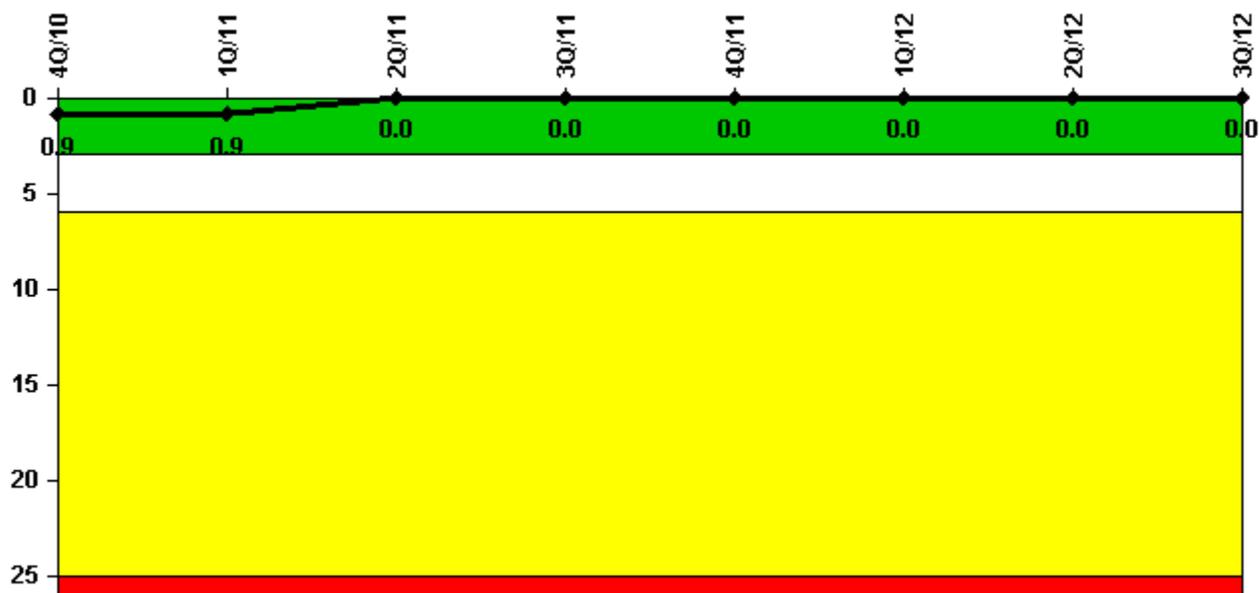# Duane Arnold

3Q/2012 Performance Indicators

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs
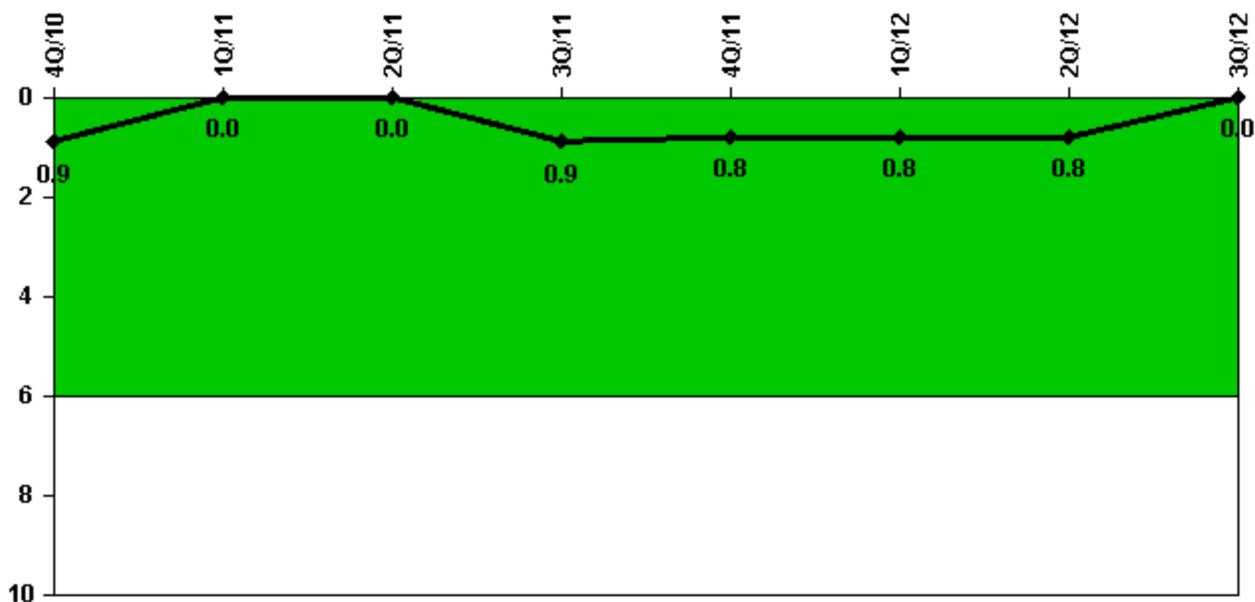

Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

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	1207.2	2159.0	2184.0	2085.4	2209.0	2183.0	2184.0	2208.0
Indicator value	**0.9**	**0.9**	**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	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Unplanned power changes	0	0	0	1.0	0	0	0	0
Critical hours	1207.2	2159.0	2184.0	2085.4	2209.0	2183.0	2184.0	2208.0
Indicator value	**0.9**	**0**	**0**	**0.9**	**0.8**	**0.8**	**0.8**	**0**

Licensee Comments: none

Unplanned Scrams with Complications
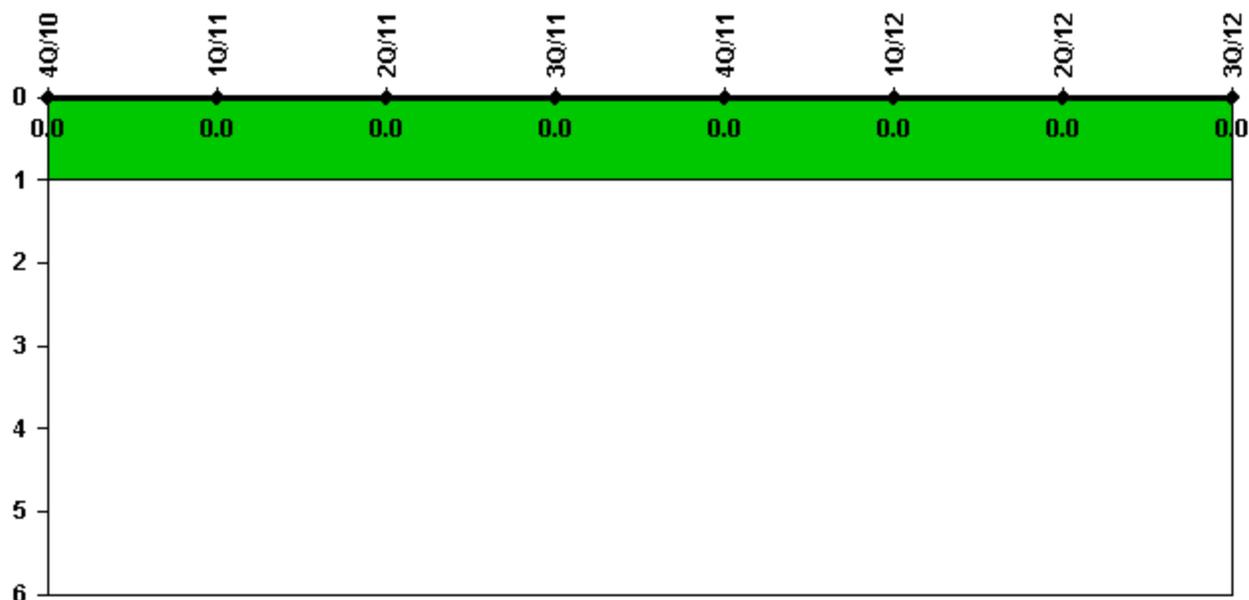
Thresholds: White > 1.0

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

Licensee Comments: none

Safety System Functional Failures (BWR)
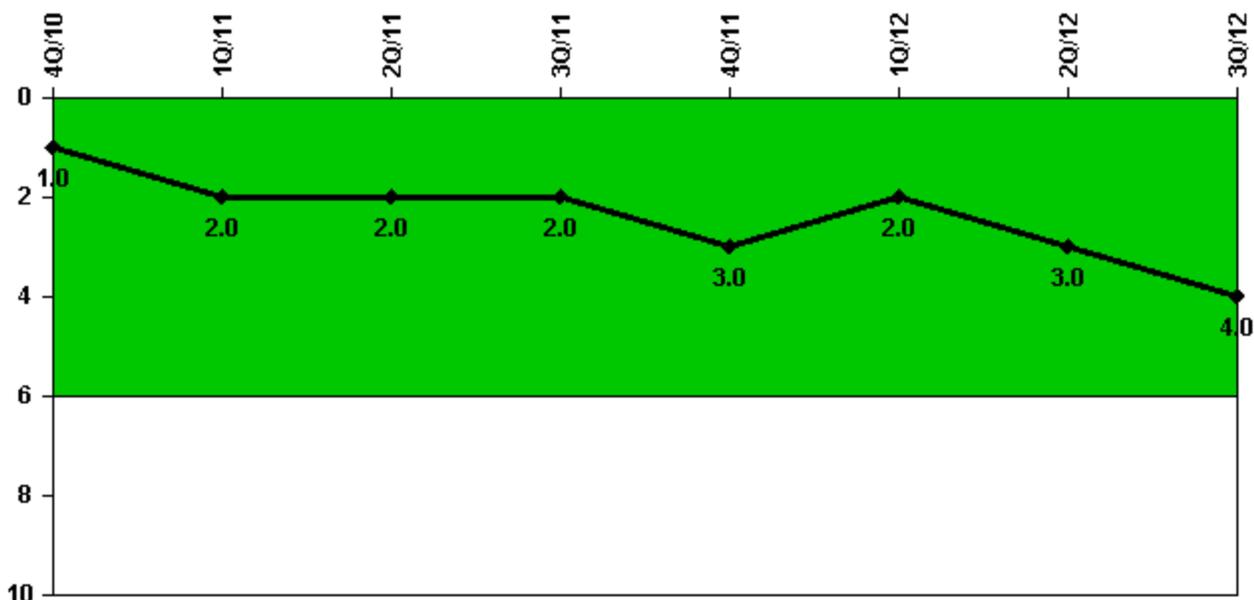
Thresholds: White > 6.0

Notes

Safety System Functional Failures (BWR)	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Safety System Functional Failures	0	2	0	0	1	1	1	1
Indicator value	**1**	**2**	**2**	**2**	**3**	**2**	**3**	**4**

Licensee Comments:

3Q/12: One new SSFF in 3rd QTR 2012 for LER 2012-004 - Unplanned HPCI Inoperability due to Steam Leak Detection failure.

2Q/12: New SSFF was for LER 2012-003 - Secondary Containment Damper failures.

1Q/12: New SSFF was LER 2012-002, LPCI LOOP Select Inoperable.

4Q/11: New SSFF is documented in LER 2011-002 for a loss of the UHS.

3Q/11: The DAEC PRA Model Revision 6 was approved on June 30, 2011 with a corresponding MSPI Basis Document Revision 13 approved on September 30, 2011. The PRA model revision was a periodic update which addressed gaps identified in a BWROG sponsored Peer Review held in December 2007. Model improvements include use of a new methodology for calculating AC power recovery terms and use of improved tools for calculating human error probability values. As a result of the PRA model change, the CDF, Fussell-Vesely and Basic Event Probabilities for all monitored trains and components were revised.

1Q/11: LER 2010-05 and 2010-06

Mitigating Systems Performance Index, Emergency AC Power System
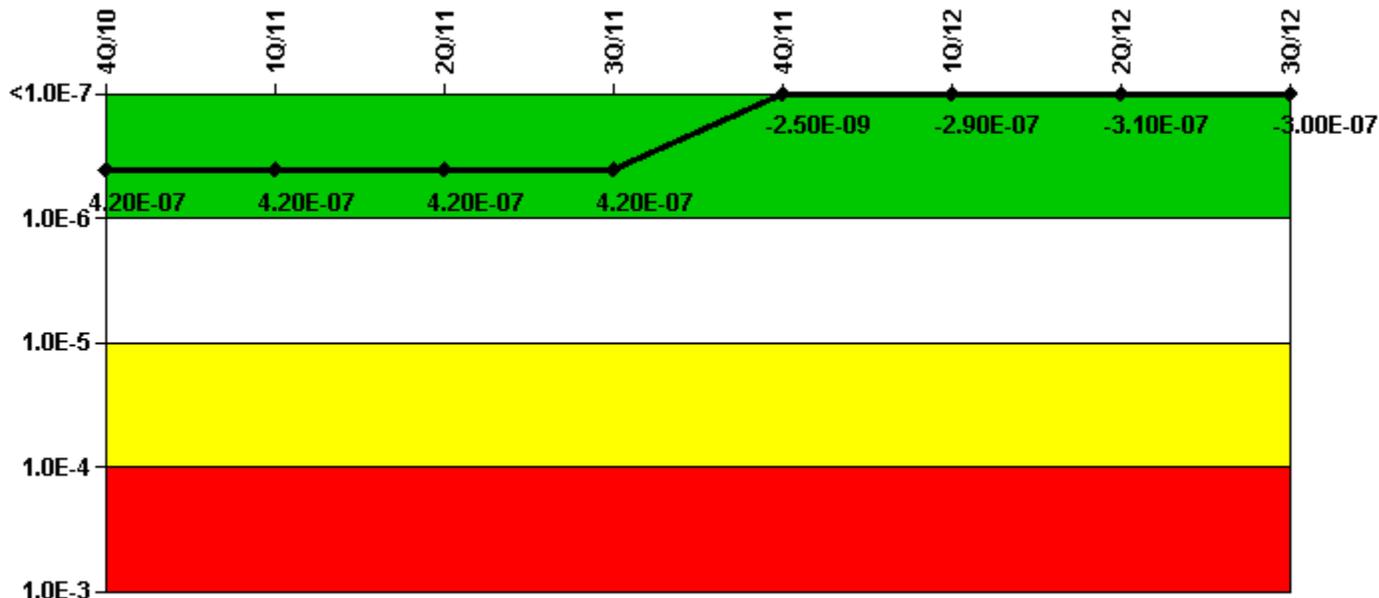
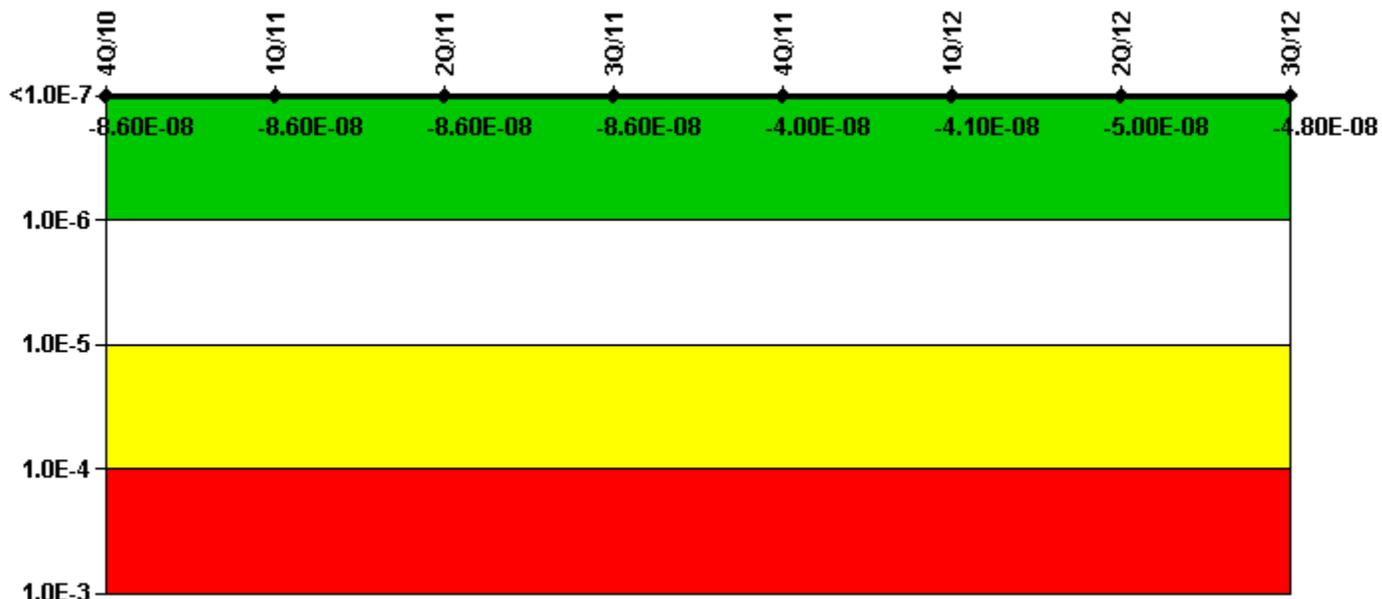Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

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)	6.37E-08	6.38E-08	6.52E-08	6.60E-08	1.29E-08	-2.09E-08	-3.56E-08	-3.18E-08
URI (ΔCDF)	3.56E-07	3.56E-07	3.56E-07	3.56E-07	-1.54E-08	-2.70E-07	-2.70E-07	-2.70E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	4.20E-07	4.20E-07	4.20E-07	4.20E-07	-2.50E-09	-2.90E-07	-3.10E-07	-3.00E-07

Licensee Comments:

2Q/12: Actual duration is .43 HRS. "A" SBDG is unavailable while performing STP 3.5.1-03A and is tracked by that STP.

3Q/11: The DAEC PRA Model Revision 6 was approved on June 30, 2011 with a corresponding MSPI Basis Document Revision 13 approved on September 30, 2011. The PRA model revision was a periodic update which addressed gaps identified in a BWROG sponsored Peer Review held in December 2007. Model improvements include use of a new methodology for calculating AC power recovery terms and use of improved tools for calculating human error probability values. As a result of the PRA model change, the CDF, Fussell-Vesely and Basic Event Probabilities for all monitored trains and components were revised. In addition, mission time for the emergency diesel generators was changed from 6 hours to 24 hours.

Mitigating Systems Performance Index, High Pressure Injection System

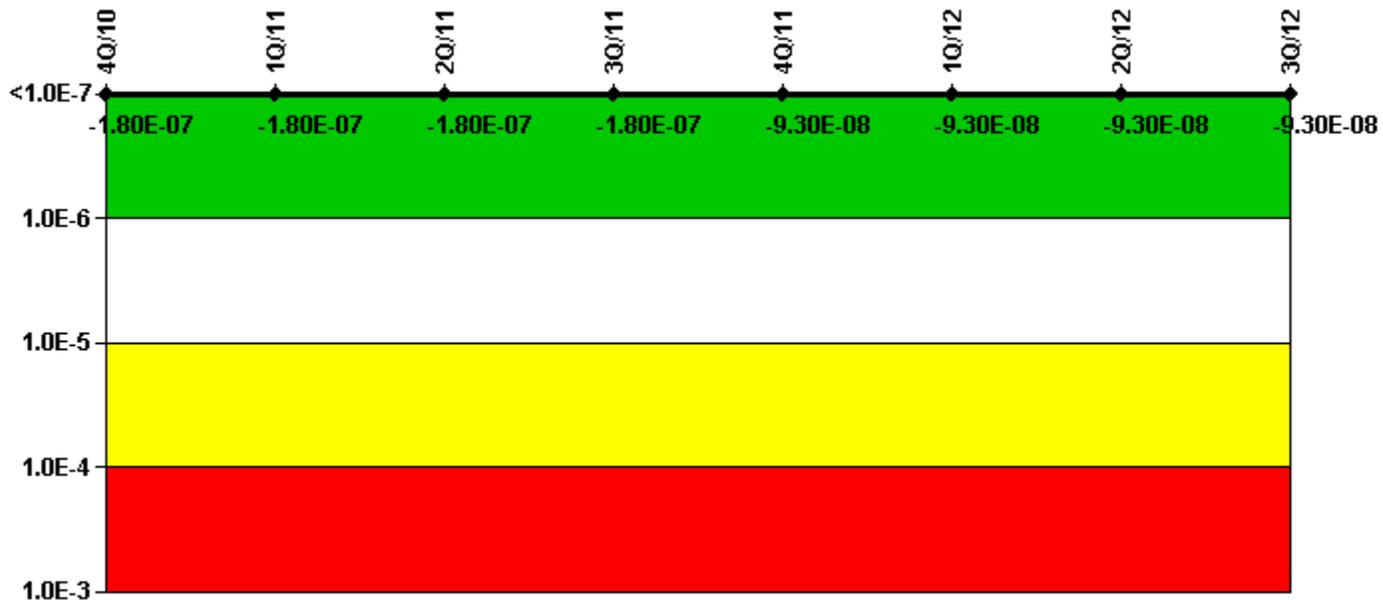Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

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 (ΔCDF)	-1.54E-08	-1.54E-08	-1.54E-08	-1.53E-08	-7.03E-09	-7.30E-09	-1.66E-08	-1.48E-08
URI (ΔCDF)	-7.07E-08	-7.07E-08	-7.07E-08	-7.07E-08	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-8.60E-08	-8.60E-08	-8.60E-08	-8.60E-08	-4.00E-08	-4.10E-08	-5.00E-08	-4.80E-08

Licensee Comments:

3Q/11: The DAEC PRA Model Revision 6 was approved on June 30, 2011 with a corresponding MSPI Basis Document Revision 13 approved on September 30, 2011. The PRA model revision was a periodic update which addressed gaps identified in a BWROG sponsored Peer Review held in December 2007. Model improvements include use of a new methodology for calculating AC power recovery terms and use of improved tools for calculating human error probability values. As a result of the PRA model change, the CDF, Fussell-Vesely and Basic Event Probabilities for all monitored trains and components were revised.

Mitigating Systems Performance Index, Heat Removal System

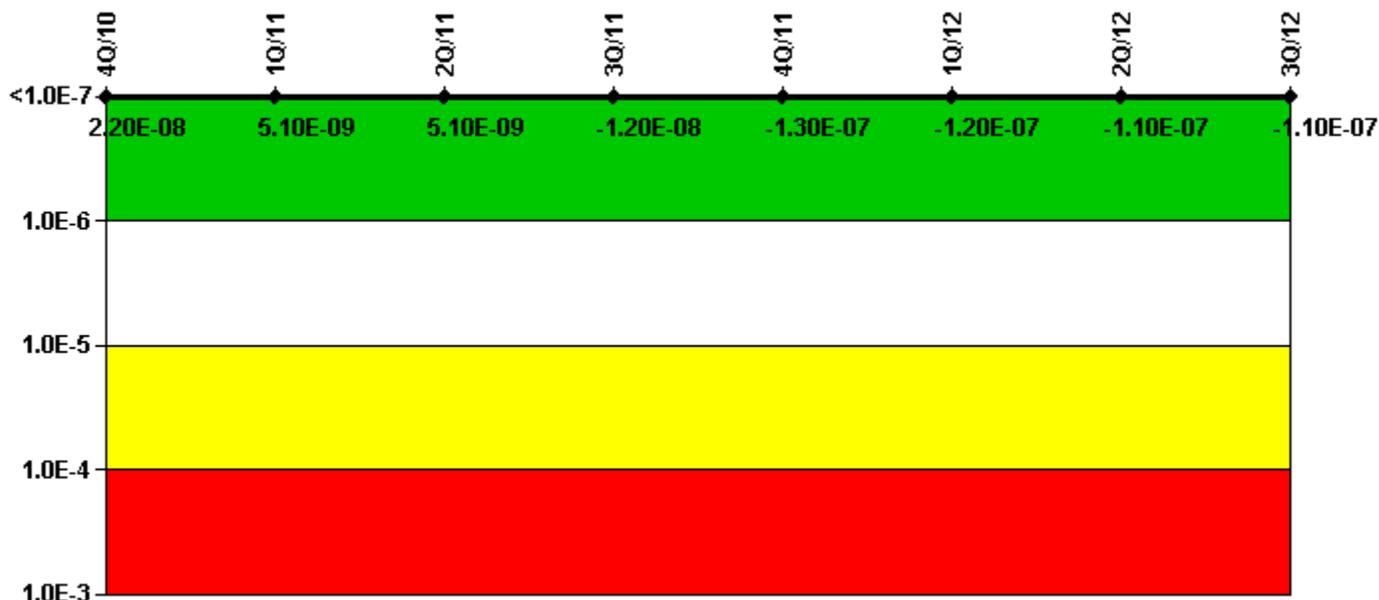Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

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 (ΔCDF)	-4.23E-08	-4.01E-08	-4.01E-08	-4.01E-08	-1.57E-08	-1.57E-08	-1.57E-08	-1.57E-08
URI (ΔCDF)	-1.42E-07	-1.42E-07	-1.42E-07	-1.42E-07	-7.69E-08	-7.69E-08	-7.69E-08	-7.69E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.80E-07	-1.80E-07	-1.80E-07	-1.80E-07	-9.30E-08	-9.30E-08	-9.30E-08	-9.30E-08

Licensee Comments:

3Q/11: The DAEC PRA Model Revision 6 was approved on June 30, 2011 with a corresponding MSPI Basis Document Revision 13 approved on September 30, 2011. The PRA model revision was a periodic update which addressed gaps identified in a BWROG sponsored Peer Review held in December 2007. Model improvements include use of a new methodology for calculating AC power recovery terms and use of improved tools for calculating human error probability values. As a result of the PRA model change, the CDF, Fussell-Vesely and Basic Event Probabilities for all monitored trains and components were revised.

Mitigating Systems Performance Index, Residual Heat Removal System

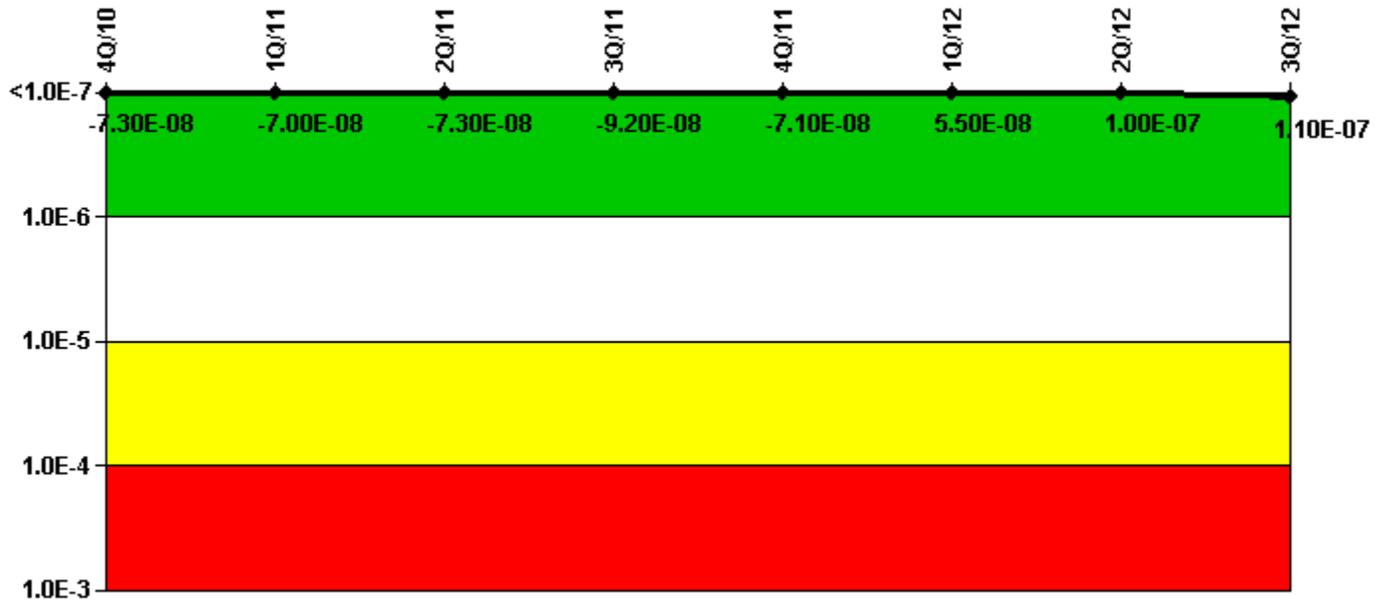Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

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)	5.75E-08	4.01E-08	4.01E-08	2.28E-08	8.29E-08	9.78E-08	1.08E-07	1.05E-07
URI (ΔCDF)	-3.50E-08	-3.50E-08	-3.50E-08	-3.50E-08	-2.13E-07	-2.15E-07	-2.18E-07	-2.20E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.20E-08	5.10E-09	5.10E-09	-1.20E-08	-1.30E-07	-1.20E-07	-1.10E-07	-1.10E-07

Licensee Comments:

2Q/12: pit diving personal safety

3Q/11: The DAEC PRA Model Revision 6 was approved on June 30, 2011 with a corresponding MSPI Basis Document Revision 13 approved on September 30, 2011. The PRA model revision was a periodic update which addressed gaps identified in a BWROG sponsored Peer Review held in December 2007. Model improvements include use of a new methodology for calculating AC power recovery terms and use of improved tools for calculating human error probability values. As a result of the PRA model change, the CDF, Fussell-Vesely and Basic Event Probabilities for all monitored trains and components were revised.

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)	-1.22E-08	-9.23E-09	-1.17E-08	-3.06E-08	3.18E-08	1.57E-07	2.04E-07	2.12E-07
URI (ΔCDF)	-6.12E-08	-6.12E-08	-6.12E-08	-6.12E-08	-1.03E-07	-1.03E-07	-1.03E-07	-1.03E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.30E-08	-7.00E-08	-7.30E-08	-9.20E-08	-7.10E-08	5.50E-08	1.00E-07	1.10E-07

Licensee Comments:

2Q/12: pit diving personal safety

3Q/11: The DAEC PRA Model Revision 6 was approved on June 30, 2011 with a corresponding MSPI Basis Document Revision 13 approved on September 30, 2011. The PRA model revision was a periodic update which addressed gaps identified in a BWROG sponsored Peer Review held in December 2007. Model improvements include use of a new methodology for calculating AC power recovery terms and use of improved tools for calculating human error probability values. As a result of the PRA model change, the CDF, Fussell-Vesely and Basic Event Probabilities for all monitored trains and components were revised.

Reactor Coolant System Activity
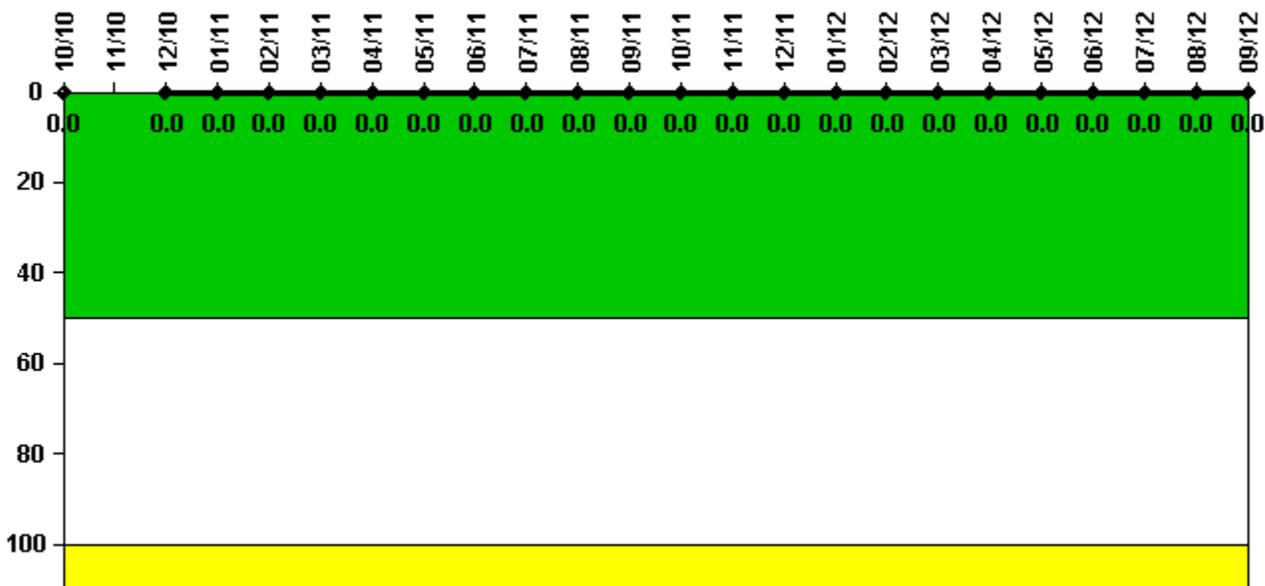
Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Activity	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 activity	0	N/A	0	0	0	0	0	0.000002	0	0.000003	0	0.000001
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	N/A	0	0	0	0	0	0	0	0	0	0

Reactor Coolant System Activity	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 activity	0	0	0	0.000002	0.000002	0.000002	0	0.000002	0.000002	0	0.000003	0.000002
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

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	2.020	N/A	1.590	1.590	1.690	1.590	1.660	1.630	1.710	1.660	1.700	1.680
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
Indicator value	**8.1**	**N/A**	**6.4**	**6.4**	**6.8**	**6.4**	**6.6**	**6.5**	**6.8**	**6.6**	**6.8**	**6.7**

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	1.640	1.620	1.680	1.690	1.600	1.630	1.600	1.810	1.650	1.650	1.600	1.530
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
Indicator value	**6.6**	**6.5**	**6.7**	**6.8**	**6.4**	**6.5**	**6.4**	**7.2**	**6.6**	**6.6**	**6.4**	**6.1**

Licensee Comments: none

Drill/Exercise Performance
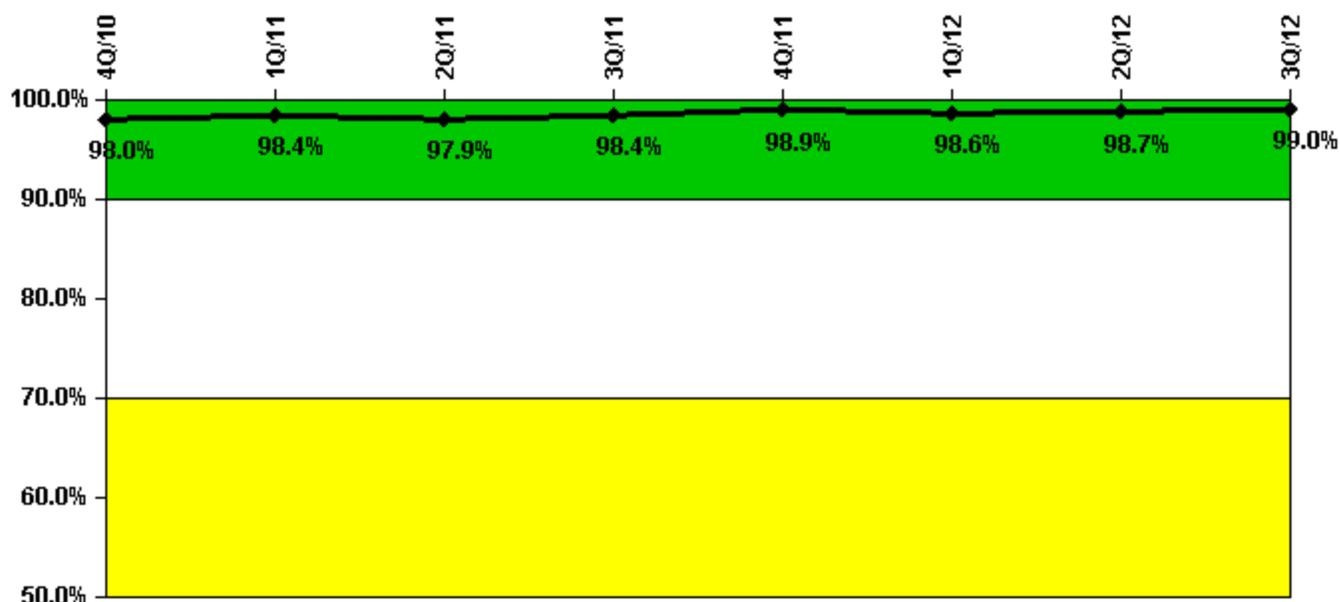
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Successful opportunities	0	55.0	27.0	36.0	58.0	35.0	51.0	32.0
Total opportunities	0	55.0	29.0	36.0	58.0	36.0	51.0	32.0
Indicator value	**98.0%**	**98.4%**	**97.9%**	**98.4%**	**98.9%**	**98.6%**	**98.7%**	**99.0%**

Licensee Comments: none

ERO Drill Participation
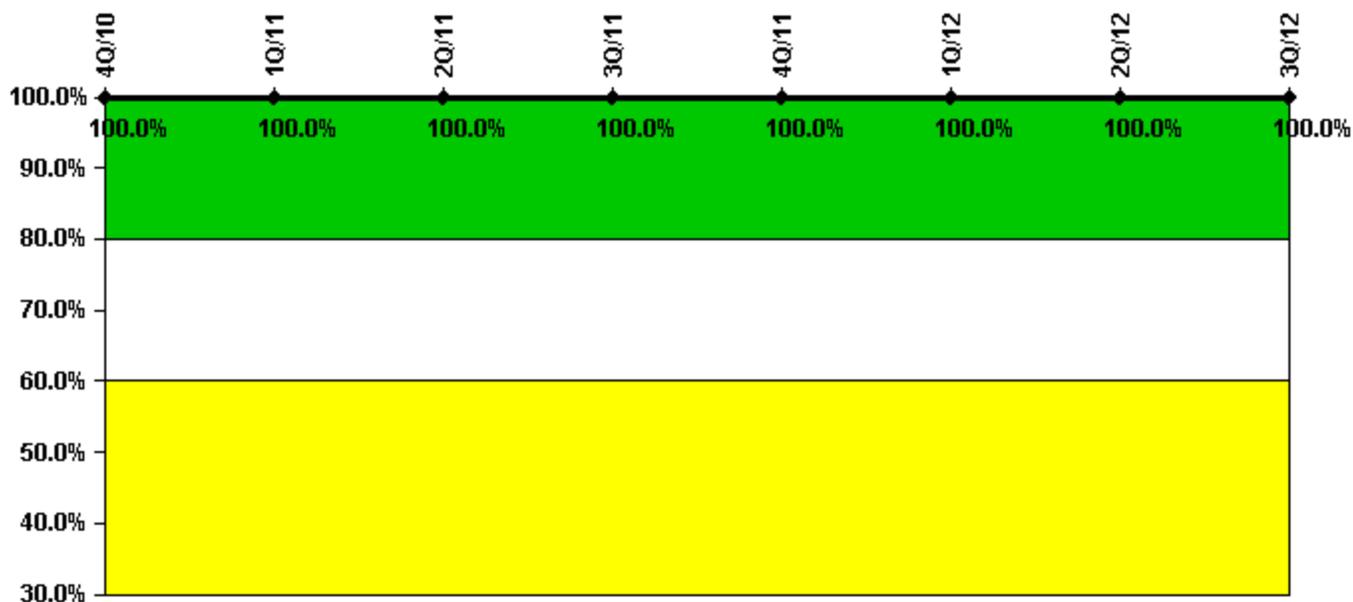
Thresholds: White < 80.0%   Yellow < 60.0%

Notes

ERO Drill Participation	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Participating Key personnel	100.0	101.0	101.0	113.0	101.0	95.0	92.0	89.0
Total Key personnel	100.0	101.0	101.0	113.0	101.0	95.0	92.0	89.0
Indicator value	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Licensee Comments: none

Alert & Notification System
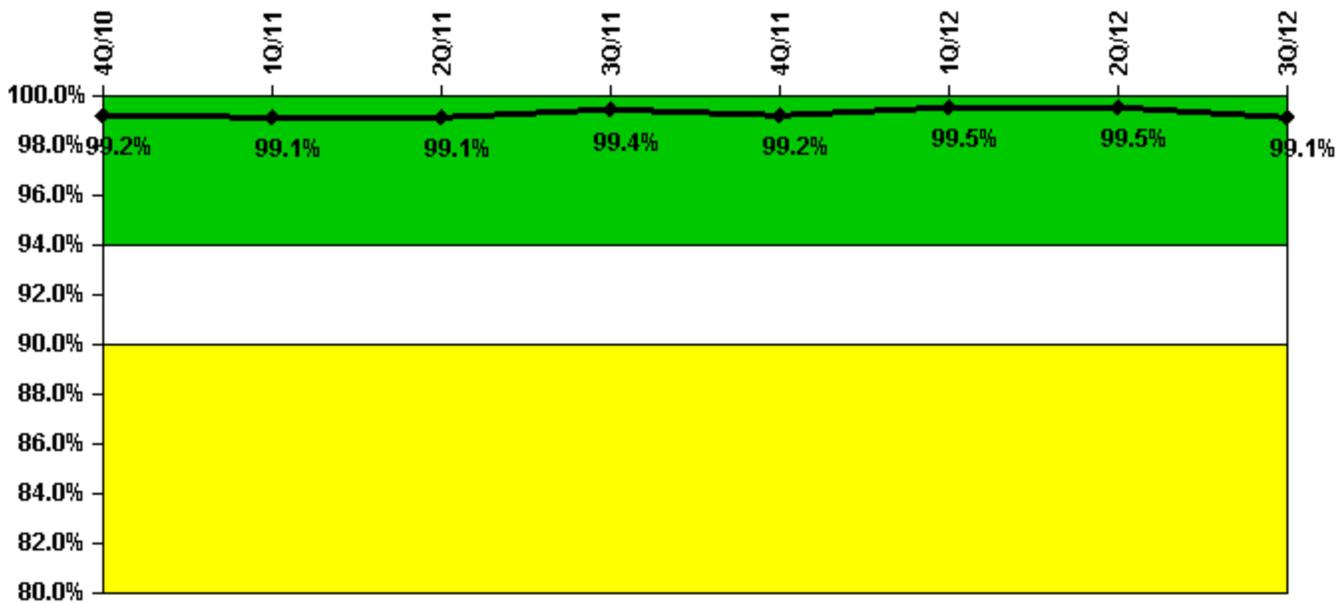
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12	2Q/12	3Q/12
Successful siren-tests	429	428	430	431	426	432	430	423
Total sirens-tests	432	432	432	432	432	432	432	431
Indicator value	99.2%	99.1%	99.1%	99.4%	99.2%	99.5%	99.5%	99.1%

Licensee Comments: none

Occupational Exposure Control Effectiveness
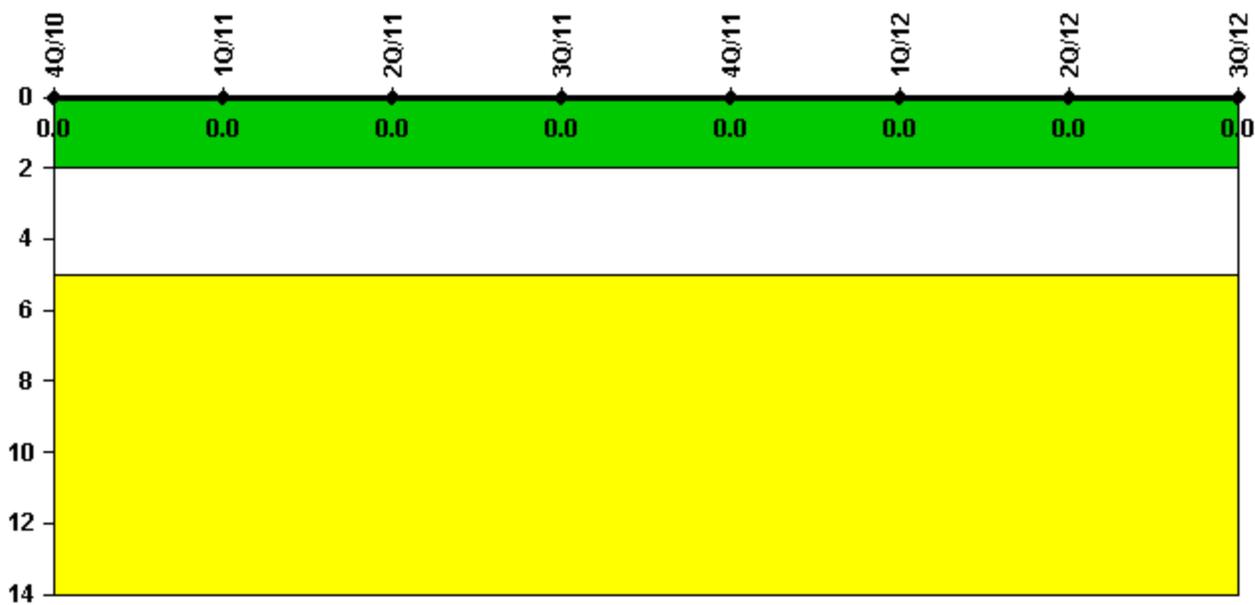
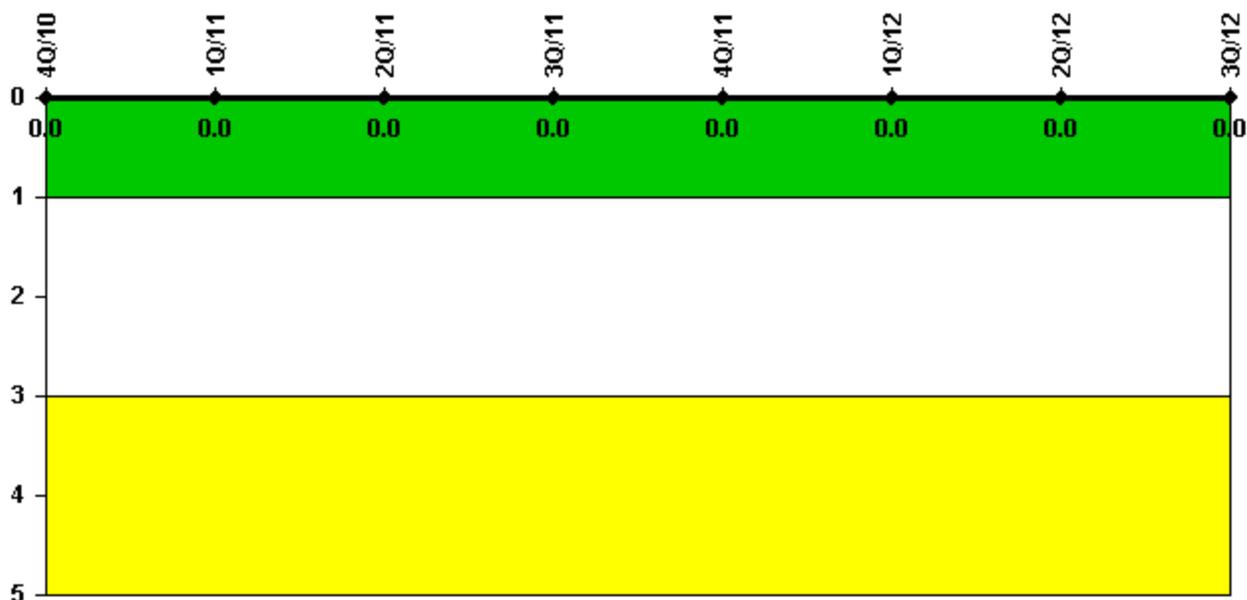Thresholds: White > 2.0 Yellow > 5.0

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

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
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: October 24, 2012