

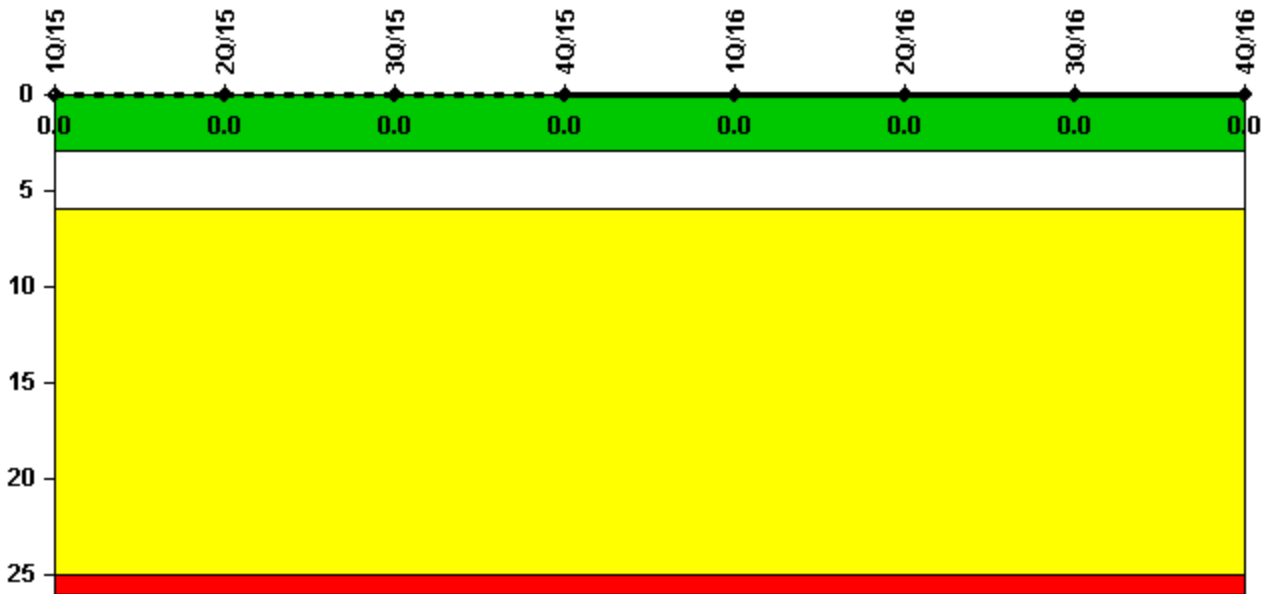
# Braidwood 1

## 4Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



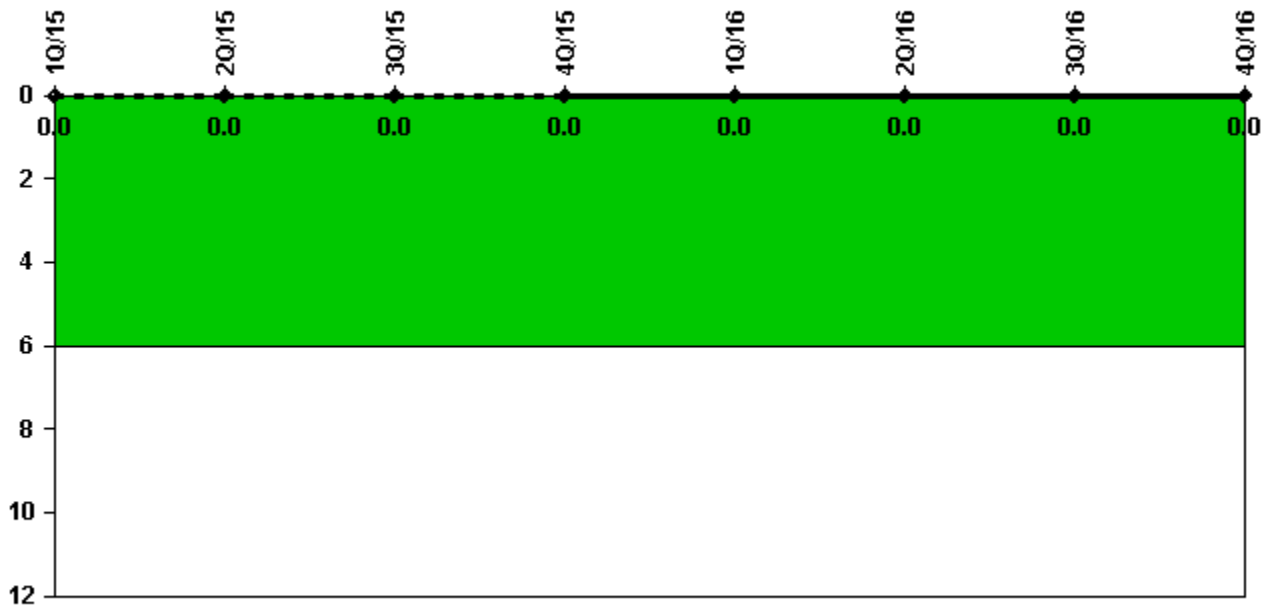
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2111.0	1780.2	2208.0	2209.0	2183.0	2184.0	2088.0	1622.6
Indicator value	0	0	0	0	0	0	0	0

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



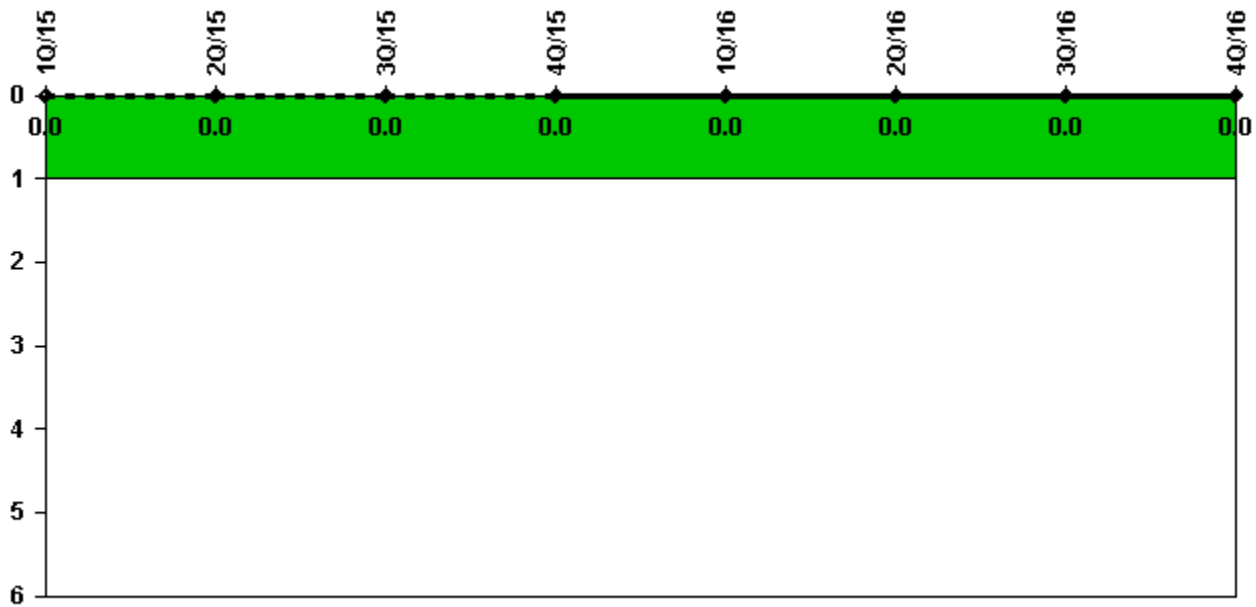
Thresholds: White > 6.0

#### Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	2111.0	1780.2	2208.0	2209.0	2183.0	2184.0	2088.0	1622.6
<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>

Licensee Comments: none

### Unplanned Scrams with Complications



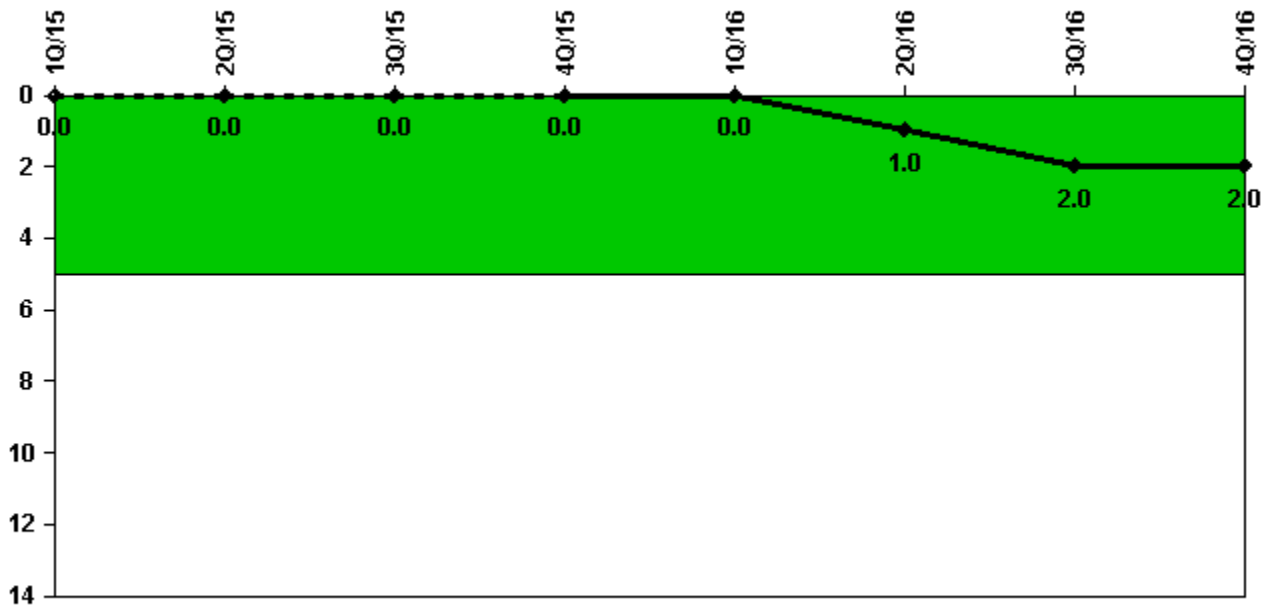
Thresholds: White > 1.0

#### Notes

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

Licensee Comments: none

### Safety System Functional Failures (PWR)



Thresholds: White > 5.0

#### Notes

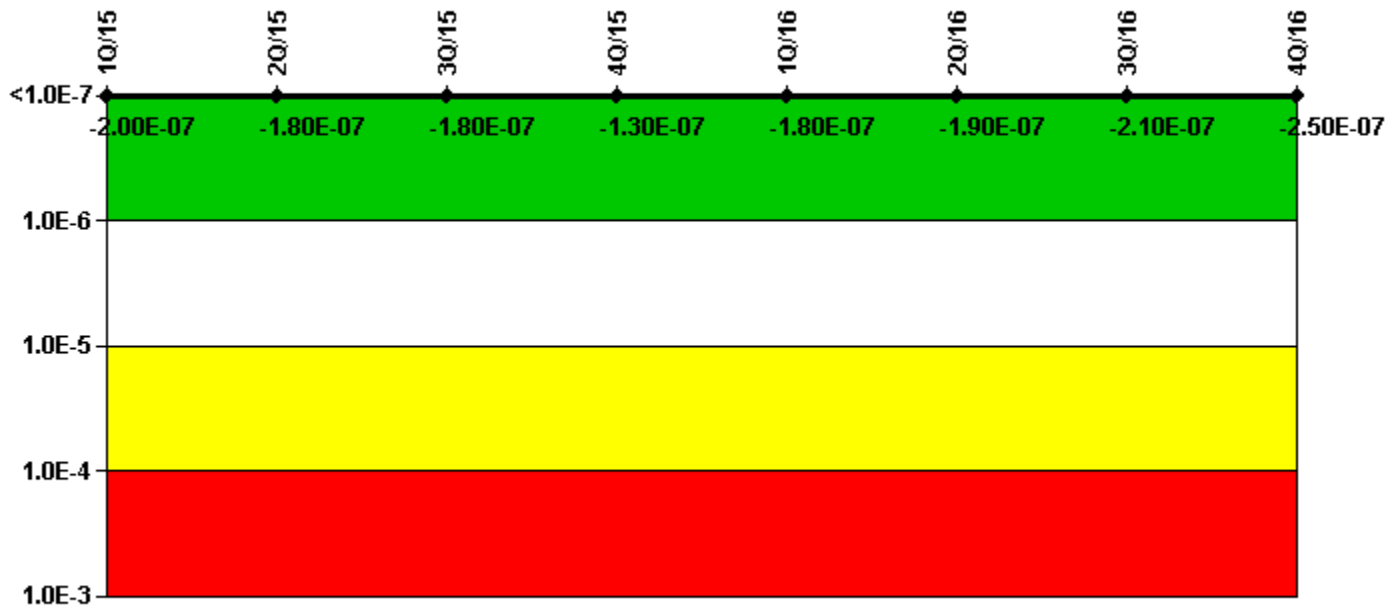
Safety System Functional Failures (PWR)	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Safety System Functional Failures	0	0	0	0	0	1	1	0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>2</b>

Licensee Comments:

3Q/16: Licensee Event Report 2016-002-00 - Inadequate Protection from Tornado Missiles Identified Due to Non-Conforming Design Conditions

2Q/16: LER 2016-001-00: Auxiliary Feedwater Diesel Intake Design Deficiency Related to Turbine Building High Energy Line Break Resulted in an Unanalyzed Condition Due to Insufficient Validation of Vendor Analysis Inputs

### 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/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI ( $\Delta$ CDF)	5.75E-08	7.69E-08	7.24E-08	1.26E-07	6.76E-08	6.87E-08	3.50E-08	-6.38E-09
URI ( $\Delta$ CDF)	-2.54E-07	-2.54E-07	-2.55E-07	-2.54E-07	-2.50E-07	-2.55E-07	-2.45E-07	-2.46E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.00E-07	-1.80E-07	-1.80E-07	-1.30E-07	-1.80E-07	-1.90E-07	-2.10E-07	-2.50E-07

Licensee Comments: none

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



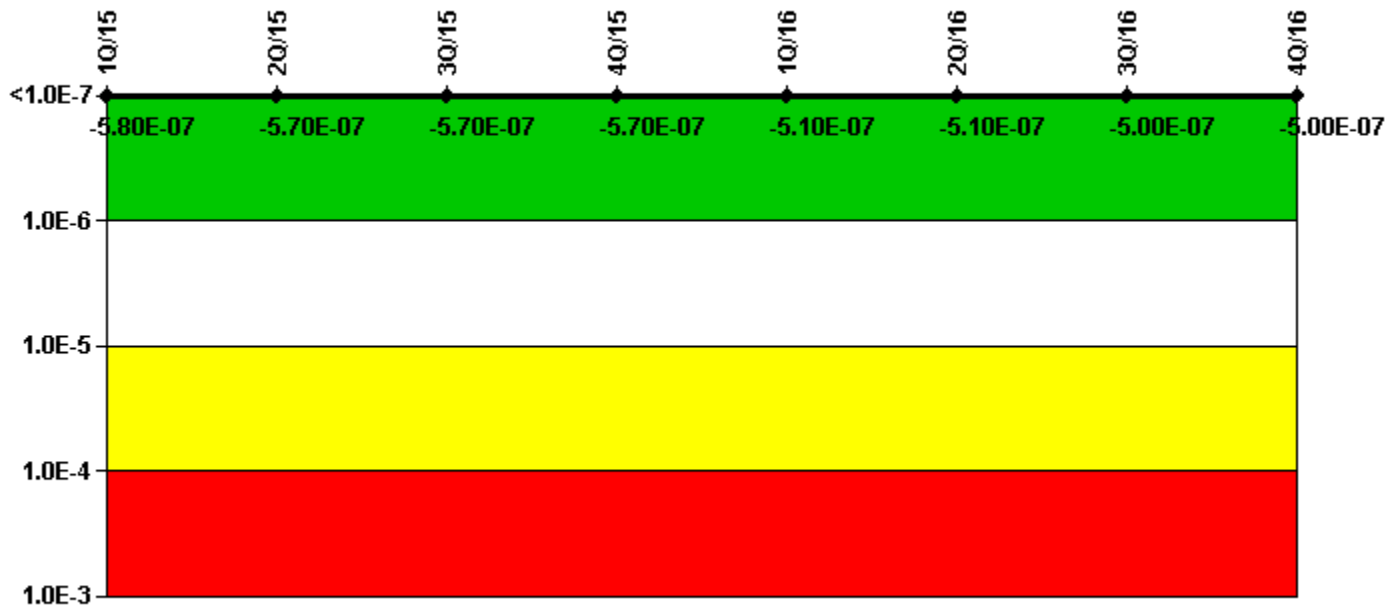
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, High Pressure Injection System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI ( $\Delta$ CDF)	-3.35E-09	-4.20E-09	-9.68E-09	-9.68E-09	-9.72E-09	-2.83E-08	-2.83E-08	-2.83E-08
URI ( $\Delta$ CDF)	-8.93E-09	-8.40E-09	-8.40E-09	-8.39E-09	-8.35E-09	-8.36E-09	-7.55E-09	-7.84E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.20E-08	-1.30E-08	-1.80E-08	-1.80E-08	-1.80E-08	-3.70E-08	-3.60E-08	-3.60E-08

Licensee Comments: none

### Mitigating Systems Performance Index, Heat Removal System



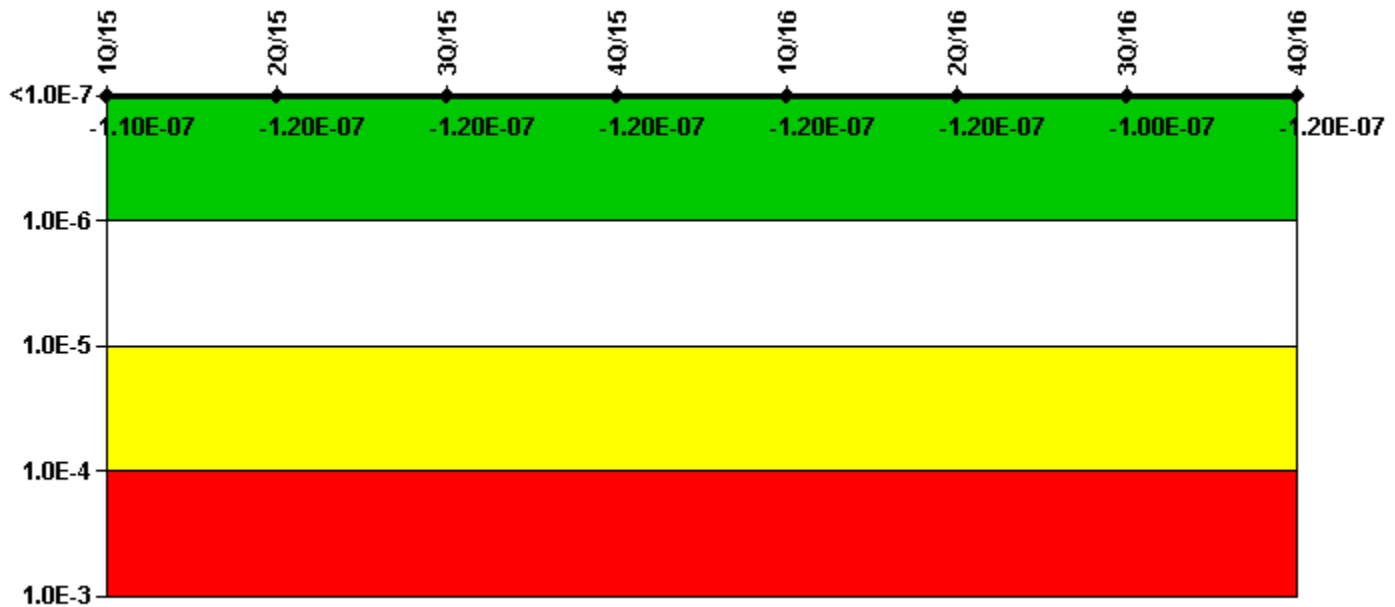
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

#### Notes

Mitigating Systems Performance Index, Heat Removal System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI ( $\Delta$ CDF)	-1.19E-07	-1.19E-07	-1.19E-07	-1.19E-07	-5.91E-08	-5.91E-08	-6.00E-08	-5.86E-08
URI ( $\Delta$ CDF)	-4.66E-07	-4.51E-07	-4.52E-07	-4.50E-07	-4.55E-07	-4.55E-07	-4.37E-07	-4.38E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-5.80E-07	-5.70E-07	-5.70E-07	-5.70E-07	-5.10E-07	-5.10E-07	-5.00E-07	-5.00E-07

Licensee Comments: none

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



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

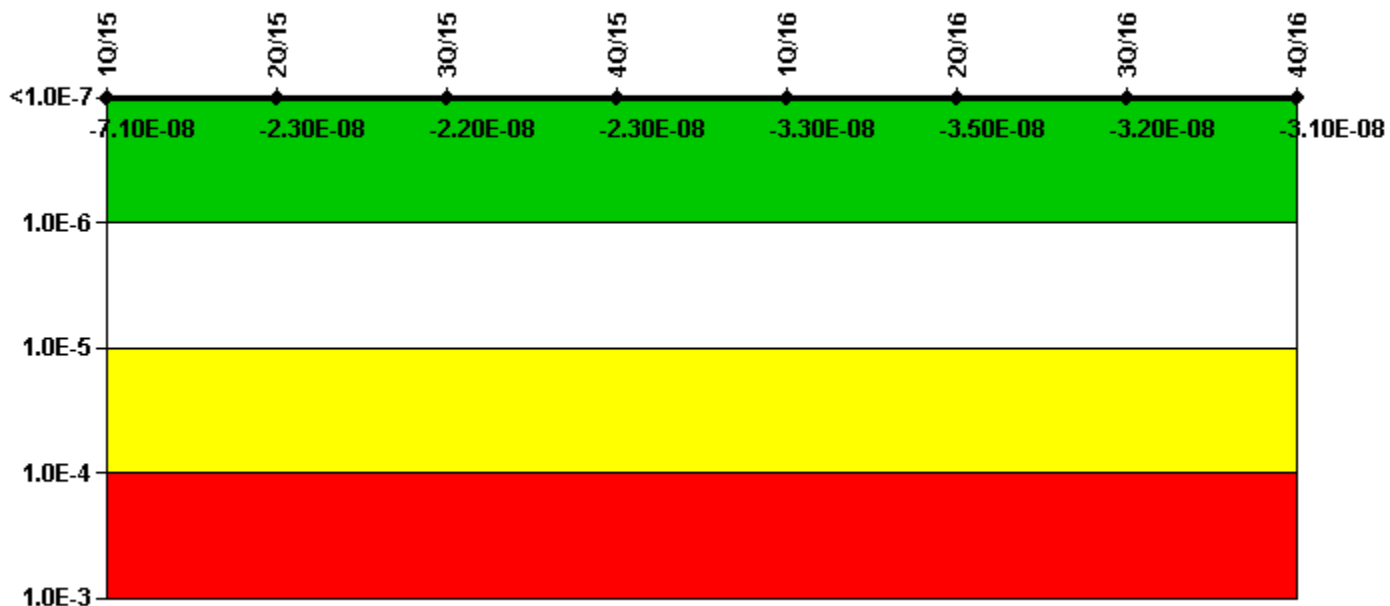
#### Notes

Mitigating Systems Performance Index, Residual Heat Removal System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI ( $\Delta$ CDF)	-6.79E-09	-3.22E-08	-3.47E-08	-3.47E-08	-3.47E-08	-3.47E-08	-3.47E-08	-3.47E-08
URI ( $\Delta$ CDF)	-9.85E-08	-8.75E-08	-8.75E-08	-8.79E-08	-8.82E-08	-8.82E-08	-7.01E-08	-8.27E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.10E-07	-1.20E-07	-1.20E-07	-1.20E-07	-1.20E-07	-1.20E-07	-1.00E-07	-1.20E-07

Licensee Comments: none



### Mitigating Systems Performance Index, Cooling Water Systems



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

#### Notes

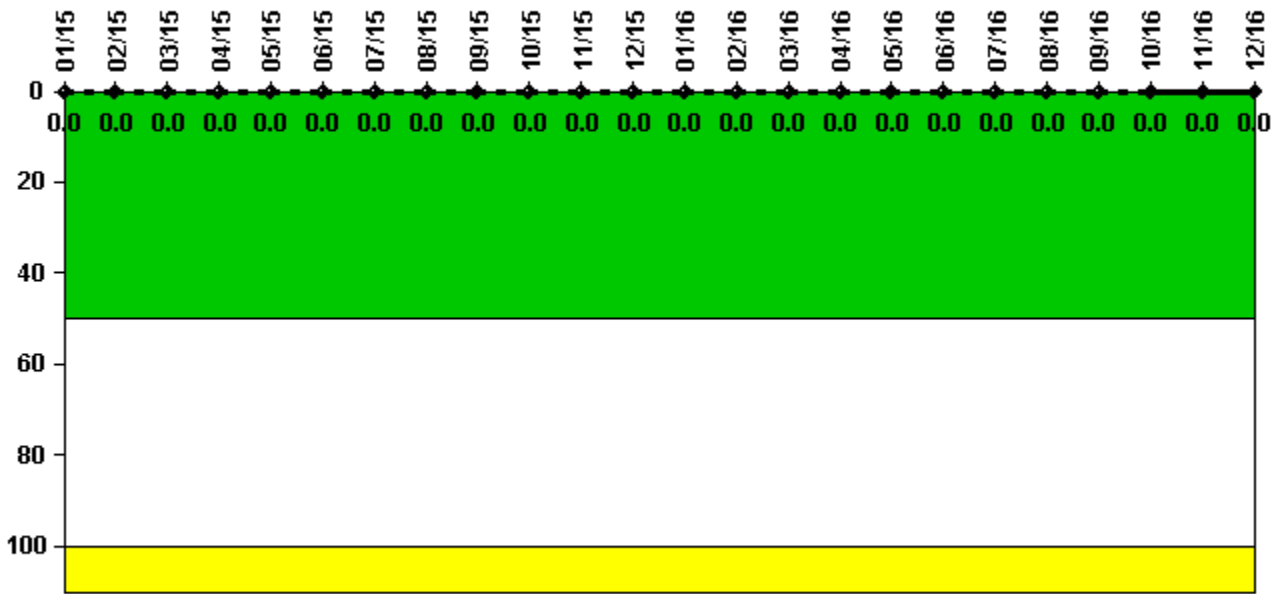
Mitigating Systems Performance Index, Cooling Water Systems	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI (ΔCDF)	-4.99E-08	-4.68E-09	-4.68E-09	-7.26E-09	-1.69E-08	-2.02E-08	-2.11E-08	-1.96E-08
URI (ΔCDF)	-2.13E-08	-1.82E-08	-1.74E-08	-1.62E-08	-1.61E-08	-1.51E-08	-1.12E-08	-1.18E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.10E-08	-2.30E-08	-2.20E-08	-2.30E-08	-3.30E-08	-3.50E-08	-3.20E-08	-3.10E-08

Licensee Comments:

2Q/16: Changed PRA Parameter(s).

1Q/16: Changed PRA Parameter(s). 4/15/16: Braidwood ASM PRA Model Revision No. BB011b4 approved September 30, 2015, revised Byron Unit 1 and Braidwood Unit 2 PRA inputs for installation of Westinghouse Generation 3 RCP safe shutdown seal installation. These seals were installed in 4Q15 at Braidwood.

### Reactor Coolant System Activity



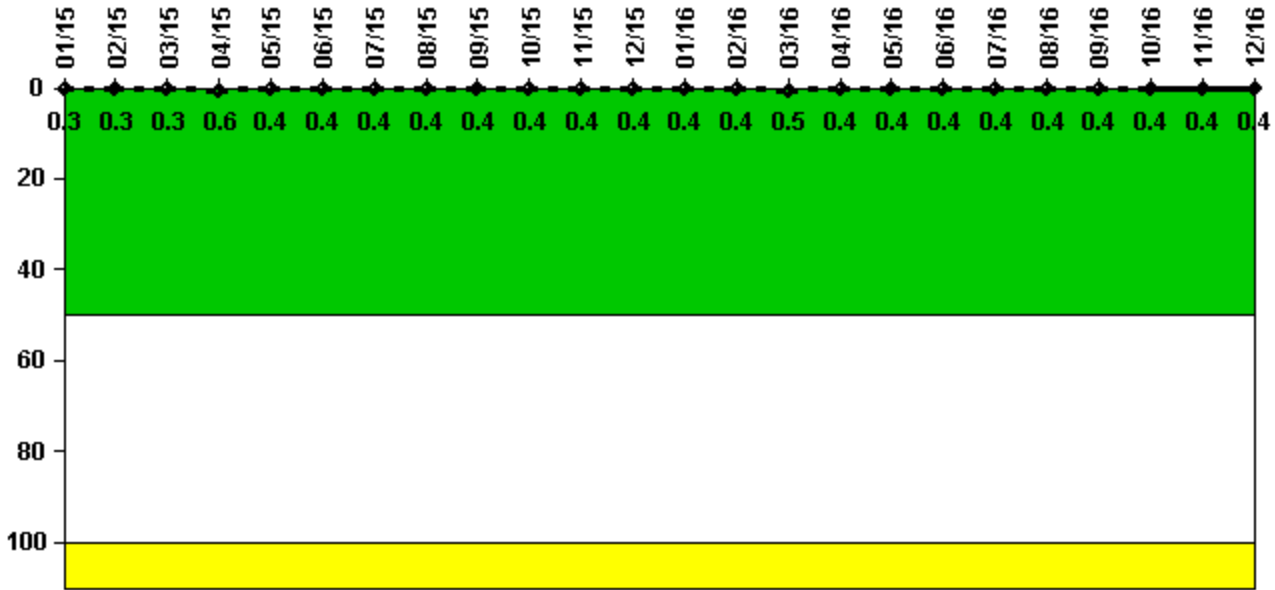
Thresholds: White > 50.0 Yellow > 100.0

#### Notes

Reactor Coolant System Activity	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15
Maximum activity	0.000264	0.000275	0.000297	0.000095	0.000107	0.000129	0.000127	0.000144	0.000160	0.000153	0.000181	0.000174
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
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0
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	0.000187	0.000197	0.000162	0.000204	0.000219	0.000235	0.000244	0.000265	0.000233	0.000077	0.000090	0.000088
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
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0

Licensee Comments: none

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

**Notes**

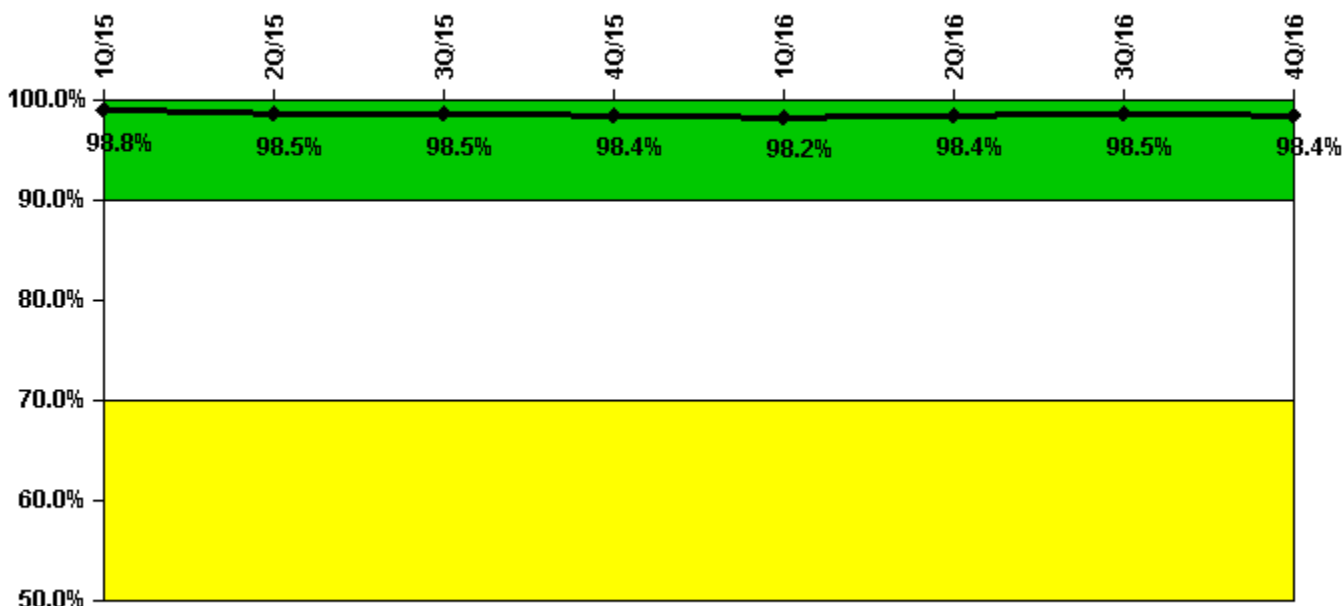
Reactor Coolant System Leakage	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15
Maximum leakage	0.031	0.030	0.032	0.055	0.039	0.035	0.035	0.036	0.042	0.035	0.042	0.038
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
<b>Indicator value</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.6</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>

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	0.036	0.039	0.045	0.038	0.037	0.038	0.036	0.044	0.038	0.035	0.035	0.042
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>0.4</b>	<b>0.4</b>	<b>0.5</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>0.4</b>

Licensee Comments: none

### Drill/Exercise Performance



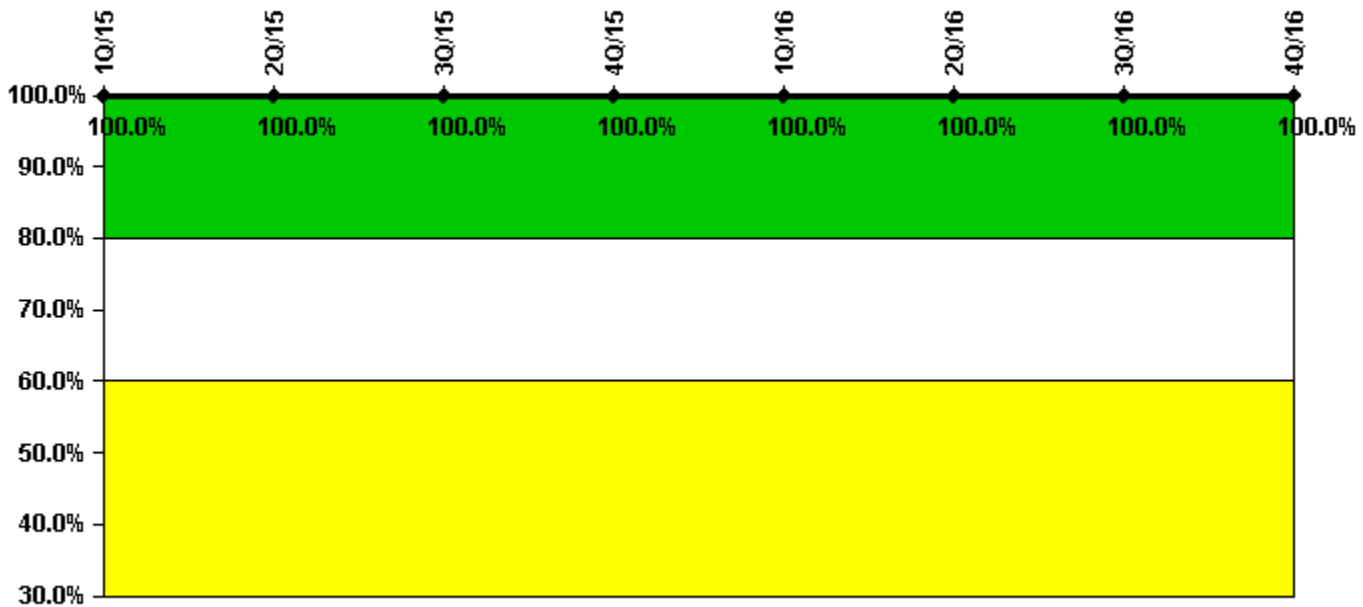
Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

Drill/Exercise Performance	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Successful opportunities	26.0	86.0	58.0	46.0	34.0	59.0	63.0	46.0
Total opportunities	26.0	88.0	58.0	46.0	35.0	60.0	66.0	46.0
Indicator value	98.8%	98.5%	98.5%	98.4%	98.2%	98.4%	98.5%	98.4%

Licensee Comments: none

### ERO Drill Participation



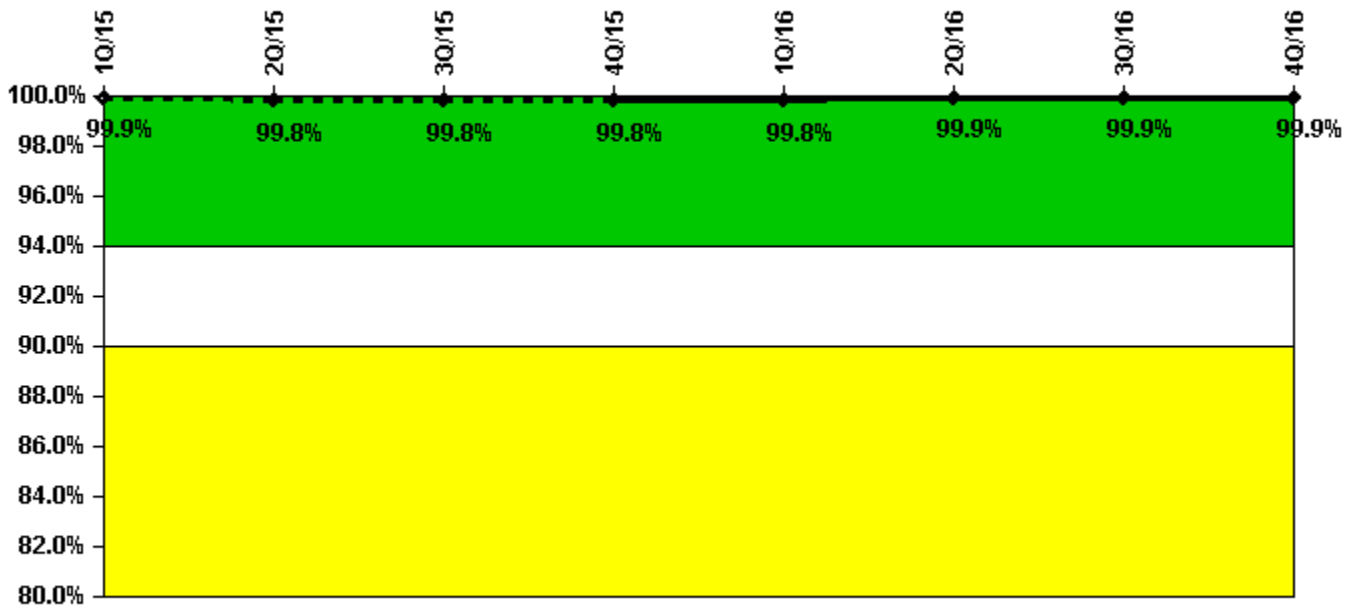
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

ERO Drill Participation	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Participating Key personnel	66.0	69.0	67.0	64.0	67.0	66.0	64.0	66.0
Total Key personnel	66.0	69.0	67.0	64.0	67.0	66.0	64.0	66.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

Alert & Notification System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Successful siren-tests	3024	3059	3112	3070	3070	3071	3064	2976
Total sirens-tests	3024	3072	3120	3072	3072	3072	3072	2976
Indicator value	99.9%	99.8%	99.8%	99.8%	99.8%	99.9%	99.9%	99.9%

Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

#### Notes

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

Licensee Comments: none

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

#### Notes

RETS/ODCM Radiological Effluent	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
RETS/ODCM occurrences	0	0	0	0	0	0	0	0
Indicator value	0	0	0	0	0	0	0	0

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.



▲ [Action Matrix Summary](#) | [Inspection Findings Summary](#) | [PI Summary](#) | [Reactor Oversight Process](#)

*Last Modified: January 24, 2017*