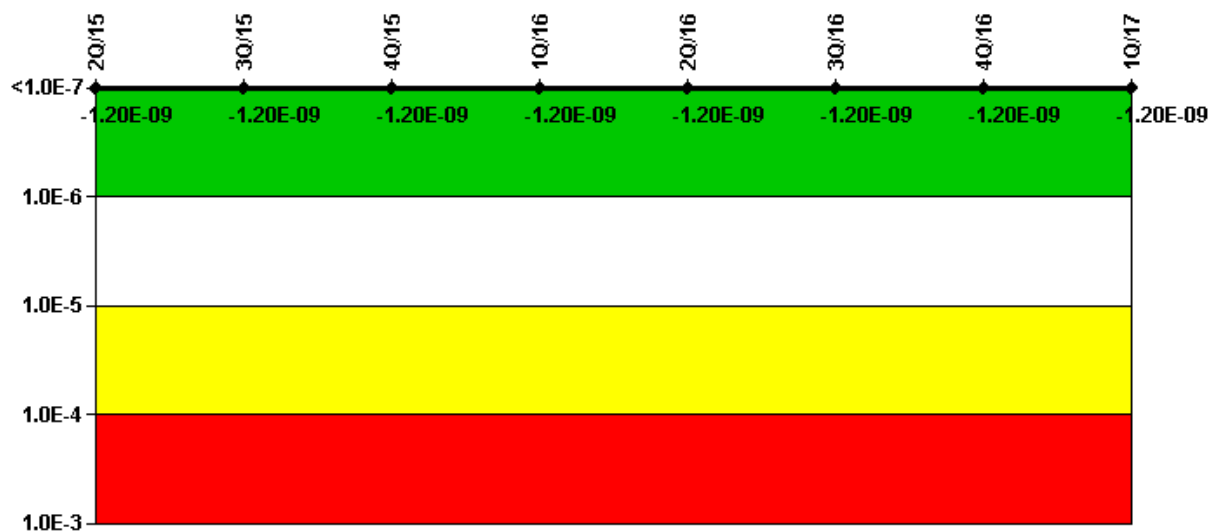
**Mitigating Systems Performance Index, Heat Removal System**

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-3.30E-09	-3.30E-09	-3.23E-09	-3.24E-09	-4.84E-09	-6.13E-09	-6.13E-09	-6.13E-09
URI (ΔCDF)	5.72E-08	5.58E-08	5.72E-08	5.59E-08	5.59E-08	-2.09E-08	-2.18E-08	-2.14E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>5.40E-08</b>	<b>5.30E-08</b>	<b>5.40E-08</b>	<b>5.30E-08</b>	<b>5.10E-08</b>	<b>-2.70E-08</b>	<b>-2.80E-08</b>	<b>-2.70E-08</b>

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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**

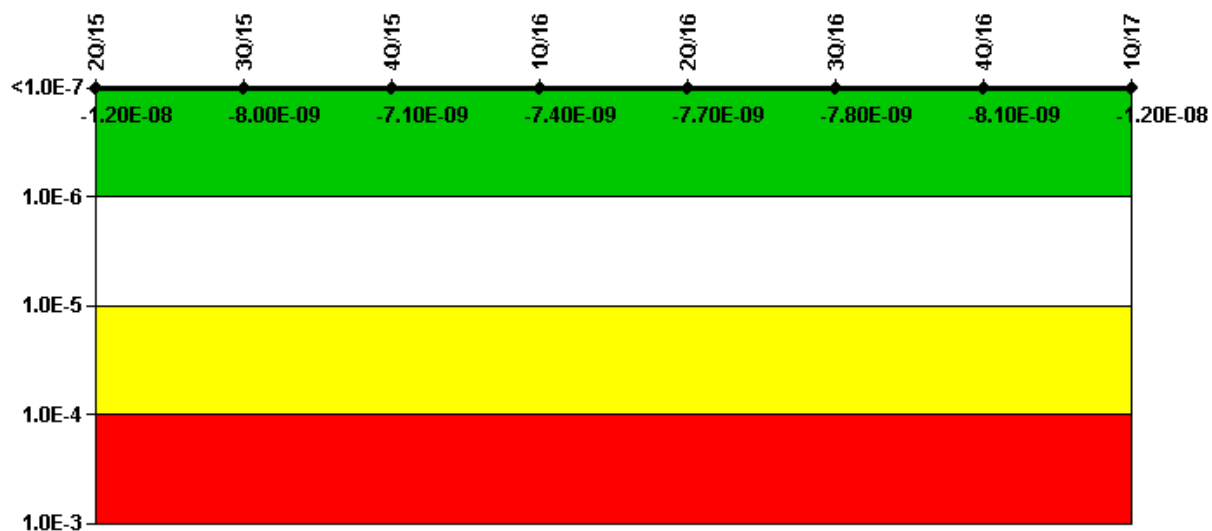
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI ( $\Delta$ CDF)	-2.70E-10	-2.70E-10	-2.70E-10	-2.70E-10	-2.70E-10	-2.70E-10	-2.70E-10	-2.70E-10
URI ( $\Delta$ CDF)	-9.46E-10	-9.46E-10	-9.47E-10	-9.37E-10	-9.27E-10	-9.37E-10	-9.08E-10	-9.08E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.20E-09</b>	<b>-1.20E-09</b>	<b>-1.20E-09</b>	<b>-1.20E-09</b>	<b>-1.20E-09</b>	<b>-1.20E-09</b>	<b>-1.20E-09</b>	<b>-1.20E-09</b>

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Licensee Comments: none



### Mitigating Systems Performance Index, Cooling Water Systems



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

**Notes**

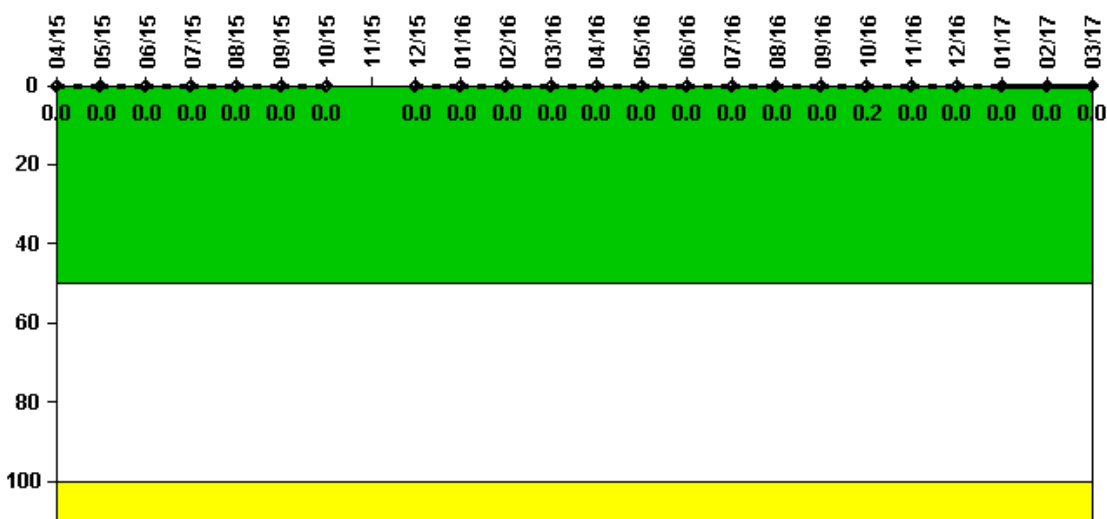
**Mitigating Systems Performance Index, Cooling Water Systems**

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-1.27E-09	-1.25E-09	-1.37E-09	-1.50E-09	-1.50E-09	-1.46E-09	-1.46E-09	-1.48E-09
URI (ΔCDF)	-1.05E-08	-6.73E-09	-5.70E-09	-5.95E-09	-6.25E-09	-6.29E-09	-6.63E-09	-1.07E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.20E-08</b>	<b>-8.00E-09</b>	<b>-7.10E-09</b>	<b>-7.40E-09</b>	<b>-7.70E-09</b>	<b>-7.80E-09</b>	<b>-8.10E-09</b>	<b>-1.20E-08</b>

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Licensee Comments: none

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

**Notes**

**Reactor Coolant System Activity**

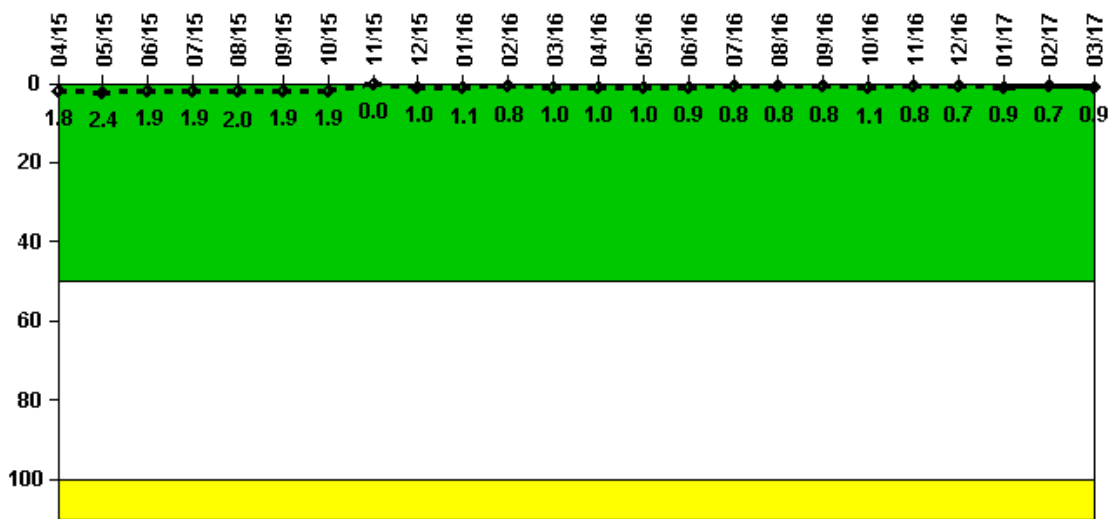
	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16
Maximum activity	0.000103	0.000115	0.000126	0.000116	0.000064	0.000130	0.000182	N/A	0.000187	0.000063	0.000186	0.000231
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0	0	0	0	0	0	0	N/A	0	0	0	0

	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum activity	0.000219	0.000267	0.000345	0.000363	0.000241	0.000314	0.001830	0.000271	0.000243	0.000181	0.000186	0.000237
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	0.2	0	0	0	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	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16
Maximum leakage	0.180	0.240	0.190	0.190	0.200	0.190	0.190	0	0.100	0.110	0.080	0.100
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

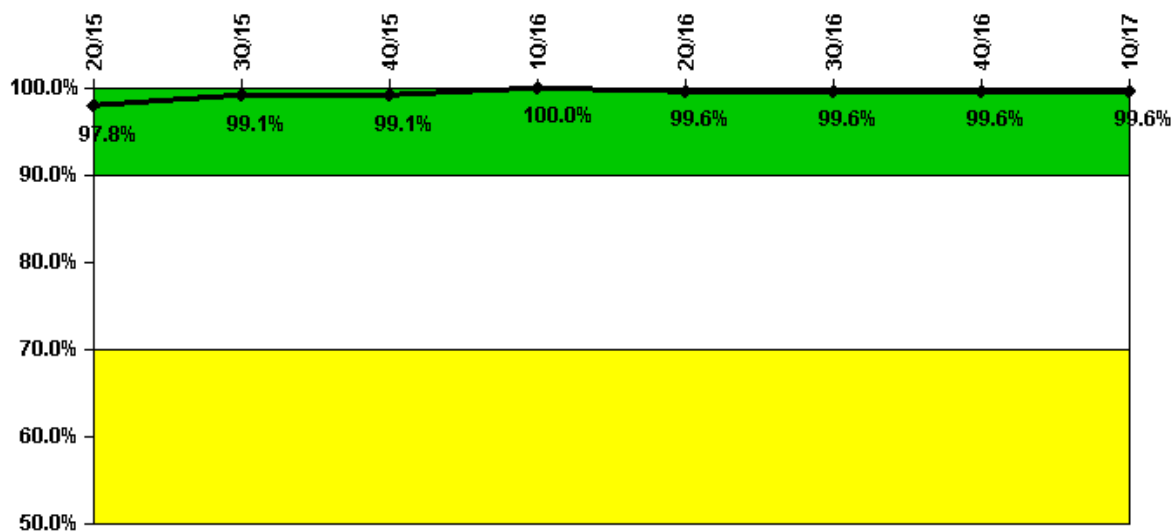
Indicator value	1.8	2.4	1.9	1.9	2.0	1.9	1.9	0	1.0	1.1	0.8	1.0
Reactor Coolant System Leakage	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum leakage	0.100	0.100	0.090	0.080	0.080	0.080	0.110	0.080	0.070	0.090	0.070	0.090
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	1.0	1.0	0.9	0.8	0.8	0.8	1.1	0.8	0.7	0.9	0.7	0.9
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Licensee Comments: none

**Drill/Exercise Performance**



Thresholds: White < 90.0% Yellow < 70.0%

**Notes**

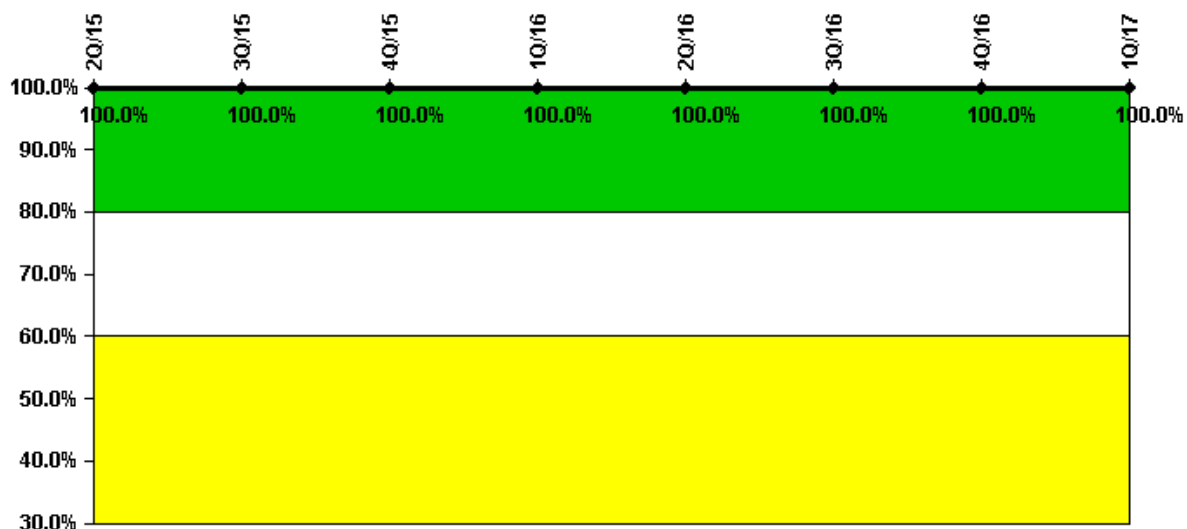
Drill/Exercise Performance	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful opportunities	31.0	35.0	20.0	39.0	45.0	21.0	24.0	37.0
Total opportunities	31.0	35.0	20.0	39.0	46.0	21.0	24.0	37.0

**Indicator value**                    **97.8% 99.1% 99.1% 100.0% 99.6% 99.6% 99.6% 99.6%**

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Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

**Notes**

ERO Drill Participation	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Participating Key personnel	157.0	157.0	165.0	175.0	176.0	183.0	168.0	156.0
Total Key personnel	157.0	157.0	165.0	175.0	176.0	183.0	168.0	156.0

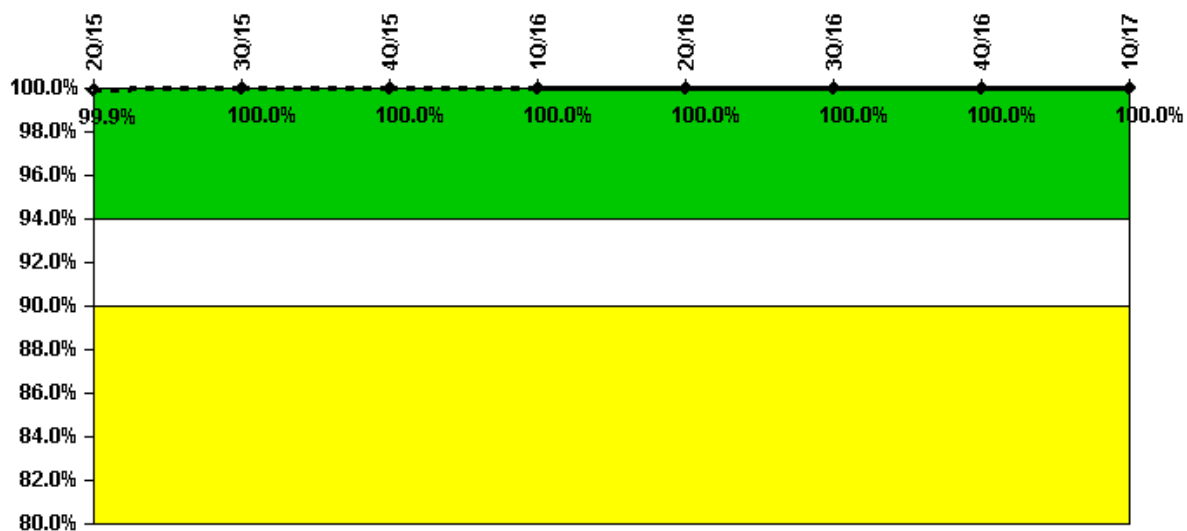
**Indicator value**                    **100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%**

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Licensee Comments:

2Q/15: An assessment revealed additional key personnel for March 2015. Historical data was corrected with no change in color.

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

**Notes**

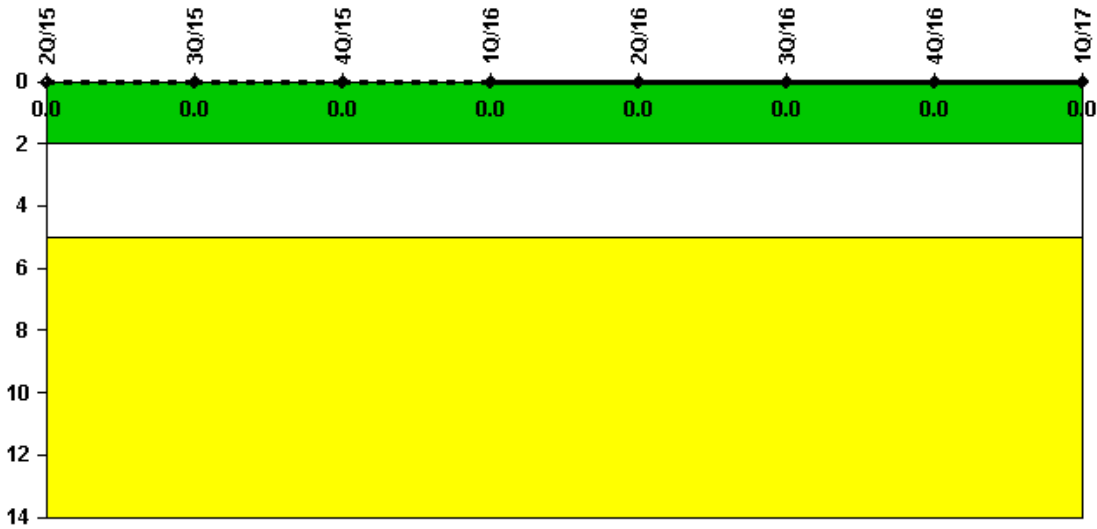
Alert & Notification System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful siren-tests	497	568	497	568	497	568	426	567
Total sirens-tests	497	568	497	568	497	568	426	568

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

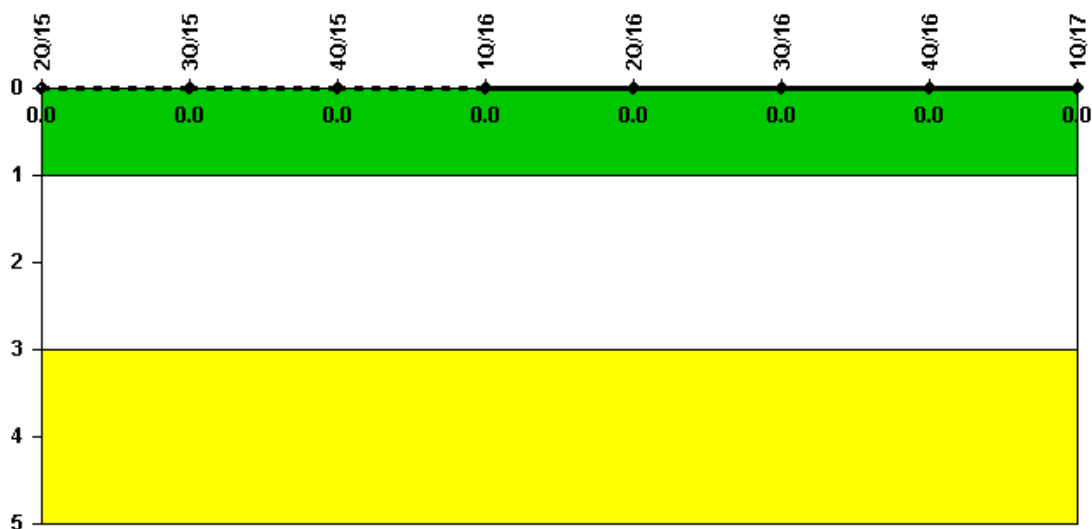
**Notes**

Occupational Exposure Control Effectiveness	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/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 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/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: May 5, 2017

Page Last Reviewed/Updated Wednesday, June 07, 2017