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## Palo Verde 3 – Quarterly Performance Indicators

### 4Q/2017 Performance Indicators

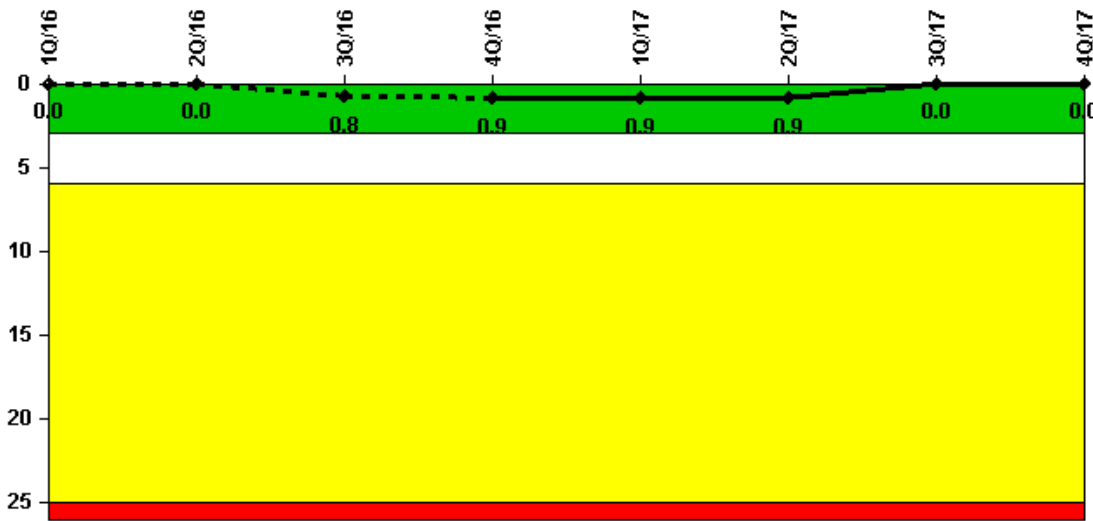
The solid trend line represents the current reporting period.

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**

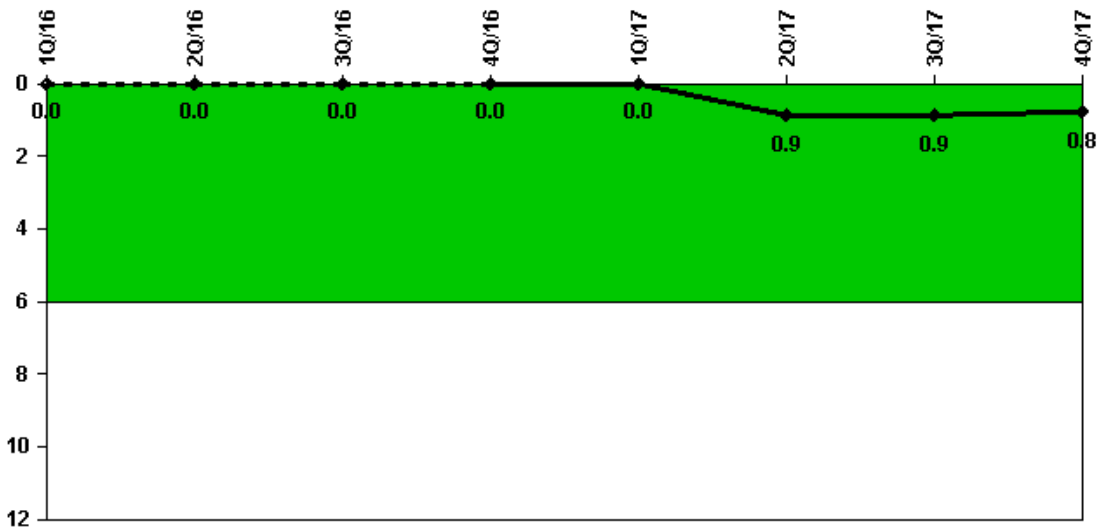
Unplanned Scrams per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned scrams	0	0	1.0	0	0	0	0	0
Critical hours	2184.0	2184.0	2142.0	1538.5	2160.0	2071.8	2208.0	2208.0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0.8</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0</b>	<b>0</b>

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Licensee Comments:

1Q/17: License Amendment No. 200 was approved on January 4, 2017 on a one-time basis to revise Technical Specification Limiting Condition for Operation 3.8.1.B.4 to allow a Completion Time of 62 days related to the Unit 3 Train B Diesel Generator failure that occurred on December 15, 2016 (ENS 52435).

### 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	1.0	0	0
Critical hours	2184.0	2184.0	2142.0	1538.5	2160.0	2071.8	2208.0	2208.0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.9</b>	<b>0.9</b>	<b>0.8</b>

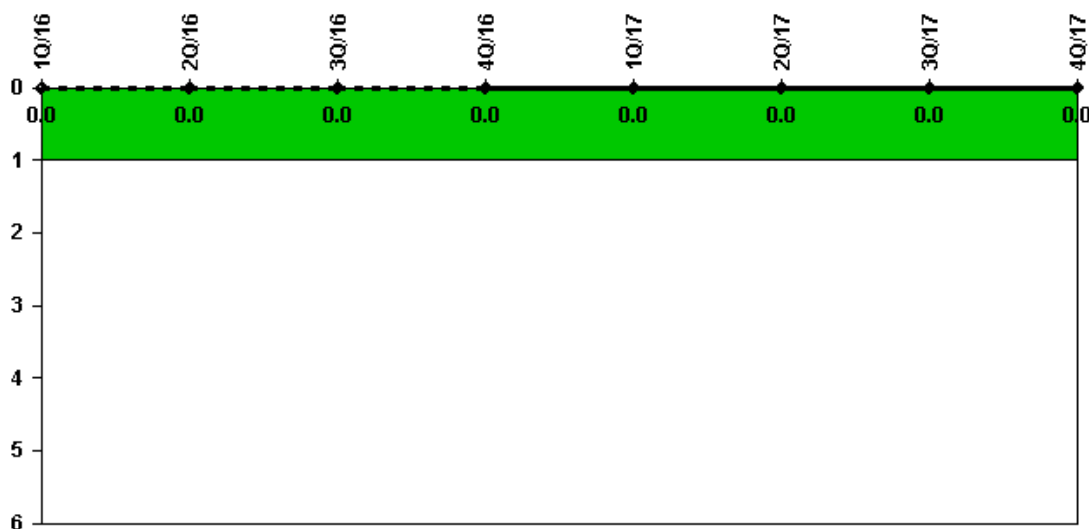
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#### Licensee Comments:

1Q/17: FAQ 17-02 submitted on March 23, 2017 to address an event that occurred on September 19, 2016 that is currently being counted only as an unplanned scram.

4Q/16: License Amendment No. 199 was approved on December 23, 2016 on a one-time basis to revise Technical Specification Limiting Condition for Operation 3.8.1.B.4 to allow a Completion Time of 21 days related to the Unit 3 Train B Diesel Generator failure that occurred on December 15, 2016 (ENS 52435).

### 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

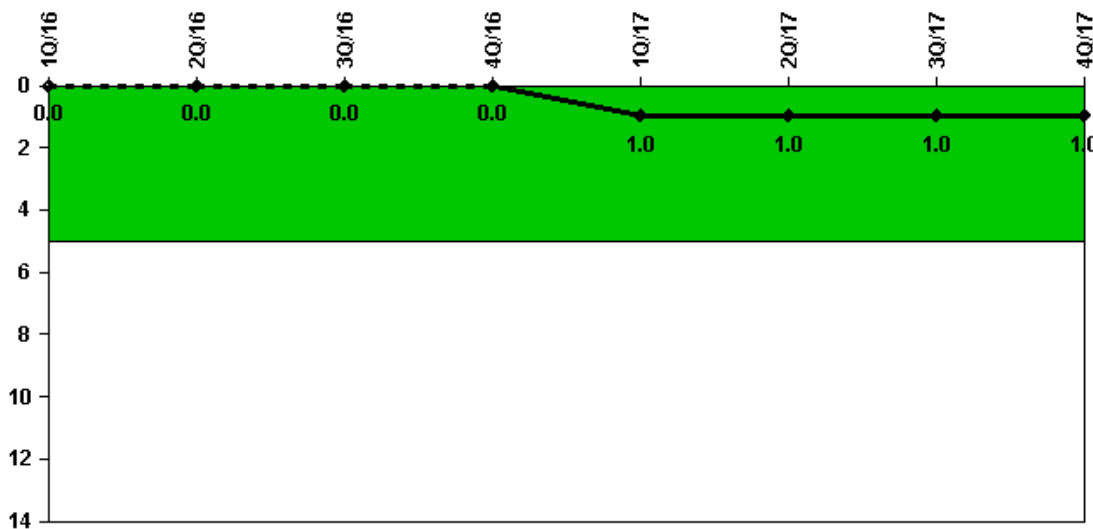
Scrams with complications 0 0 0 0 0 0 0 0

**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) 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

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

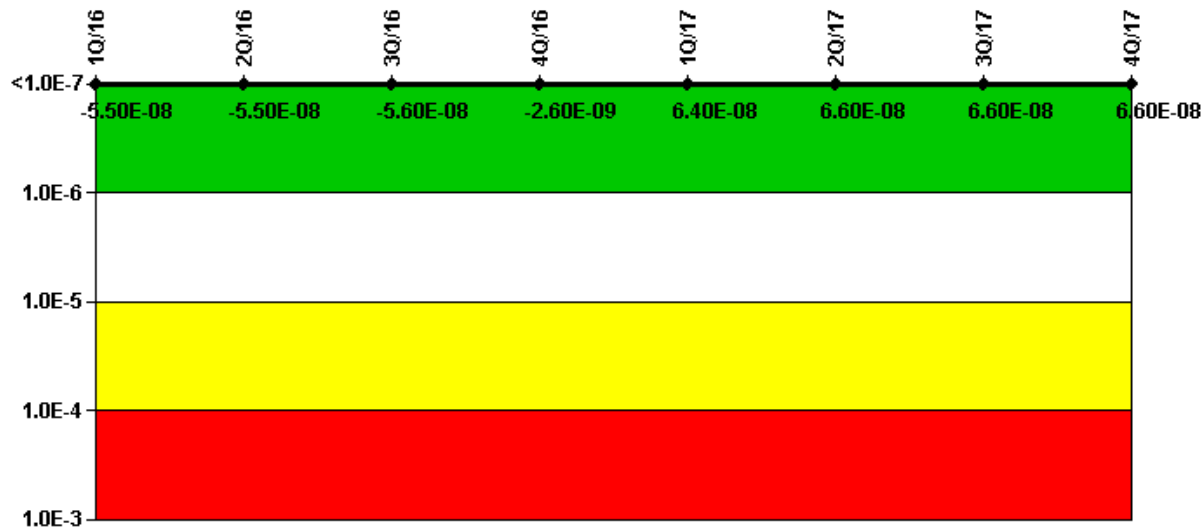
**Indicator value**    0   0   0   0   1   1   1   1

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Licensee Comments:

1Q/17: LER 2016-002-00 for the failure of Unit 3 train B emergency diesel generator was reported on February 10, 2017.

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



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

**Notes**

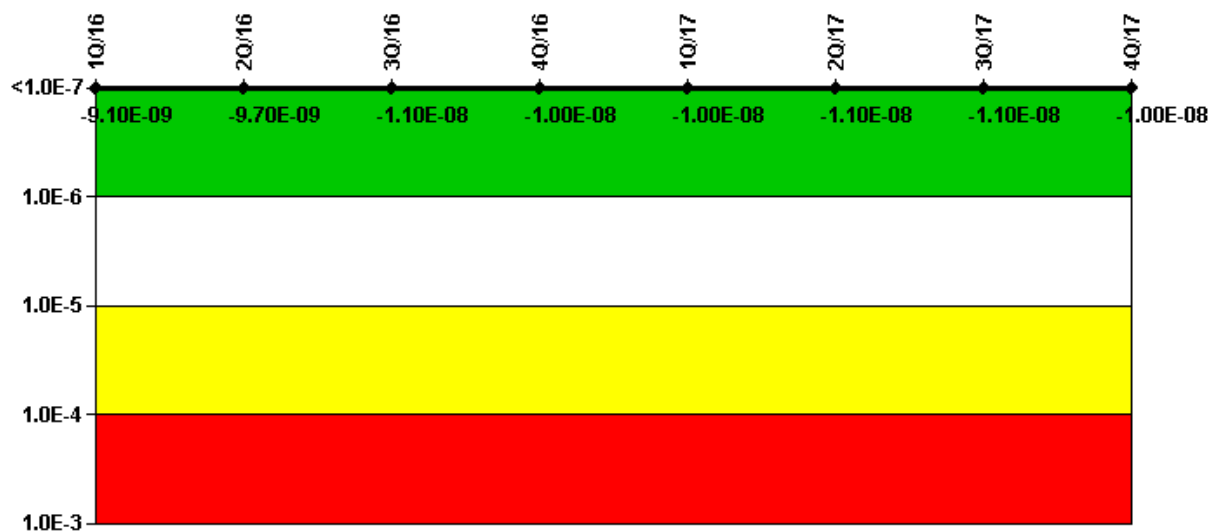
**Mitigating Systems Performance Index, Emergency AC Power System**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-4.31E-09	-4.31E-09	-5.49E-09	1.95E-08	8.56E-08	8.78E-08	8.85E-08	8.85E-08
URI (ΔCDF)	-5.09E-08	-5.09E-08	-5.09E-08	-2.20E-08	-2.20E-08	-2.20E-08	-2.20E-08	-2.20E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-5.50E-08</b>	<b>-5.50E-08</b>	<b>-5.60E-08</b>	<b>-2.60E-09</b>	<b>6.40E-08</b>	<b>6.60E-08</b>	<b>6.60E-08</b>	<b>6.60E-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**

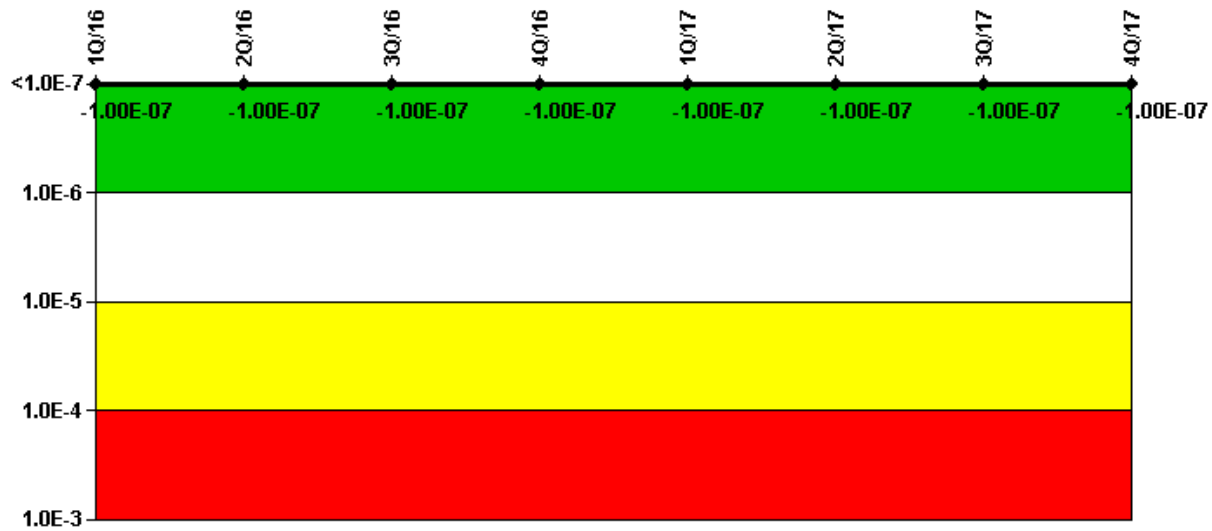
**Mitigating Systems Performance Index, High Pressure Injection System**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	1.10E-09	5.69E-10	-3.12E-10	1.28E-10	2.97E-10	-4.00E-10	-3.75E-10	1.04E-10
URI (ΔCDF)	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08	-1.03E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-9.10E-09</b>	<b>-9.70E-09</b>	<b>-1.10E-08</b>	<b>-1.00E-08</b>	<b>-1.00E-08</b>	<b>-1.10E-08</b>	<b>-1.10E-08</b>	<b>-1.00E-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**

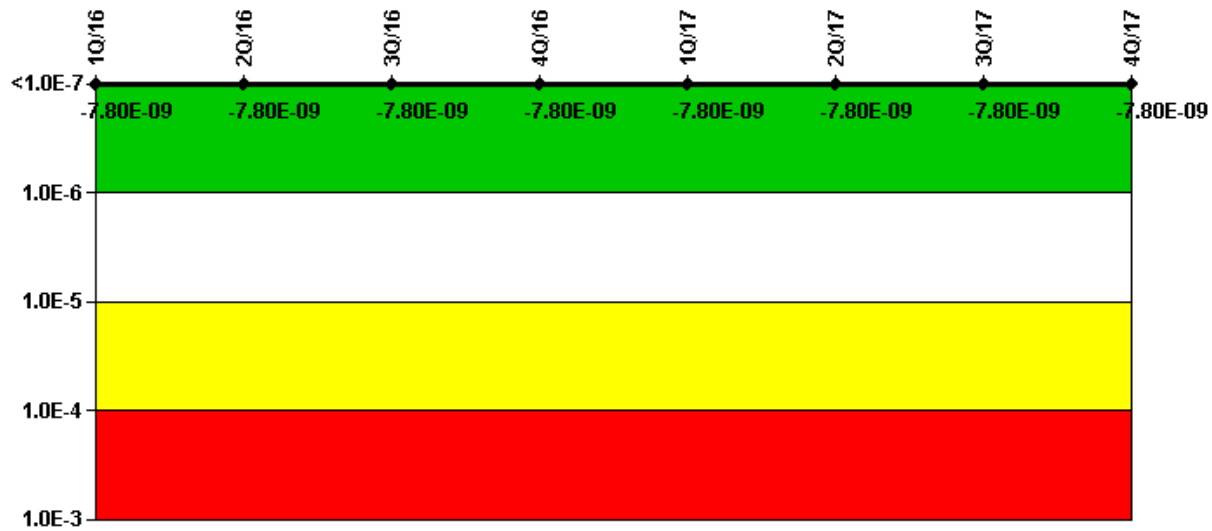
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI ( $\Delta$ CDF)	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08	-4.84E-08
URI ( $\Delta$ CDF)	-5.15E-08	-5.15E-08	-5.15E-08	-5.15E-08	-5.15E-08	-5.15E-08	-5.15E-08	-5.15E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.00E-07</b>	<b>-1.00E-07</b>	<b>-1.00E-07</b>	<b>-1.00E-07</b>	<b>-1.00E-07</b>	<b>-1.00E-07</b>	<b>-1.00E-07</b>	<b>-1.00E-07</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**

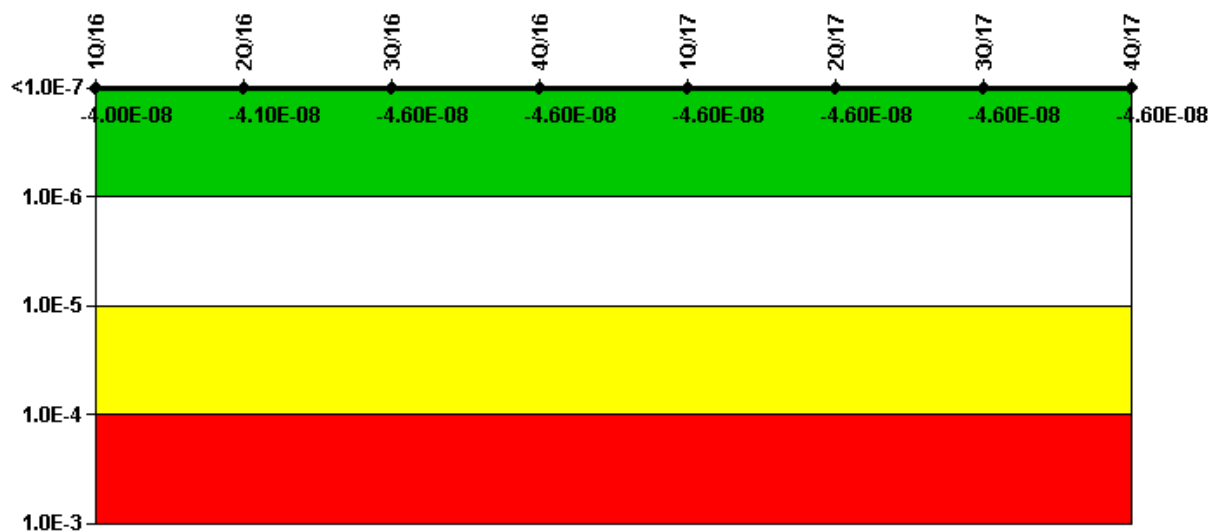
**Mitigating Systems Performance Index, Residual Heat Removal System**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI ( $\Delta$ CDF)	-1.46E-09	-1.46E-09	-1.46E-09	-1.46E-09	-1.46E-09	-1.46E-09	-1.46E-09	-1.46E-09
URI ( $\Delta$ CDF)	-6.37E-09	-6.37E-09	-6.37E-09	-6.37E-09	-6.37E-09	-6.37E-09	-6.37E-09	-6.37E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-7.80E-09</b>	<b>-7.80E-09</b>	<b>-7.80E-09</b>	<b>-7.80E-09</b>	<b>-7.80E-09</b>	<b>-7.80E-09</b>	<b>-7.80E-09</b>	<b>-7.80E-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**

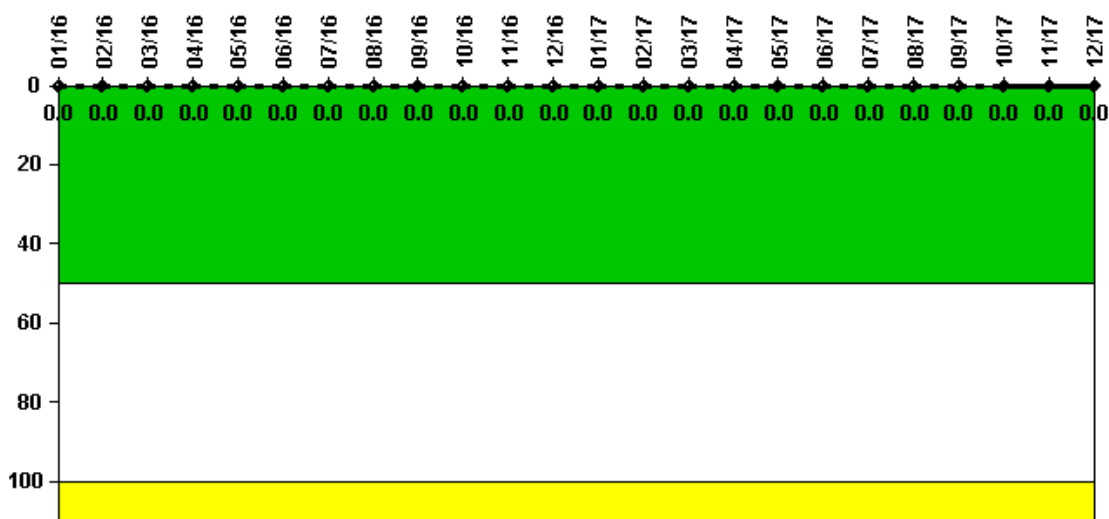
**Mitigating Systems Performance Index, Cooling Water Systems**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	5.22E-09	5.17E-09	0.00E+00	0.00E+00	9.69E-11	0.00E+00	0.00E+00	0.00E+00
URI (ΔCDF)	-4.57E-08	-4.57E-08	-4.57E-08	-4.57E-08	-4.57E-08	-4.57E-08	-4.57E-08	-4.57E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-4.00E-08</b>	<b>-4.10E-08</b>	<b>-4.60E-08</b>	<b>-4.60E-08</b>	<b>-4.60E-08</b>	<b>-4.60E-08</b>	<b>-4.60E-08</b>	<b>-4.60E-08</b>

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Licensee Comments: none

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

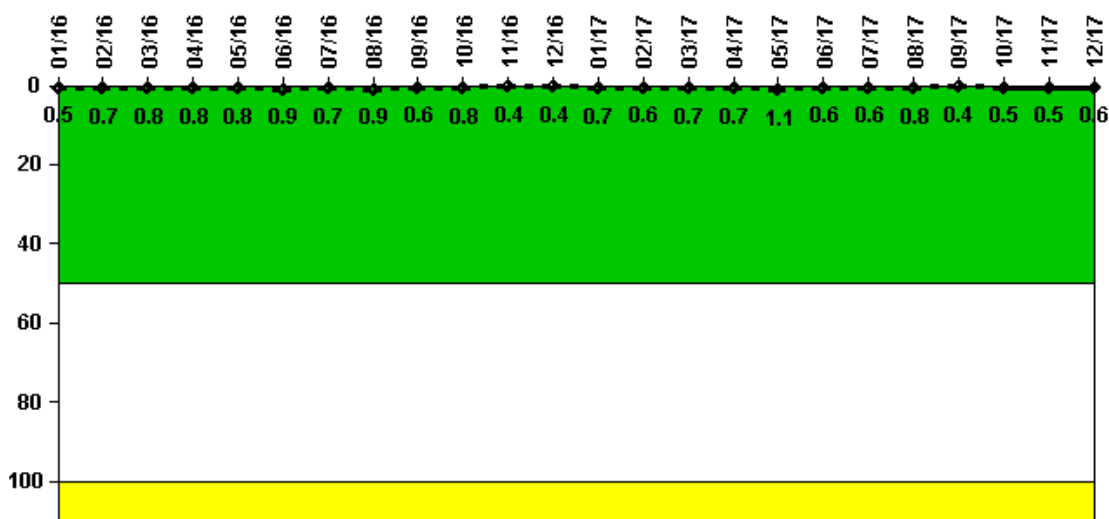
**Notes**

Reactor Coolant System Activity	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	0.000189	0.000186	0.000203	0.000192	0.000192	0.000194	0.000194	0.000193	0.000200	0.000200	0.000245	0.000175
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
<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>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
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	0.000182	0.000182	0.000187	0.000189	0.000193	0.000192	0.000195	0.000199	0.000201	0.000204	0.000203	0.000206
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
<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>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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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	0.054	0.067	0.076	0.081	0.079	0.086	0.066	0.093	0.062	0.076	0.044	0.043
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

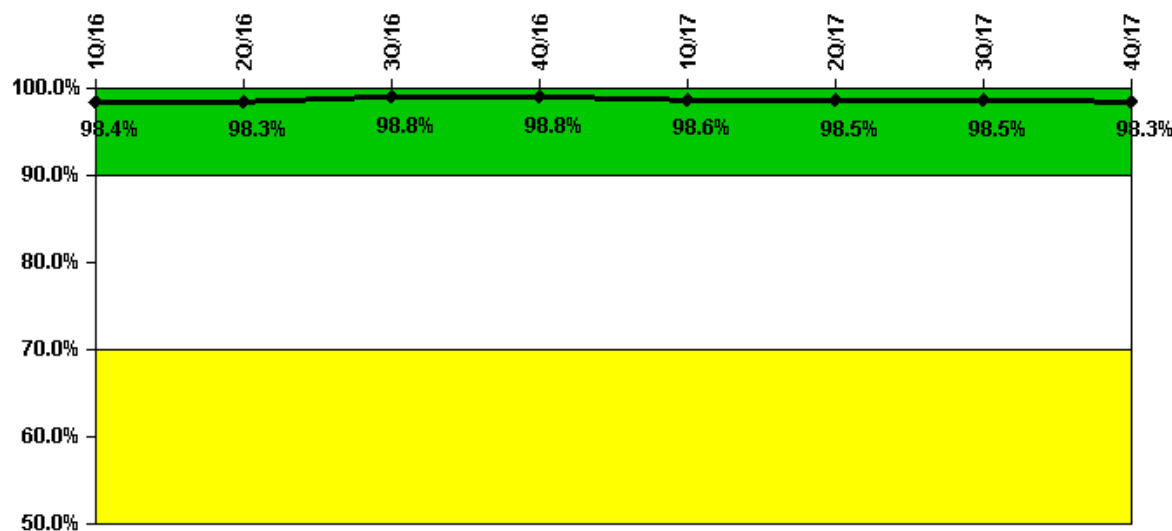
<b>Indicator value</b>	<b>0.5</b>	<b>0.7</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.9</b>	<b>0.7</b>	<b>0.9</b>	<b>0.6</b>	<b>0.8</b>	<b>0.4</b>	<b>0.4</b>
Reactor Coolant System Leakage	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17
Maximum leakage	0.070	0.064	0.065	0.066	0.109	0.062	0.063	0.076	0.038	0.052	0.051	0.056
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>0.7</b>	<b>0.6</b>	<b>0.7</b>	<b>0.7</b>	<b>1.1</b>	<b>0.6</b>	<b>0.6</b>	<b>0.8</b>	<b>0.4</b>	<b>0.5</b>	<b>0.5</b>	<b>0.6</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	203.0	3.0	46.0	51.0	90.0	4.0	20.0	55.0
Total opportunities	206.0	3.0	48.0	52.0	92.0	4.0	20.0	55.0

**Indicator value**                    **98.4% 98.3% 98.8% 98.8% 98.6% 98.5% 98.5% 98.3%**

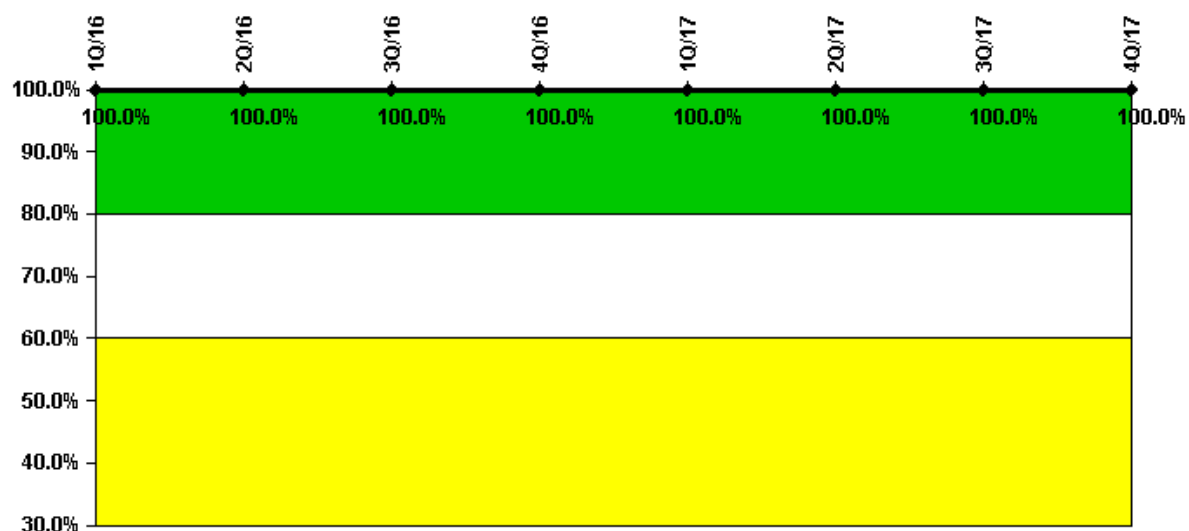
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#### Licensee Comments:

1Q/17: Updated ERO Drill and Exercise Performance results to include ten opportunities that had been previously left out of the first quarter submittal for January and February 2017. No color change resulted.

1Q/16: On March 29, 2016, a new shift manager became qualified in two key ERO positions and completed two opportunities and successes which were not included in the previously submitted data. 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	91.0	95.0	93.0	94.0	91.0	85.0	81.0	77.0
Total Key personnel	91.0	95.0	93.0	94.0	91.0	85.0	81.0	77.0

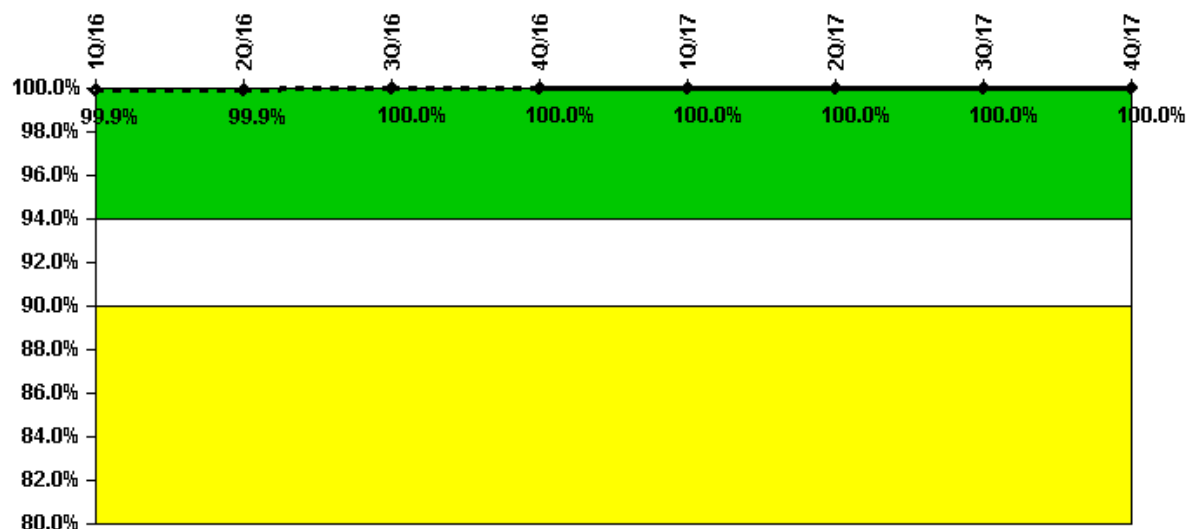
**Indicator value**                    **100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%**

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Licensee Comments:

1Q/16: On March 29, 2016, a new shift manager became qualified in two key ERO positions which were not included in the previously submitted data. No color change.

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

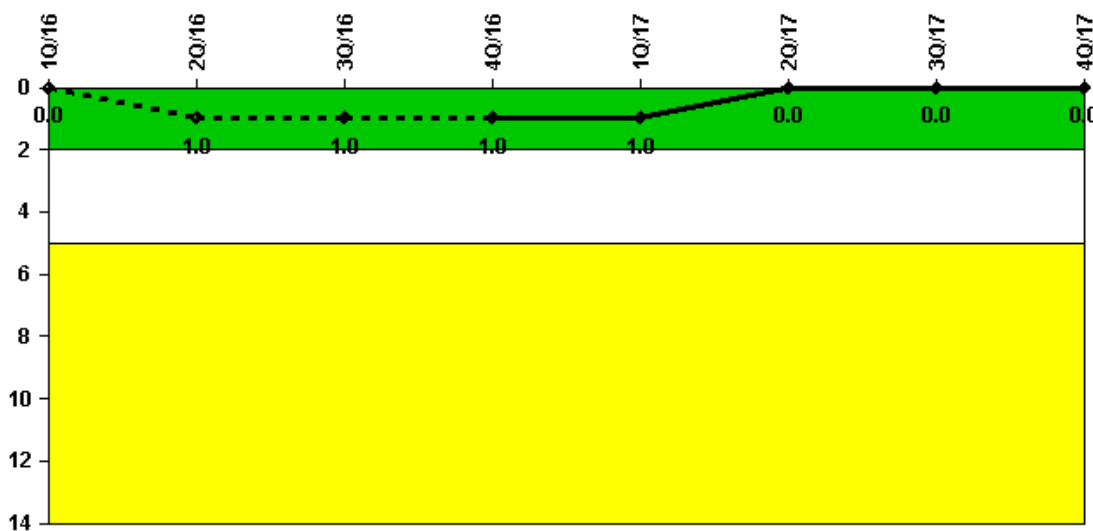
Alert & Notification System	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful siren-tests	1102	1044	1102	1218	1102	1102	1102	1218
Total sirens-tests	1102	1044	1102	1218	1102	1102	1102	1218

**Indicator value**                    **99.9%** **99.9%** **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** 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

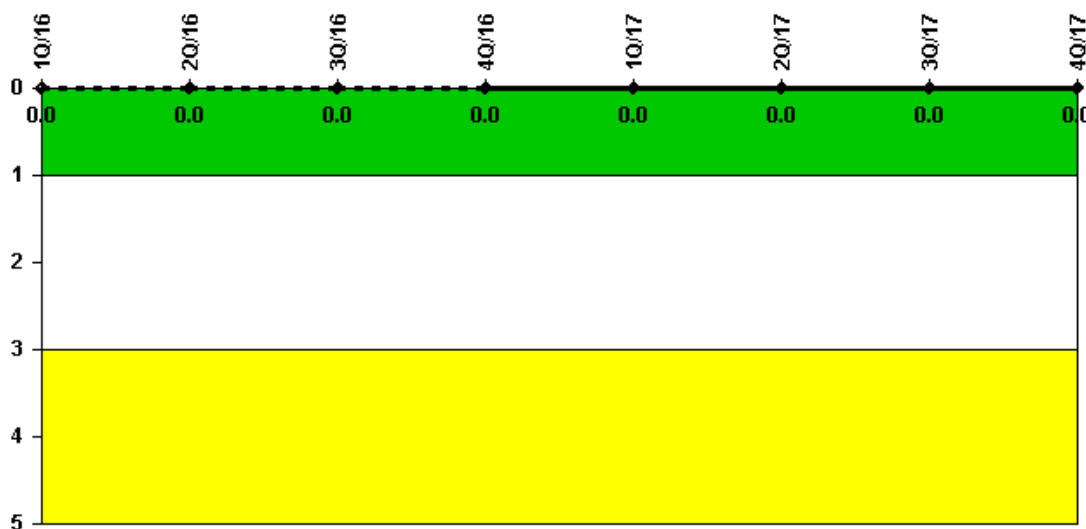
High radiation area occurrences	0	1	0	0	0	0	0	0
Very high radiation area occurrences	0	0	0	0	0	0	0	0
Unintended exposure occurrences	0	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>

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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