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## **Saint Lucie 2 – Quarterly Performance Indicators**

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

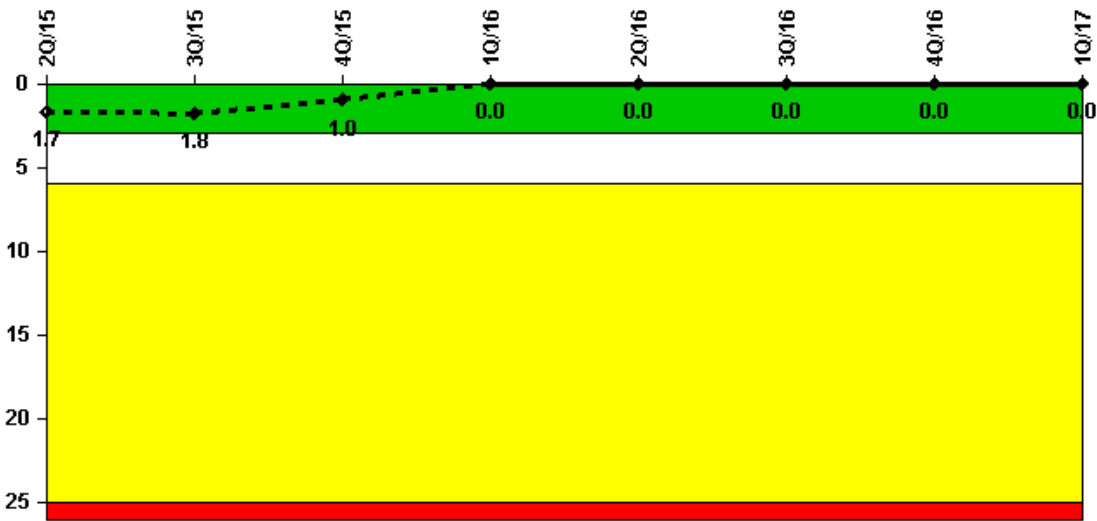
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

- Unplanned Scrams (IE01)
- 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)
- 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

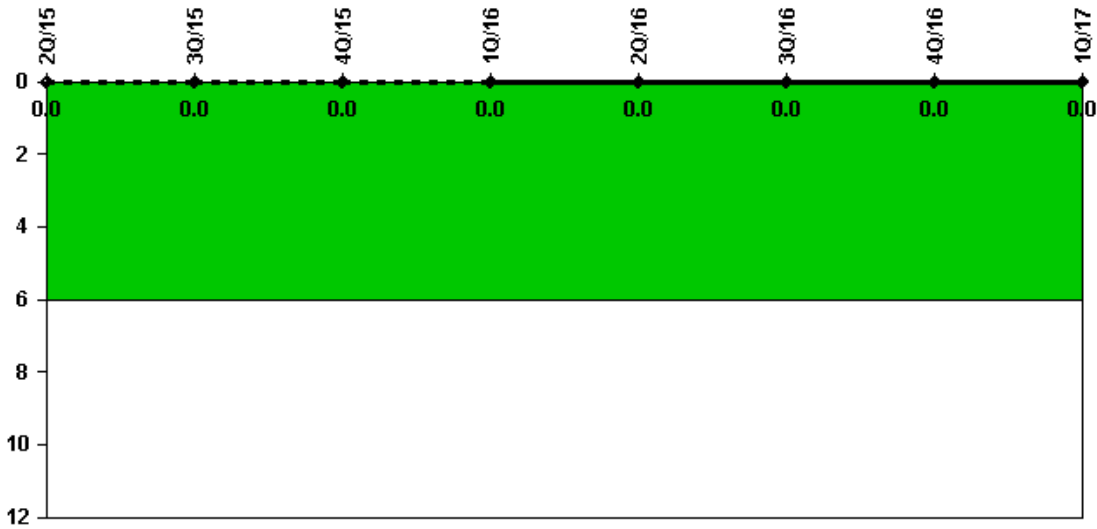
#### Notes

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	0	0	0	0	0	0	0
Critical hours	1964.4	1657.2	1626.2	2183.0	2184.0	2208.0	2034.5	1395.9
Indicator value	1.7	1.8	1.0	0	0	0	0	0

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Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

**Notes**

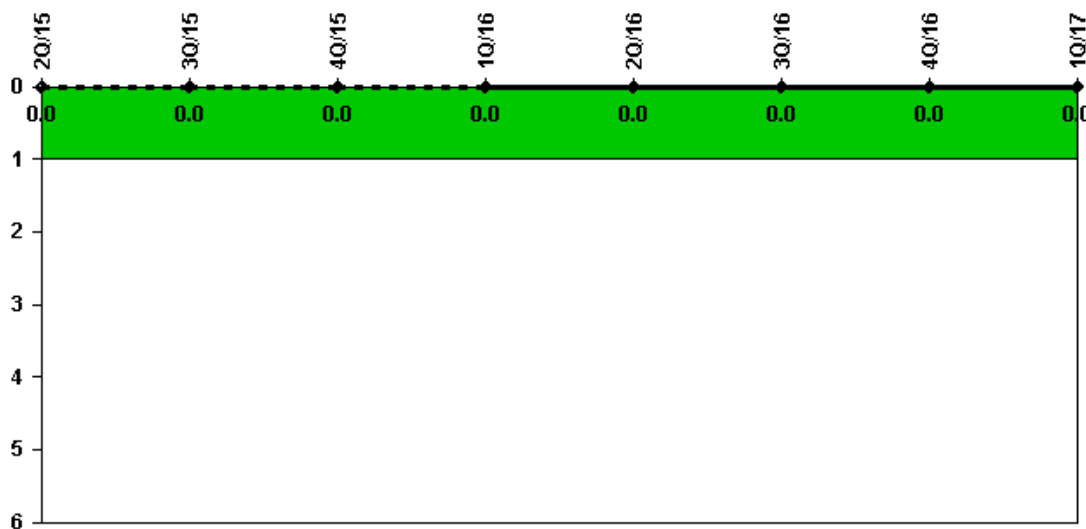
Unplanned Power Changes per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	1964.4	1657.2	1626.2	2183.0	2184.0	2208.0	2034.5	1395.9

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

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Licensee Comments: none

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

**Notes**

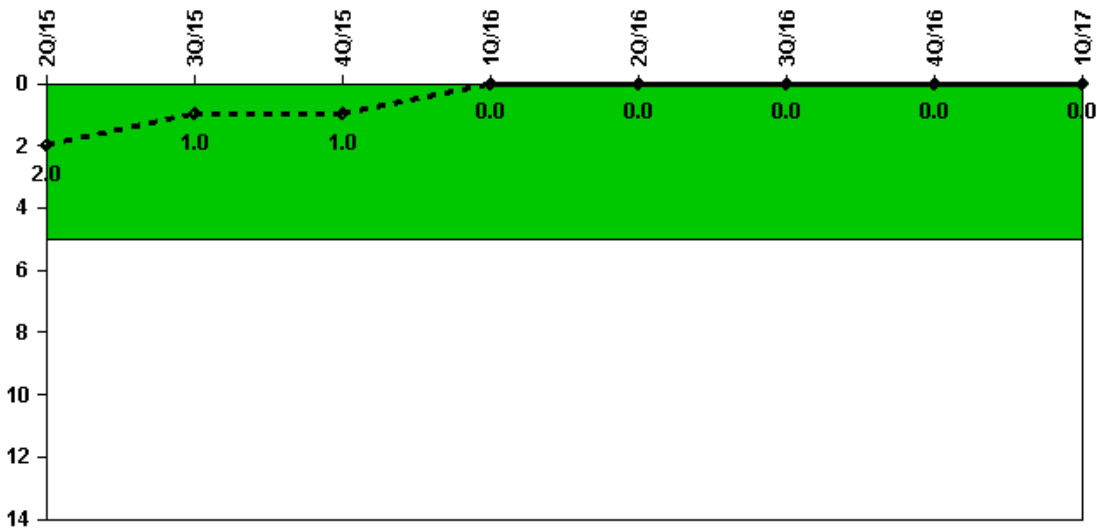
Unplanned Scrams with Complications	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Scrams with complications	0	0	0	0	0	0	0	0

**Indicator value** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

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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

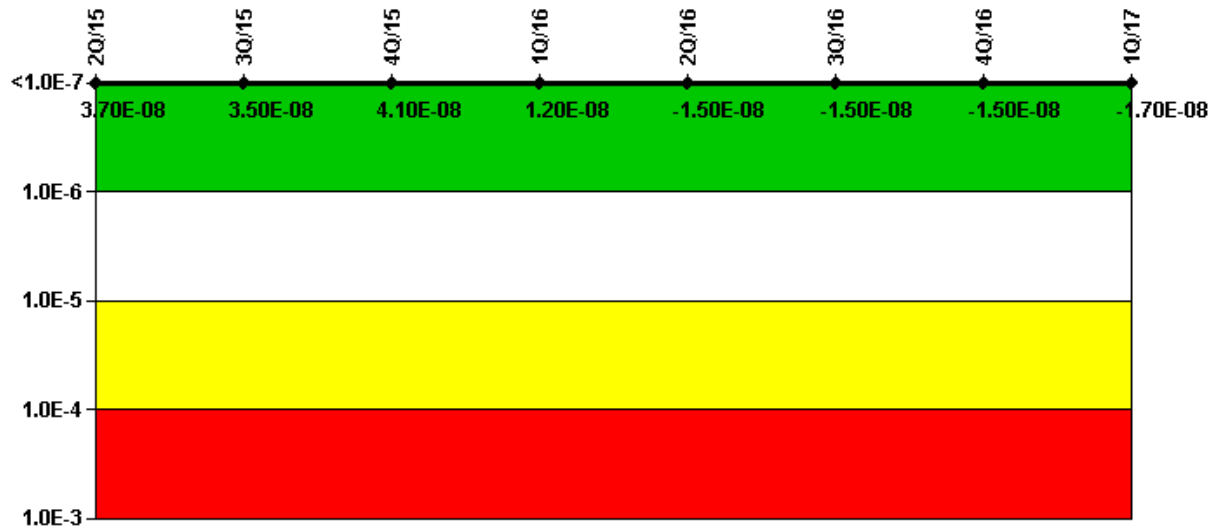
Safety System Functional Failures 0 0 0 0 0 0 0 0

Indicator value 2 1 1 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

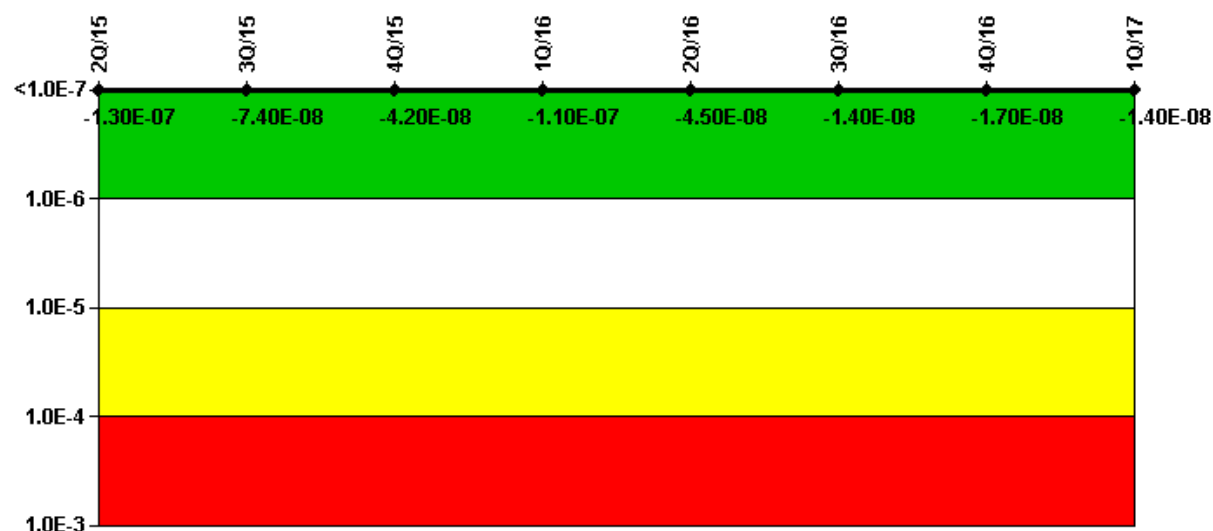
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	3.54E-08	3.35E-08	3.11E-08	3.02E-08	1.52E-08	1.50E-08	1.50E-08	1.26E-08
URI (ΔCDF)	1.56E-09	1.56E-09	9.54E-09	-1.84E-08	-3.01E-08	-3.01E-08	-3.01E-08	-3.01E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.70E-08	3.50E-08	4.10E-08	1.20E-08	-1.50E-08	-1.50E-08	-1.50E-08	-1.70E-08

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Licensee Comments:

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

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

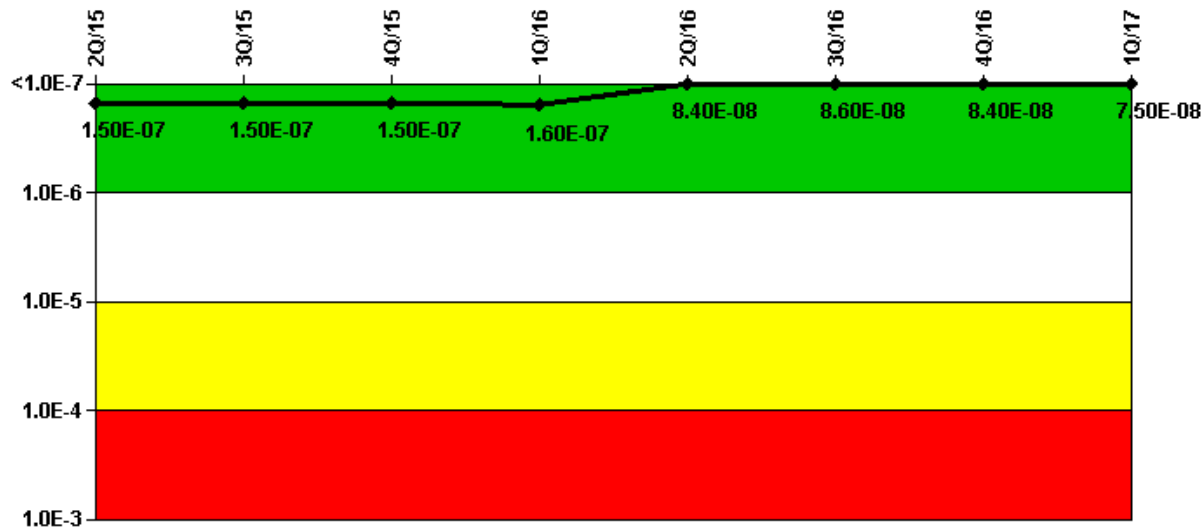
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	1.53E-07	2.09E-07	2.41E-07	1.70E-07	5.41E-08	8.44E-08	8.23E-08	8.53E-08
URI (ΔCDF)	-2.84E-07	-2.84E-07	-2.84E-07	-2.84E-07	-9.88E-08	-9.88E-08	-9.88E-08	-9.88E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.30E-07	-7.40E-08	-4.20E-08	-1.10E-07	-4.50E-08	-1.40E-08	-1.70E-08	-1.40E-08

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Licensee Comments:

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

**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)	5.12E-09	5.50E-09	4.64E-09	9.82E-09	1.35E-08	1.53E-08	1.53E-08	1.53E-08
URI (ΔCDF)	1.46E-07	1.46E-07	1.46E-07	1.46E-07	7.10E-08	7.10E-08	6.89E-08	5.95E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>1.50E-07</b>	<b>1.50E-07</b>	<b>1.50E-07</b>	<b>1.60E-07</b>	<b>8.40E-08</b>	<b>8.60E-08</b>	<b>8.40E-08</b>	<b>7.50E-08</b>

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Licensee Comments:

3Q/16: MSPI URI recalculated due to revised ICES records 314625 and 316104. (AR 2162606)

2Q/16: PRA coefficients and CDF were changed due to updated PRA model MSPI URI recalculated due to revised ICES records 314625 and 316104. (AR 2162606)

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

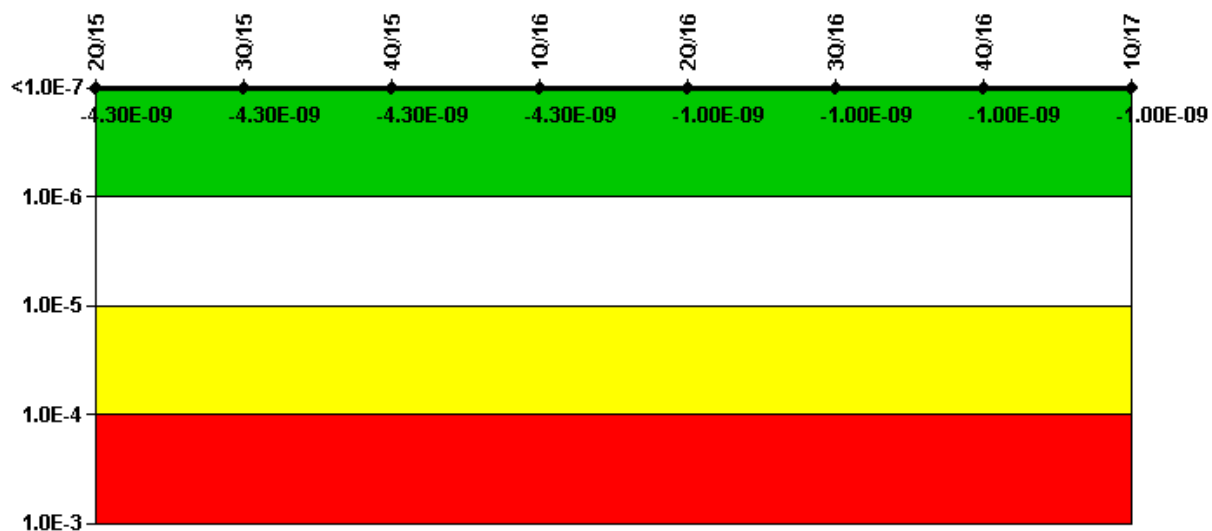
1Q/16: MSPI URI recalculated due to revised ICES records 314625 and 316104. (AR 2162606)

4Q/15: MSPI URI recalculated due to revised ICES records 314625 and 316104. (AR 2162606)

3Q/15: MSPI URI recalculated due to revised ICES records 314625 and 316104. (AR 2162606)

2Q/15: MSPI URI recalculated due to revised ICES records 314625 and 316104. (AR 2162606)

### 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**

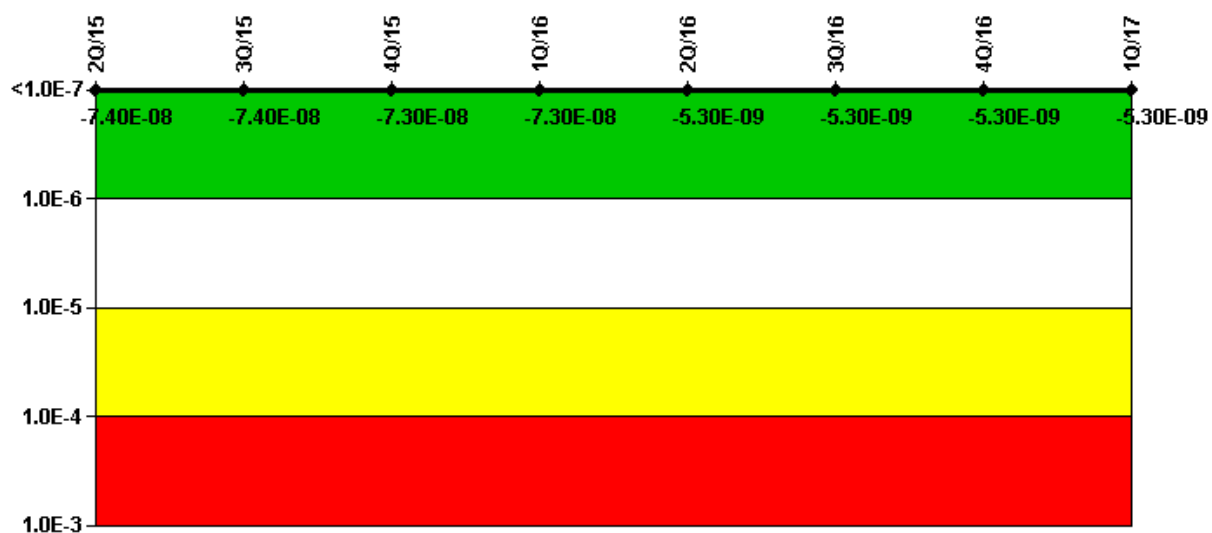
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI ( $\Delta$ CDF)	-1.03E-09	-1.03E-09	-1.03E-09	-1.03E-09	-1.10E-10	-1.10E-10	-1.10E-10	-1.10E-10
URI ( $\Delta$ CDF)	-3.25E-09	-3.25E-09	-3.25E-09	-3.25E-09	-9.36E-10	-9.36E-10	-9.36E-10	-9.36E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-4.30E-09</b>	<b>-4.30E-09</b>	<b>-4.30E-09</b>	<b>-4.30E-09</b>	<b>-1.00E-09</b>	<b>-1.00E-09</b>	<b>-1.00E-09</b>	<b>-1.00E-09</b>

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Licensee Comments:

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

### 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 ( $\Delta$ CDF)	-6.51E-08	-6.51E-08	-6.45E-08	-6.45E-08	-4.33E-09	-4.33E-09	-4.33E-09	-4.33E-09
URI ( $\Delta$ CDF)	-8.83E-09	-8.83E-09	-8.83E-09	-8.83E-09	-9.63E-10	-9.63E-10	-9.63E-10	-9.63E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-7.40E-08</b>	<b>-7.40E-08</b>	<b>-7.30E-08</b>	<b>-7.30E-08</b>	<b>-5.30E-09</b>	<b>-5.30E-09</b>	<b>-5.30E-09</b>	<b>-5.30E-09</b>

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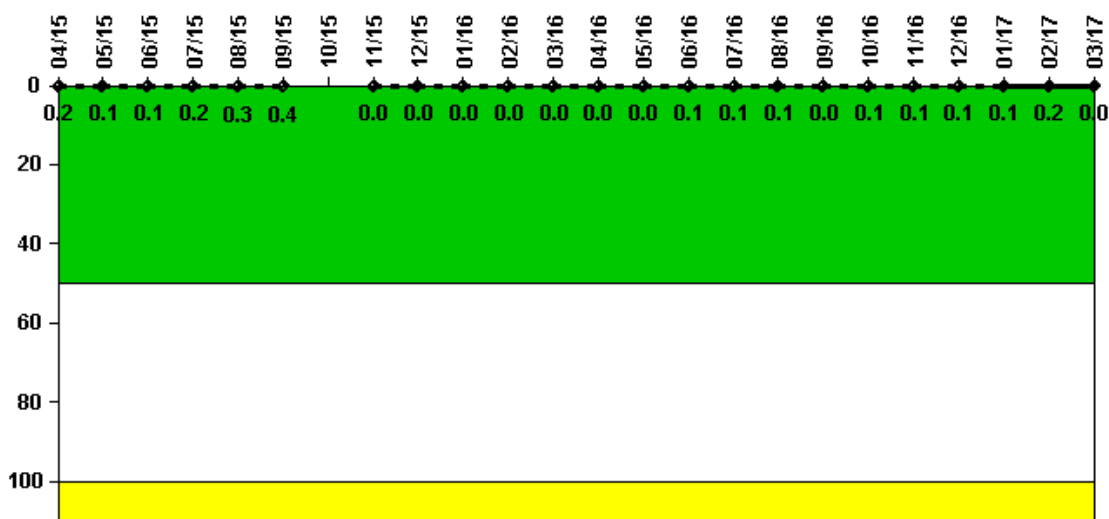
Licensee Comments:

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

3Q/15: ICES OE record #319756 revised to upgrade the 2C ICW pump failure to a MSPI demand failure - change resulted in no effect on the calculated 3Q PI value.



### 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	0.001600	0.001090	0.001480	0.002130	0.002520	0.003770	N/A	0.000269	0.000312	0.000333	0.000364	0.000382
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

**Reactor Coolant System Activity**

	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	0.000384	0.000374	0.000607	0.000680	0.000638	0.000452	0.000774	0.000512	0.000581	0.000615	0.001650	0.000219
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

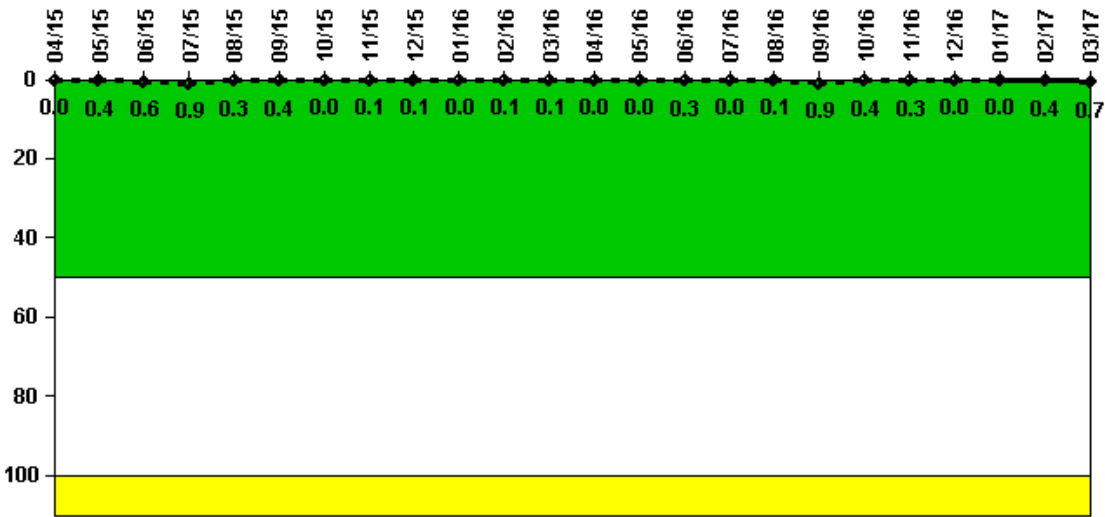
**Indicator value**

Indicator value	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.2	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	0.040	0.062	0.086	0.030	0.040	0	0.005	0.005	0.003	0.005	0.005
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	0.4	0.6	0.9	0.3	0.4	0	0.1	0.1	0	0.1	0.1
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	0	0.030	0.004	0.010	0.089	0.042	0.030	0.003	0	0.044	0.074
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

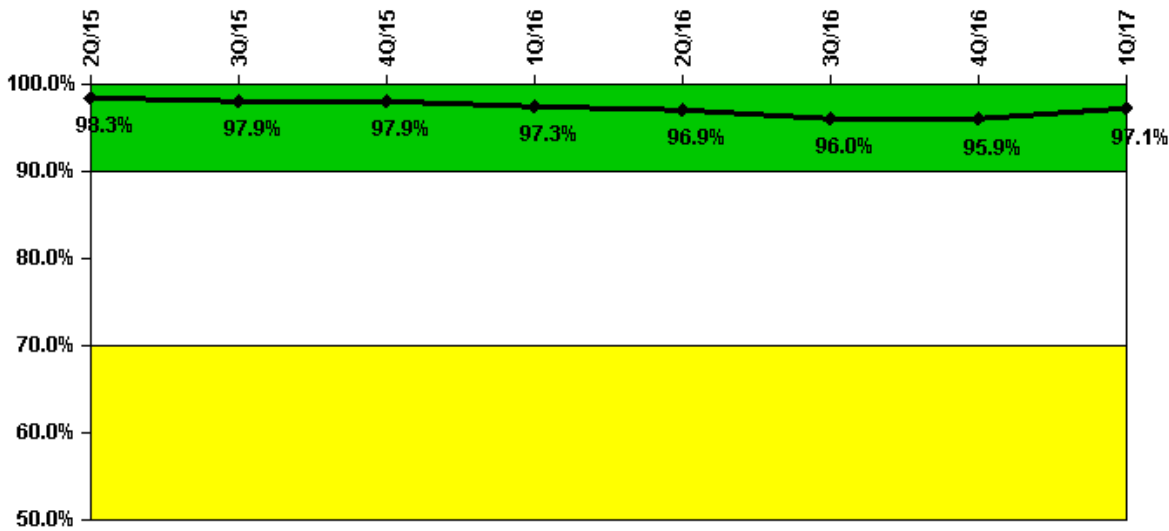
Indicator value	0	0	0.3	0	0.1	0.9	0.4	0.3	0	0	0.4	0.7
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Licensee Comments:

3/16: February data corrected from 0.058 to 0.005

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

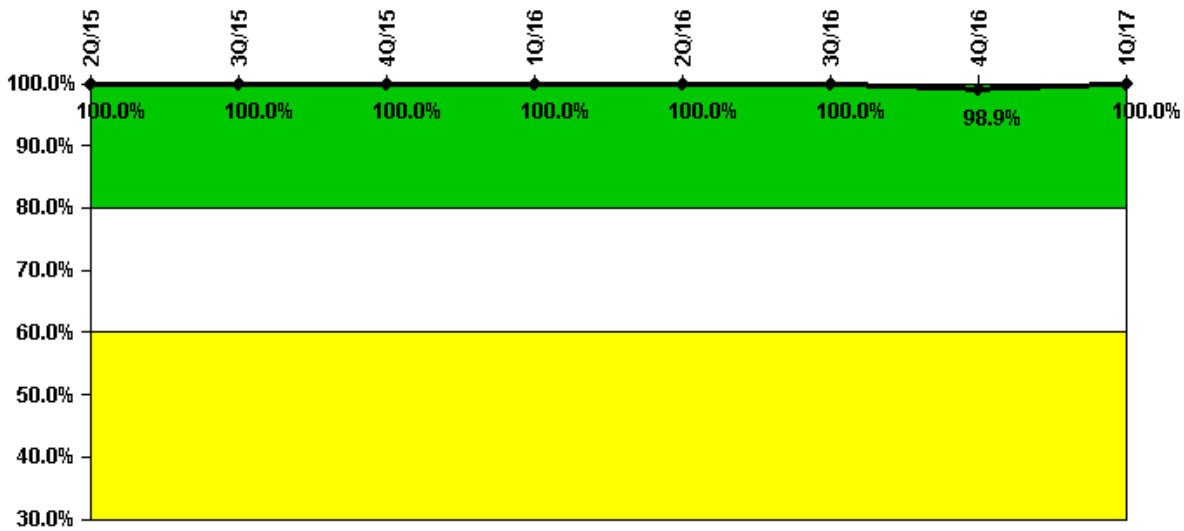
Drill/Exercise Performance	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful opportunities	31.0	20.0	24.0	17.0	17.0	25.0	24.0	44.0
Total opportunities	31.0	22.0	25.0	18.0	17.0	27.0	24.0	44.0

Indicator value                    98.3% 97.9% 97.9% 97.3% 96.9% 96.0% 95.9% 97.1%

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Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

**Notes**

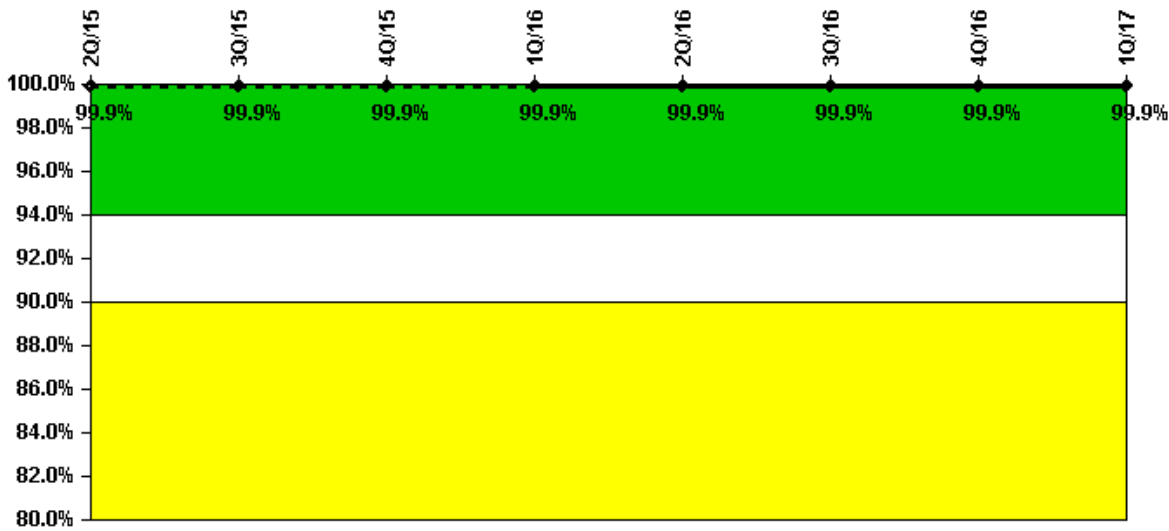
ERO Drill Participation	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Participating Key personnel	79.0	76.0	76.0	83.0	83.0	79.0	86.0	86.0
Total Key personnel	79.0	76.0	76.0	83.0	83.0	79.0	87.0	86.0

**Indicator value**                    **100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 98.9% 100.0%**

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Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

**Notes**

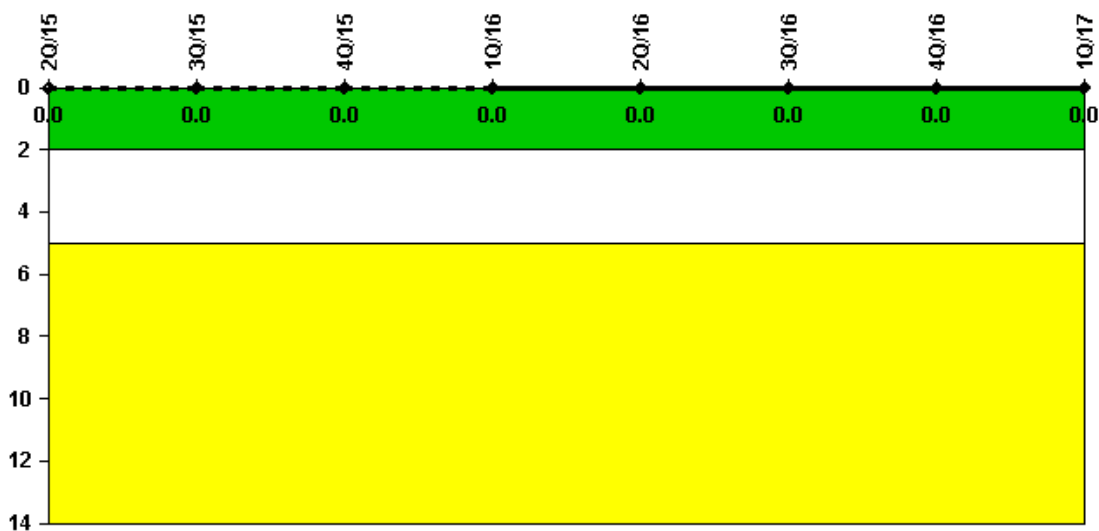
Alert & Notification System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful siren-tests	720	719	629	630	629	720	629	629
Total sirens-tests	720	720	630	630	630	720	630	630

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

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Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

#### Notes

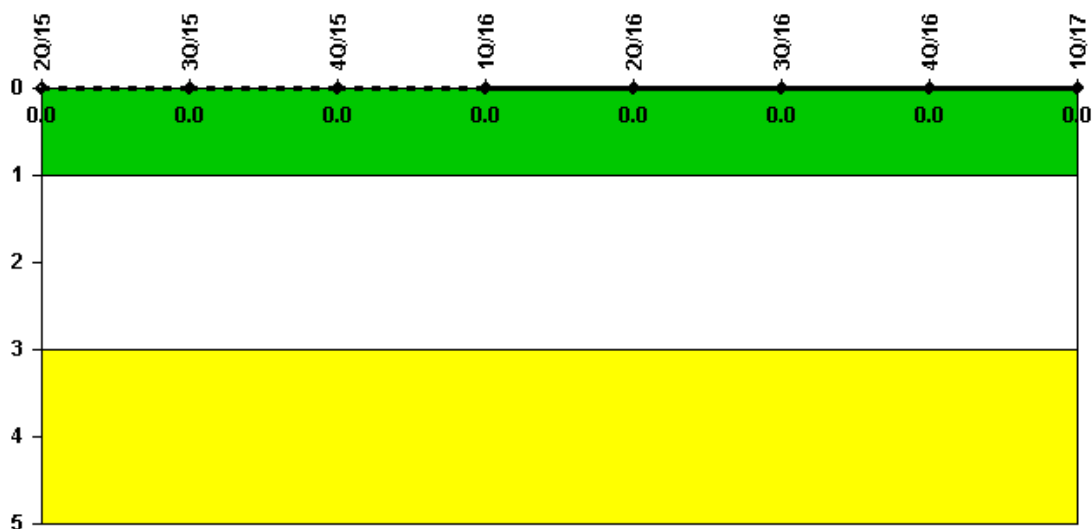
#### Occupational Exposure Control Effectiveness 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17

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