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## Hope Creek 1 – Quarterly Performance Indicators

### 4Q/2017 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

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### Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

**Notes**

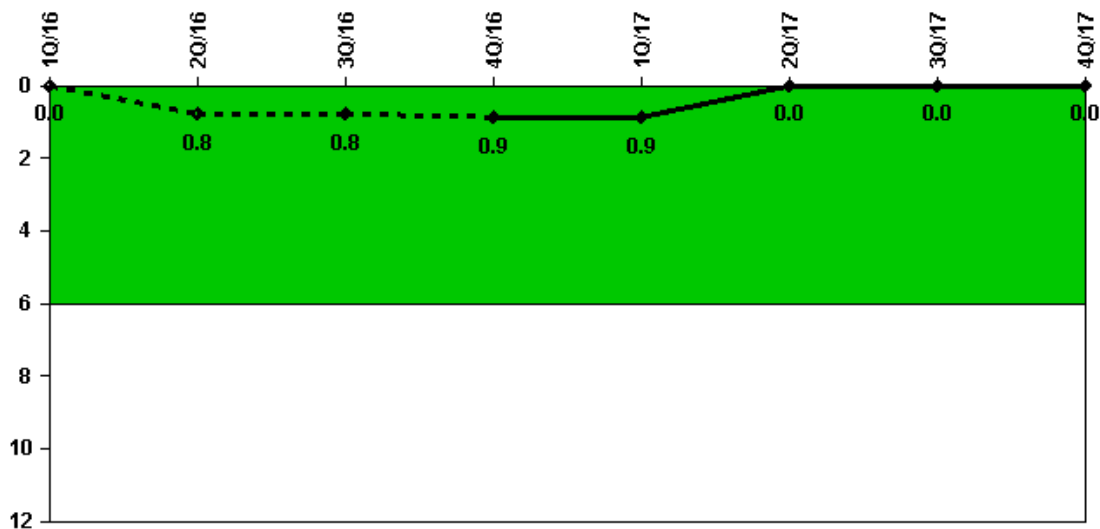
Unplanned Scrams per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2183.0	2184.0	2208.0	1575.1	2159.0	2184.0	2208.0	2209.0

Indicator value	0.9	0.8	0	0	0	0	0	0
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Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

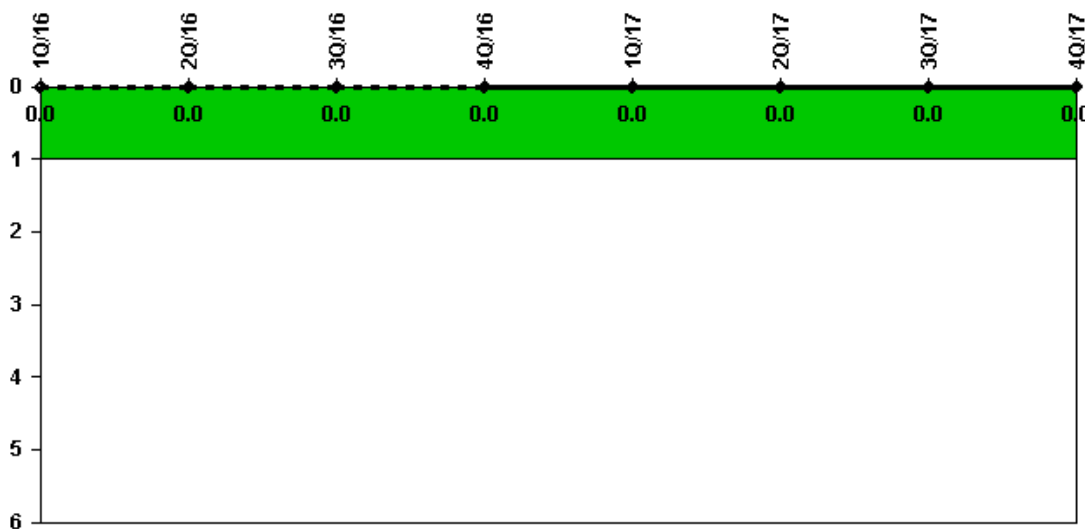
**Notes**

<b>Unplanned Power Changes per 7000 Critical Hrs</b>	<b>1Q/16</b>	<b>2Q/16</b>	<b>3Q/16</b>	<b>4Q/16</b>	<b>1Q/17</b>	<b>2Q/17</b>	<b>3Q/17</b>	<b>4Q/17</b>
Unplanned power changes	0	1.0	0	0	0	0	0	0
Critical hours	2183.0	2184.0	2208.0	1575.1	2159.0	2184.0	2208.0	2209.0
<b>Indicator value</b>	<b>0</b>	<b>0.8</b>	<b>0.8</b>	<b>0.9</b>	<b>0.9</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

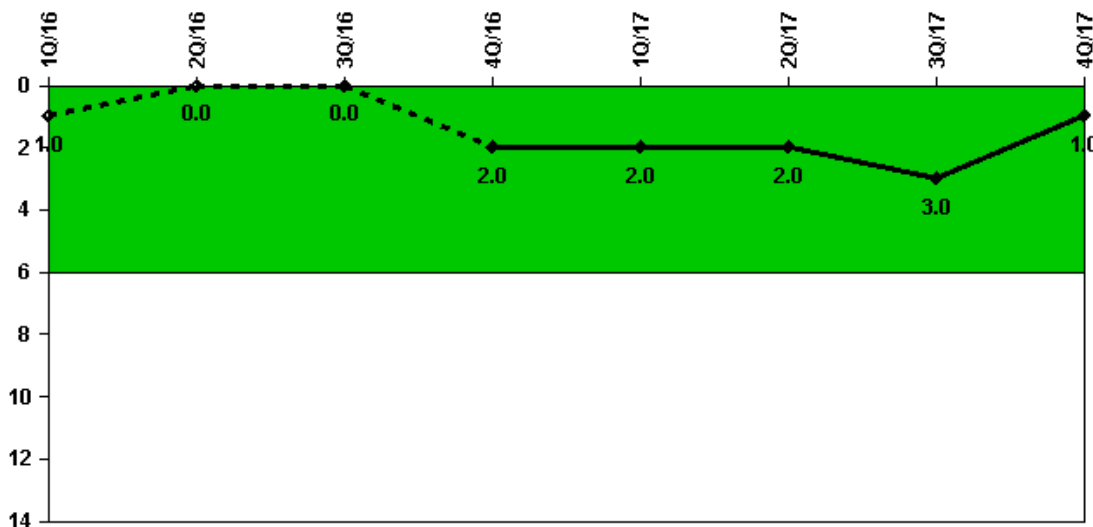
**Notes**

<b>Unplanned Scrams with Complications</b>	<b>1Q/16</b>	<b>2Q/16</b>	<b>3Q/16</b>	<b>4Q/16</b>	<b>1Q/17</b>	<b>2Q/17</b>	<b>3Q/17</b>	<b>4Q/17</b>
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 (BWR)



Thresholds: White > 6.0

**Notes**

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

Safety System Functional Failures                    0    0    0    2    0    0    1    0

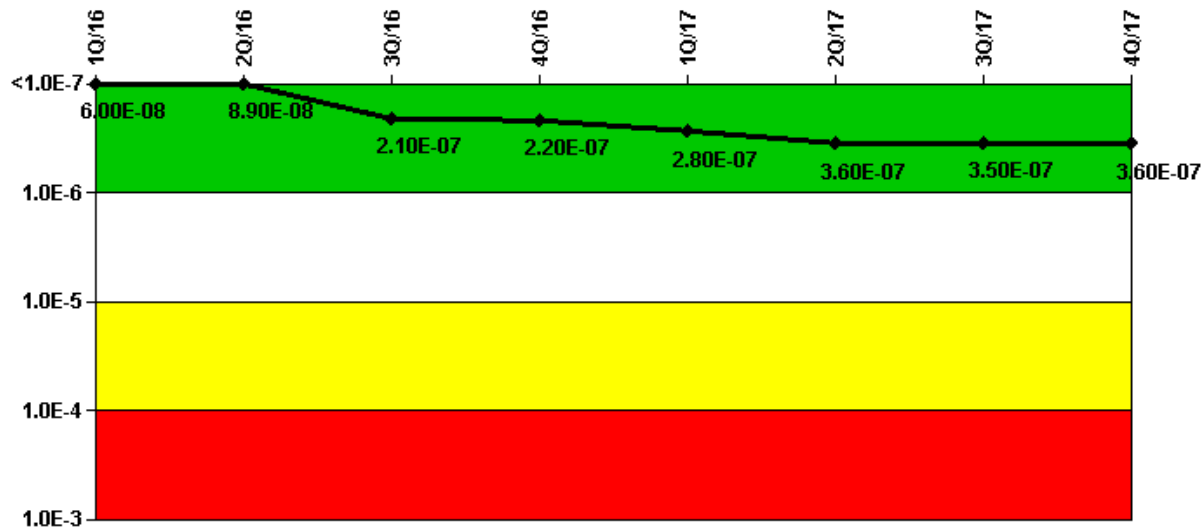
**Indicator value**    1    0    0    2    2    2    3    1

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Licensee Comments:

4Q/16: Two LERs were submitted in October 2016. LER 2016-001-00, High Pressure Coolant Injection System Found to be Inoperable During Testing (HPCI Overspeed Tappet) and LER 2016-002-00, High Pressure Coolant Injection System Inoperable (HPCI Governor).

### 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)	-4.66E-09	2.42E-08	2.53E-08	2.19E-08	2.03E-08	2.06E-08	2.25E-08	2.30E-08
URI (ΔCDF)	6.47E-08	6.50E-08	1.89E-07	1.95E-07	2.64E-07	3.36E-07	3.31E-07	3.33E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>6.00E-08</b>	<b>8.90E-08</b>	<b>2.10E-07</b>	<b>2.20E-07</b>	<b>2.80E-07</b>	<b>3.60E-07</b>	<b>3.50E-07</b>	<b>3.60E-07</b>

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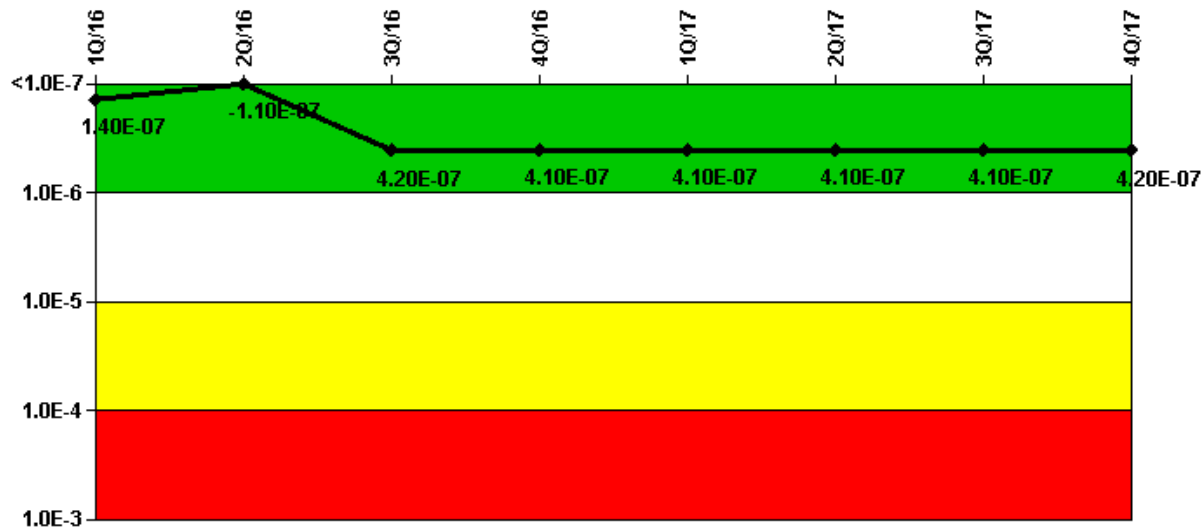
Licensee Comments:

3Q/17: MSPI Emergency AC Power Systems for June 2017 was updated. For the D EDG planned unavailable hours were revised from 168.75 to 117.75 hours and unplanned unavailable hours were revised from 0 to 21.97 hours. An MSPI failure was also taken for this event. There was no change to the color of the indicator. It remains green.

2Q/17: MSPI Emergency AC Power Systems for June 2017 was updated. For the D EDG planned unavailable hours were revised from 168.75 to 117.75 hours and unplanned unavailable hours were revised from 0 to 21.97 hours. An MSPI failure was also taken for this event. There was no change to the color of the indicator. It remains green.

2Q/16: The failure of the C EDG Jacket Water Hose on January 2016 was noted not to be reflected in CDE data. A manufacturing defect combined with high vibration in the line resulted in a leak on the EDG that impacted its ability to complete its mission time. This resulted in an MSPI failure to run of the machine. The hose was replaced and the station continue to troubleshoot to correct the vibration condition. This resulted in 5.35 unplanned unavailable hours for the C EDG in January 2016. It was determined to be a negligible increase in MSPI Emergency AC power values. The revised values were incorporated into CDE effective the second quarter 2016.

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



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

**Notes**

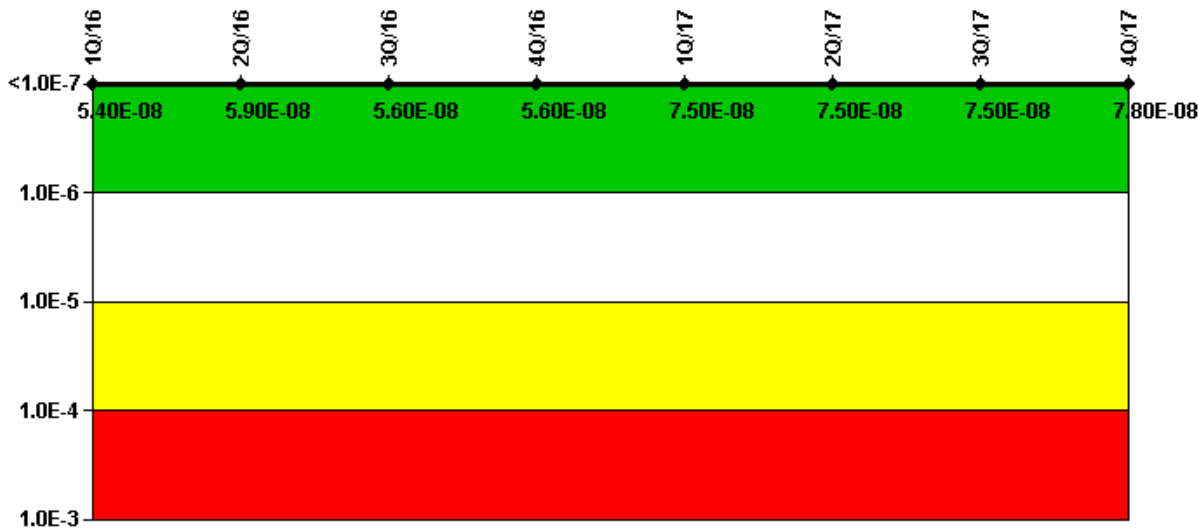
**Mitigating Systems Performance Index, High Pressure Injection System**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI ( $\Delta$ CDF)	-3.36E-08	-3.36E-08	1.50E-08	1.46E-08	1.46E-08	1.46E-08	1.44E-08	1.44E-08
URI ( $\Delta$ CDF)	1.75E-07	-7.42E-08	4.10E-07	4.00E-07	4.00E-07	3.99E-07	4.00E-07	4.09E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>1.40E-07</b>	<b>-1.10E-07</b>	<b>4.20E-07</b>	<b>4.10E-07</b>	<b>4.10E-07</b>	<b>4.10E-07</b>	<b>4.10E-07</b>	<b>4.20E-07</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**

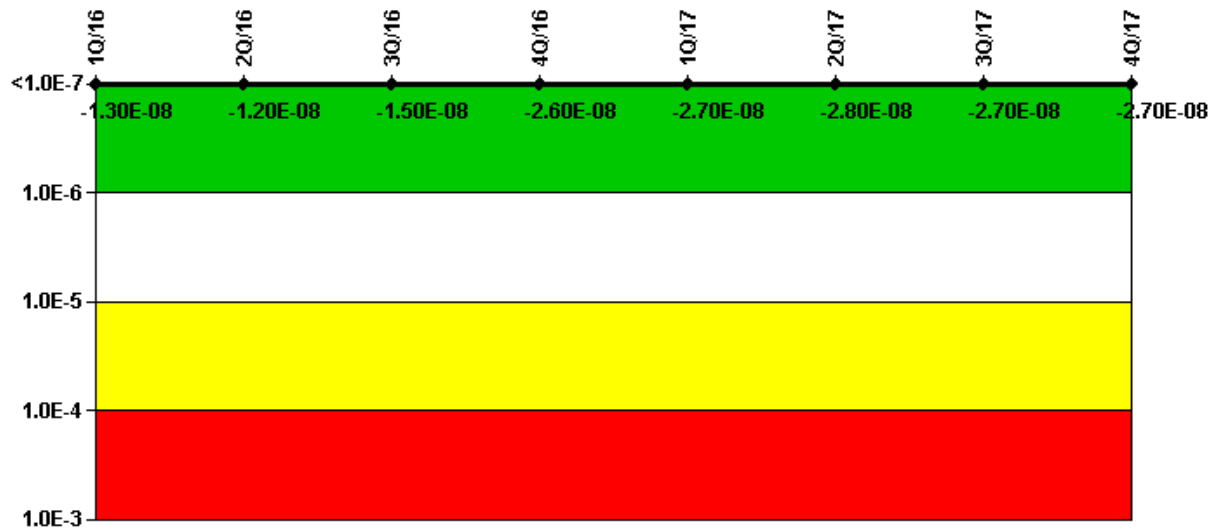
**Mitigating Systems Performance Index, Heat Removal System**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI ( $\Delta$ CDF)	-8.05E-09	-8.06E-09	-8.06E-09	-8.09E-09	-8.09E-09	-8.09E-09	-8.10E-09	-8.10E-09
URI ( $\Delta$ CDF)	6.22E-08	6.69E-08	6.44E-08	6.44E-08	8.30E-08	8.30E-08	8.29E-08	8.60E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>5.40E-08</b>	<b>5.90E-08</b>	<b>5.60E-08</b>	<b>5.60E-08</b>	<b>7.50E-08</b>	<b>7.50E-08</b>	<b>7.50E-08</b>	<b>7.80E-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**

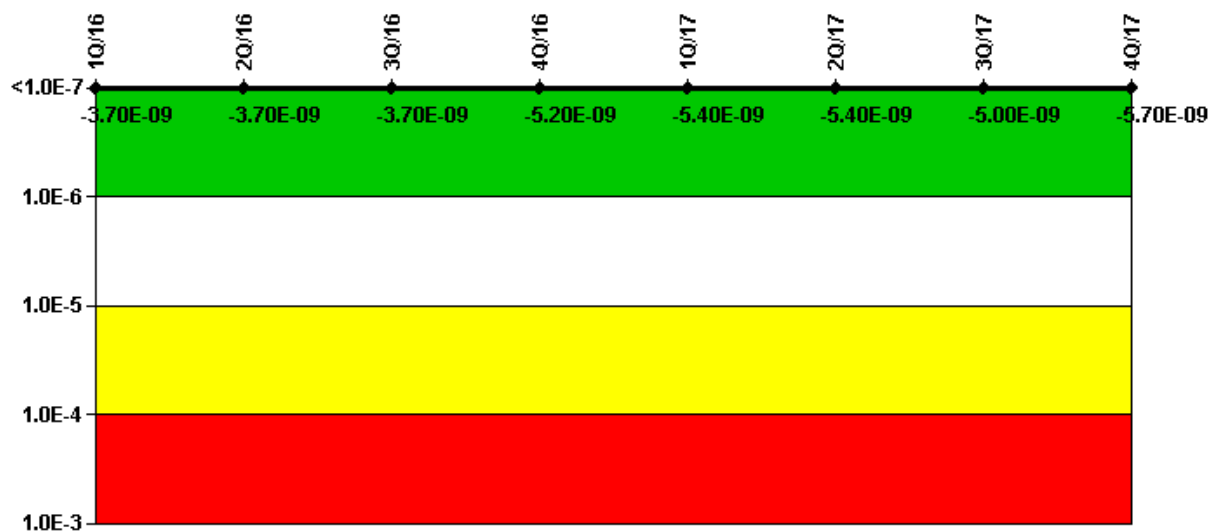
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	3.56E-09	4.58E-09	1.94E-09	2.20E-10	-9.05E-10	-2.70E-09	-2.81E-09	-2.78E-09
URI (ΔCDF)	-1.64E-08	-1.64E-08	-1.74E-08	-2.65E-08	-2.62E-08	-2.56E-08	-2.44E-08	-2.43E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.30E-08</b>	<b>-1.20E-08</b>	<b>-1.50E-08</b>	<b>-2.60E-08</b>	<b>-2.70E-08</b>	<b>-2.80E-08</b>	<b>-2.70E-08</b>	<b>-2.70E-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**

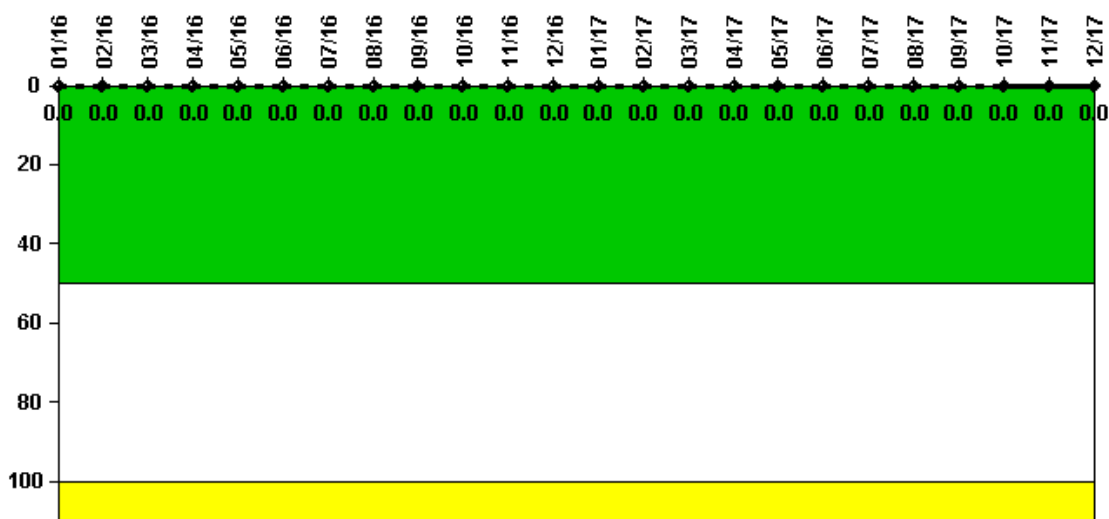
**Mitigating Systems Performance Index, Cooling Water Systems**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI ( $\Delta$ CDF)	-2.33E-09	-2.35E-09	-2.35E-09	-2.37E-09	-2.59E-09	-2.59E-09	-2.21E-09	-3.02E-09
URI ( $\Delta$ CDF)	-1.38E-09	-1.37E-09	-1.32E-09	-2.79E-09	-2.77E-09	-2.77E-09	-2.75E-09	-2.72E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-3.70E-09</b>	<b>-3.70E-09</b>	<b>-3.70E-09</b>	<b>-5.20E-09</b>	<b>-5.40E-09</b>	<b>-5.40E-09</b>	<b>-5.00E-09</b>	<b>-5.70E-09</b>

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Licensee Comments: none

### 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	0.000026	0.000037	0.000025	0.000030	0.000026	0.000028	0.000027	0.000027	0.000027	0.000025	0.000023	0.000027
Technical specification limit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
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	0.000027	0.000025	0.000034	0.000029	0.000028	0.000032	0.000032	0.000025	0.000027	0.000024	0.000029	0.000026
Technical specification limit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0

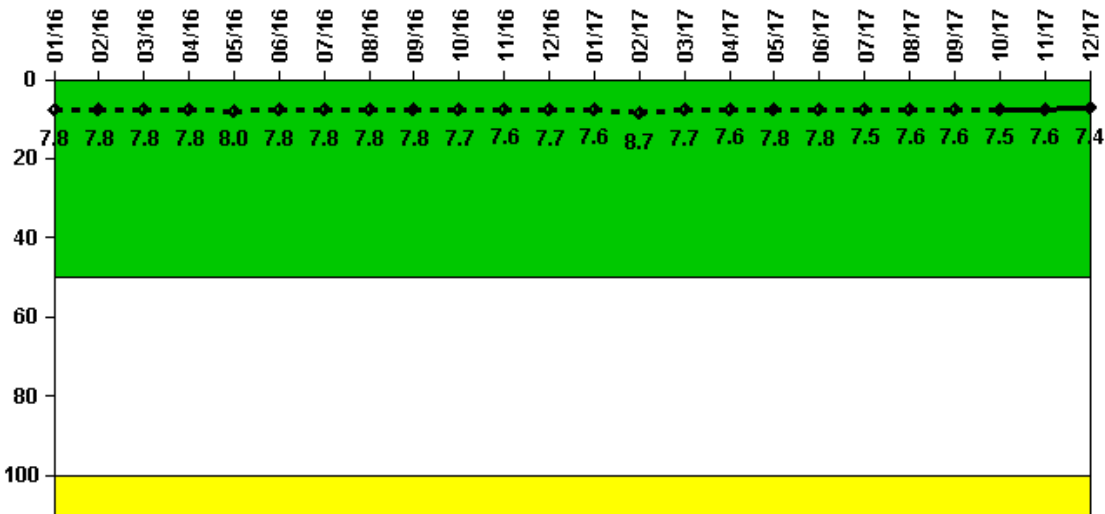
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Licensee Comments:

6/17: November 2016 DEI was updated to reflect the maximum value for the month of November 2016 excluding samples taken when the power varied more than 5% and when the unit was shutdown.

12/16: DEI was updated to reflect the maximum value for the month of November 2016 excluding samples taken when the power varied more than 5% and when the unit was shutdown.

### 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	1.950	1.950	1.960	1.940	1.990	1.950	1.940	1.950	1.940	1.930	1.900	1.930
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0

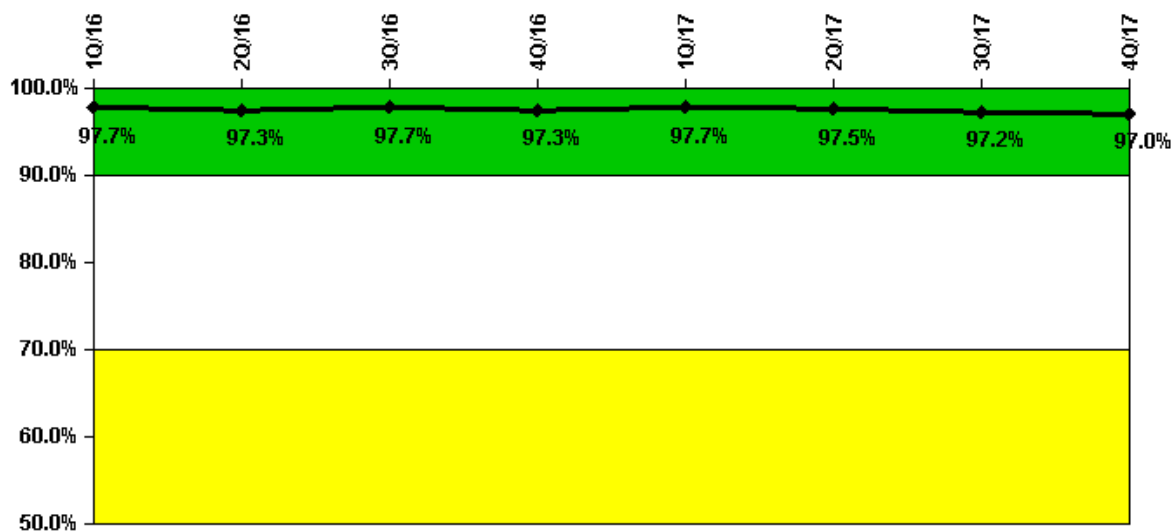
Indicator value	7.8	7.8	7.8	7.8	8.0	7.8	7.8	7.8	7.8	7.7	7.6	7.7
Reactor Coolant System Leakage	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17
Maximum leakage	1.890	2.170	1.930	1.900	1.940	1.960	1.880	1.890	1.910	1.880	1.900	1.840
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0

Indicator value	7.6	8.7	7.7	7.6	7.8	7.8	7.5	7.6	7.6	7.5	7.6	7.4
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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	38.0	34.0	66.0	19.0	42.0	38.0	45.0	36.0
Total opportunities	39.0	36.0	66.0	20.0	43.0	40.0	46.0	38.0

**Indicator value**                    **97.7% 97.3% 97.7% 97.3% 97.7% 97.5% 97.2% 97.0%**

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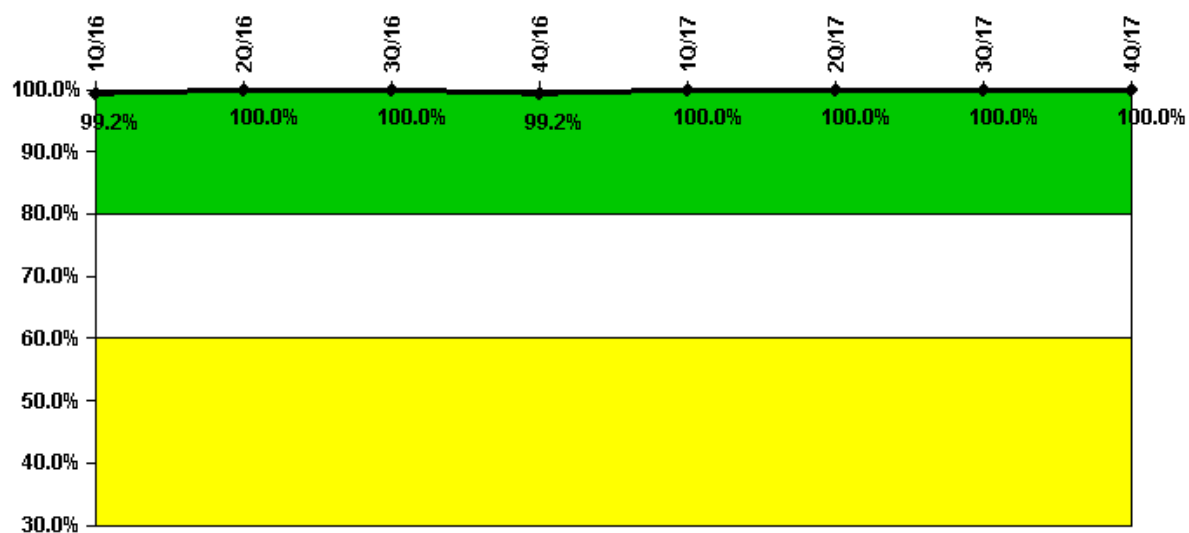
#### Licensee Comments:

2Q/17: Reported opportunities differ from documented opportunities due to Licensed Operator Requalification Training Exam Security process. No failures related to the opportunities. No color change.

4Q/16: Reported opportunities differ from documented opportunities due to Licensed Operator Requalification Training Exam Security process. No failures related to the opportunities. No color change.

3Q/16: Reported opportunities differ from documented opportunities due to Licensed Operator Requalification Training Exam Security process. No failures related to the opportunities. No color change.

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

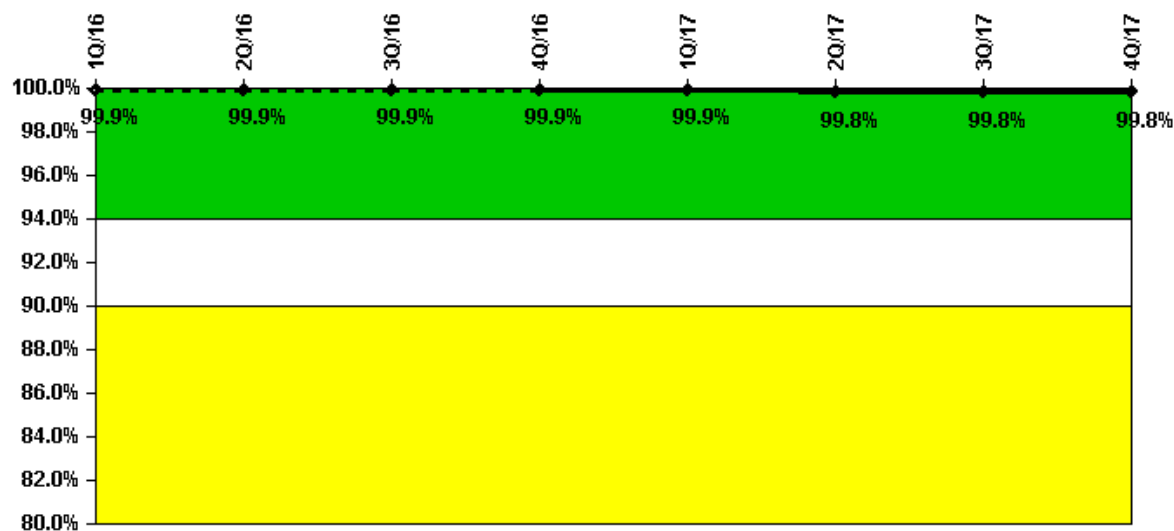
ERO Drill Participation	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Participating Key personnel	119.0	118.0	126.0	129.0	124.0	124.0	125.0	123.0
Total Key personnel	120.0	118.0	126.0	130.0	124.0	124.0	125.0	123.0

Indicator value                    99.2% 100.0% 100.0% 99.2% 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

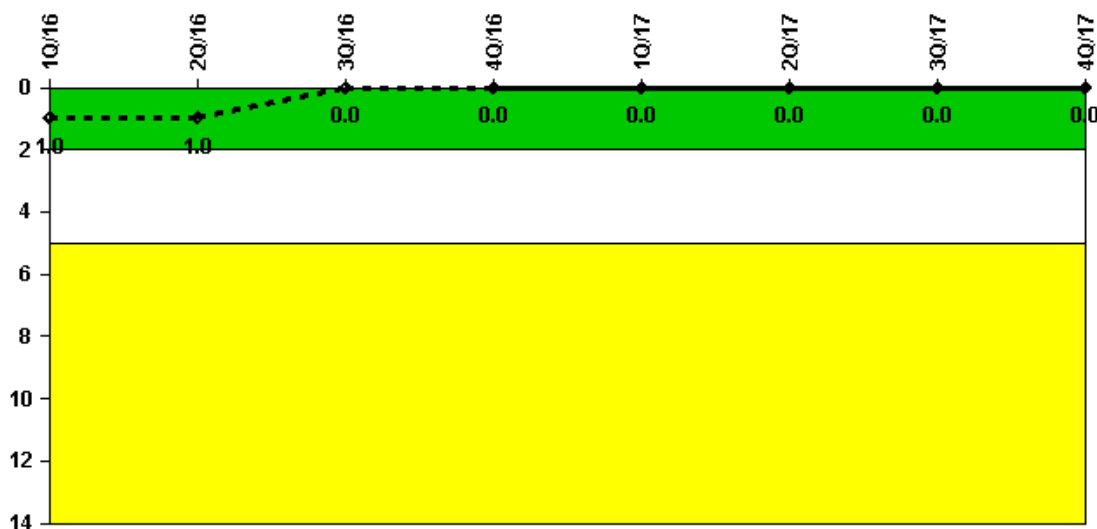
Alert & Notification System	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful siren-tests	497	497	496	497	497	495	495	497
Total sirens-tests	497	497	497	497	497	497	497	497

Indicator value                    99.9% 99.9% 99.9% 99.9% 99.9% 99.8% 99.8% 99.8%

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Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

**Notes**

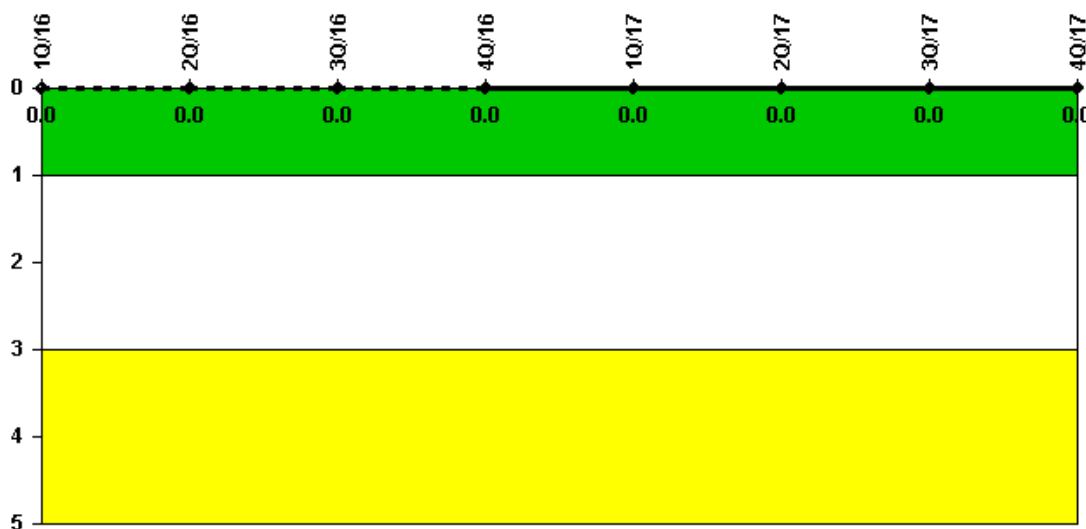
**Occupational Exposure Control Effectiveness** 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

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>1</b>	<b>1</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*