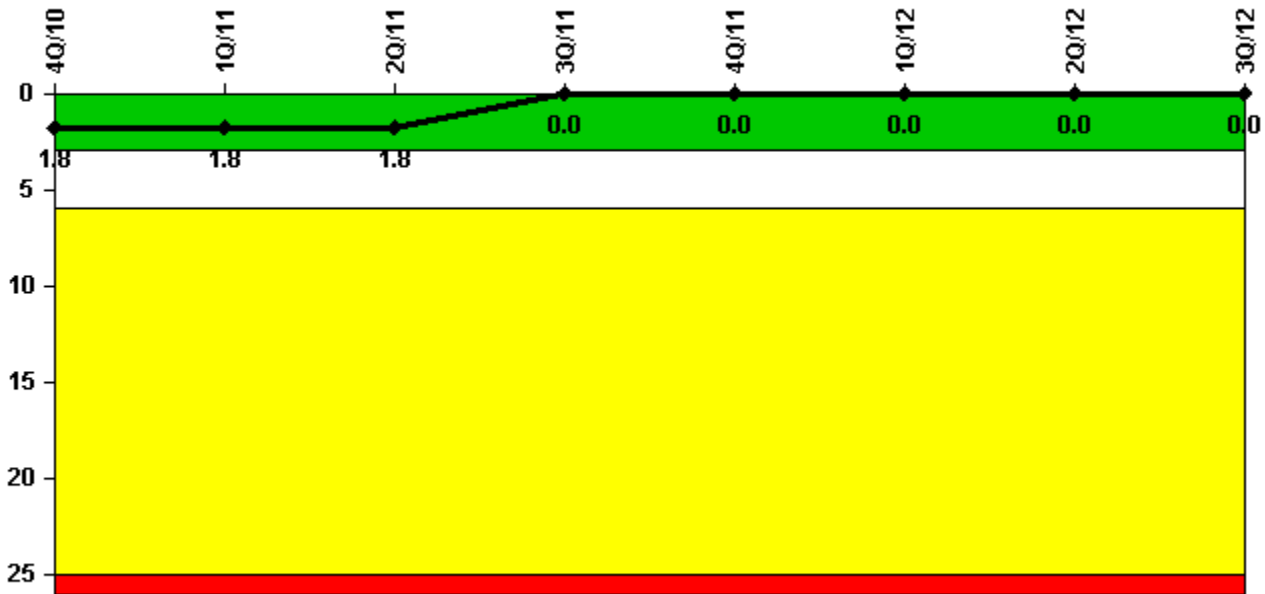


# Braidwood 1

## 3Q/2012 Performance Indicators

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



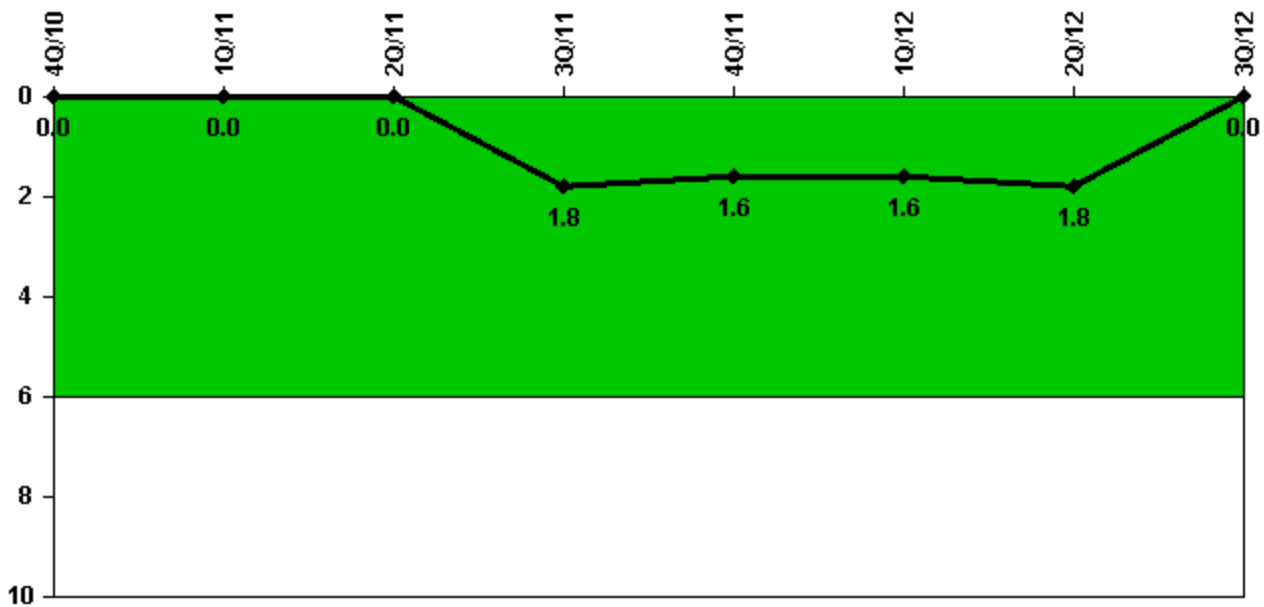
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### Notes

Unplanned Scrams per 7000 Critical Hrs	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	1433.2	2159.0	2184.0	2208.0	2209.0	2183.0	1382.3	2208.0
<b>Indicator value</b>	<b>1.8</b>	<b>1.8</b>	<b>1.8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

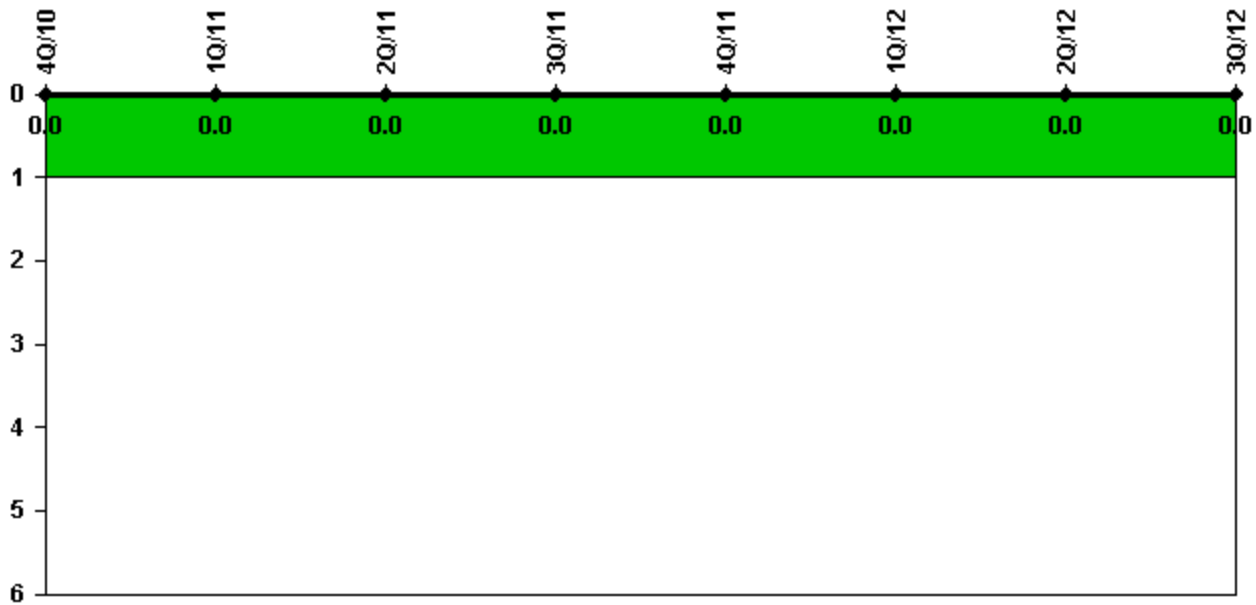
#### Notes

Unplanned Power Changes per 7000 Critical Hrs	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Unplanned power changes	0	0	0	2.0	0	0	0	0
Critical hours	1433.2	2159.0	2184.0	2208.0	2209.0	2183.0	1382.3	2208.0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.8</b>	<b>1.6</b>	<b>1.6</b>	<b>1.8</b>	<b>0</b>

Licensee Comments:

3Q/11: 1 - 7/16/11 Power reduction for repairs to a pressurizer spray bypass valve; 2 - 09/02/2011 Power reduction due to throttle valve failure.

### Unplanned Scrams with Complications



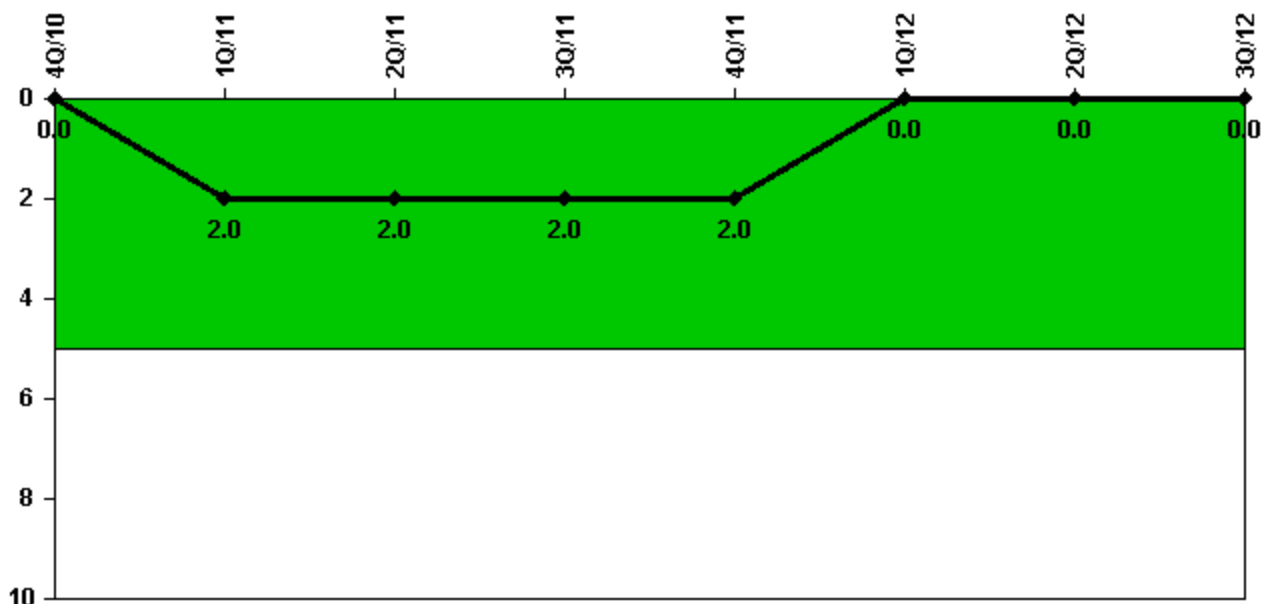
Thresholds: White > 1.0

#### Notes

Unplanned Scrams with Complications	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
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)	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Safety System Functional Failures	0	2	0	0	0	0	0	0
<b>Indicator value</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>

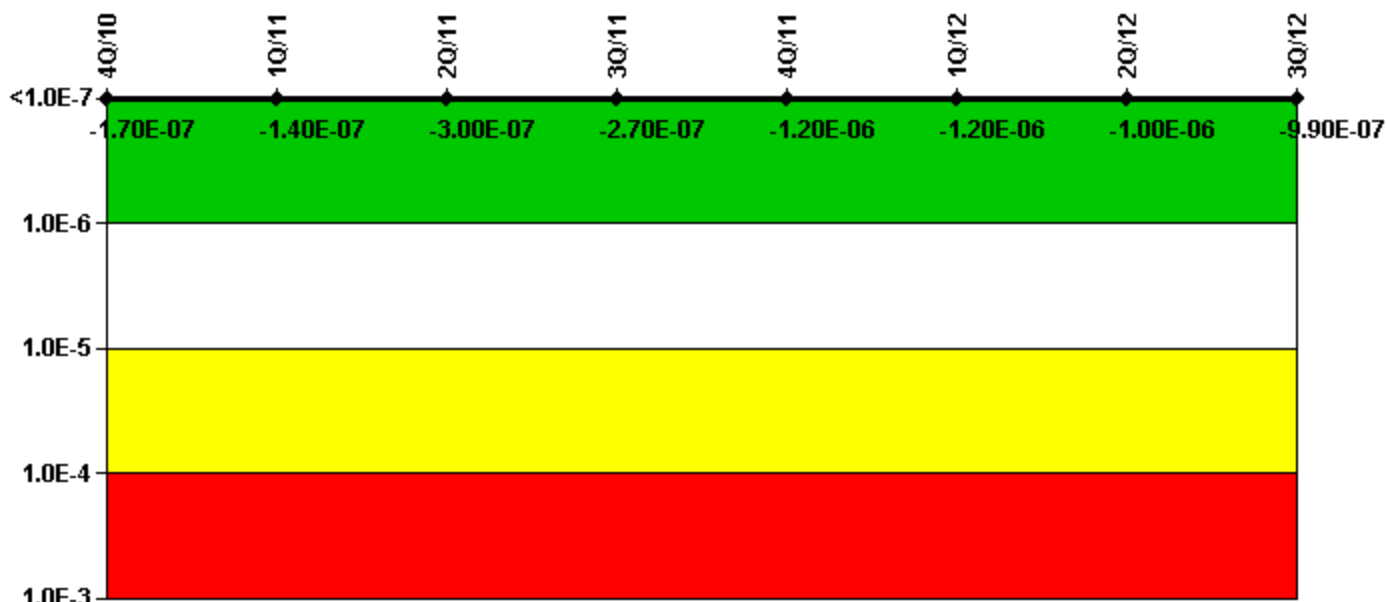
Licensee Comments:

2Q/11: Update: 10/7/11 LER 2011-003-00 withdrawn - no SSFF.

2Q/11: 1 SSFF - LER 2011-003-00, Drained Sections of Piping in Auxiliary Feedwater Suction Lines Result in system Inoperability Due to Inadequate Technical Evaluation.

1Q/11: 2 SSFFs - 1) LER 2010-006-00, Technical Specifications Allowed Outage Time Extension Request for Component Cooling System Contained Inaccurate Design Information that Significantly Impacted the Technical Justification; and 2) LER 2010-007-00, Potential Loss of Residual Heat Removal System Safety Function in Mode 4 When aligned for Shutdown Cooling due to Potential for Flashing or Voiding of Coolant During a Shutdown Loss of Coolant Accident.

### 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/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
UAI (ΔCDF)	1.66E-08	4.30E-08	3.72E-09	2.73E-08	8.19E-08	1.22E-07	4.19E-08	2.99E-08
URI (ΔCDF)	-1.84E-07	-1.80E-07	-3.03E-07	-3.00E-07	-1.29E-06	-1.28E-06	-1.07E-06	-1.02E-06
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.70E-07	-1.40E-07	-3.00E-07	-2.70E-07	-1.20E-06	-1.20E-06	-1.00E-06	-9.90E-07

#### Licensee Comments:

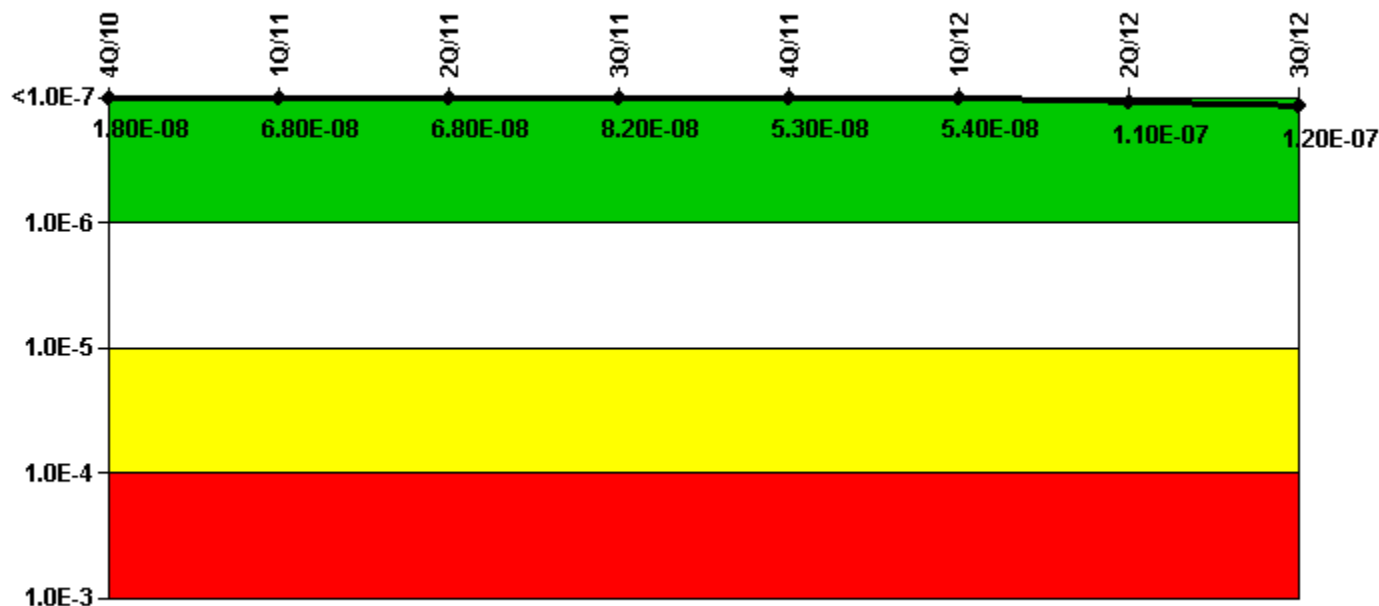
2Q/12: Changed PRA Parameter(s). 7/20/12 - 1) Braidwood PRA Model Revision No: BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW. 2) During an investigation of the why the Unit 2 CWS MSPI became White, it was identified that the model change made for the fourth quarter 2011 reporting period eliminated credit for opposite unit components/trains for the shared Component Cooling Water System. It was not recognized at the time that this required re-scoping of the CWS and EAC indexes. An evaluation of this oversight for the fourth quarter 2011 and 1st quarter 2012 was performed and determined there was no impact on the reported colors for EAC and CWS. CDE inputs to properly reflect this scope change were made for the second quarter 2012.

1Q/12: Risk Cap Invoked. Changed PRA Parameter(s).

4Q/11: Risk Cap Invoked. Changed PRA Parameter(s). Braidwood PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study. Additionally, the

RH8716 valves were removed from MSPI scope due to a sufficiently low Birnbaum value.

### 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/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
UAI ( $\Delta$ CDF)	2.15E-08	7.18E-08	7.18E-08	8.53E-08	5.50E-08	5.61E-08	1.10E-07	1.23E-07
URI ( $\Delta$ CDF)	-3.36E-09	-3.35E-09	-3.36E-09	-3.33E-09	-2.27E-09	-2.25E-09	-3.90E-09	-3.73E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	1.80E-08	6.80E-08	6.80E-08	8.20E-08	5.30E-08	5.40E-08	1.10E-07	1.20E-07

Licensee Comments:

2Q/12: Changed PRA Parameter(s). 7/20/12 - Braidwood PRA Model Revision No: BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW.

1Q/12: Changed PRA Parameter(s).

1Q/12: Changed PRA Parameter(s). 7/23/12: During incorporation of PRA Model Revision No: BB011a for 2Q2012, a change was incorrectly entered for 2Q2006. This has been corrected, but caused the System Generated PI Comment ???PRA Parameters Changed???. Review verified no change to Unreliability Index or Unavailability Index.

4Q/11: Changed PRA Parameter(s). Braidwood PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study. Additionally, the RH8716 valves were remove from MSPI scope due to a sufficiently low Birnbaum value. 7/23/12: During incorporation of PRA Model Revision No: BB011a for 2Q2012, a change was incorrectly entered for 2Q2006. This has been corrected, but caused the System Generated PI Comment ???PRA Parameters Changed???. Review verified no change to Unreliability Index or Unavailability Index.

4Q/11: Changed PRA Parameter(s). Braidwood PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study. Additionally, the RH8716 valves were remove from MSPI scope due to a sufficiently low Birnbaum value.

3Q/11: Changed PRA Parameter(s). 7/23/12: During incorporation of PRA Model Revision No: BB011a for 2Q2012, a change was incorrectly entered for 2Q2006. This has been corrected, but caused the System Generated PI Comment ???PRA Parameters Changed???. Review verified no change to Unreliability Index or Unavailability Index.

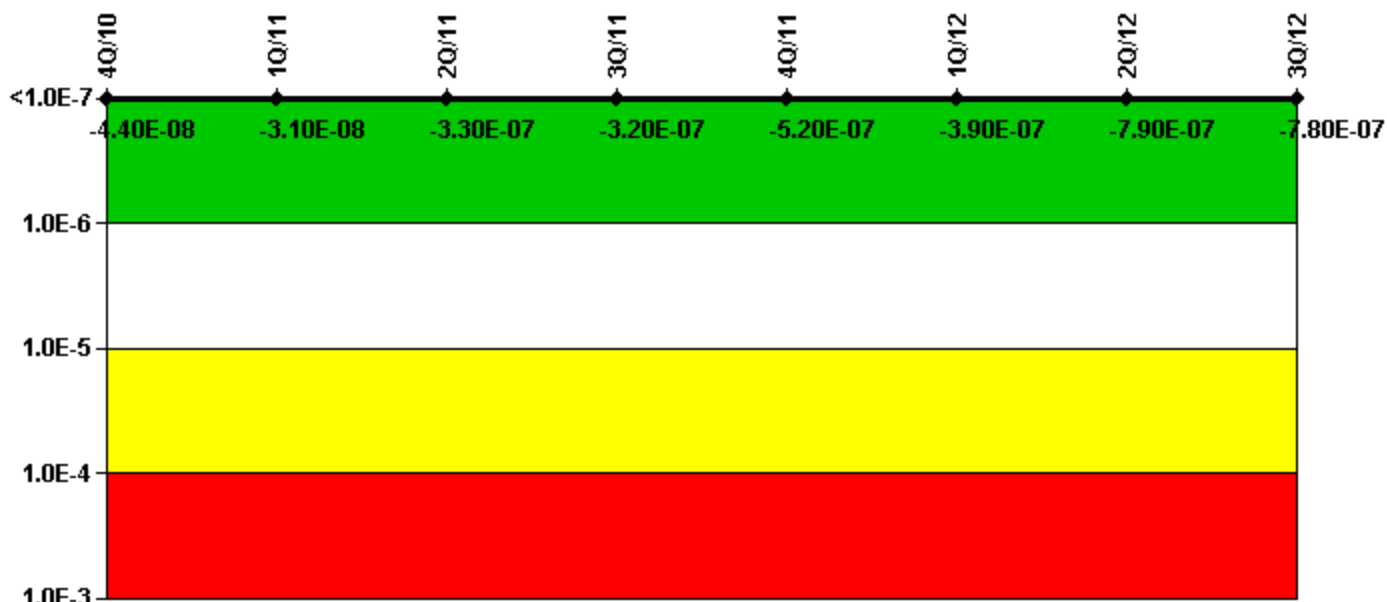
2Q/11: Changed PRA Parameter(s). 7/23/12: During incorporation of PRA Model Revision No: BB011a for 2Q2012, a change was incorrectly entered for 2Q2006. This has been corrected, but caused the System Generated PI Comment ???PRA Parameters Changed???. Review verified no change to Unreliability Index or Unavailability Index.

1Q/11: Unit 1 revised unplanned unavailability on 1A safety injection pump from 82.7 to 77.5 hours, based on correction to LCO entry time.

1Q/11: Changed PRA Parameter(s). Unit 1 revised unplanned unavailability on 1A safety injection pump from 82.7 to 77.5 hours, based on correction to LCO entry time. 7/23/12: During incorporation of PRA Model Revision No: BB011a for 2Q2012, a change was incorrectly entered for 2Q2006. This has been corrected, but caused the System Generated PI Comment ???PRA Parameters Changed???. Review verified no change to Unreliability Index or Unavailability Index.

4Q/10: Changed PRA Parameter(s). 7/23/12 - During incorporation of PRA Model Revision No: BB011a for 2Q2012, a change was incorrectly entered for 2Q2006. This has been corrected, but caused the System Generated PI Comment ???PRA Parameters Changed???. Review verified no change to Unreliability Index or Unavailability Index.

### 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/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
UAI ( $\Delta$ CDF)	-4.94E-08	-3.56E-08	-4.92E-08	-4.92E-08	1.43E-08	1.36E-07	-9.11E-08	-9.11E-08
URI ( $\Delta$ CDF)	5.20E-09	5.07E-09	-2.80E-07	-2.74E-07	-5.30E-07	-5.25E-07	-6.99E-07	-6.86E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-4.40E-08	-3.10E-08	-3.30E-07	-3.20E-07	-5.20E-07	-3.90E-07	-7.90E-07	-7.80E-07

#### Licensee Comments:

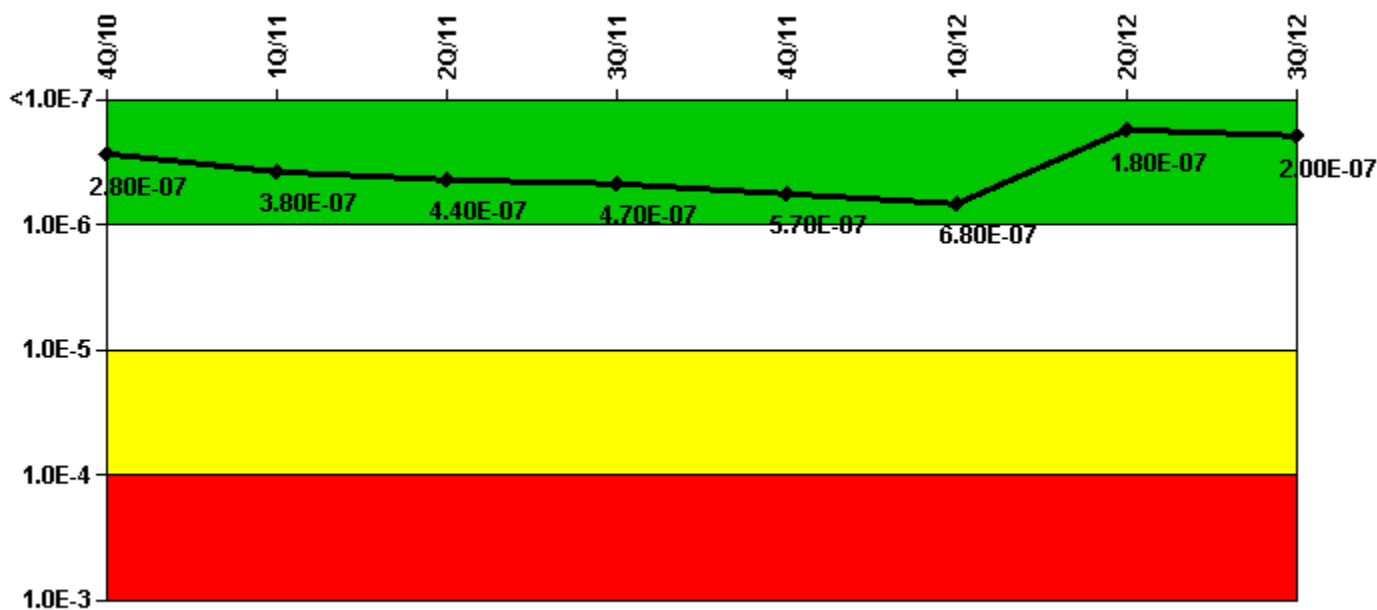
2Q/12: Changed PRA Parameter(s). 7/20/12 - Braidwood PRA Model Revision No: BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW.

1Q/12: Changed PRA Parameter(s).

4Q/11: Changed PRA Parameter(s). Braidwood PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study. Additionally, the RH8716 valves were remove from MSPI scope due to a sufficiently low Birnbaum value.



### 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/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
UAI (ΔCDF)	-2.46E-08	6.52E-08	1.24E-07	1.52E-07	1.32E-07	2.35E-07	6.99E-08	8.72E-08
URI (ΔCDF)	3.09E-07	3.15E-07	3.17E-07	3.19E-07	4.42E-07	4.47E-07	1.15E-07	1.16E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.80E-07	3.80E-07	4.40E-07	4.70E-07	5.70E-07	6.80E-07	1.80E-07	2.00E-07

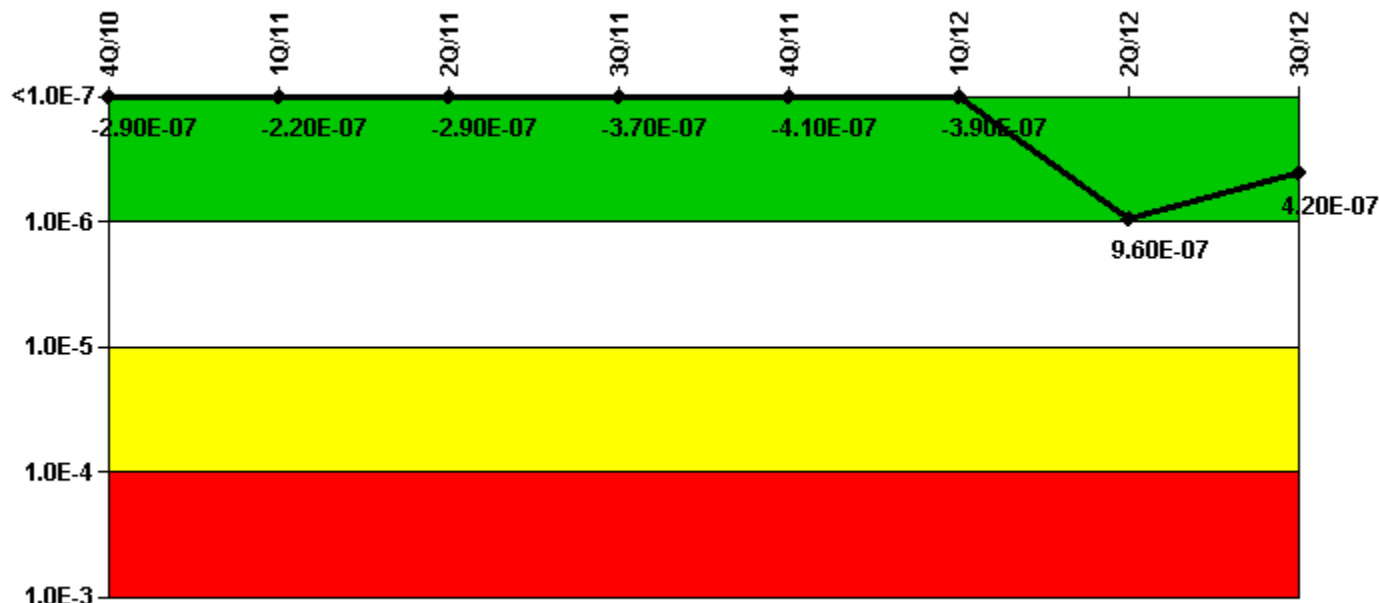
#### Licensee Comments:

2Q/12: Changed PRA Parameter(s). 7/20/12 - Braidwood PRA Model Revision No: BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW.

1Q/12: Changed PRA Parameter(s).

4Q/11: Changed PRA Parameter(s). Braidwood PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study. Additionally, the RH8716 valves were remove from MSPI scope due to a sufficiently low Birnbaum value.

### 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/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
UAI (ΔCDF)	3.02E-07	3.69E-07	2.97E-07	2.20E-07	1.87E-07	1.98E-07	2.06E-07	2.17E-07
URI (ΔCDF)	-5.87E-07	-5.87E-07	-5.90E-07	-5.92E-07	-5.93E-07	-5.88E-07	7.51E-07	2.07E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.90E-07	-2.20E-07	-2.90E-07	-3.70E-07	-4.10E-07	-3.90E-07	9.60E-07	4.20E-07

Licensee Comments:

3Q/12: Risk Cap Invoked.

2Q/12: Risk Cap Invoked. Changed PRA Parameter(s). 7/20/12 - 1) Braidwood PRA Model Revision No: BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW. 2) During an investigation of the why the Unit 2 CWS MSPI became White, it was identified that the model change made for the fourth quarter 2011 reporting period eliminated credit for opposite unit components/trains for the shared Component Cooling Water System. It was not recognized at the time that this required re-scoping of the CWS and EAC indexes. An evaluation of this oversight for the fourth quarter 2011 and 1st quarter 2012 was performed and determined there was no impact on the

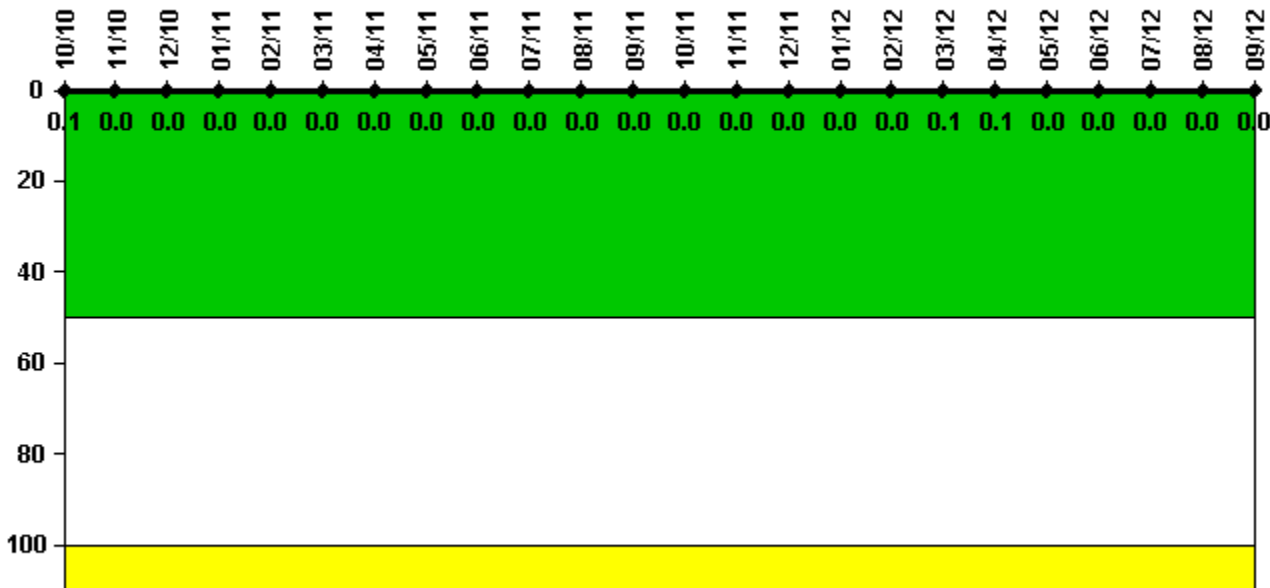
reported colors for EAC and CWS. CDE inputs to properly reflect this scope change were made for the second quarter 2012. 10/18/12: Per MSPI Basis Document Rev. 9 (approved 10/17/12), PRA inputs changed to reflect use of a greater number of significant digits. Resulted in minor increase in UAI and MSPI PI; MSPI remained Green for 2nd QTR 2012.

2Q/12: Risk Cap Invoked. Changed PRA Parameter(s). 7/20/12 - 1) Braidwood PRA Model Revision No: BB011a approved March 29, 2012, revised Unit 1 and Unit 2 PRA inputs due to a periodic PRA model update. This included new data analysis, new HRA dependency analysis, and new pre-initiator HRA. This update also removed credit for operator action to crosstie AFW. 2) During an investigation of the why the Unit 2 CWS MSPI became White, it was identified that the model change made for the fourth quarter 2011 reporting period eliminated credit for opposite unit components/trains for the shared Component Cooling Water System. It was not recognized at the time that this required re-scoping of the CWS and EAC indexes. An evaluation of this oversight for the fourth quarter 2011 and 1st quarter 2012 was performed and determined there was no impact on the reported colors for EAC and CWS. CDE inputs to properly reflect this scope change were made for the second quarter 2012.

1Q/12: Changed PRA Parameter(s).

4Q/11: Changed PRA Parameter(s). Braidwood PRA Model Revision No: 6F approved September 29, 2011, revised Unit 1 and Unit 2 PRA inputs due to a change in the plant operations which calls for preemptively splitting CC trains Post-LOCA and the addition of a revised internal flooding study. Additionally, the RH8716 valves were remove from MSPI scope due to a sufficiently low Birnbaum value.

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

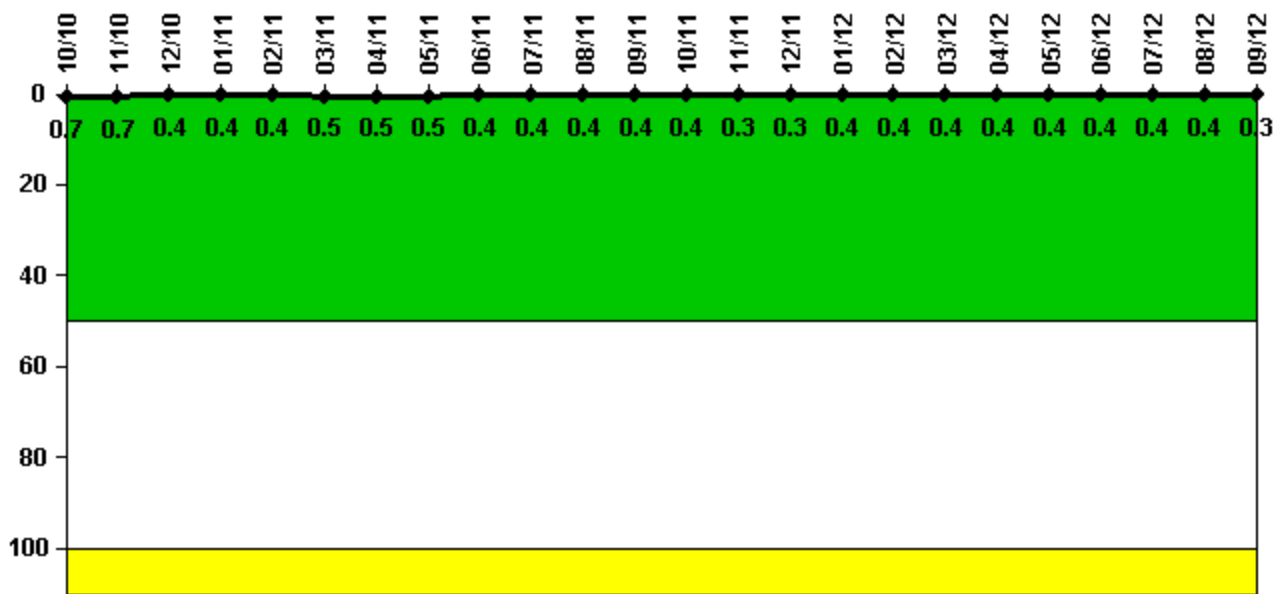
#### Notes

3Q/2012 Performance Indicators - Braidwood 1

<b>Reactor Coolant System Activity</b>	<b>10/10</b>	<b>11/10</b>	<b>12/10</b>	<b>1/11</b>	<b>2/11</b>	<b>3/11</b>	<b>4/11</b>	<b>5/11</b>	<b>6/11</b>	<b>7/11</b>	<b>8/11</b>	<b>9/11</b>
Maximum activity	0.000784	0.000265	0.000268	0.000288	0.000292	0.000325	0.000333	0.000345	0.000345	0.000372	0.000391	0.000407
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>0.1</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>Reactor Coolant System Activity</b>	<b>10/11</b>	<b>11/11</b>	<b>12/11</b>	<b>1/12</b>	<b>2/12</b>	<b>3/12</b>	<b>4/12</b>	<b>5/12</b>	<b>6/12</b>	<b>7/12</b>	<b>8/12</b>	<b>9/12</b>
Maximum activity	0.000415	0.000478	0.000473	0.000474	0.000483	0.000505	0.000501	0.000148	0.000163	0.000172	0.000185	0.000199
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>0.1</b>	<b>0.1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Licensee Comments: none

### Reactor Coolant System Leakage



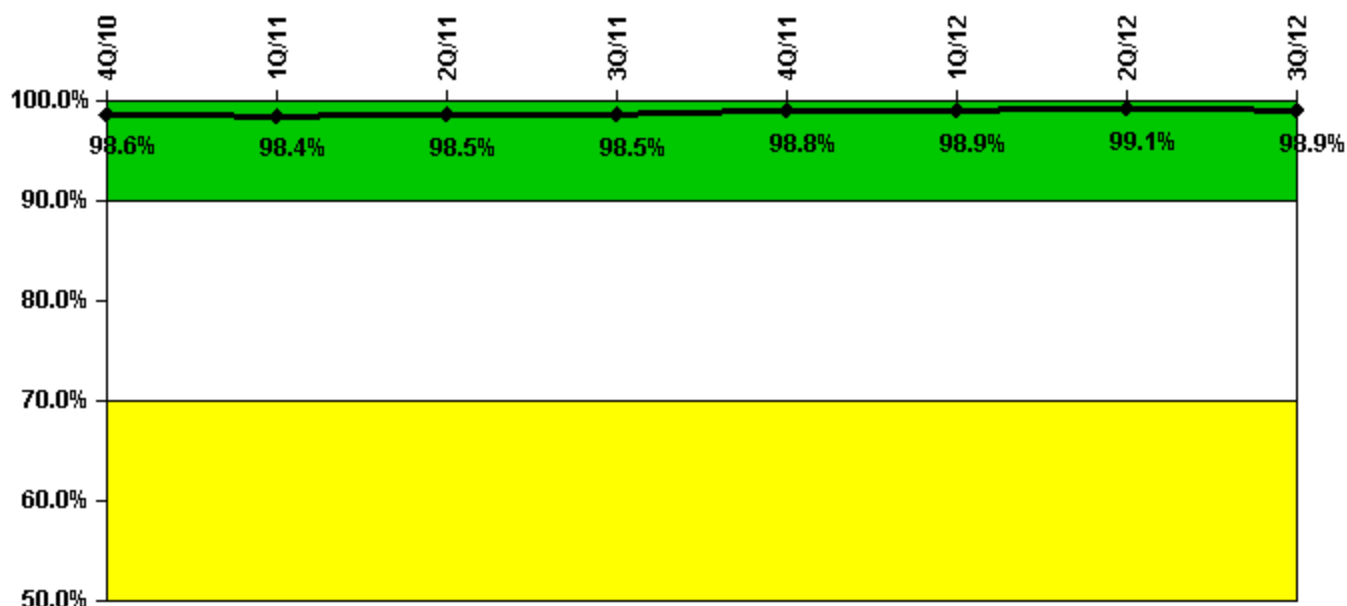
Thresholds: White > 50.0 Yellow > 100.0

#### Notes

Reactor Coolant System Leakage	10/10	11/10	12/10	1/11	2/11	3/11	4/11	5/11	6/11	7/11	8/11	9/11
Maximum leakage	0.069	0.066	0.042	0.039	0.041	0.047	0.048	0.045	0.042	0.043	0.043	0.037
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>0.7</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>
Reactor Coolant System Leakage	10/11	11/11	12/11	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12
Maximum leakage	0.039	0.034	0.033	0.038	0.040	0.038	0.036	0.039	0.036	0.044	0.038	0.034
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>0.3</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>0.3</b>

Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

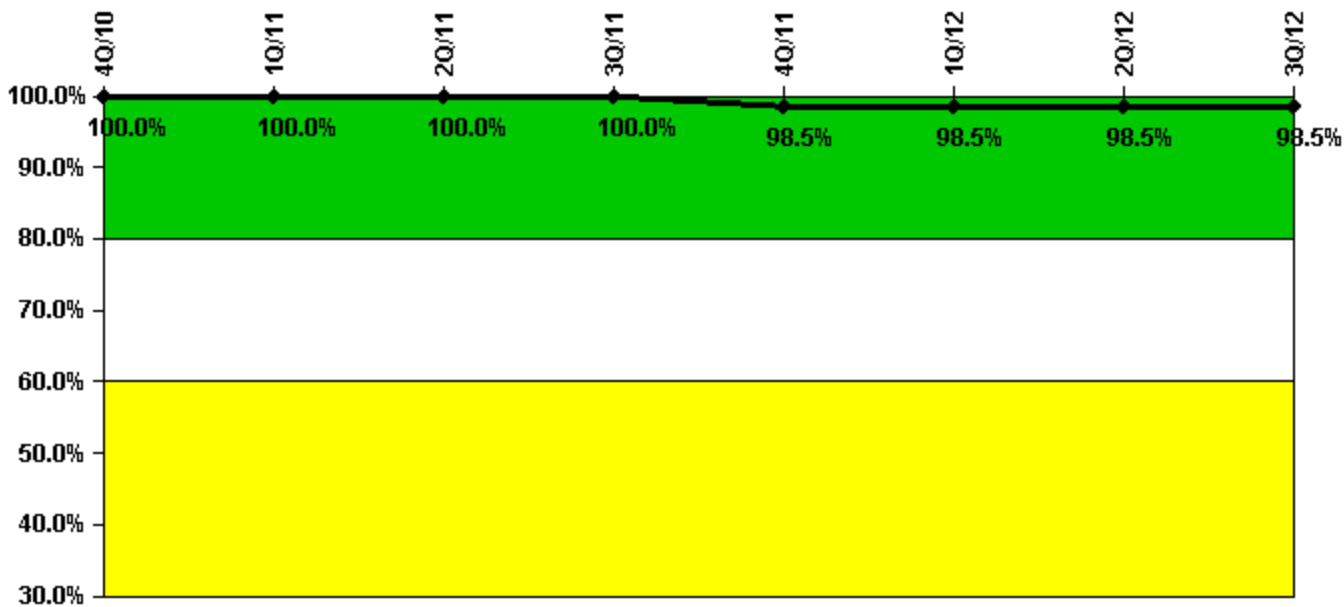
#### Notes

Drill/Exercise Performance	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Successful opportunities	114.0	39.0	16.0	56.0	78.0	67.0	22.0	70.0
Total opportunities	114.0	40.0	16.0	56.0	78.0	69.0	22.0	72.0
Indicator value	98.6%	98.4%	98.5%	98.5%	98.8%	98.9%	99.1%	98.9%

Licensee Comments:

1Q/11: March data revised to reflect a failed DEP for an actual event for late declaraton.

### ERO Drill Participation



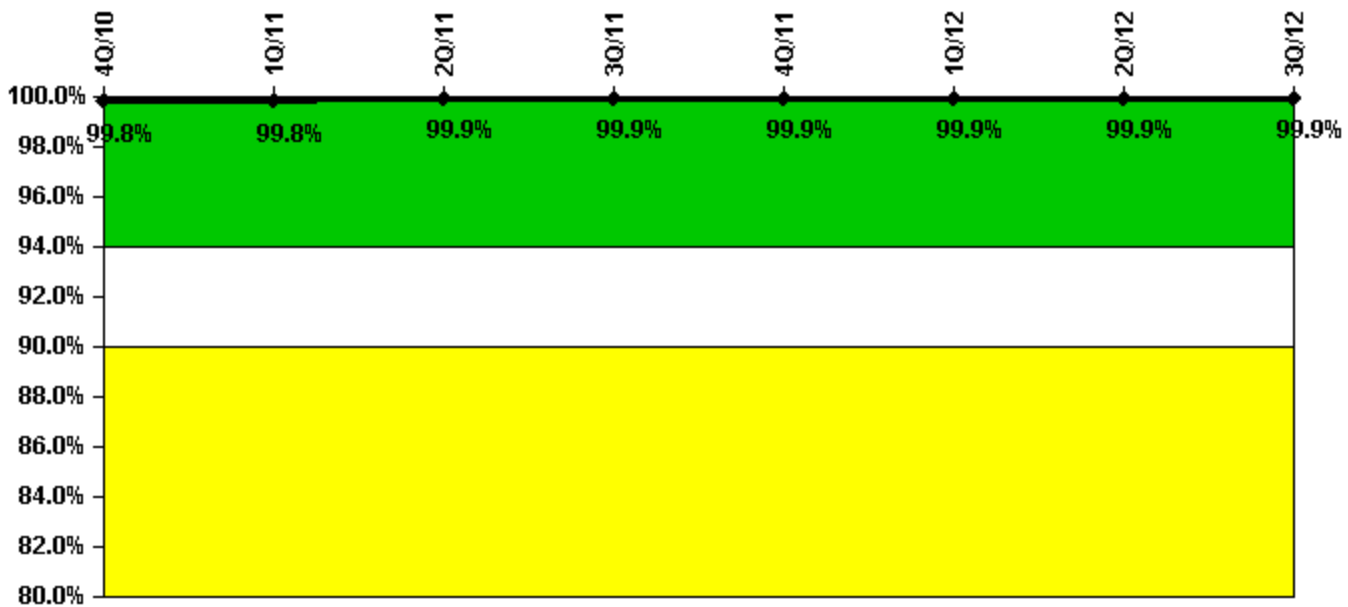
Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

ERO Drill Participation	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Participating Key personnel	67.0	64.0	62.0	65.0	65.0	67.0	66.0	65.0
Total Key personnel	67.0	64.0	62.0	65.0	66.0	68.0	67.0	66.0
Indicator value	100.0%	100.0%	100.0%	100.0%	98.5%	98.5%	98.5%	98.5%

Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

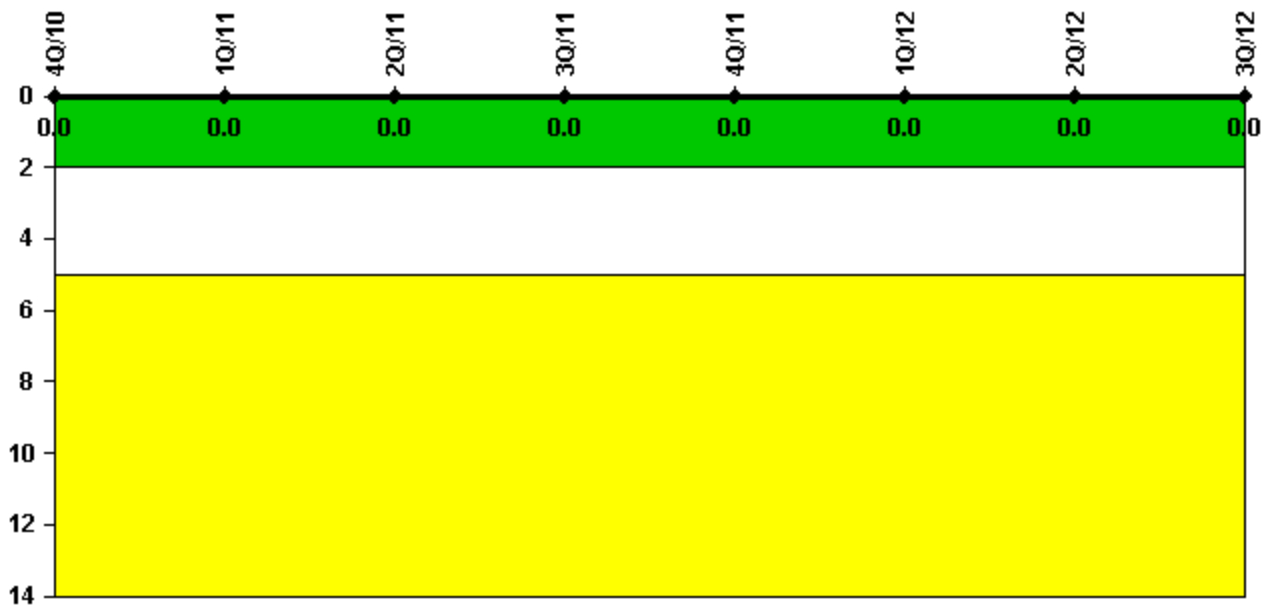
#### Notes

Alert & Notification System	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Successful siren-tests	3119	3068	3065	3070	3071	3117	3063	3019
Total sirens-tests	3120	3072	3072	3072	3072	3120	3072	3024
Indicator value	99.8%	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%

Licensee Comments: none



### Occupational Exposure Control Effectiveness



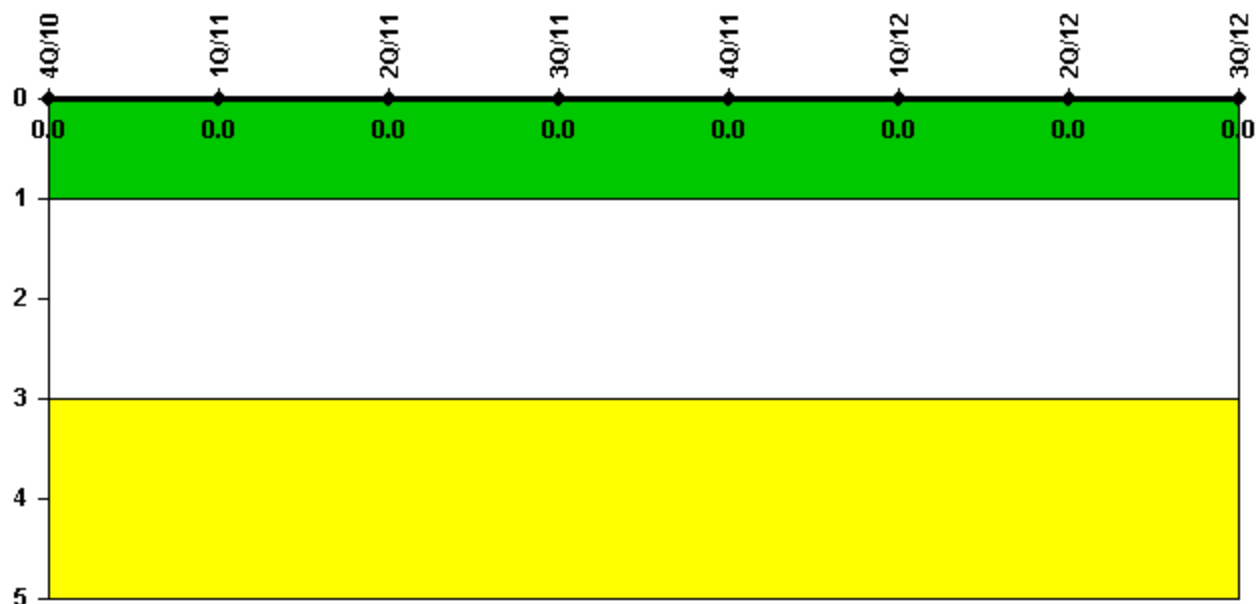
Thresholds: White > 2.0 Yellow > 5.0

#### Notes

Occupational Exposure Control Effectiveness	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
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	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
RETS/ODCM 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

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: October 24, 2012*