



[Home](#) > [Nuclear Reactors](#) > [Operating Reactors](#) > [Reactor Oversight Process](#) > [Plant Summaries](#) > [Duane Arnold](#) > [Quarterly Performance Indicators](#)

## Duane Arnold – Quarterly Performance Indicators

### 2Q/2017 Performance Indicators

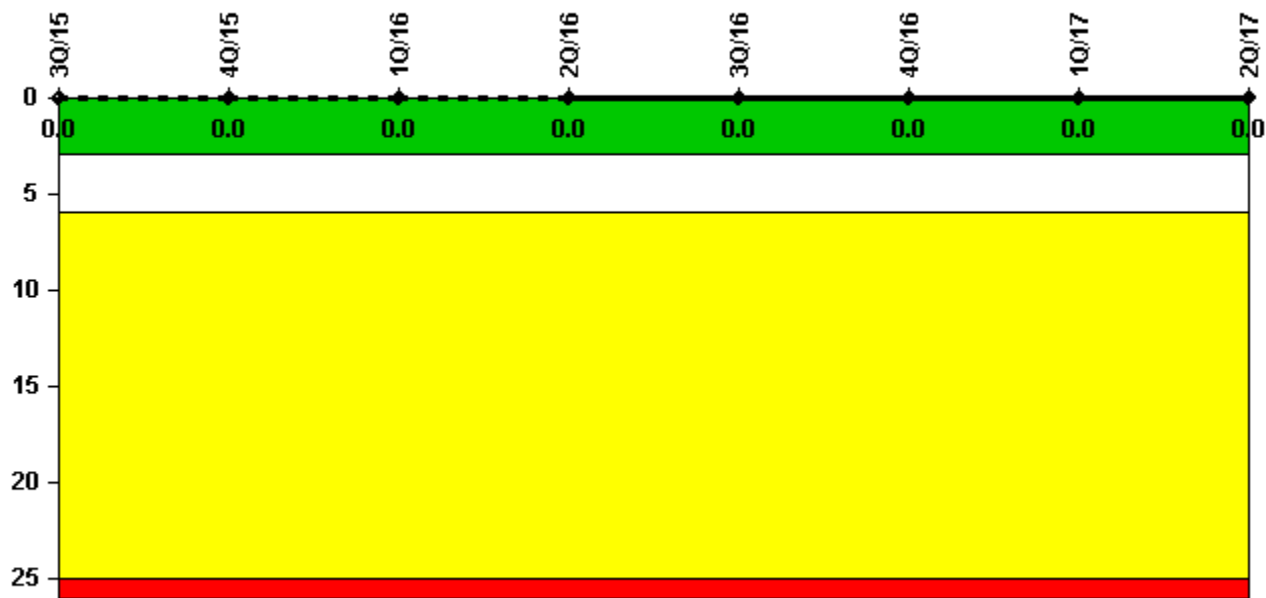
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

- [Unplanned Scrams \(IE01\)](#)
- [Unplanned Power Changes per 7000 Critical Hours \(IE03\)](#)
- [Unplanned Scrams with Complications \(IE04\)](#)
- [Safety System Functional Failures \(MS05\)](#)
- [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

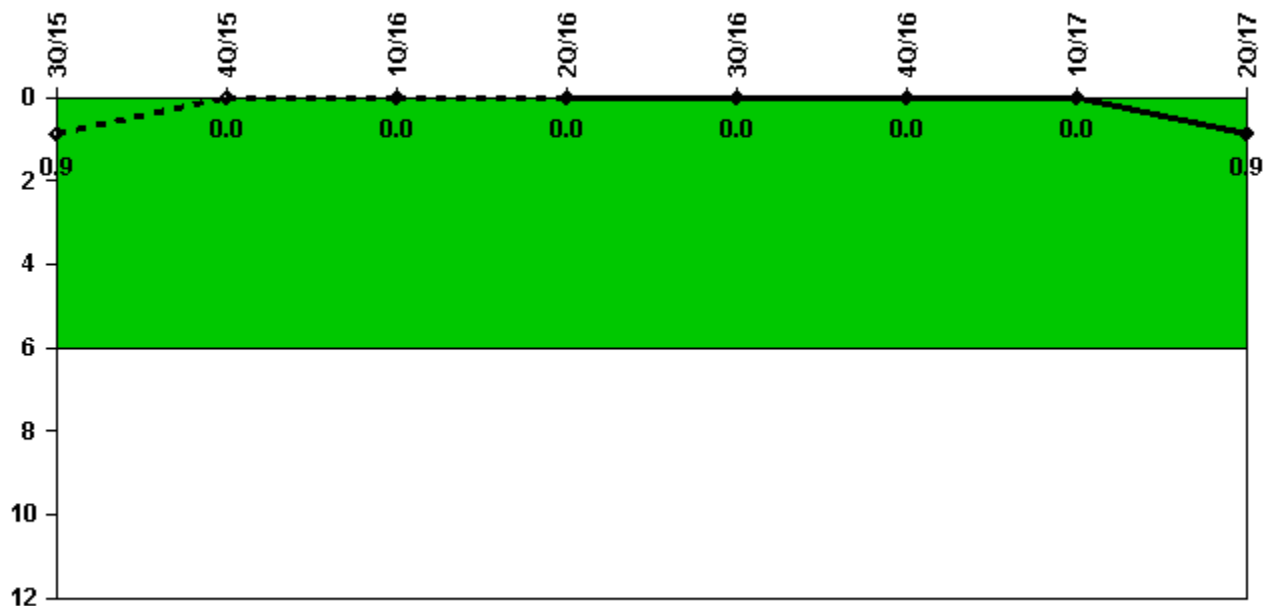
#### Notes

Unplanned Scrams per 7000 Critical Hrs	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2208.0	2209.0	2183.0	2184.0	2208.0	1551.5	2159.0	2184.0
<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>

▲ TOP

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

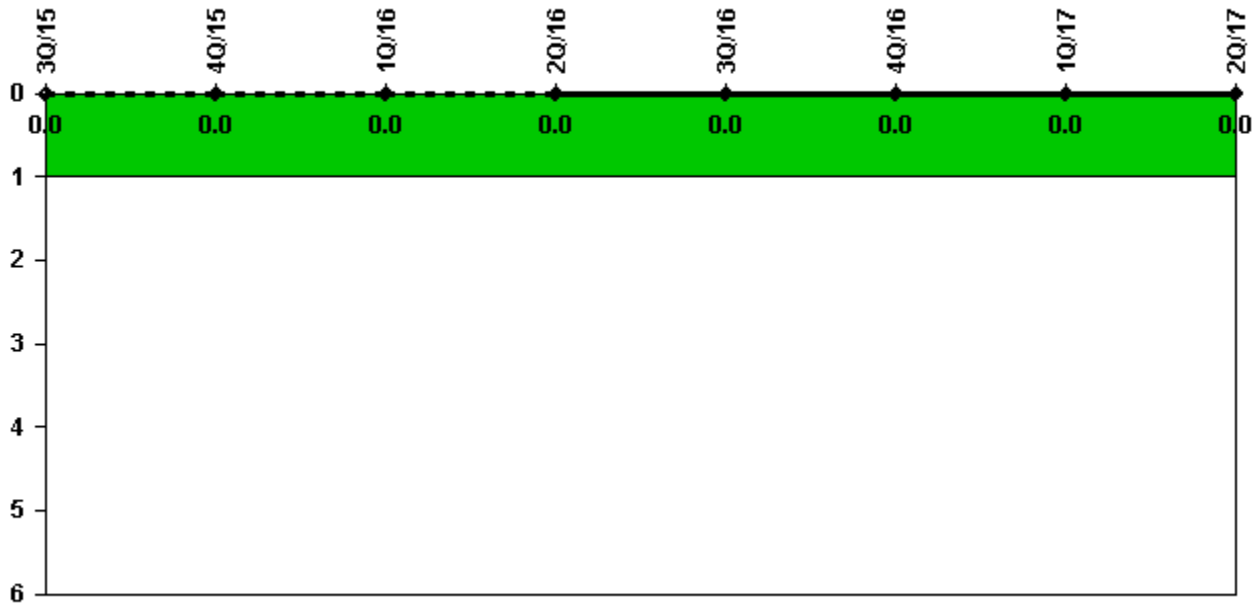
#### Notes

Unplanned Power Changes per 7000 Critical Hrs	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Unplanned power changes	0	0	0	0	0	0	0	1.0
Critical hours	2208.0	2209.0	2183.0	2184.0	2208.0	1551.5	2159.0	2184.0
<b>Indicator value</b>	<b>0.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.9</b>

▲ TOP

Licensee Comments: none

### Unplanned Scrams with Complications



Thresholds: White > 1.0

#### Notes

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

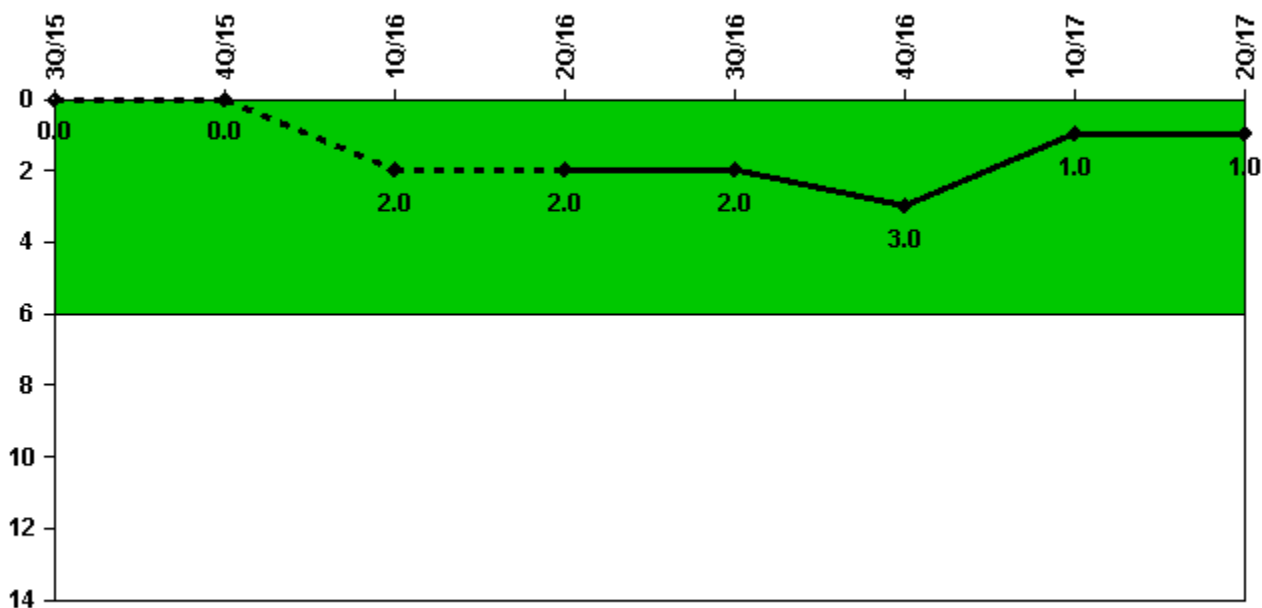
Scrams with complications 0 0 0 0 0 0 0 0

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

▲ TOP

Licensee Comments: none

### Safety System Functional Failures (BWR)



Thresholds: White > 6.0

#### Notes

Safety System Functional Failures (BWR) 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17

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

Indicator value 0 0 2 2 2 3 1 1

▲ TOP

Licensee Comments:

4Q/16: LER 2016-002 RCIC SSFF

1Q/16: Revised LER 2015-005 was submitted 1/28/16 for the affect on ECCS from the torus coating event. LER 2015-006, HPCI and RCIC CST Suction Transfer Inoperable.

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



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

**Notes**

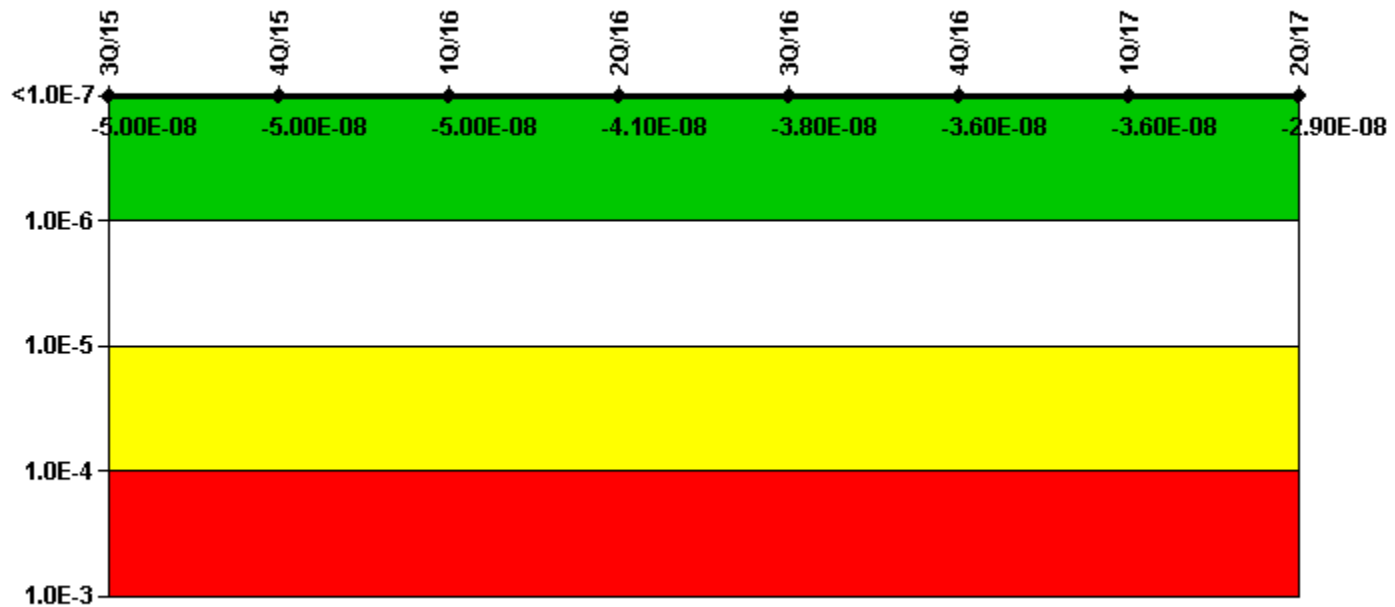
**Mitigating Systems Performance**

Mitigating Systems Performance Index, Emergency AC Power System	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (ΔCDF)	2.41E-07	2.61E-07	-2.11E-09	3.11E-09	-2.81E-08	-2.64E-08	-2.92E-08	-3.61E-08
URI (ΔCDF)	-1.10E-07	-1.10E-07	-2.70E-07	-2.70E-07	-2.70E-07	-2.70E-07	-2.70E-07	-2.70E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>1.30E-07</b>	<b>1.50E-07</b>	<b>-2.70E-07</b>	<b>-2.70E-07</b>	<b>-3.00E-07</b>	<b>-3.00E-07</b>	<b>-3.00E-07</b>	<b>-3.10E-07</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

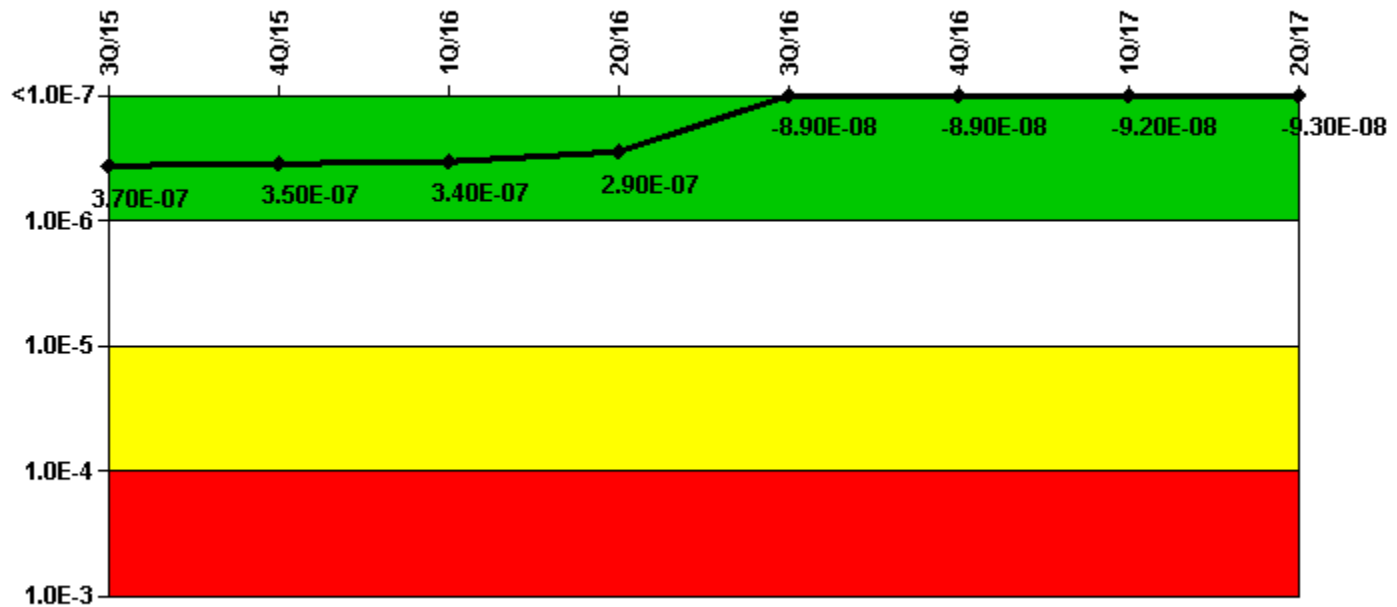
#### Mitigating Systems Performance

Index, High Pressure Injection System	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI ( $\Delta$ CDF)	-1.65E-08	-1.65E-08	-1.65E-08	-7.31E-09	-4.34E-09	-2.31E-09	-2.60E-09	4.31E-09
URI ( $\Delta$ CDF)	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-5.00E-08	-5.00E-08	-5.00E-08	-4.10E-08	-3.80E-08	-3.60E-08	-3.60E-08	-2.90E-08

▲ TOP

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**

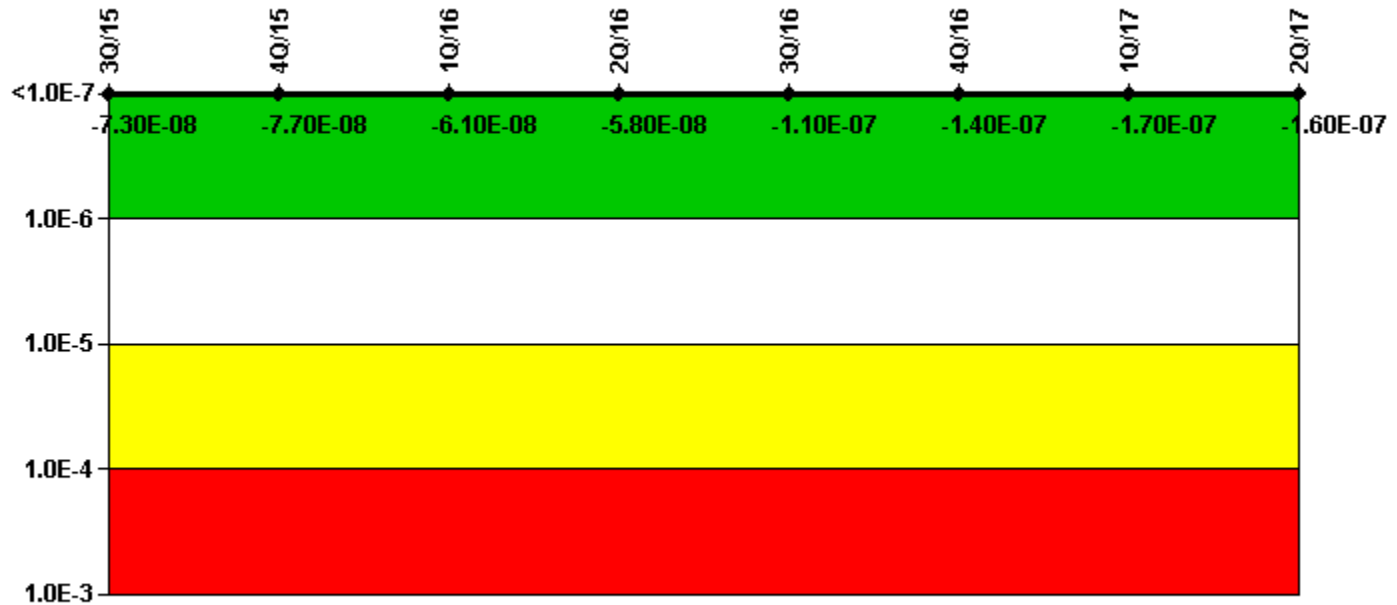
	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (ΔCDF)	3.57E-07	3.34E-07	3.30E-07	2.80E-07	-1.25E-08	-1.19E-08	-1.50E-08	-1.58E-08
URI (ΔCDF)	1.35E-08	1.35E-08	1.35E-08	1.35E-08	-7.69E-08	-7.69E-08	-7.69E-08	-7.69E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>3.70E-07</b>	<b>3.50E-07</b>	<b>3.40E-07</b>	<b>2.90E-07</b>	<b>-8.90E-08</b>	<b>-8.90E-08</b>	<b>-9.20E-08</b>	<b>-9.30E-08</b>

▲ TOP

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

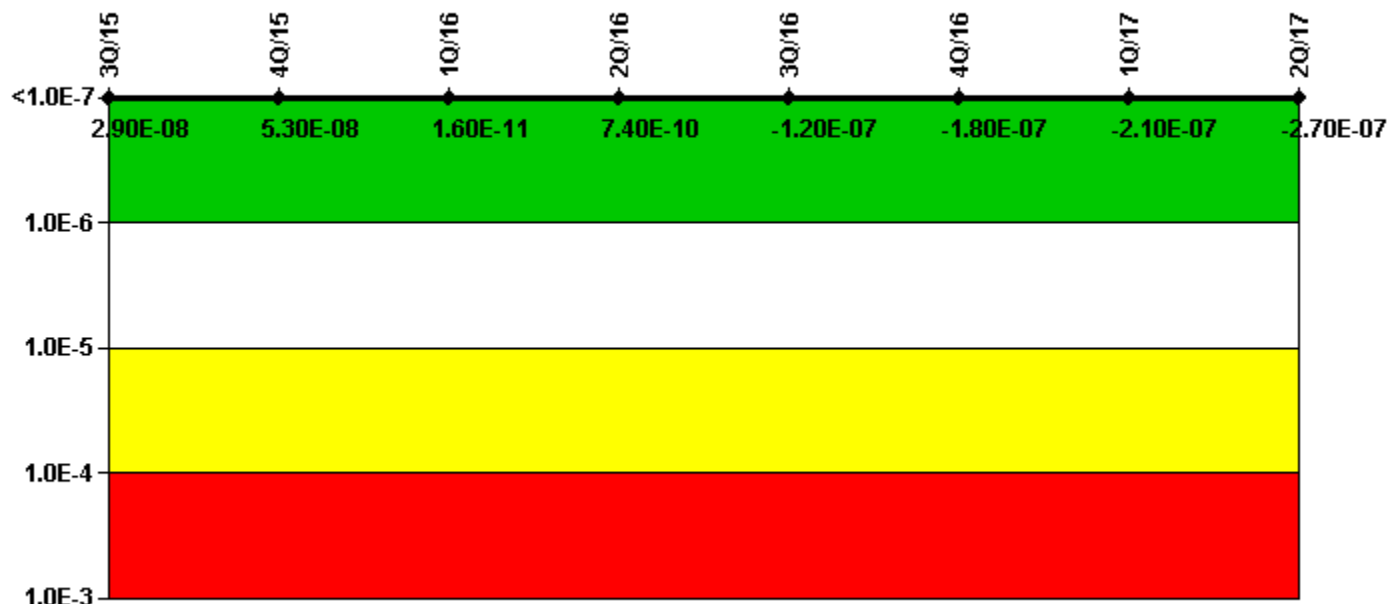
#### Mitigating Systems Performance

Index, Residual Heat Removal System	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI ( $\Delta$ CDF)	1.64E-07	1.59E-07	1.75E-07	1.78E-07	1.23E-07	1.01E-07	6.42E-08	7.61E-08
URI ( $\Delta$ CDF)	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.30E-08	-7.70E-08	-6.10E-08	-5.80E-08	-1.10E-07	-1.40E-07	-1.70E-07	-1.60E-07

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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

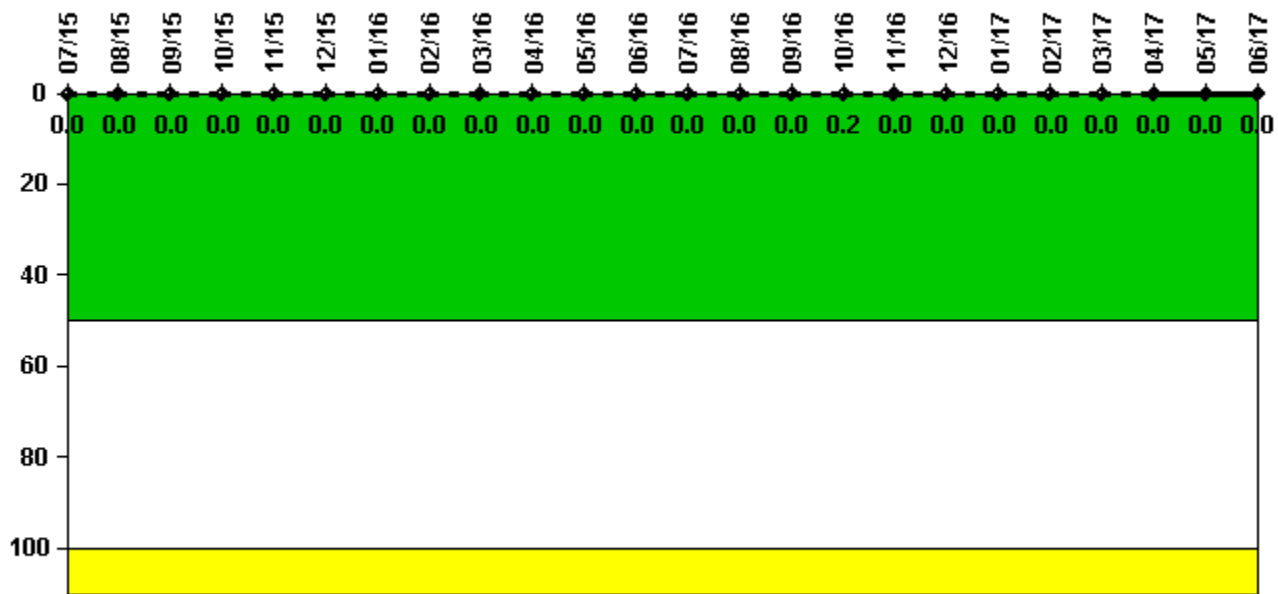
#### Mitigating Systems Performance Index, Cooling Water Systems

	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI ( $\Delta$ CDF)	3.10E-07	3.34E-07	2.81E-07	2.82E-07	1.63E-07	1.02E-07	7.34E-08	7.70E-09
URI ( $\Delta$ CDF)	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>2.90E-08</b>	<b>5.30E-08</b>	<b>1.60E-11</b>	<b>7.40E-10</b>	<b>-1.20E-07</b>	<b>-1.80E-07</b>	<b>-2.10E-07</b>	<b>-2.70E-07</b>

▲ TOP

Licensee Comments: none

### Reactor Coolant System Activity



**Thresholds: White > 50.0 Yellow > 100.0**

**Notes**

**Reactor Coolant System Activity** 7/15 8/15 9/15 10/15 11/15 12/15 01/16 02/16 03/16 04/16 05/16 06/16 07/16 08/16 09/16 10/16 11/16 12/16 01/17 02/17 03/17 04/17 05/17 06/17

Maximum activity                      0   0   0   0   0   0   0   0   0   0   0   0   0

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** 7/16 8/16 9/16        10/16 11/16 12/16 01/17 02/17 03/17 04/17 05/17 06/17

Maximum activity                      0   0   0 0.000380   0   0   0   0   0   0   0

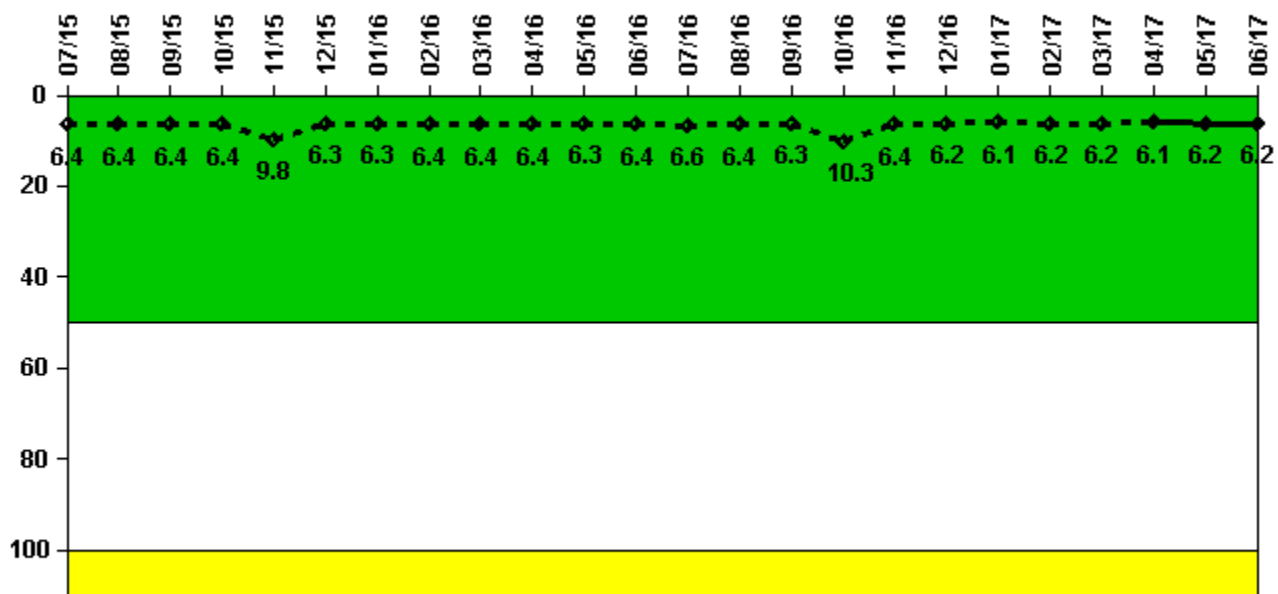
Technical specification limit        0.2 0.2 0.2        0.2   0.2   0.2 0.2 0.2 0.2 0.2 0.2

**Indicator value**                      **0   0   0        0.2   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

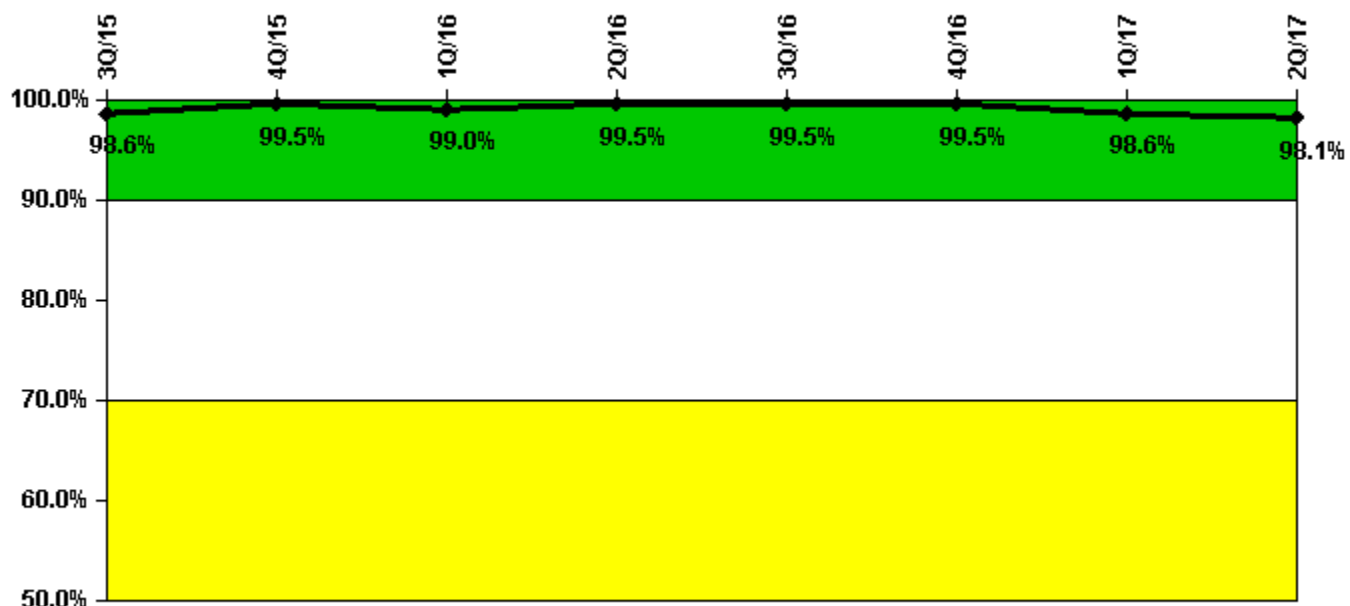
Reactor Coolant System Leakage	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16
Maximum leakage	1.600	1.610	1.610	1.600	2.460	1.580	1.580	1.590	1.590	1.590	1.580	1.590
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0

<b>Indicator value</b>	<b>6.4</b>	<b>6.4</b>	<b>6.4</b>	<b>6.4</b>	<b>9.8</b>	<b>6.3</b>	<b>6.3</b>	<b>6.4</b>	<b>6.4</b>	<b>6.4</b>	<b>6.3</b>	<b>6.4</b>
Reactor Coolant System Leakage	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17
Maximum leakage	1.640	1.590	1.580	2.570	1.600	1.540	1.530	1.540	1.540	1.530	1.550	1.560
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
<b>Indicator value</b>	<b>6.6</b>	<b>6.4</b>	<b>6.3</b>	<b>10.3</b>	<b>6.4</b>	<b>6.2</b>	<b>6.1</b>	<b>6.2</b>	<b>6.2</b>	<b>6.1</b>	<b>6.2</b>	<b>6.2</b>

▲ TOP

Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

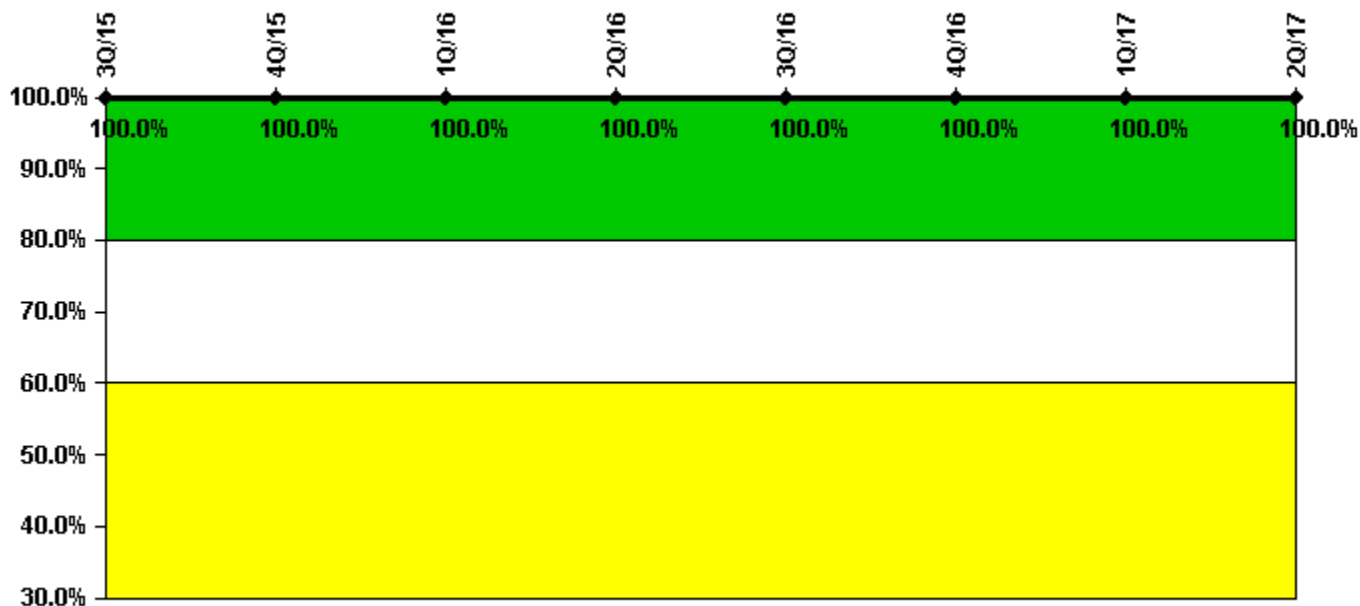
Drill/Exercise Performance	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Successful opportunities	26.0	18.0	39.0	39.0	11.0	20.0	20.0	29.0
Total opportunities	26.0	18.0	40.0	39.0	11.0	20.0	22.0	30.0

Indicator value                    98.6% 99.5% 99.0% 99.5% 99.5% 99.5% 98.6% 98.1%

▲ TOP

Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

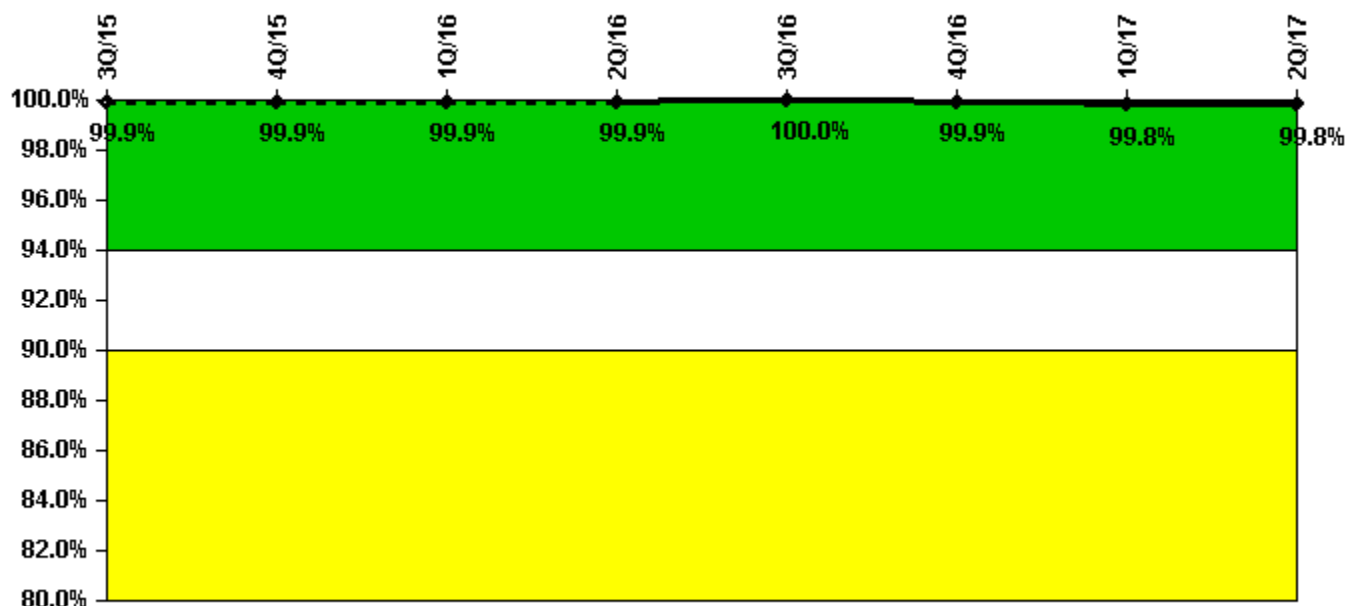
ERO Drill Participation	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Participating Key personnel	90.0	89.0	90.0	90.0	86.0	86.0	84.0	87.0
Total Key personnel	90.0	89.0	90.0	90.0	86.0	86.0	84.0	87.0

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

▲ TOP

Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

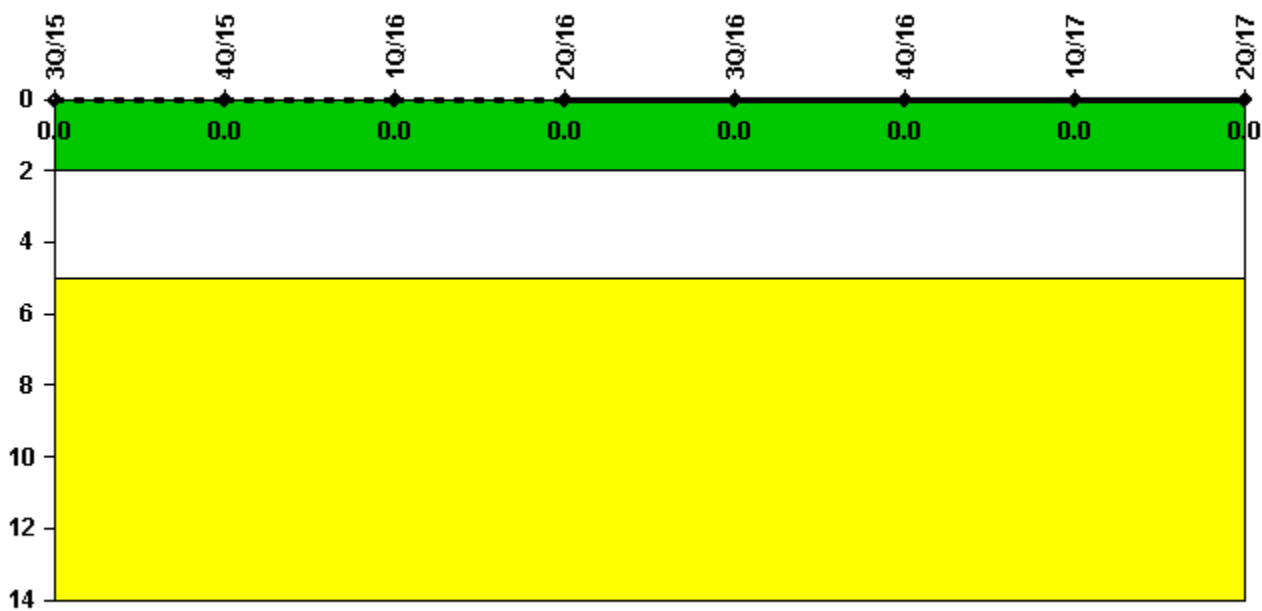
Alert & Notification System	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Successful siren-tests	431	430	432	432	432	431	429	432
Total sirens-tests	432	430	432	432	432	432	432	432

Indicator value                    99.9% 99.9% 99.9% 99.9% 100.0% 99.9% 99.8% 99.8%

▲ TOP

Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

#### Notes

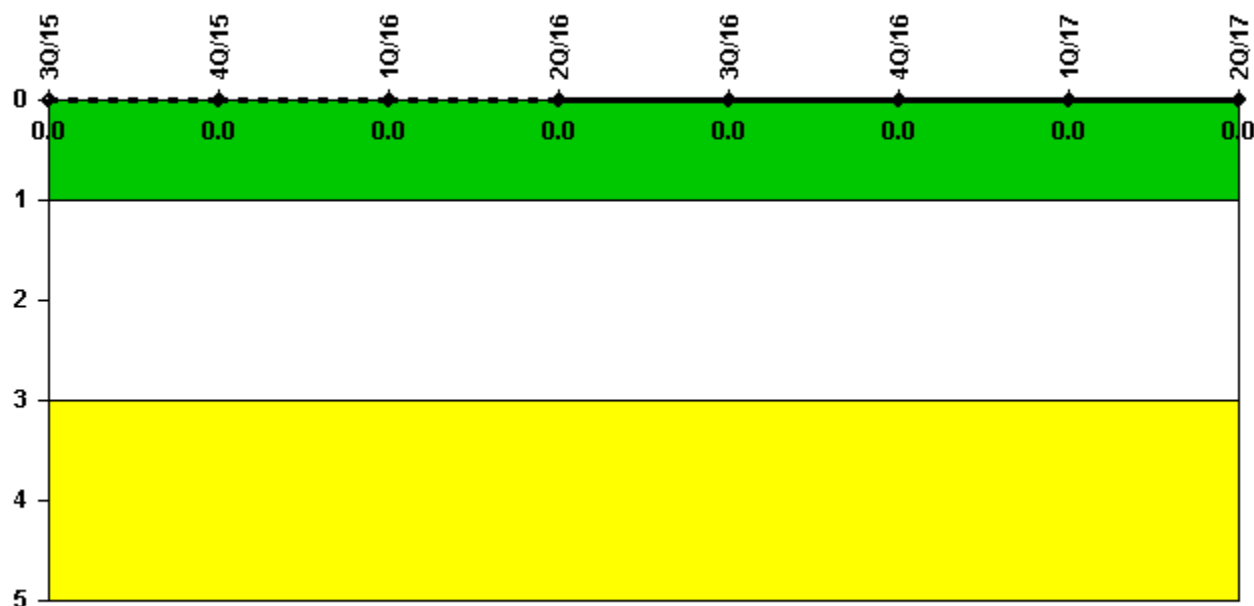
Occupational Exposure Control Effectiveness	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
High radiation area occurrences	0	0	0	0	0	0	0	0
Very high radiation area occurrences	0	0	0	0	0	0	0	0
Unintended exposure occurrences	0	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

▲ TOP

Licensee Comments: none



### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

#### Notes

RETS/ODCM Radiological Effluent 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17

RETS/ODCM occurrences 0 0 0 0 0 0 0 0

Indicator value 0 0 0 0 0 0 0 0

▲ TOP

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: July 26, 2017*

*Page Last Reviewed/Updated Wednesday, June 07, 2017*