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## Harris 1 – Quarterly Performance Indicators

### 4Q/2017 Performance Indicators

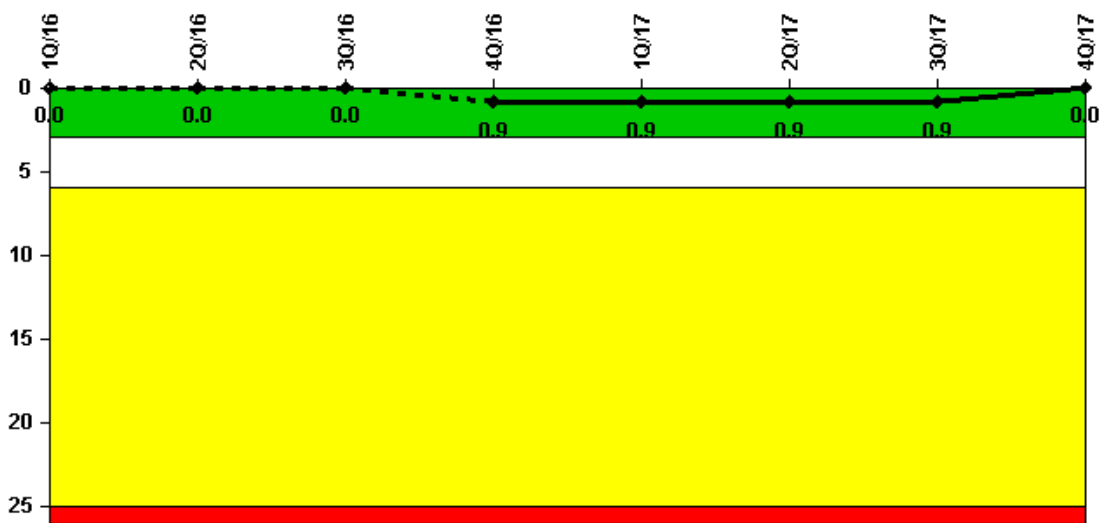
The solid trend line represents the current reporting period.

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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- Residual Heat Removal Systems (MS09)
- Cooling Water Systems (MS10)
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- Reactor Coolant System Leakage (BI02)
- Drill/Exercise Performance (EP01)
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- Occupational Exposure Control Effectiveness (OR01)
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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

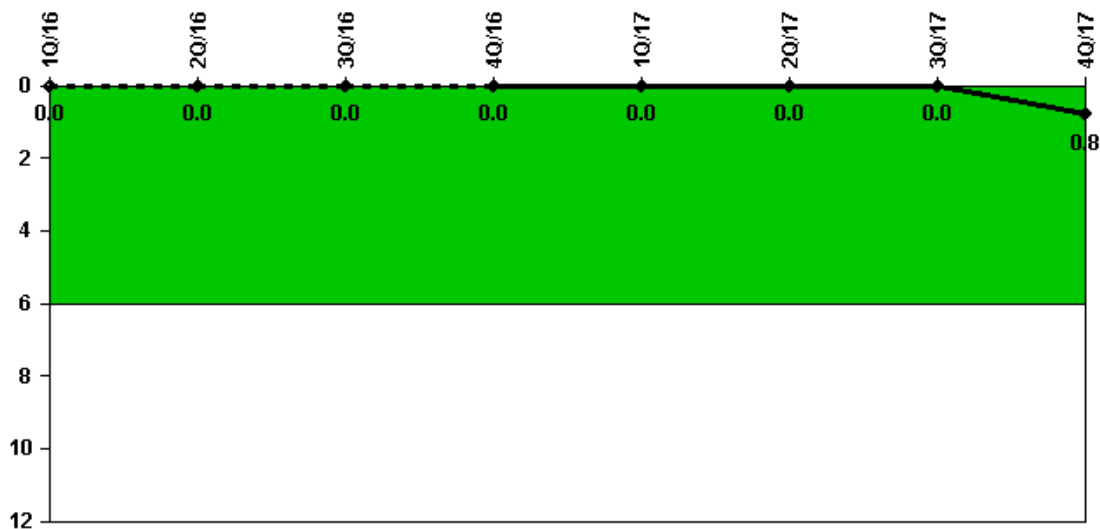
Unplanned Scrams per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned scrams	0	0	0	1.0	0	0	0	0
Critical hours	2183.0	2184.0	2208.0	1429.8	2159.0	2184.0	2208.0	2179.9

Indicator value	0	0	0	0.9	0.9	0.9	0.9	0
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Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

**Notes**

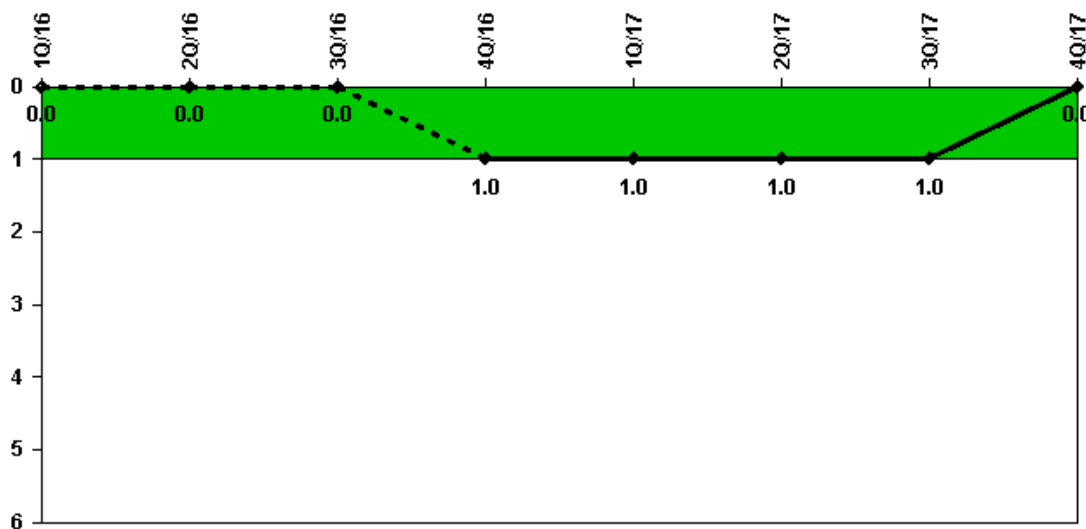
Unplanned Power Changes per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned power changes	0	0	0	0	0	0	0	1.0
Critical hours	2183.0	2184.0	2208.0	1429.8	2159.0	2184.0	2208.0	2179.9

**Indicator value** 0 0 0 0 0 0 0 0.8

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Licensee Comments: none

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

**Notes**

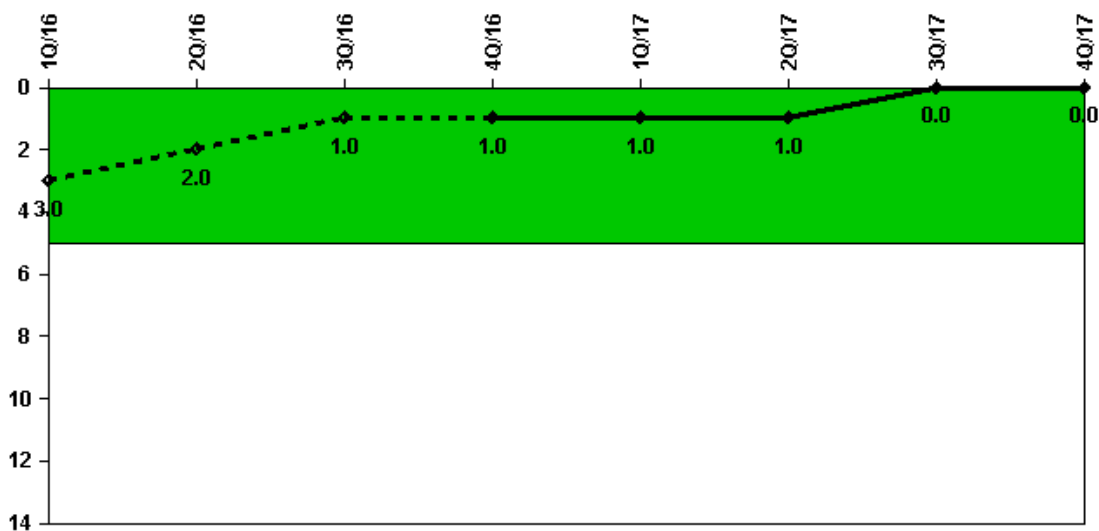
Unplanned Scrams with Complications	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Scrams with complications	0	0	0	1.0	0	0	0	0

**Indicator value** 0.0 0.0 0.0 1.0 1.0 1.0 1.0 0.0

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Licensee Comments: none

### Safety System Functional Failures (PWR)



Thresholds: White > 5.0

**Notes**

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

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

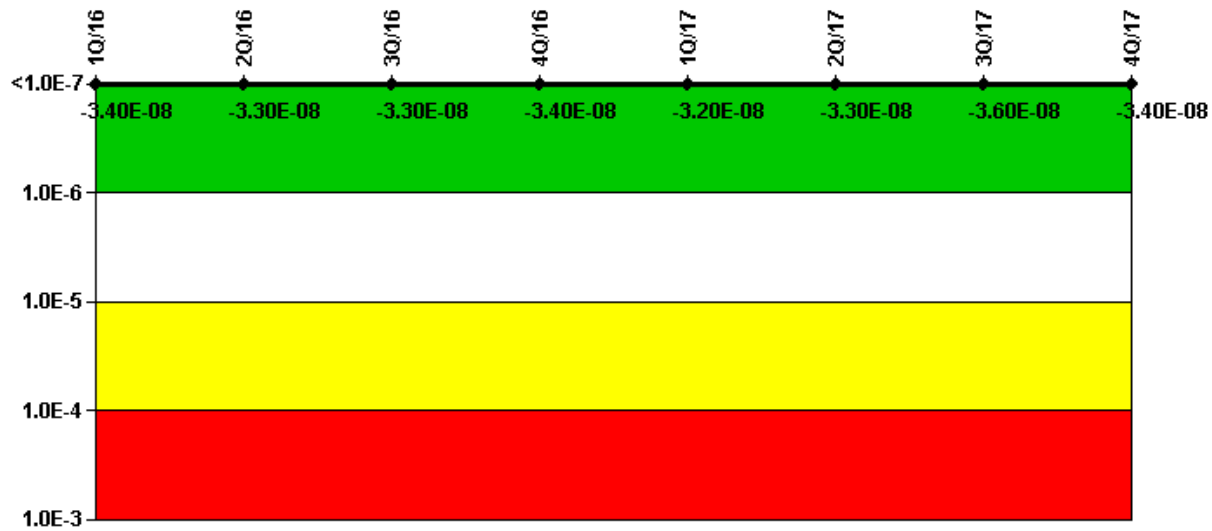
**Indicator value**                                            3    2    1    1    1    1    0    0

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Licensee Comments:

3Q/16: Licensee Event Report was submitted in September 2016 that involved a safety system functional failure (LER 2016-001-00). Multiple failures related to Tornado Missile Protection reported as one in accordance with FAQ 16-03 guidance.

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



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

**Notes**

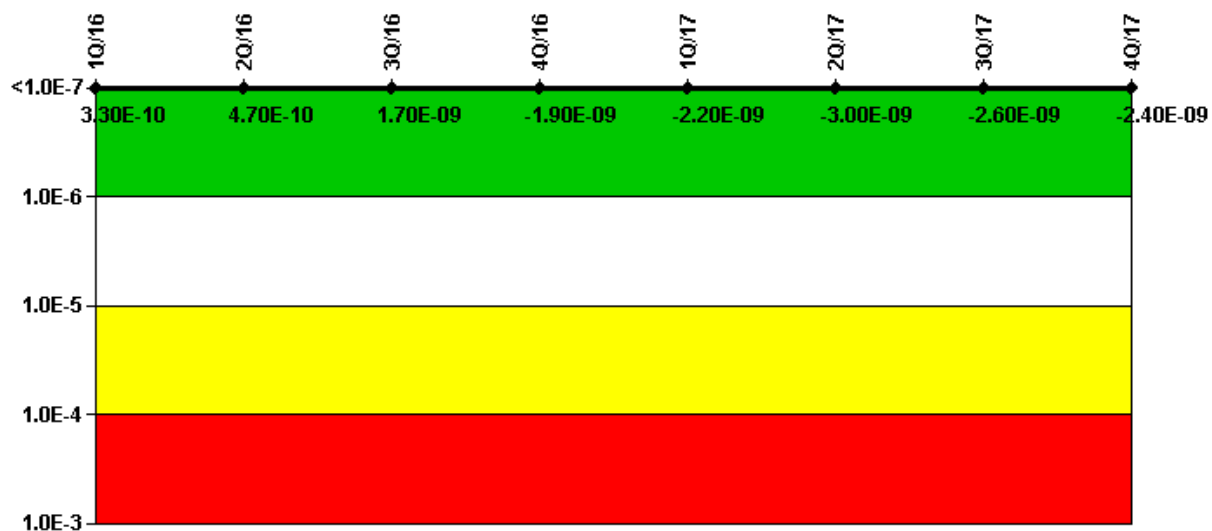
**Mitigating Systems Performance Index, Emergency AC Power System**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI ( $\Delta$ CDF)	1.52E-08	1.65E-08	1.67E-08	1.67E-08	1.77E-08	1.66E-08	1.38E-08	1.50E-08
URI ( $\Delta$ CDF)	-4.96E-08	-4.96E-08	-4.96E-08	-5.08E-08	-4.95E-08	-4.95E-08	-4.95E-08	-4.95E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-3.40E-08</b>	<b>-3.30E-08</b>	<b>-3.30E-08</b>	<b>-3.40E-08</b>	<b>-3.20E-08</b>	<b>-3.30E-08</b>	<b>-3.60E-08</b>	<b>-3.40E-08</b>

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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**

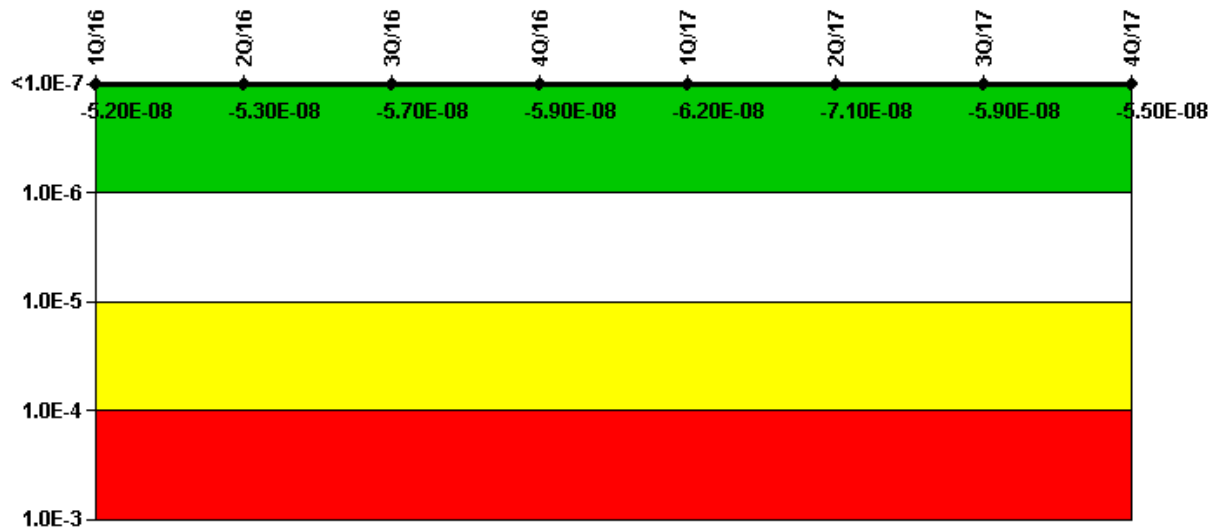
**Mitigating Systems Performance Index, High Pressure Injection System**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI ( $\Delta$ CDF)	9.44E-09	9.58E-09	1.08E-08	7.46E-09	7.14E-09	6.39E-09	6.82E-09	6.95E-09
URI ( $\Delta$ CDF)	-9.11E-09	-9.11E-09	-9.11E-09	-9.38E-09	-9.38E-09	-9.38E-09	-9.38E-09	-9.38E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>3.30E-10</b>	<b>4.70E-10</b>	<b>1.70E-09</b>	<b>-1.90E-09</b>	<b>-2.20E-09</b>	<b>-3.00E-09</b>	<b>-2.60E-09</b>	<b>-2.40E-09</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**

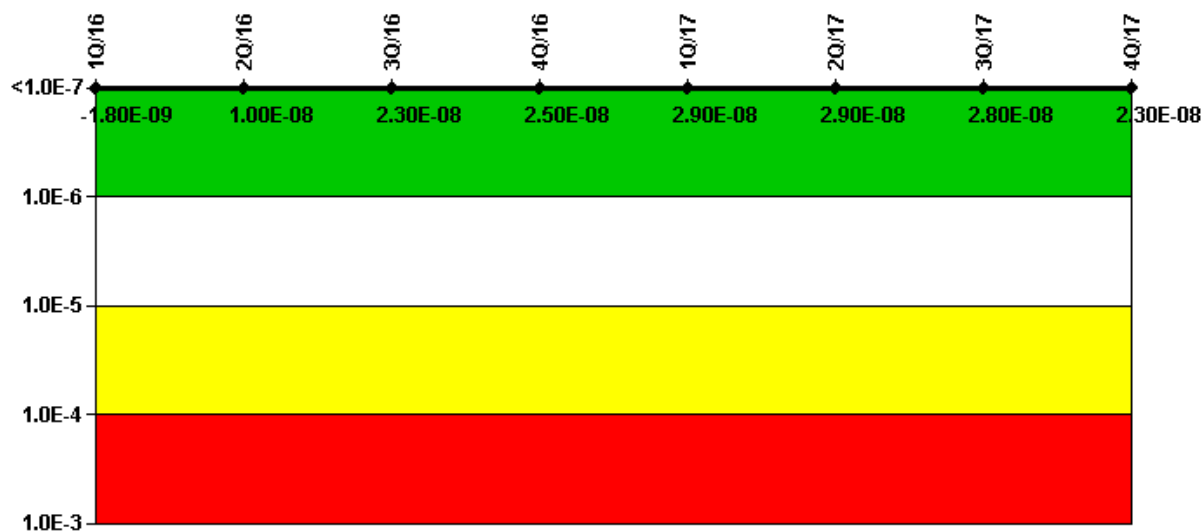
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	1.34E-08	1.18E-08	8.18E-09	6.48E-09	2.96E-09	-5.76E-09	6.51E-09	9.99E-09
URI (ΔCDF)	-6.49E-08	-6.49E-08	-6.49E-08	-6.60E-08	-6.51E-08	-6.51E-08	-6.51E-08	-6.51E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-5.20E-08</b>	<b>-5.30E-08</b>	<b>-5.70E-08</b>	<b>-5.90E-08</b>	<b>-6.20E-08</b>	<b>-7.10E-08</b>	<b>-5.90E-08</b>	<b>-5.50E-08</b>

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Licensee Comments:

2Q/16: The March 2016 data was revised to account for an incorrect interpretation of MSPI in-scope boundary components (Unavailability for sequencer relay work). Pump Train 'A' planned unavailable hours were revised from 0 to 6.7 hours, due to maintenance. Data revised in June 2016. Minute impact to indicator values post March 2016 up to June 2016. No change in indicator color.

### 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**

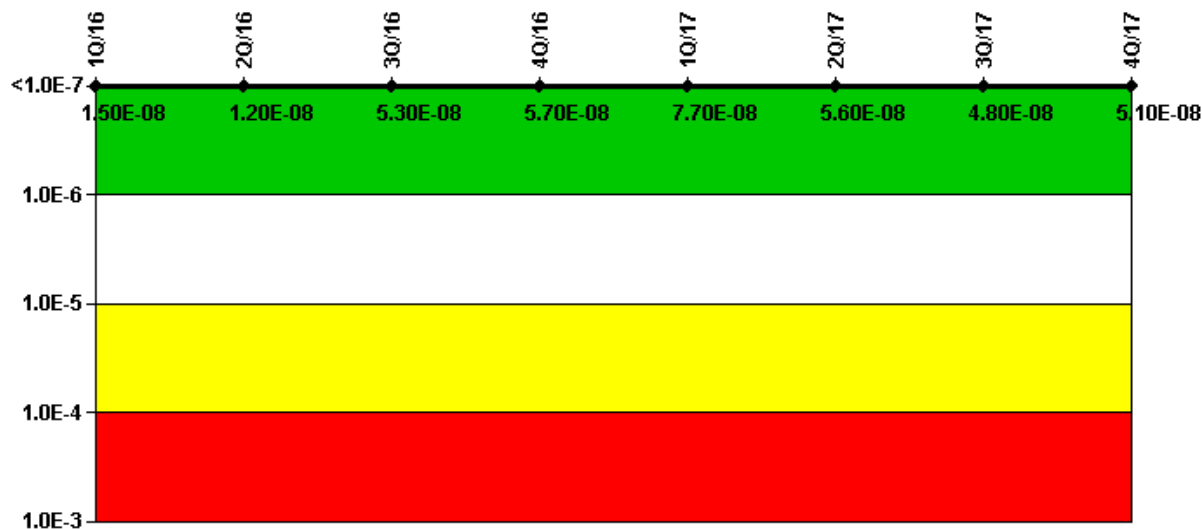
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	2.64E-08	3.85E-08	5.16E-08	5.39E-08	5.70E-08	5.70E-08	5.63E-08	5.16E-08
URI (ΔCDF)	-2.82E-08	-2.82E-08	-2.82E-08	-2.85E-08	-2.85E-08	-2.85E-08	-2.85E-08	-2.85E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.80E-09</b>	<b>1.00E-08</b>	<b>2.30E-08</b>	<b>2.50E-08</b>	<b>2.90E-08</b>	<b>2.90E-08</b>	<b>2.80E-08</b>	<b>2.30E-08</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**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI ( $\Delta$ CDF)	2.49E-08	2.23E-08	6.34E-08	6.80E-08	8.82E-08	6.62E-08	5.88E-08	6.19E-08
URI ( $\Delta$ CDF)	-1.01E-08	-1.01E-08	-1.01E-08	-1.10E-08	-1.07E-08	-1.07E-08	-1.07E-08	-1.07E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO

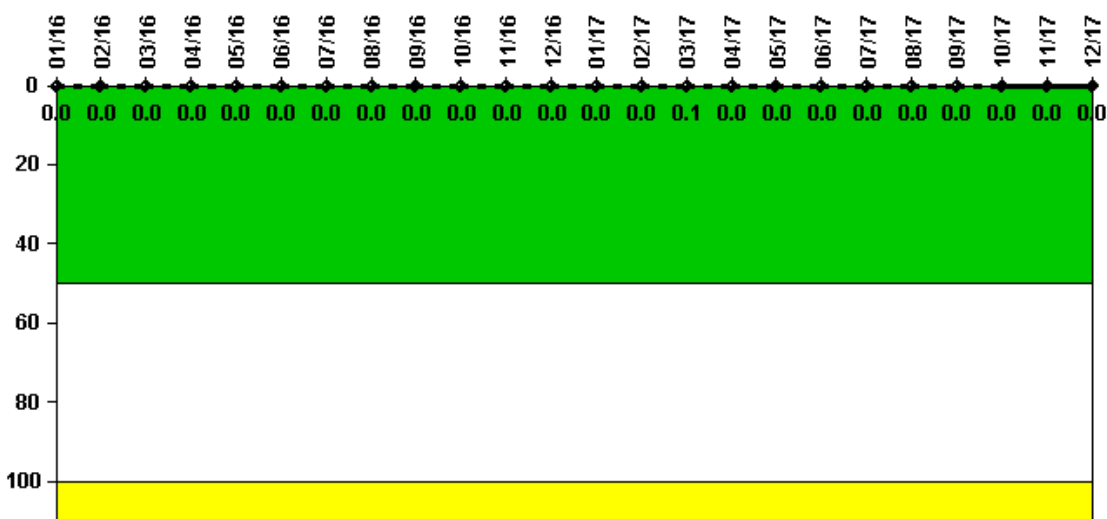
**Indicator value** 1.50E-08 1.20E-08 5.30E-08 5.70E-08 7.70E-08 5.60E-08 4.80E-08 5.10E-08

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Licensee Comments:

2Q/16: The May 2015 data was revised to account for an incorrect interpretation of MSPI in-scope boundary components (Unavailability for sequencer relay work). It was revised to reflect the 'A' ESW pump being unavailable for 3.35 hours instead of 0 hours. Data revised in June 2016. Minute impact to Indicator values post May 2015 and prior to June 2016. No change in indicator color.

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

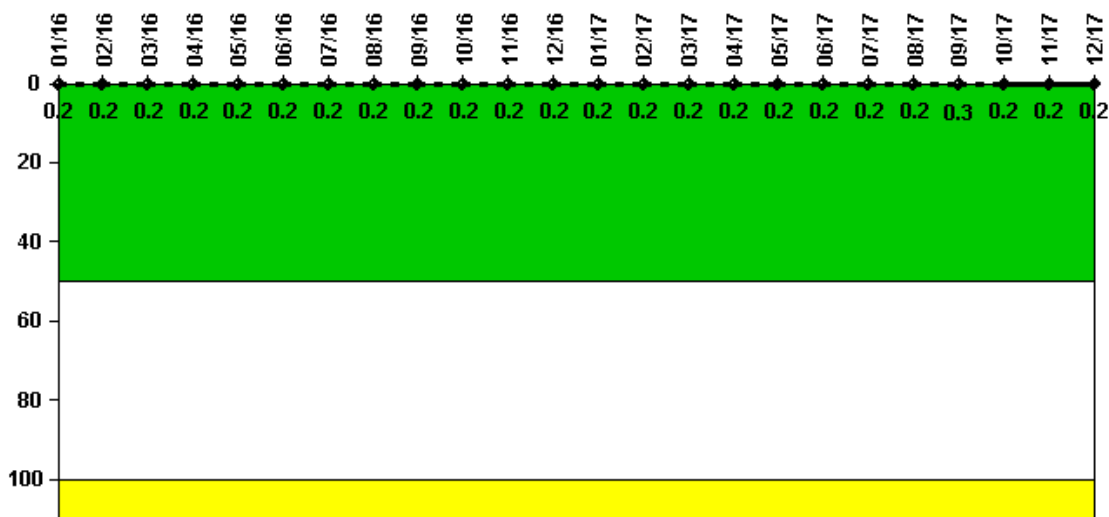
**Notes**

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	0.000346	0.000114	0.000139	0.000172	0.000122	0.000125	0.000171	0.000143	0.000135	0.000127	0.000074	0.000136
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	0.000164	0.000226	0.001040	0.000238	0.000280	0.000289	0.000308	0.000330	0.000343	0.000347	0.000429	0.000455
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	0.1	0	0	0	0	0	0	0	0	0

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Licensee Comments: none

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

**Notes**

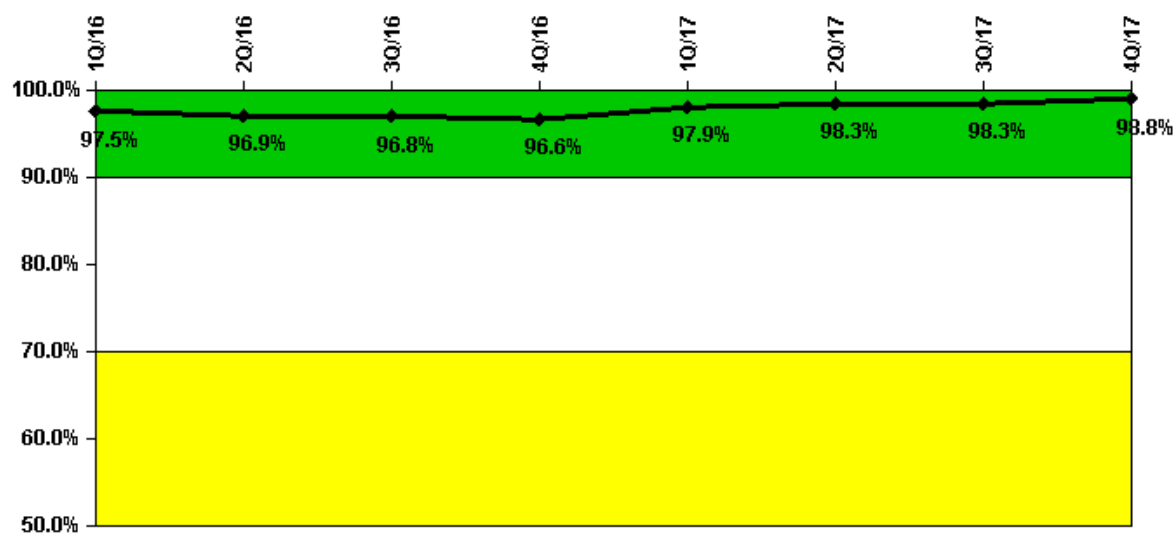
Reactor Coolant System Leakage	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16
Maximum leakage	0.015	0.017	0.019	0.017	0.016	0.017	0.018	0.018	0.018	0.018	0.020	0.020
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

<b>Indicator value</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
Reactor Coolant System Leakage	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 leakage	0.018	0.017	0.017	0.018	0.017	0.018	0.019	0.018	0.026	0.017	0.016	0.018
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
<b>Indicator value</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.3</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>

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Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

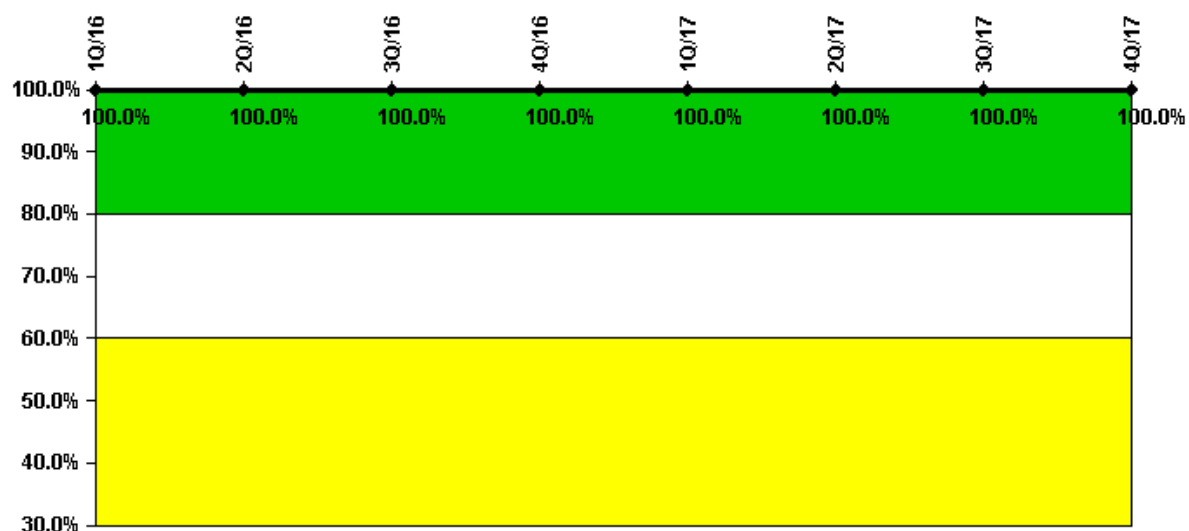
Drill/Exercise Performance	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful opportunities	29.0	28.0	24.0	12.0	56.0	64.0	37.0	6.0
Total opportunities	29.0	29.0	25.0	12.0	56.0	64.0	38.0	6.0

Indicator value                    97.5% 96.9% 96.8% 96.6% 97.9% 98.3% 98.3% 98.8%

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Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

**Notes**

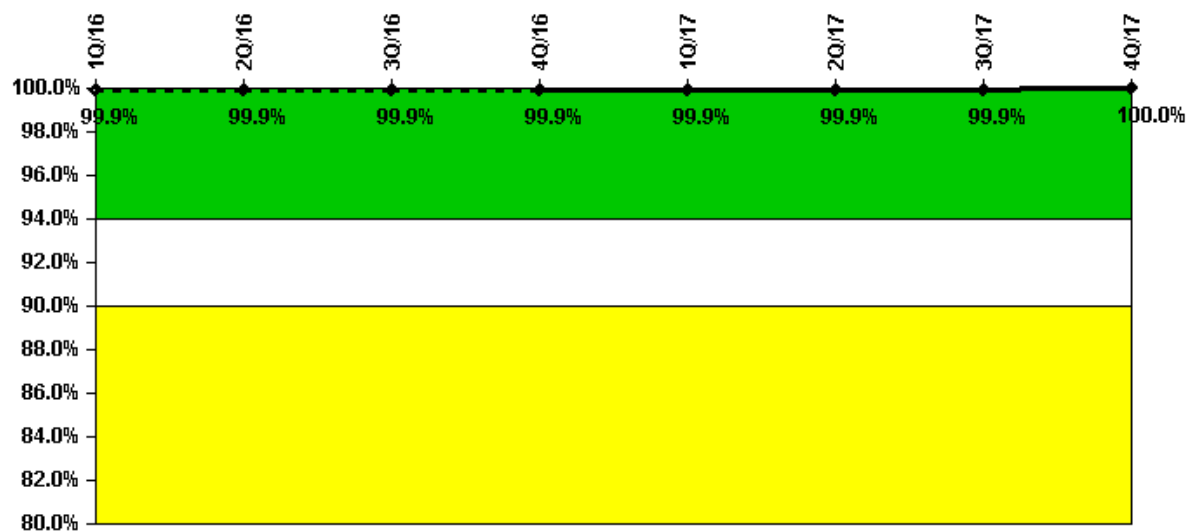
ERO Drill Participation	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Participating Key personnel	55.0	54.0	55.0	53.0	54.0	55.0	55.0	54.0
Total Key personnel	55.0	54.0	55.0	53.0	54.0	55.0	55.0	54.0

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

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Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

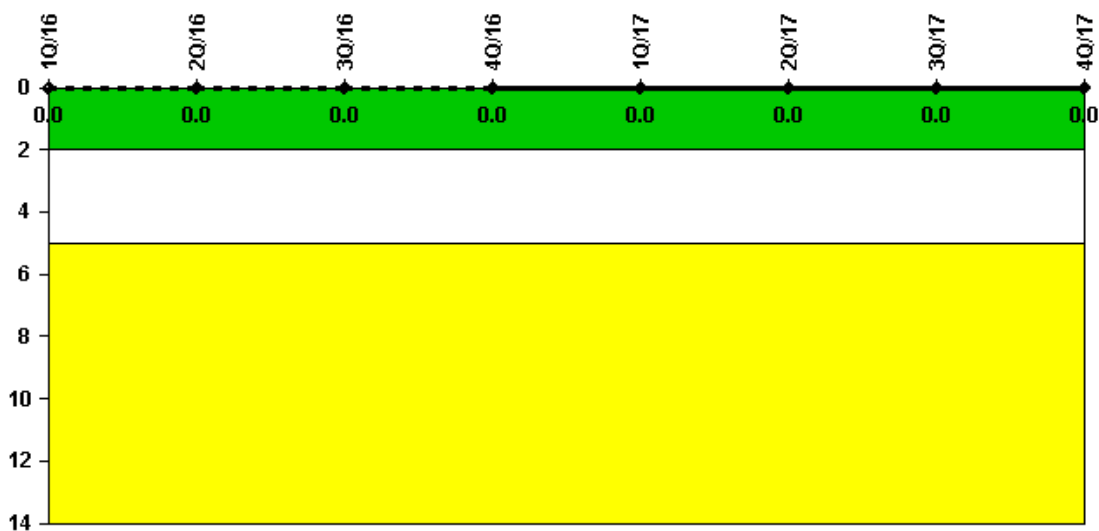
Alert & Notification System	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful siren-tests	580	664	492	746	497	664	498	747
Total sirens-tests	581	664	493	747	498	664	498	747

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

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Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

**Notes**

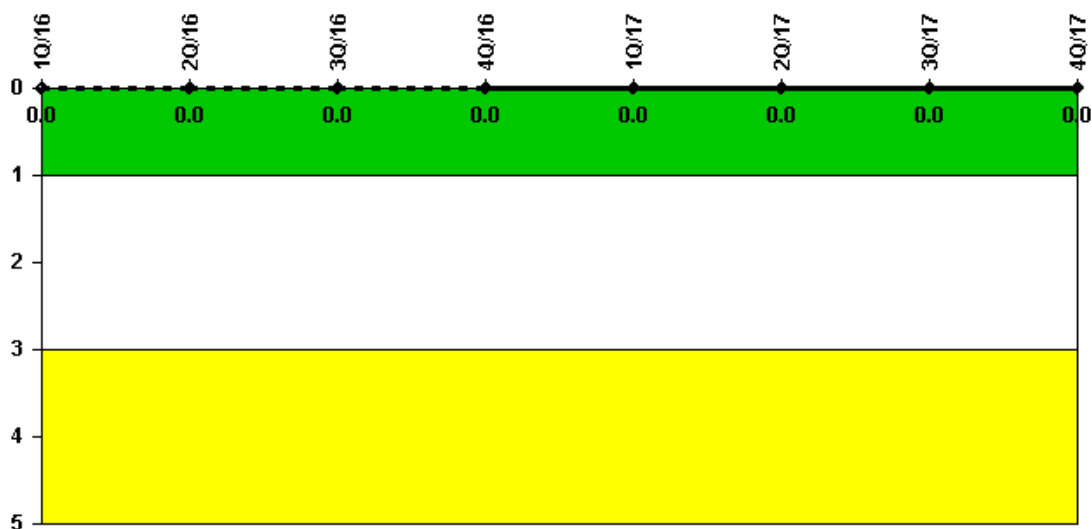
**Occupational Exposure Control Effectiveness** 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

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*