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## **Palisades – Quarterly Performance Indicators**

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

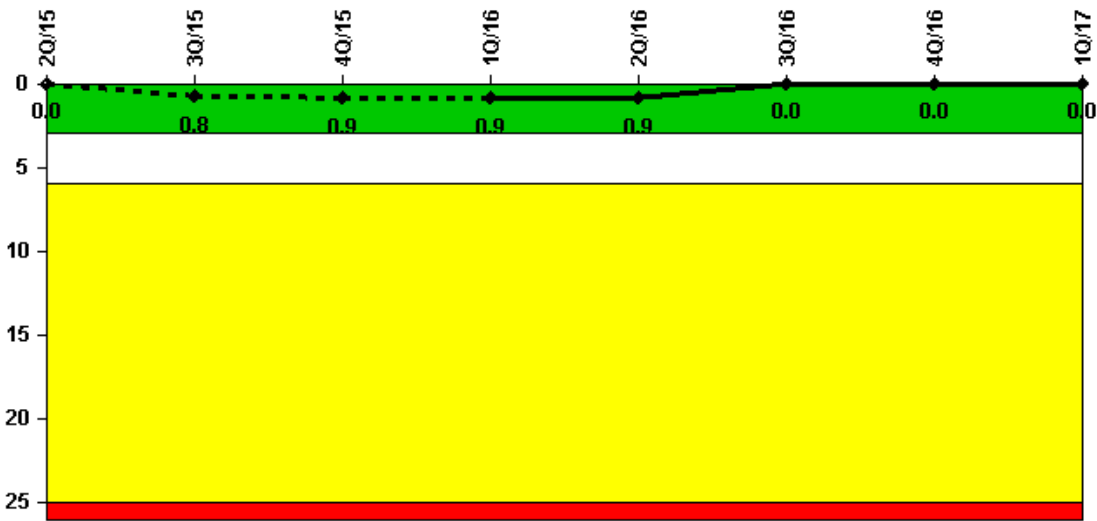
The solid trend line represents the current reporting period.

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

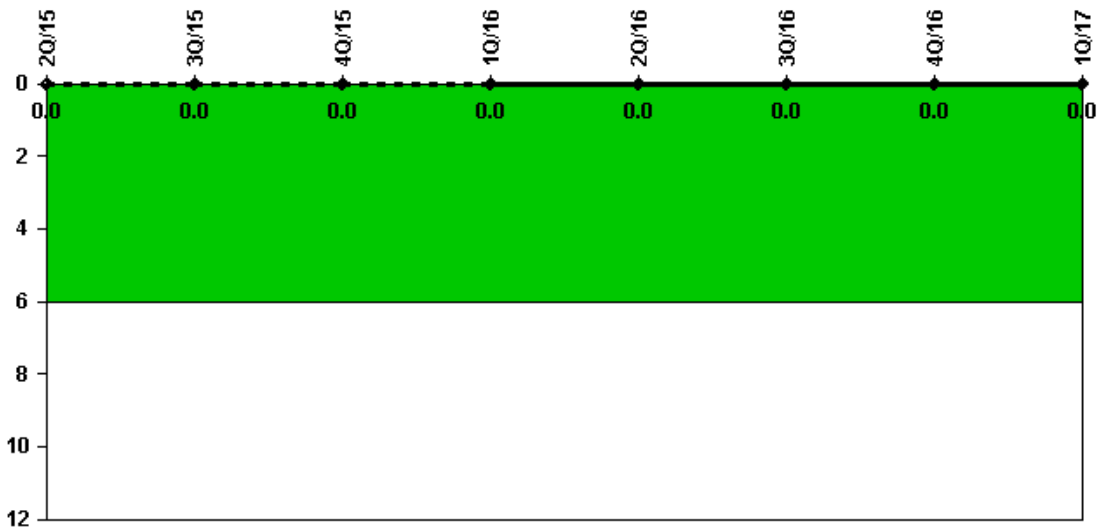
**Notes**

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	1.0	0	0	0	0	0	0
Critical hours	2184.0	1849.3	1771.8	2183.0	2184.0	2208.0	2209.0	2030.7
<b>Indicator value</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>	<b>0</b>

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Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

**Notes**

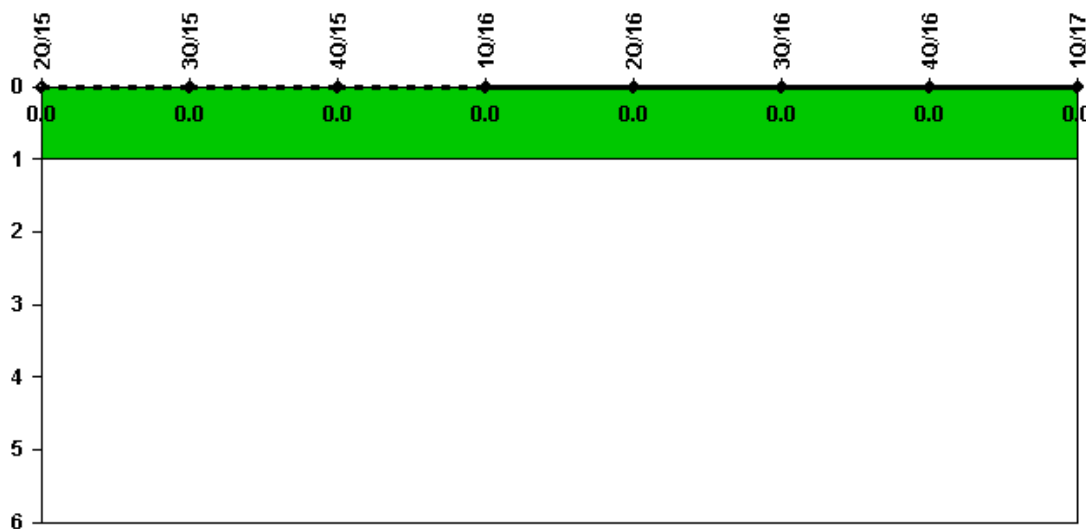
Unplanned Power Changes per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	2184.0	1849.3	1771.8	2183.0	2184.0	2208.0	2209.0	2030.7

<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

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

**Notes**

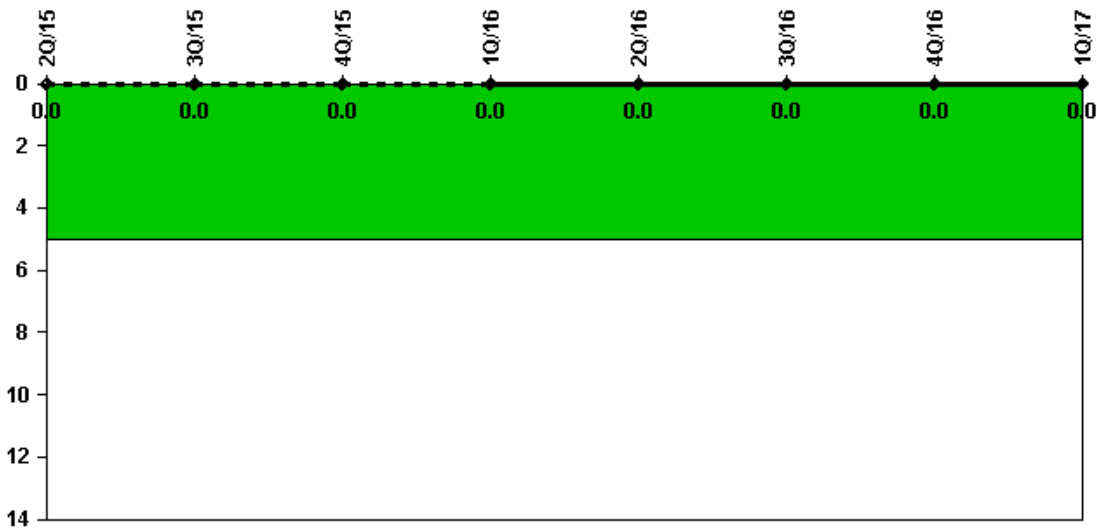
Unplanned Scrams with Complications	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Scrams with complications	0	0	0	0	0	0	0	0

<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

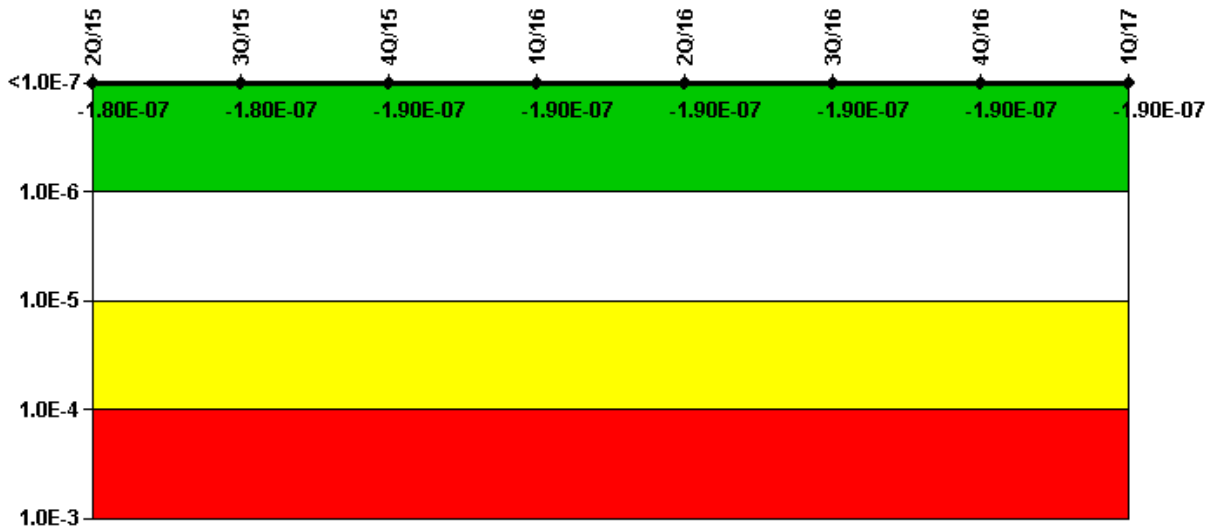
Safety System Functional Failures 0 0 0 0 0 0 0 0 0

Indicator value 0 0 0 0 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

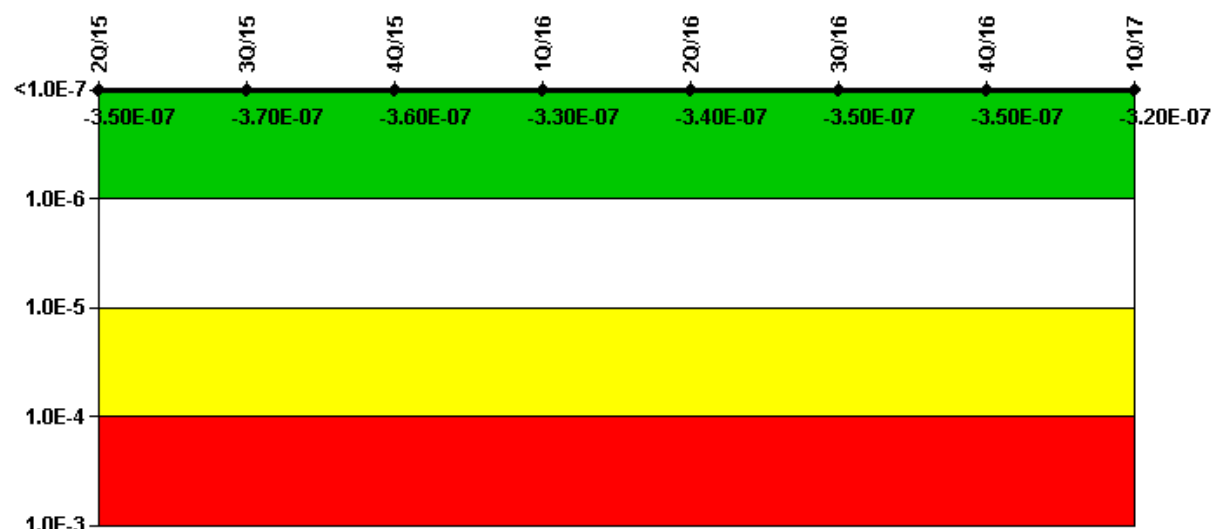
Mitigating Systems Performance Index, Emergency AC Power System

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-2.02E-08	-2.11E-08	-2.73E-08	-2.73E-08	-2.73E-08	-2.73E-08	-2.73E-08	-2.62E-08
URI (ΔCDF)	-1.59E-07	-1.59E-07	-1.59E-07	-1.59E-07	-1.59E-07	-1.59E-07	-1.59E-07	-1.59E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.80E-07	-1.80E-07	-1.90E-07	-1.90E-07	-1.90E-07	-1.90E-07	-1.90E-07	-1.90E-07

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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

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-8.21E-08	-1.06E-07	-9.31E-08	-6.44E-08	-7.38E-08	-8.83E-08	-8.91E-08	-5.27E-08
URI (ΔCDF)	-2.65E-07	-2.65E-07	-2.65E-07	-2.65E-07	-2.65E-07	-2.65E-07	-2.65E-07	-2.65E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.50E-07	-3.70E-07	-3.60E-07	-3.30E-07	-3.40E-07	-3.50E-07	-3.50E-07	-3.20E-07

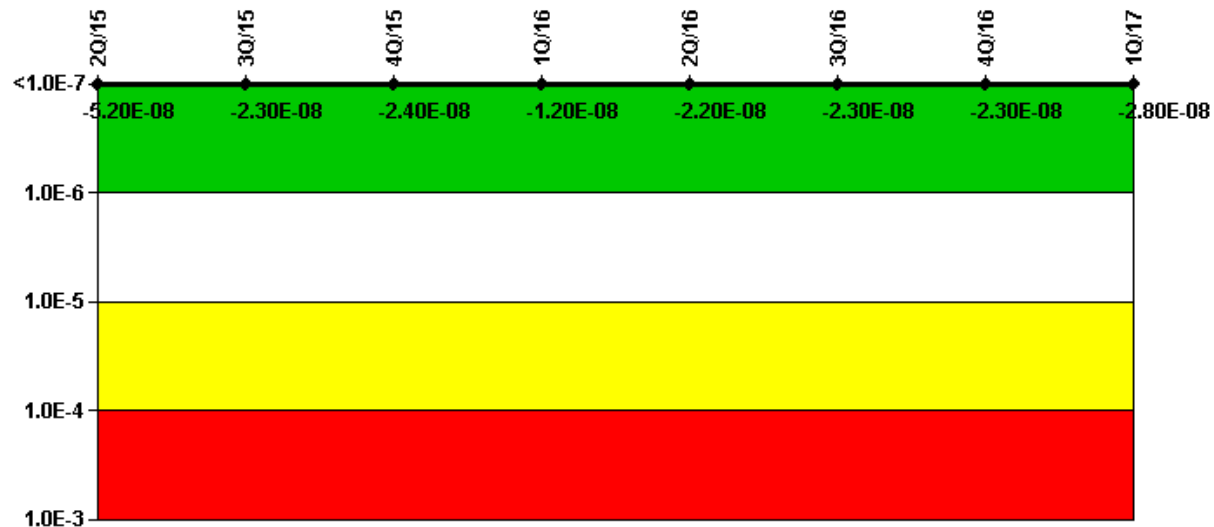
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Licensee Comments:

4Q/15: Evaluation of Control Valve CV-3057 SIRW (Safety Injection Refueling Water) Storage Tank Outlet degradation from September 2015 concluded No MPSI Failure occurred. (Reference CR-PLP-2015-04043)

3Q/15: Evaluation is pending on degradation of Control Valve CV-3057 SIRW (Safety Injection Refueling Water) Storage Tank Outlet identified in September 2015. (Reference CR-PLP-2015-04043)

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



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

**Notes**

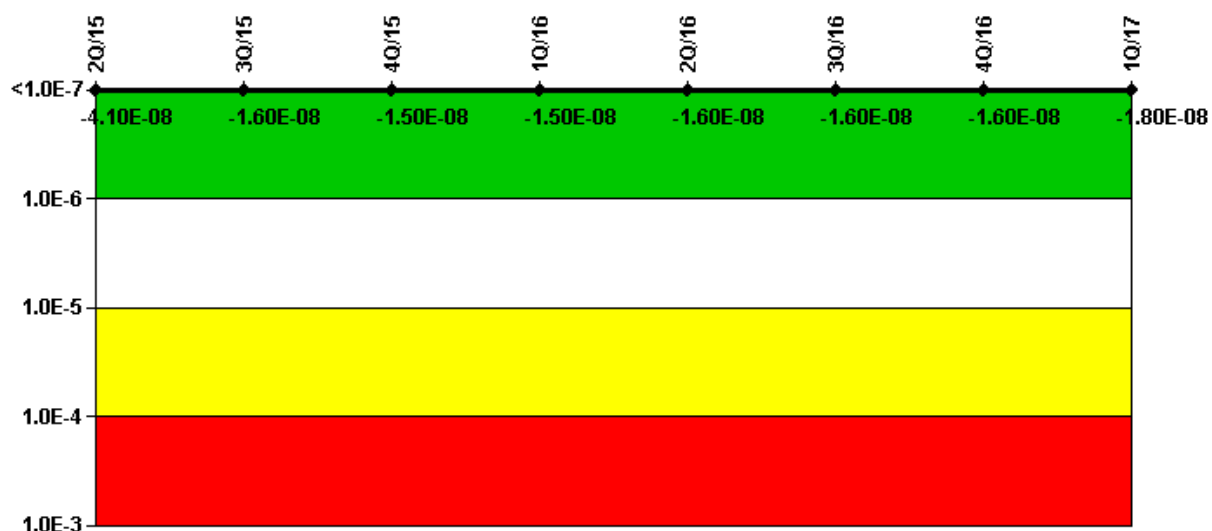
**Mitigating Systems Performance Index, Heat Removal System**

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	1.48E-07	1.77E-07	1.76E-07	1.89E-07	1.79E-07	1.77E-07	1.77E-07	1.73E-07
URI (ΔCDF)	-2.00E-07	-2.00E-07	-2.00E-07	-2.00E-07	-2.00E-07	-2.00E-07	-2.00E-07	-2.00E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-5.20E-08</b>	<b>-2.30E-08</b>	<b>-2.40E-08</b>	<b>-1.20E-08</b>	<b>-2.20E-08</b>	<b>-2.30E-08</b>	<b>-2.30E-08</b>	<b>-2.80E-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**

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-3.01E-10	2.48E-08	2.52E-08	2.50E-08	2.39E-08	2.39E-08	2.39E-08	2.28E-08
URI (ΔCDF)	-4.04E-08	-4.04E-08	-4.04E-08	-4.04E-08	-4.04E-08	-4.04E-08	-4.04E-08	-4.04E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-4.10E-08</b>	<b>-1.60E-08</b>	<b>-1.50E-08</b>	<b>-1.50E-08</b>	<b>-1.60E-08</b>	<b>-1.60E-08</b>	<b>-1.60E-08</b>	<b>-1.80E-08</b>

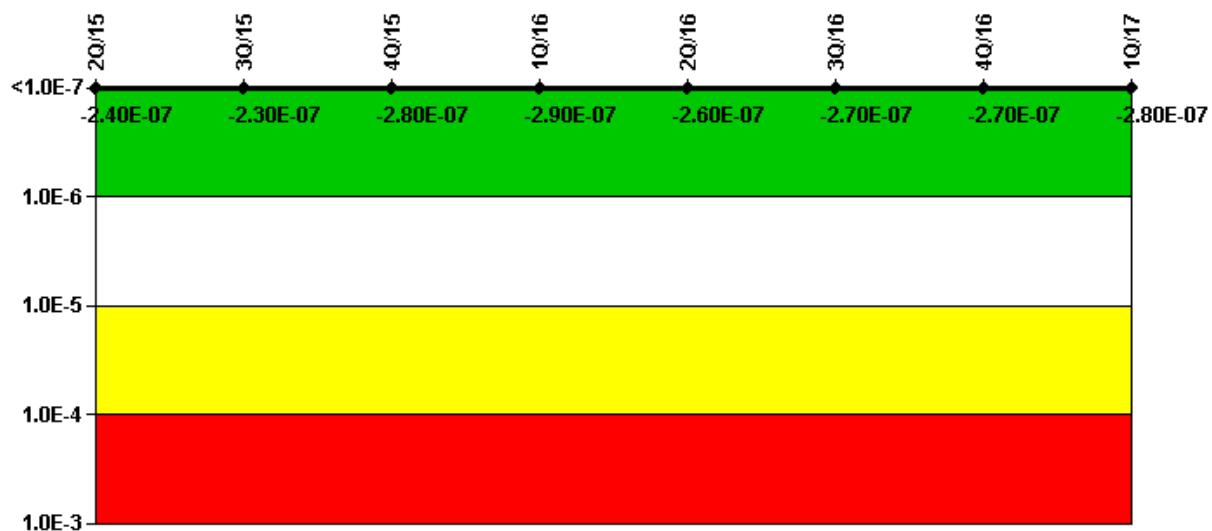
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Licensee Comments:

4Q/15: Evaluation of Control Valve CV-3057 SIRW (Safety Injection Refueling Water) Storage Tank Outlet degradation from September 2015 concluded No MPSI Failure occurred. (Reference CR-PLP-2015-04043)

3Q/15: Evaluation is pending on degradation of Control Valve CV-3057 SIRW (Safety Injection Refueling Water) Storage Tank Outlet identified in September 2015. (Reference CR-PLP-2015-04043)

### 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

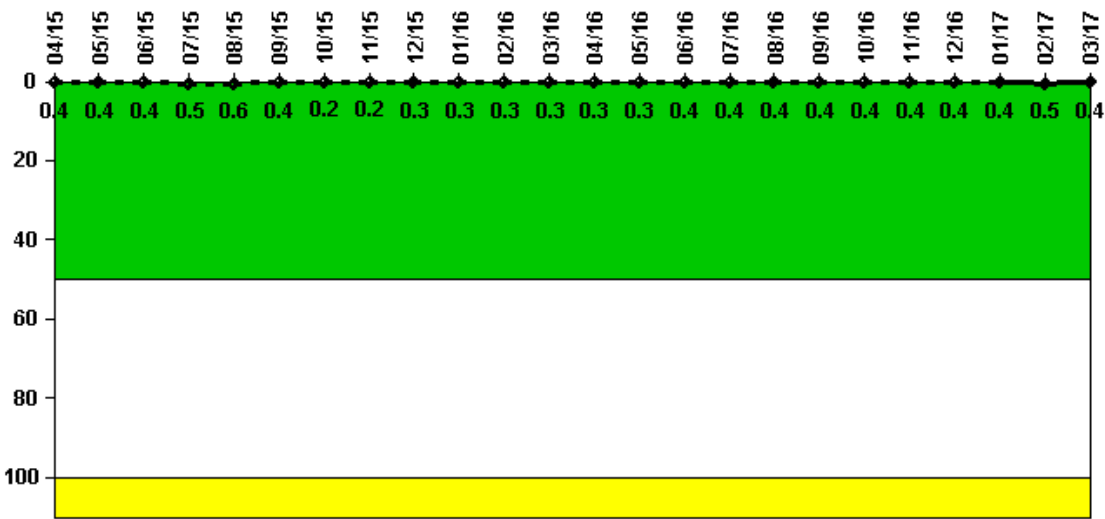
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI ( $\Delta$ CDF)	-9.34E-09	-1.86E-09	-4.99E-08	-5.46E-08	-3.42E-08	-4.33E-08	-4.10E-08	-4.94E-08
URI ( $\Delta$ CDF)	-2.31E-07	-2.31E-07	-2.31E-07	-2.31E-07	-2.31E-07	-2.31E-07	-2.31E-07	-2.31E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-2.40E-07</b>	<b>-2.30E-07</b>	<b>-2.80E-07</b>	<b>-2.90E-07</b>	<b>-2.60E-07</b>	<b>-2.70E-07</b>	<b>-2.70E-07</b>	<b>-2.80E-07</b>

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Licensee Comments: none



### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

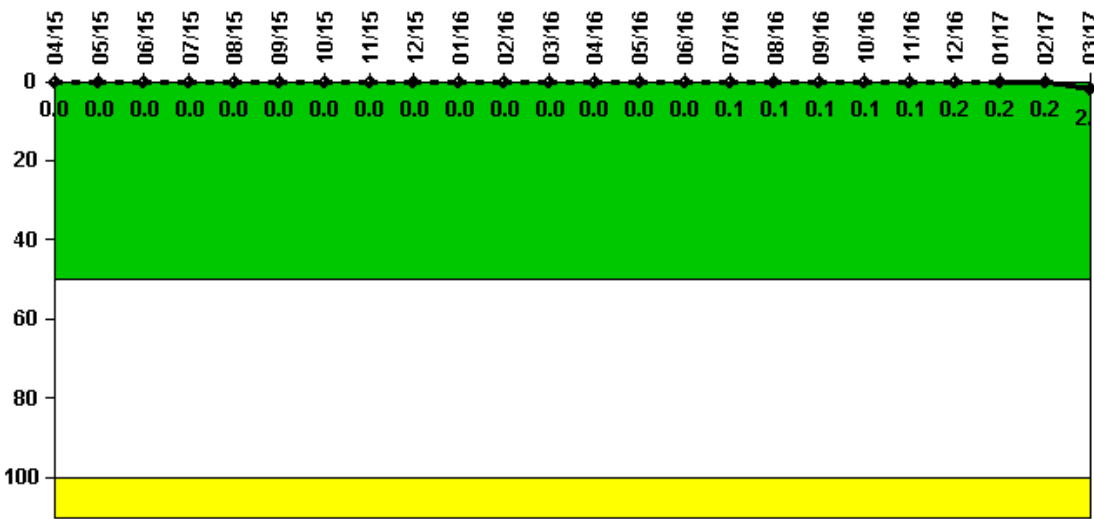
**Notes**

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	0.004100	0.004450	0.004110	0.005340	0.005930	0.004120	0.001920	0.002100	0.002710	0.002940	0.003340	0.003460
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>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.5</b>	<b>0.6</b>	<b>0.4</b>	<b>0.2</b>	<b>0.2</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>
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	0.002720	0.002760	0.003810	0.003750	0.004070	0.004370	0.003670	0.003652	0.003840	0.003920	0.004763	0.003826
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>0.3</b>	<b>0.3</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.5</b>	<b>0.4</b>

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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	0.001	0.001	0	0	0	0	0.001	0.001	0.001	0.001	0.001	0.001
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

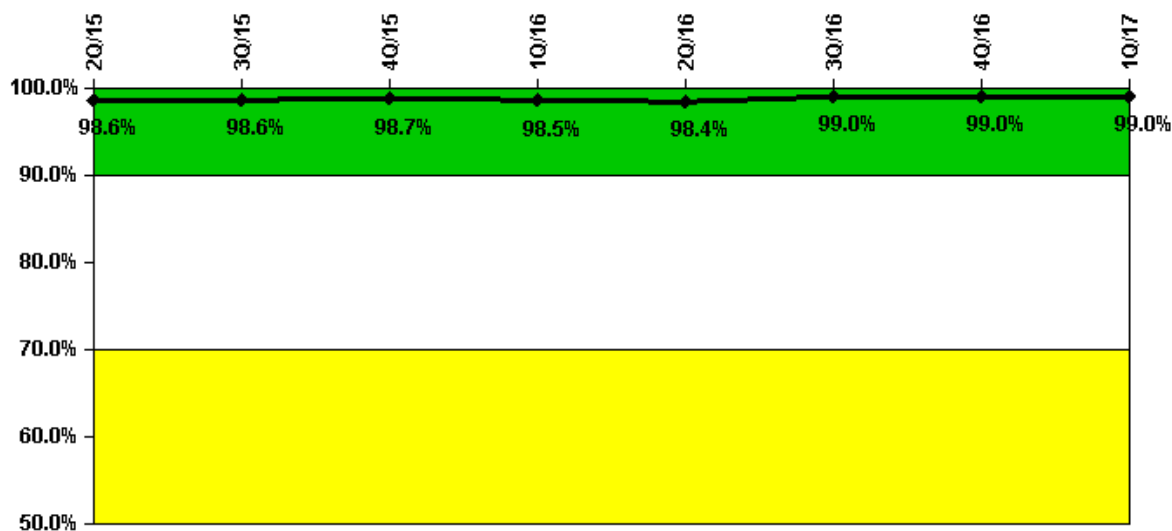
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0
Reactor Coolant System Leakage	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum leakage	0.001	0.001	0.001	0.009	0.012	0.012	0.012	0.011	0.015	0.016	0.016	0.211
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	0	0	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	2.1
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Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

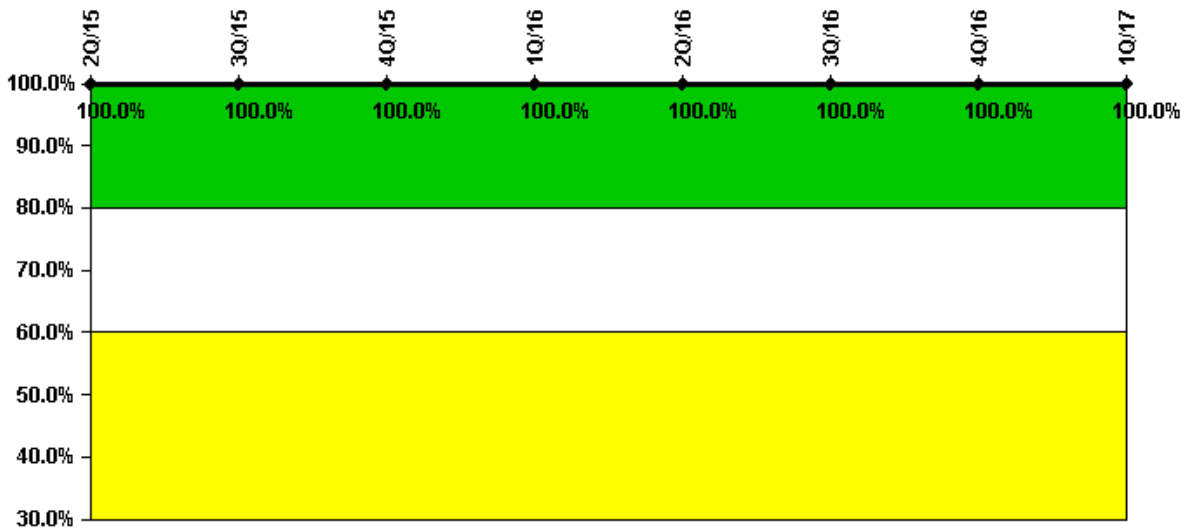
Drill/Exercise Performance	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful opportunities	57.0	98.0	66.0	115.0	34.0	16.0	17.0	69.0
Total opportunities	58.0	98.0	66.0	117.0	35.0	16.0	17.0	70.0

Indicator value                    98.6% 98.6% 98.7% 98.5% 98.4% 99.0% 99.0% 99.0%

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Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

**Notes**

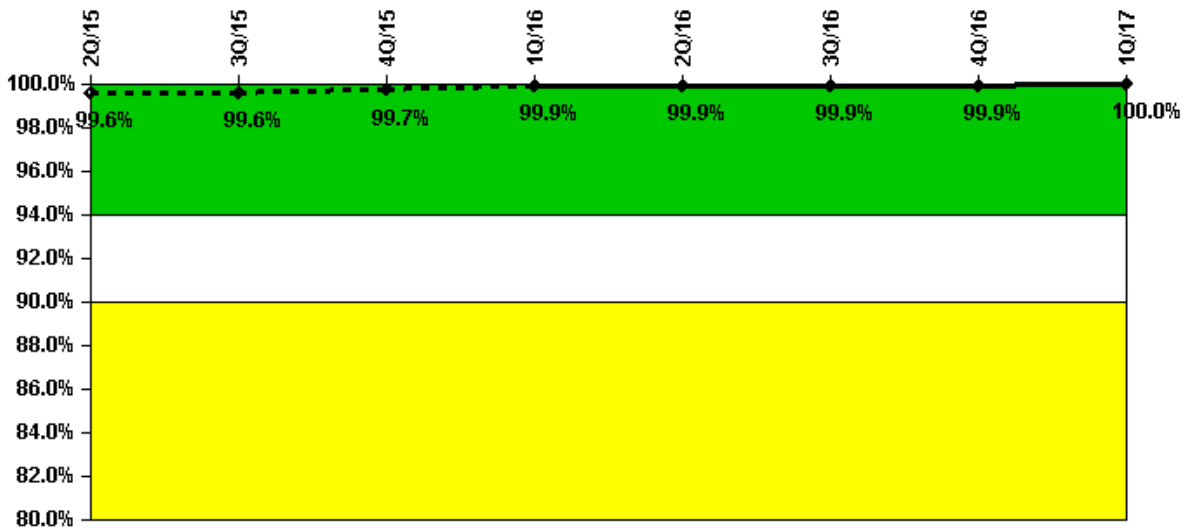
ERO Drill Participation	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Participating Key personnel	69.0	67.0	68.0	75.0	73.0	72.0	68.0	72.0
Total Key personnel	69.0	67.0	68.0	75.0	73.0	72.0	68.0	72.0

**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

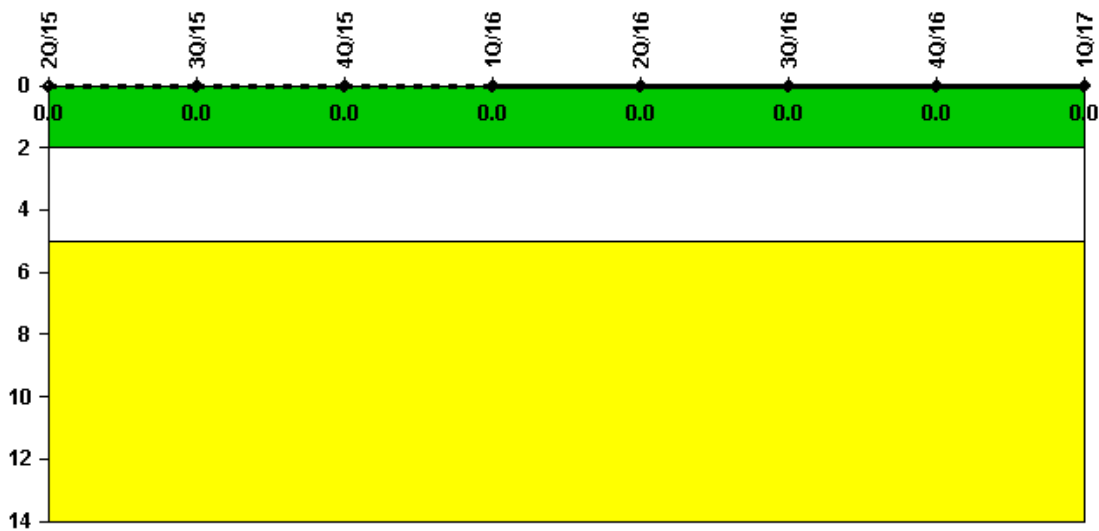
Alert & Notification System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful siren-tests	183	183	183	182	183	183	183	183
Total sirens-tests	183	183	183	183	183	183	183	183

Indicator value            99.6% 99.6% 99.7% 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**

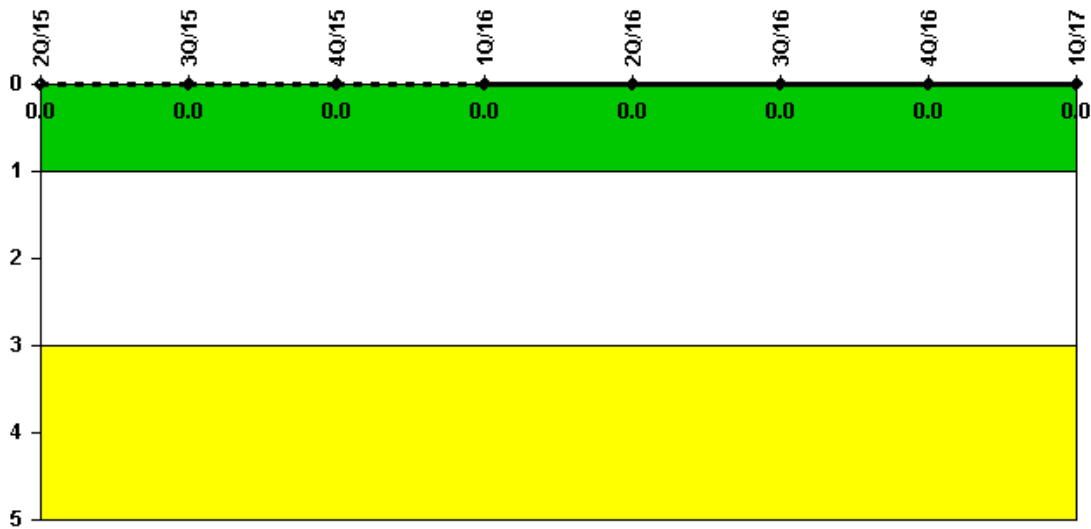
**Occupational Exposure Control Effectiveness** 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17

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