



Home > Nuclear Reactors > Operating Reactors > Reactor Oversight Process > Plant Summaries> Catawba 2 > Quarterly Performance Indicators

## Catawba 2 – Quarterly Performance Indicators

### 3Q/2017 Performance Indicators

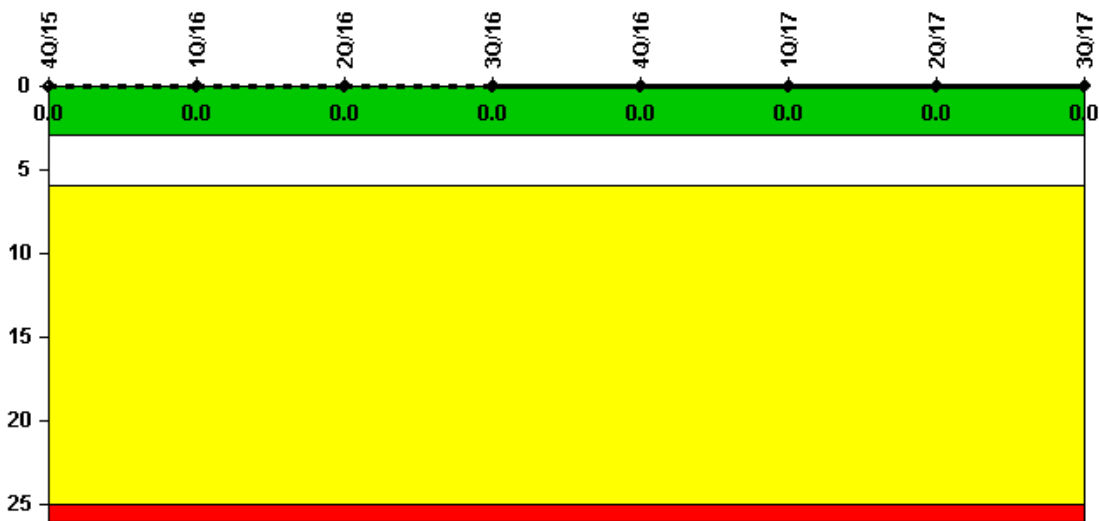
The solid trend line represents the current reporting period.

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

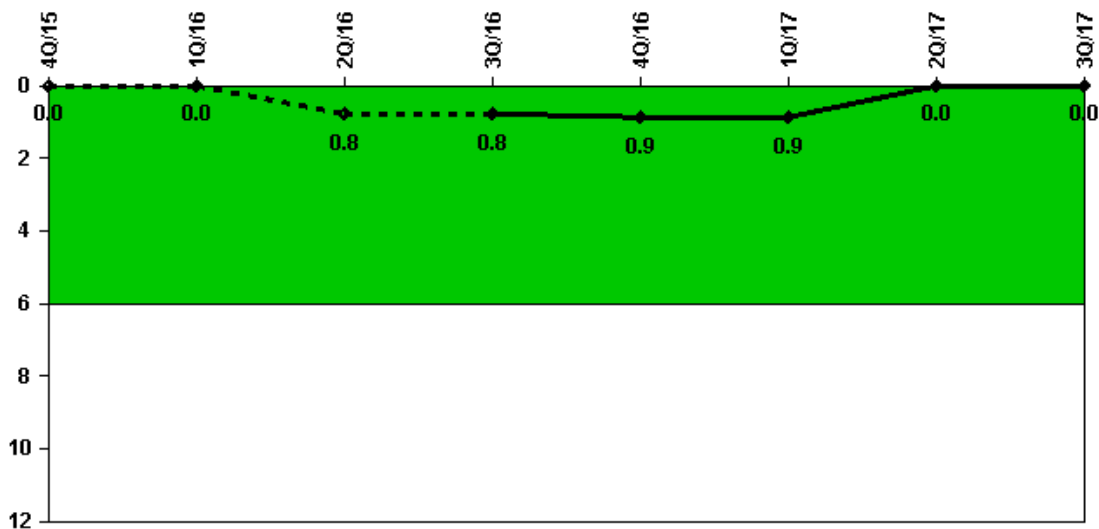
Unplanned Scrams per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2209.0	2183.0	2184.0	1708.2	2029.5	2159.0	2184.0	2208.0

Indicator value: 0 0 0 0 0 0 0 0 0

TOP

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

**Notes**

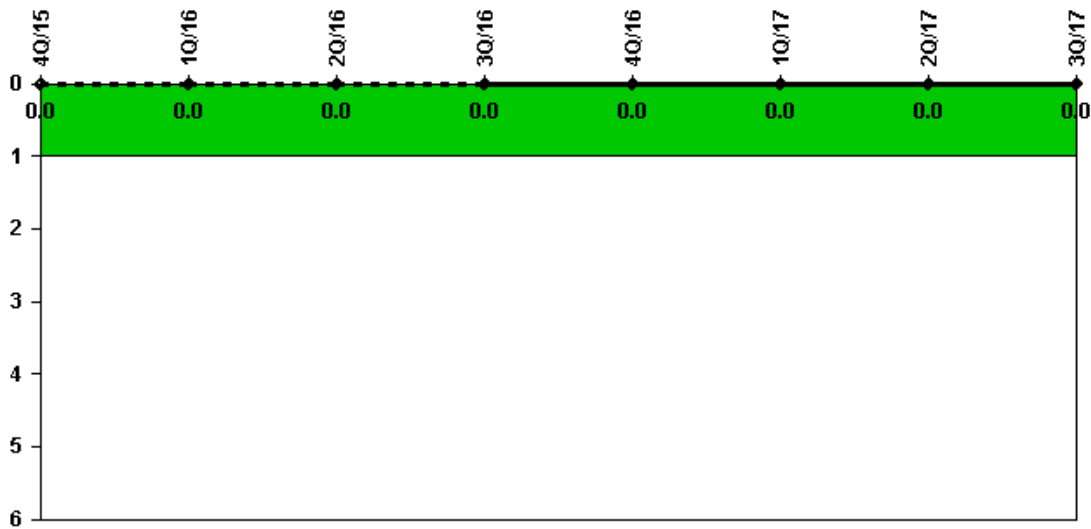
<b>Unplanned Power Changes per 7000 Critical Hrs</b>	<b>4Q/15</b>	<b>1Q/16</b>	<b>2Q/16</b>	<b>3Q/16</b>	<b>4Q/16</b>	<b>1Q/17</b>	<b>2Q/17</b>	<b>3Q/17</b>
Unplanned power changes	0	0	1.0	0	0	0	0	0
Critical hours	2209.0	2183.0	2184.0	1708.2	2029.5	2159.0	2184.0	2208.0
<b>Indicator value</b>	<b>0</b>	<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>

▲ TOP

Licensee Comments:

2Q/16: Turbine/Reactor Runback initiated by trip of 2A Main Feedwater Pump due to 2/3 Electrical Solenoids tripped

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

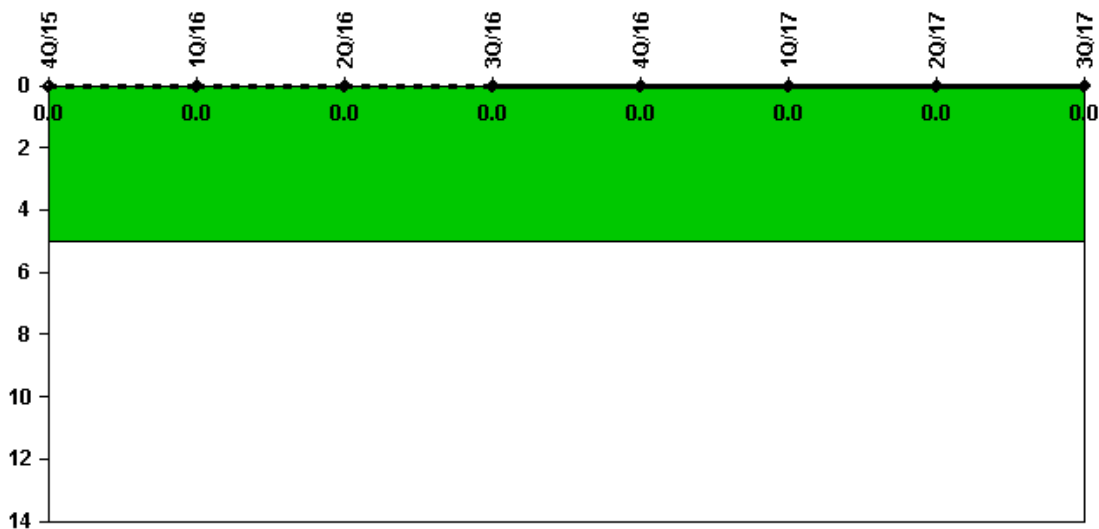
**Notes**

<b>Unplanned Scrams with Complications</b>	<b>4Q/15</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>
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>

▲ TOP

Licensee Comments: none

### Safety System Functional Failures (PWR)



Thresholds: White > 5.0

#### Notes

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

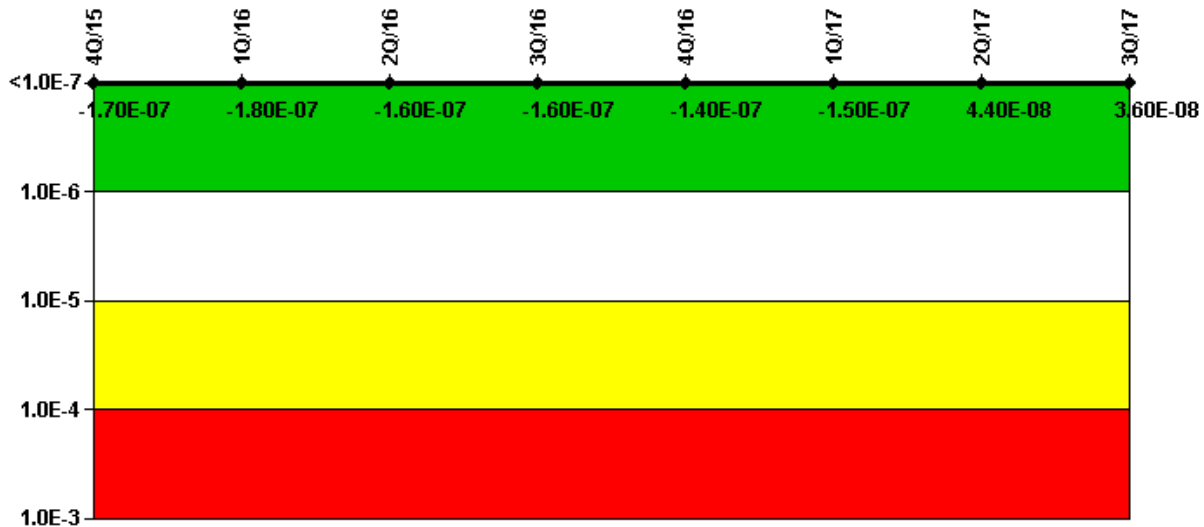
Safety System Functional Failures 0 0 0 0 0 0 0 0

Indicator value 0 0 0 0 0 0 0 0

▲ TOP

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**

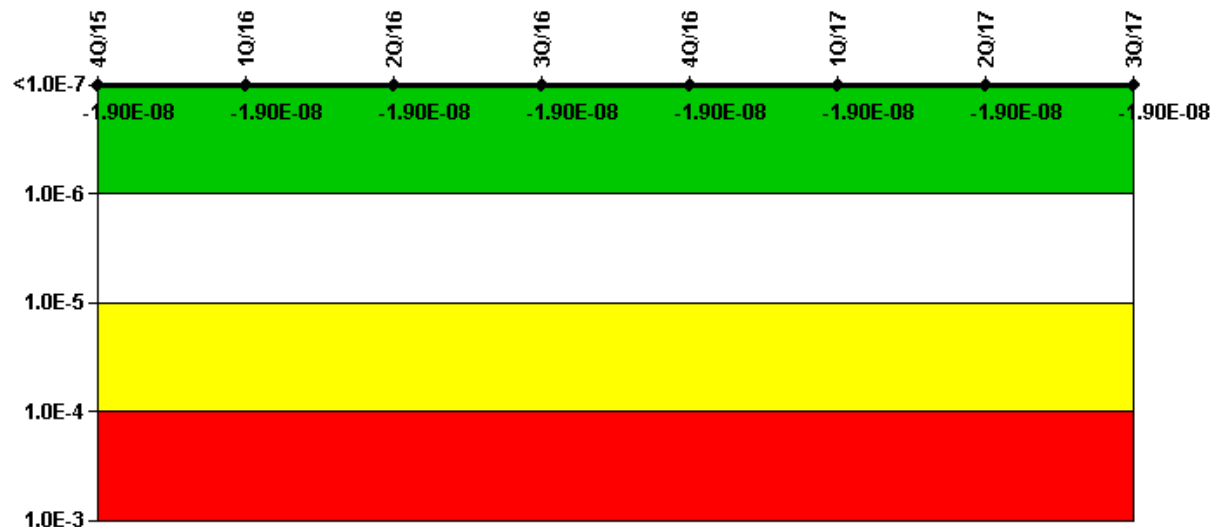
**Mitigating Systems Performance Index, Emergency**

AC Power System	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	1.01E-08	1.30E-09	2.60E-08	2.48E-08	4.09E-08	3.51E-08	7.70E-08	6.92E-08
URI (ΔCDF)	-1.83E-07	-1.83E-07	-1.83E-07	-1.83E-07	-1.83E-07	-1.83E-07	-3.29E-08	-3.29E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.70E-07	-1.80E-07	-1.60E-07	-1.60E-07	-1.40E-07	-1.50E-07	4.40E-08	3.60E-08

▲ TOP

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**

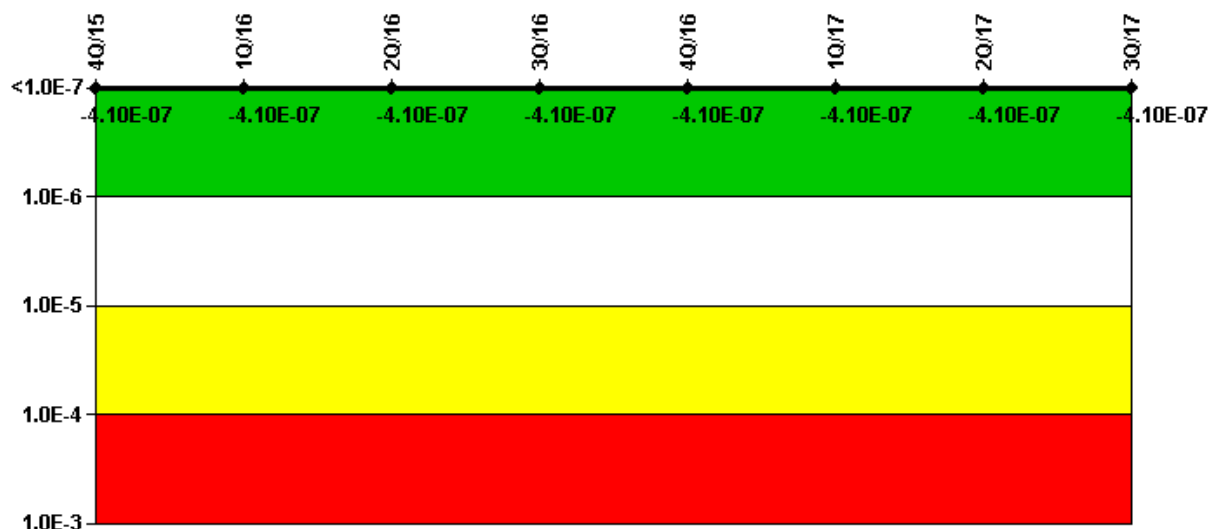
**Mitigating Systems Performance Index, High Pressure Injection System**

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	-7.78E-09	-7.78E-09	-7.78E-09	-7.78E-09	-7.78E-09	-7.75E-09	-7.75E-09	-7.78E-09
URI (ΔCDF)	-1.17E-08	-1.17E-08	-1.17E-08	-1.17E-08	-1.17E-08	-1.17E-08	-1.17E-08	-1.17E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.90E-08	-1.90E-08	-1.90E-08	-1.90E-08	-1.90E-08	-1.90E-08	-1.90E-08	-1.90E-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

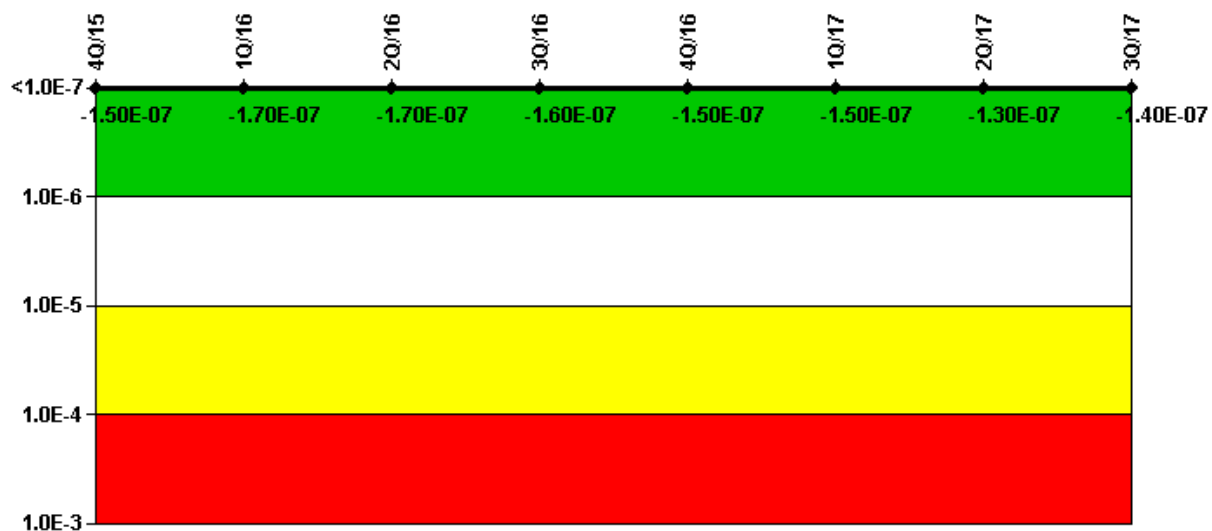
#### Mitigating Systems Performance Index, Heat Removal System

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI ( $\Delta$ CDF)	-5.89E-08	-5.89E-08	-5.89E-08	-5.89E-08	-5.89E-08	-5.89E-08	-5.89E-08	-5.89E-08
URI ( $\Delta$ CDF)	-3.52E-07	-3.52E-07	-3.52E-07	-3.52E-07	-3.52E-07	-3.52E-07	-3.52E-07	-3.52E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-4.10E-07	-4.10E-07	-4.10E-07	-4.10E-07	-4.10E-07	-4.10E-07	-4.10E-07	-4.10E-07

▲ 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

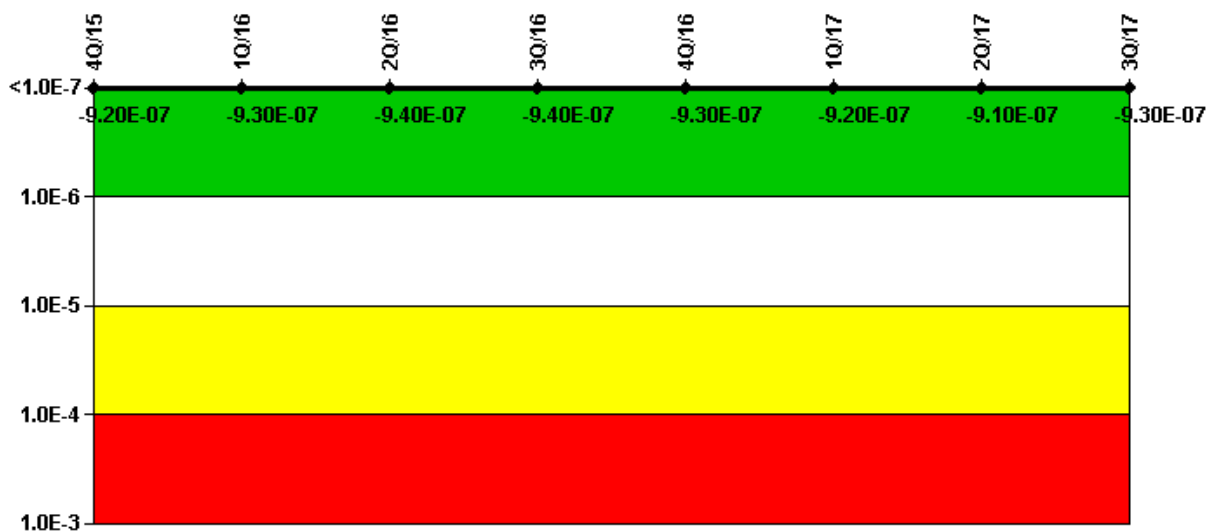
#### Mitigating Systems Performance Index, Residual Heat Removal System

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI ( $\Delta$ CDF)	6.13E-09	-1.43E-08	-1.01E-08	-2.28E-09	2.25E-09	4.58E-09	2.66E-08	1.79E-08
URI ( $\Delta$ CDF)	-1.57E-07	-1.57E-07	-1.57E-07	-1.57E-07	-1.57E-07	-1.57E-07	-1.57E-07	-1.57E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.50E-07</b>	<b>-1.70E-07</b>	<b>-1.70E-07</b>	<b>-1.60E-07</b>	<b>-1.50E-07</b>	<b>-1.50E-07</b>	<b>-1.30E-07</b>	<b>-1.40E-07</b>

▲ TOP

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**

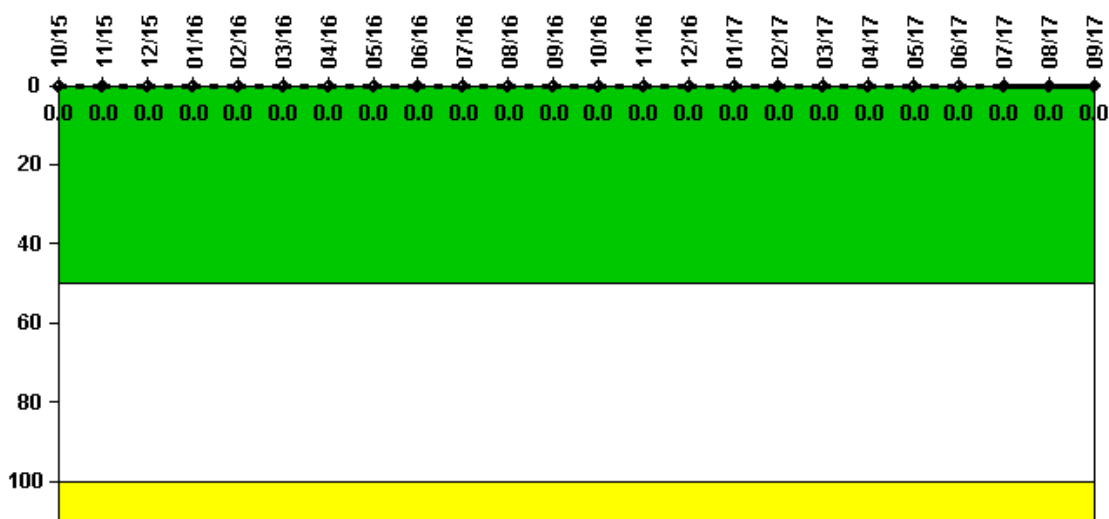
	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI ( $\Delta$ CDF)	-4.74E-07	-4.88E-07	-4.94E-07	-4.94E-07	-4.83E-07	-4.76E-07	-4.59E-07	-4.79E-07
URI ( $\Delta$ CDF)	-4.47E-07	-4.47E-07	-4.47E-07	-4.47E-07	-4.47E-07	-4.47E-07	-4.47E-07	-4.47E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-9.20E-07</b>	<b>-9.30E-07</b>	<b>-9.40E-07</b>	<b>-9.40E-07</b>	<b>-9.30E-07</b>	<b>-9.20E-07</b>	<b>-9.10E-07</b>	<b>-9.30E-07</b>

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Licensee Comments: none



### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

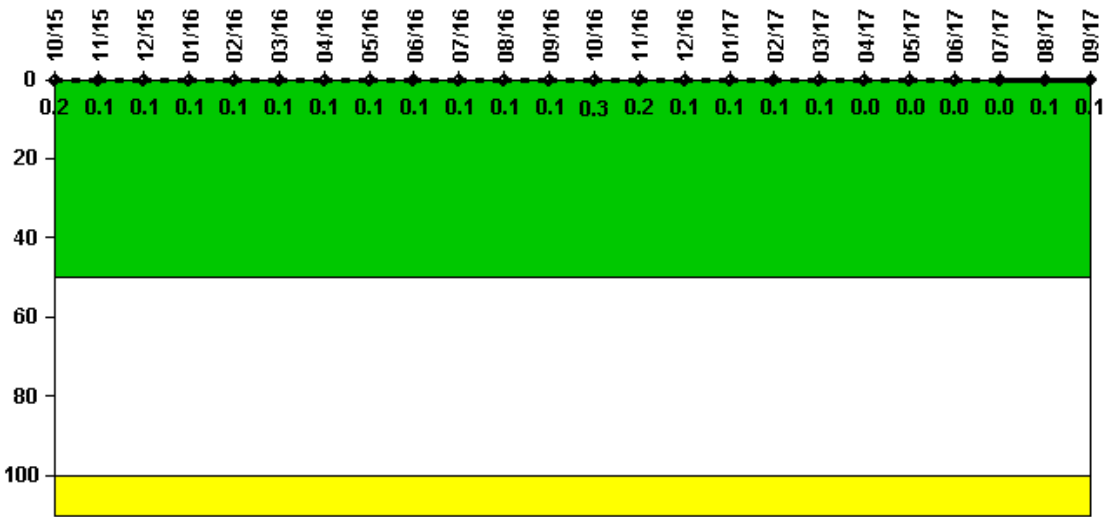
**Notes**

Reactor Coolant System Activity	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum activity	0.000071	0.000055	0.000054	0.000076	0.000075	0.000043	0.000126	0.000050	0.000045	0.000046	0.000049	0.000031
Technical specification limit	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0
Reactor Coolant System Activity	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum activity	0.000019	0.000029	0.000047	0.000090	0.000057	0.000058	0.000137	0.000059	0.000066	0.000065	0.000070	0.000072
Technical specification limit	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0

▲ TOP

Licensee Comments: none

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

**Notes**

Reactor Coolant System Leakage	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum leakage	0.015	0.014	0.012	0.012	0.013	0.012	0.013	0.014	0.012	0.012	0.009	0.008
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

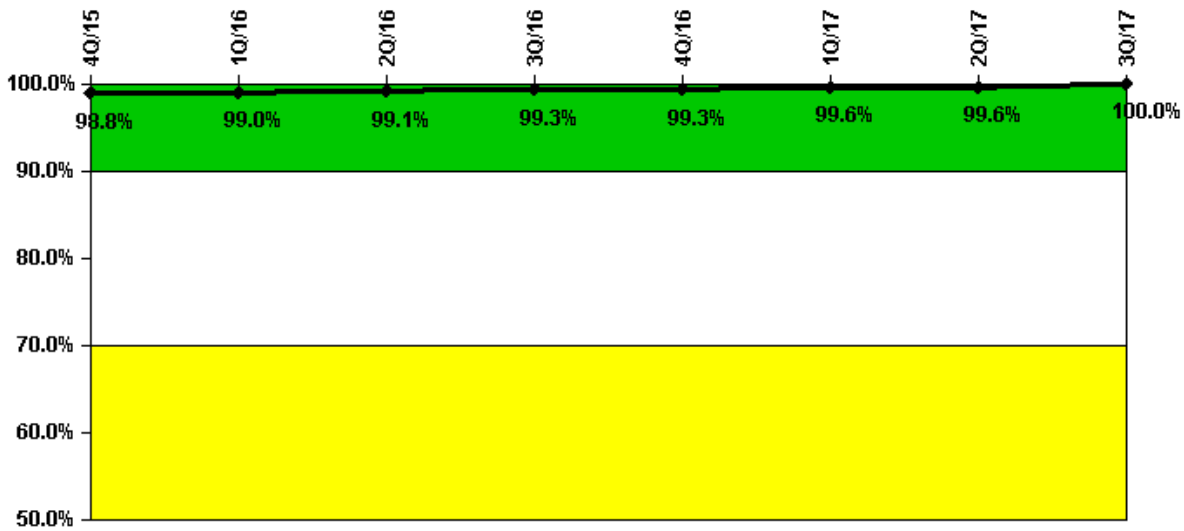
Indicator value	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Reactor Coolant System Leakage	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum leakage	0.034	0.024	0.005	0.010	0.005	0.007	0.004	0.004	0.004	0.004	0.005	0.005
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	0.3	0.2	0.1	0.1	0.1	0.1	0	0	0	0	0.1	0.1
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Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

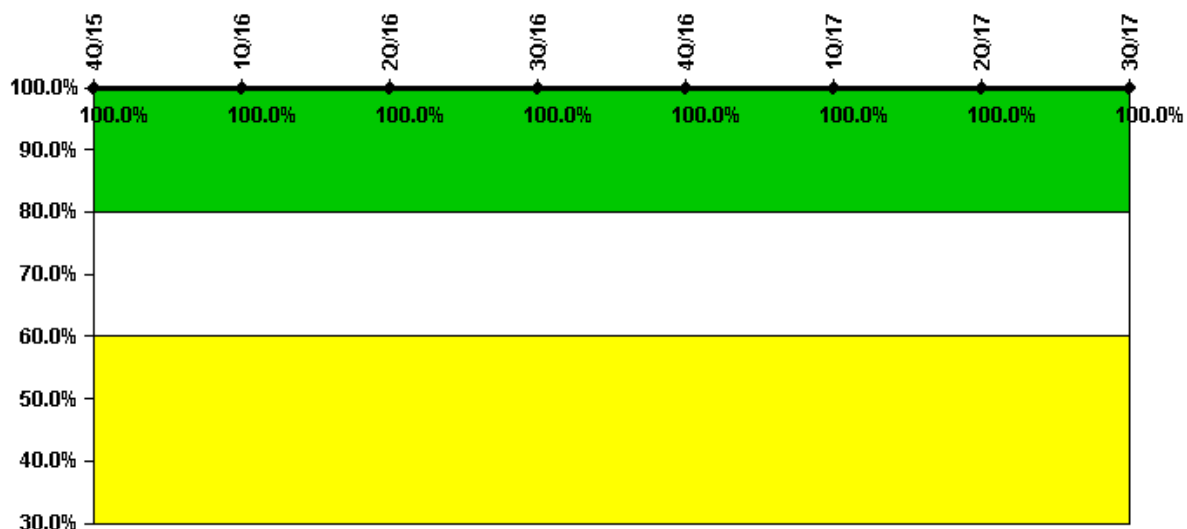
Drill/Exercise Performance	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful opportunities	46.0	38.0	24.0	61.0	19.0	7.0	0	22.0
Total opportunities	46.0	38.0	24.0	61.0	19.0	7.0	0	22.0

**Indicator value**                    **98.8% 99.0% 99.1% 99.3% 99.3% 99.6% 99.6% 100.0%**

▲ TOP

Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

**Notes**

ERO Drill Participation	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Participating Key personnel	130.0	131.0	130.0	131.0	133.0	146.0	145.0	139.0
Total Key personnel	130.0	131.0	130.0	131.0	133.0	146.0	145.0	139.0

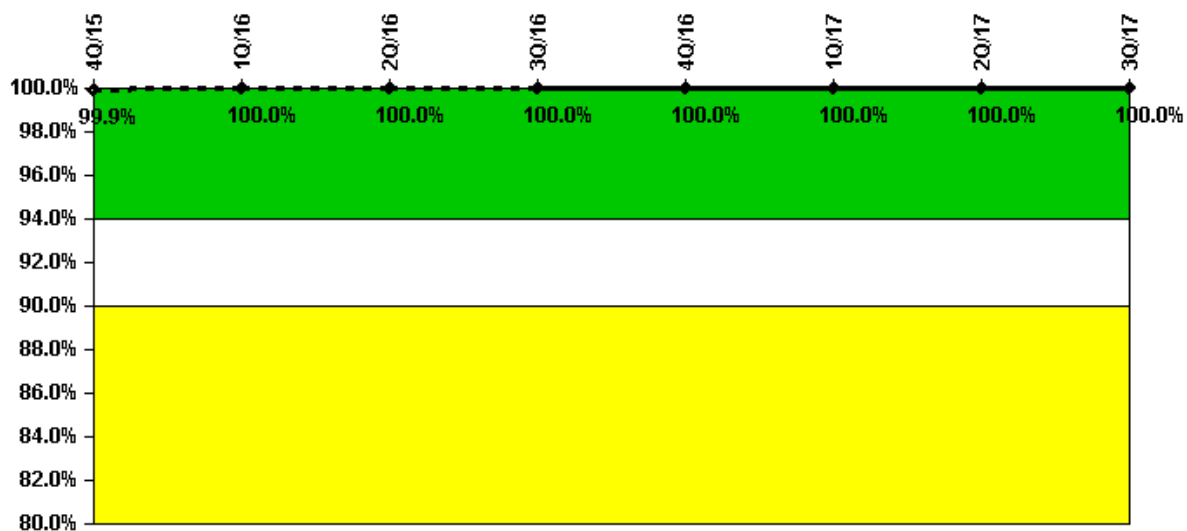
**Indicator value**                    **100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%**

▲ TOP

Licensee Comments:

1Q/16: Revised to add an active shift manager that was not counted for participation. The shift manager holds 2 positions, Emergency Coordinator & off-site communicator. Nuclear Condition Report 02043466 written. This does not affect the overall percentage.

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

**Notes**

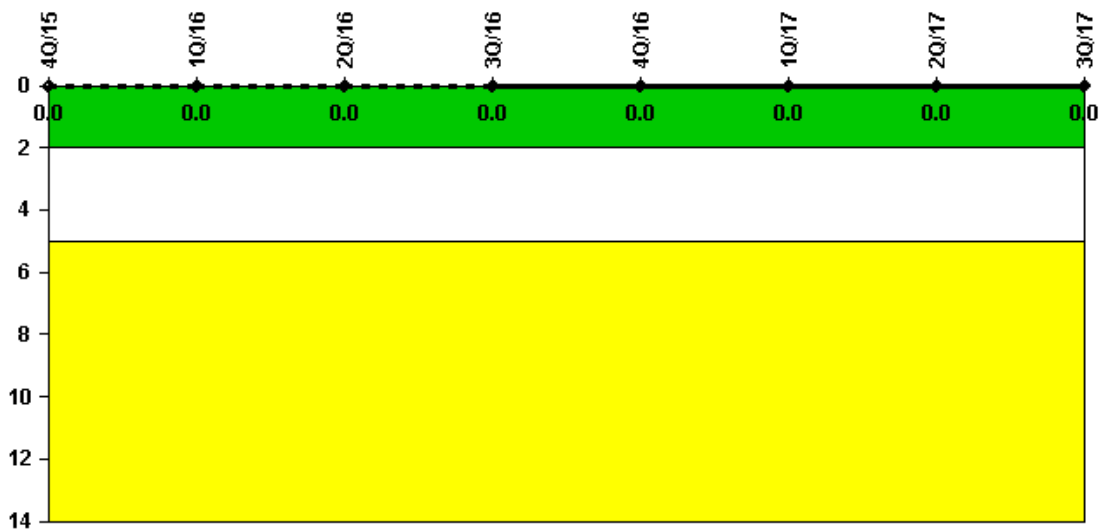
Alert & Notification System	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful siren-tests	2492	2402	2403	2402	2399	2402	2401	2403
Total sirens-tests	2492	2402	2403	2402	2401	2402	2403	2403

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

▲ TOP

Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

**Notes**

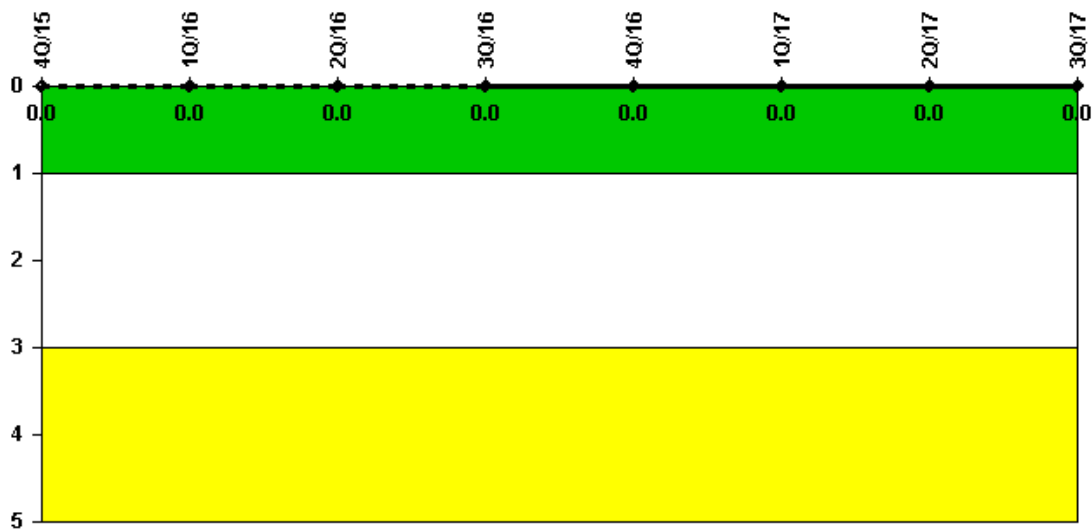
**Occupational Exposure Control Effectiveness** 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

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** 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/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: October 31, 2017*

*Page Last Reviewed/Updated Monday, November 06, 2017*