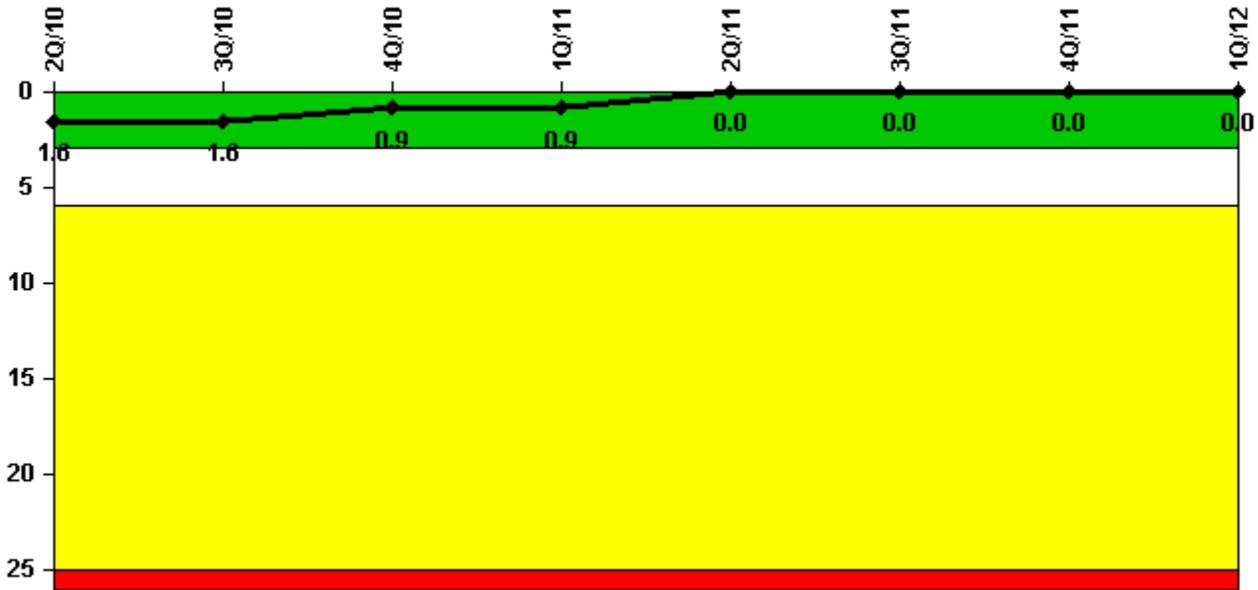


# Duane Arnold

## 1Q/2012 Performance Indicators

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

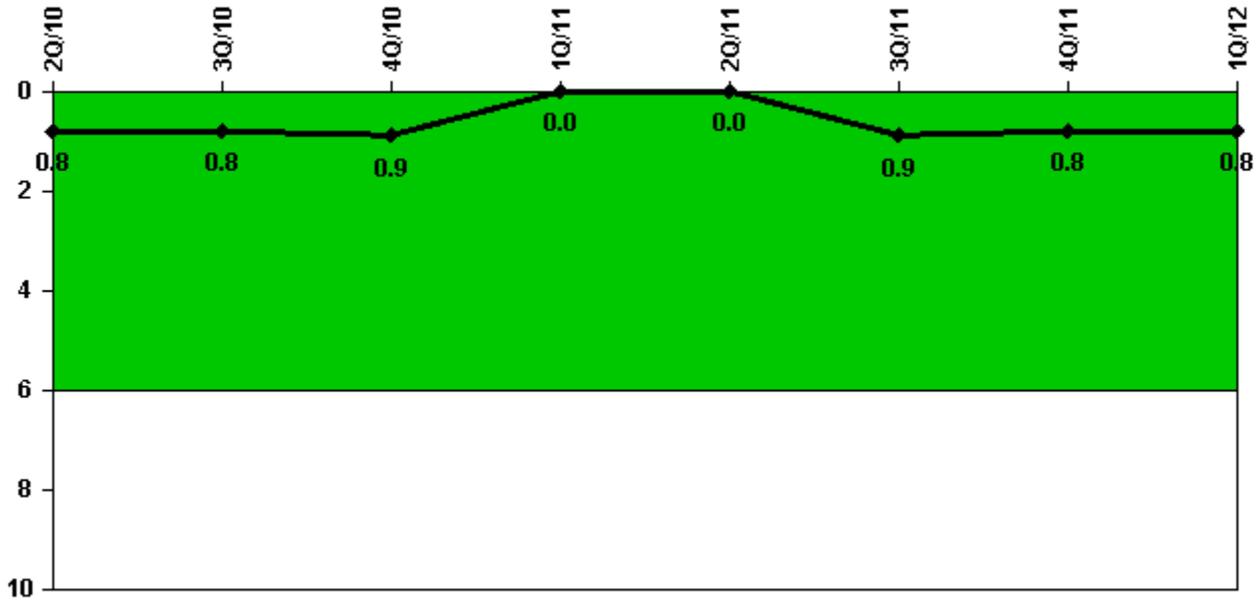
### Notes

Unplanned Scrams per 7000 Critical Hrs	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Unplanned scrams	1.0	0	0	0	0	0	0	0
Critical hours	2034.1	2208.0	1207.2	2159.0	2184.0	2085.4	2209.0	2183.0
Indicator value	1.6	1.6	0.9	0.9	0	0	0	0

Licensee Comments: none

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## Unplanned Power Changes per 7000 Critical Hrs



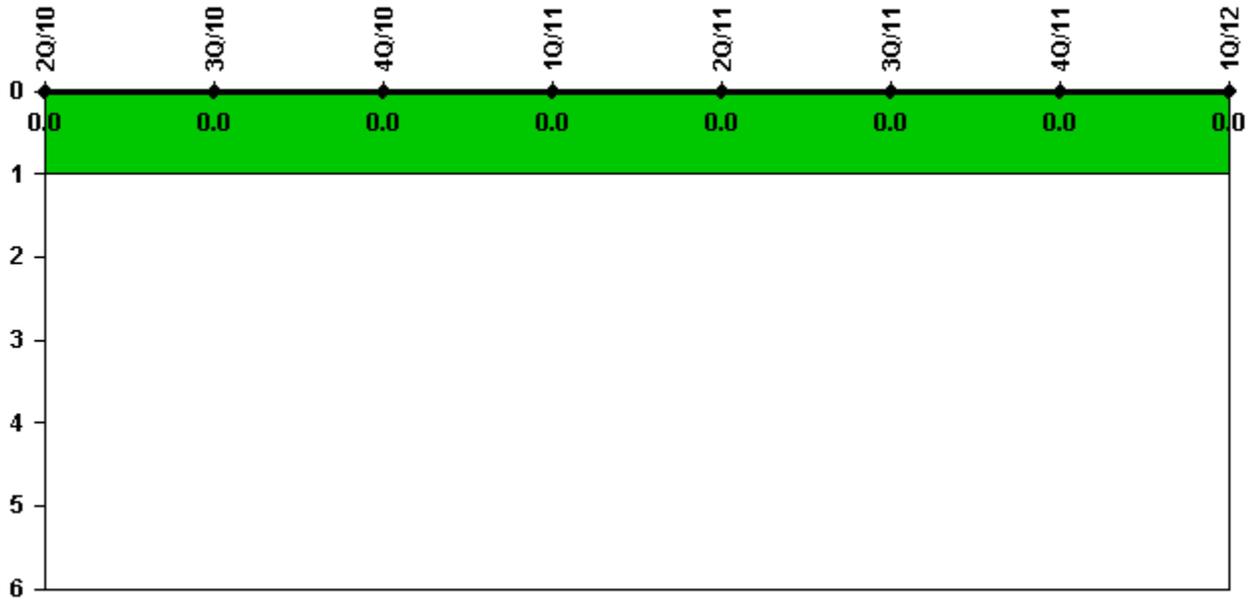
Thresholds: White > 6.0

### Notes

Unplanned Power Changes per 7000 Critical Hrs	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Unplanned power changes	0	0	0	0	0	1.0	0	0
Critical hours	2034.1	2208.0	1207.2	2159.0	2184.0	2085.4	2209.0	2183.0
Indicator value	0.8	0.8	0.9	0	0	0.9	0.8	0.8

Licensee Comments: none

## Unplanned Scrams with Complications



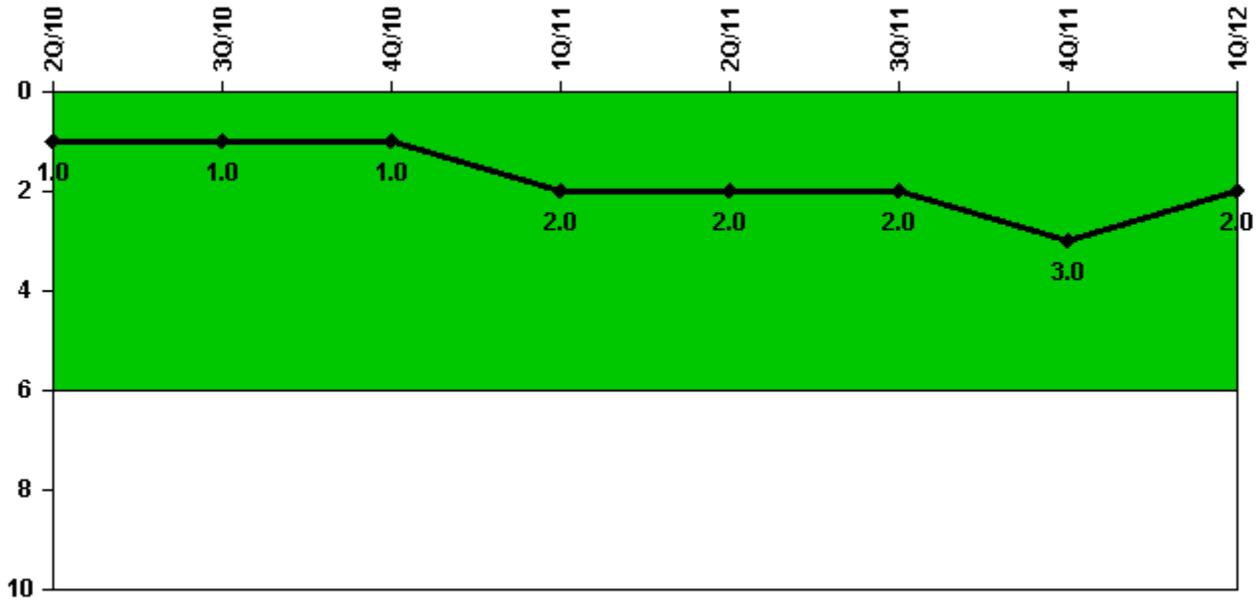
Thresholds: White > 1.0

### Notes

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

Licensee Comments:

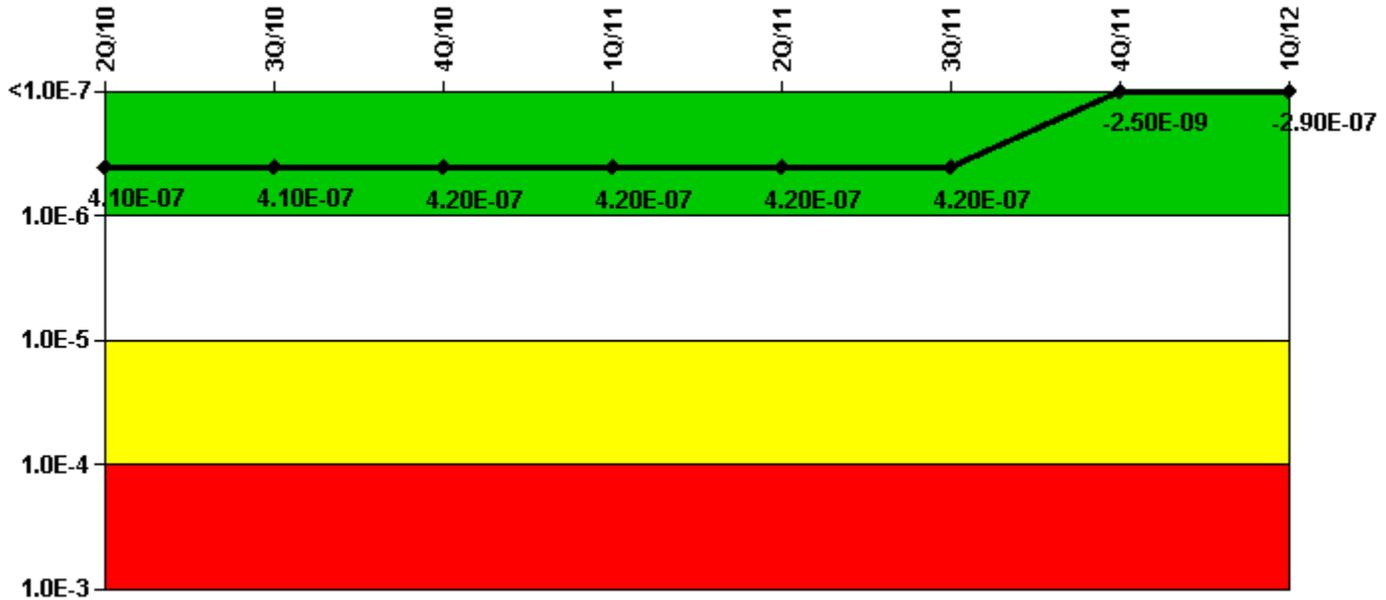
1Q/12: New SSFF was LER 2012-002, LPCI LOOP Select Inoperable.

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	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI (ΔCDF)	5.77E-08	5.77E-08	6.37E-08	6.38E-08	6.52E-08	6.60E-08	1.29E-08	-2.09E-08
URI (ΔCDF)	3.53E-07	3.53E-07	3.56E-07	3.56E-07	3.56E-07	3.56E-07	-1.54E-08	-2.70E-07
PLE	NO	NO						
Indicator value	4.10E-07	4.10E-07	4.20E-07	4.20E-07	4.20E-07	4.20E-07	-2.50E-09	-2.90E-07

## 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. 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

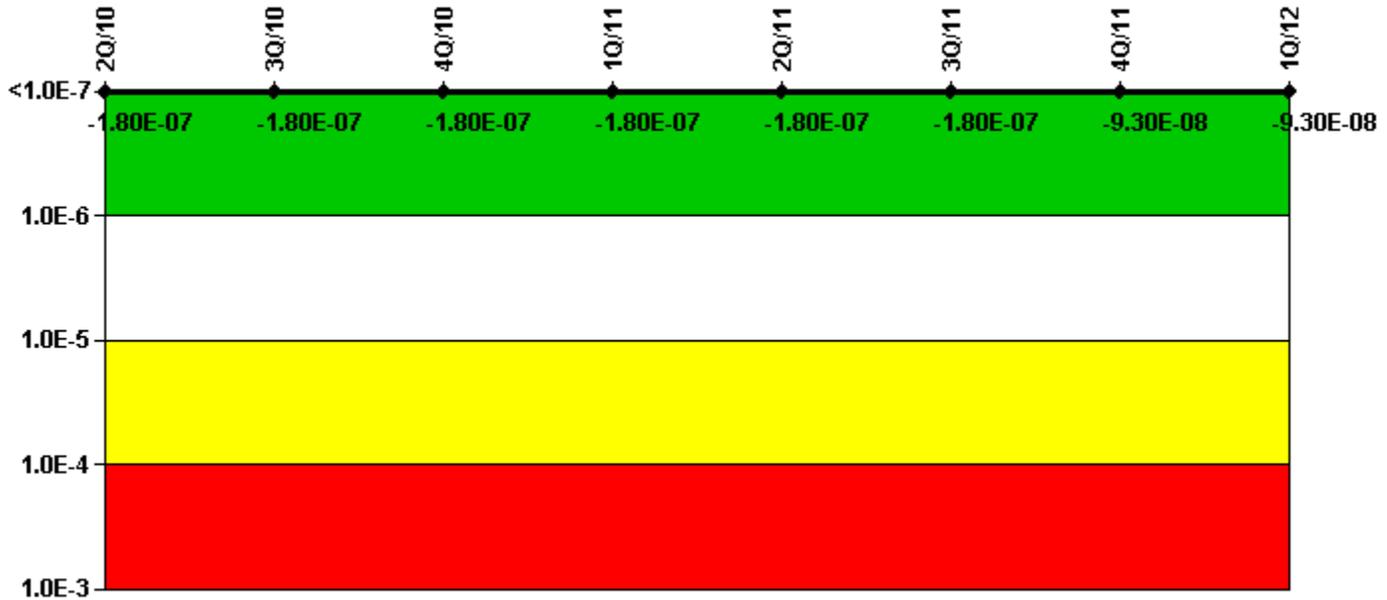
## Notes

Mitigating Systems Performance Index, High Pressure Injection System	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI ( $\Delta$ CDF)	-1.62E-08	-1.62E-08	-1.54E-08	-1.54E-08	-1.54E-08	-1.53E-08	-7.03E-09	-7.30E-09
URI ( $\Delta$ CDF)	-7.07E-08	-7.07E-08	-7.07E-08	-7.07E-08	-7.07E-08	-7.07E-08	-3.33E-08	-3.33E-08
PLE	NO							
Indicator value	-8.70E-08	-8.70E-08	-8.60E-08	-8.60E-08	-8.60E-08	-8.60E-08	-4.00E-08	-4.10E-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

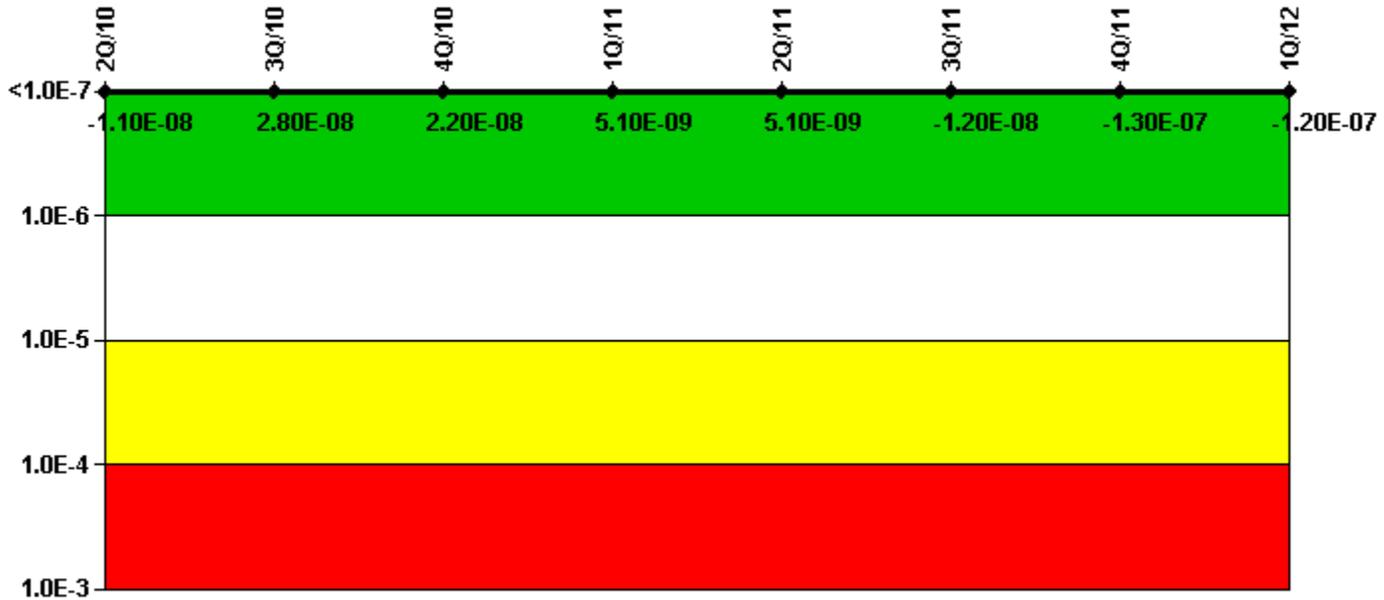
### Notes

Mitigating Systems Performance Index, Heat Removal System	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI ( $\Delta$ CDF)	-4.14E-08	-4.14E-08	-4.23E-08	-4.01E-08	-4.01E-08	-4.01E-08	-1.57E-08	-1.57E-08
URI ( $\Delta$ CDF)	-1.42E-07	-1.42E-07	-1.42E-07	-1.42E-07	-1.42E-07	-1.42E-07	-7.69E-08	-7.69E-08
PLE	NO							
Indicator value	-1.80E-07	-1.80E-07	-1.80E-07	-1.80E-07	-1.80E-07	-1.80E-07	-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

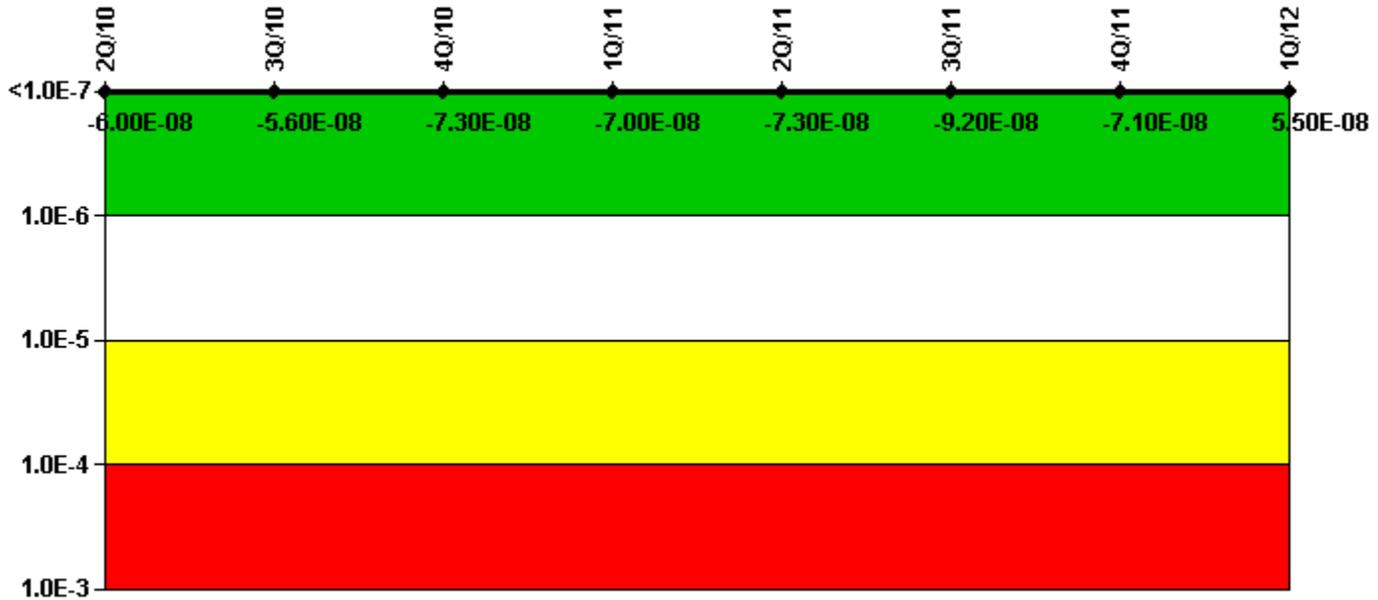
## Notes

Mitigating Systems Performance Index, Residual Heat Removal System	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI ( $\Delta$ CDF)	2.41E-08	6.32E-08	5.75E-08	4.01E-08	4.01E-08	2.28E-08	8.29E-08	9.78E-08
URI ( $\Delta$ CDF)	-3.50E-08	-3.50E-08	-3.50E-08	-3.50E-08	-3.50E-08	-3.50E-08	-2.13E-07	-2.15E-07
PLE	NO							
Indicator value	-1.10E-08	2.80E-08	2.20E-08	5.10E-09	5.10E-09	-1.20E-08	-1.30E-07	-1.20E-07

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, Cooling Water Systems



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

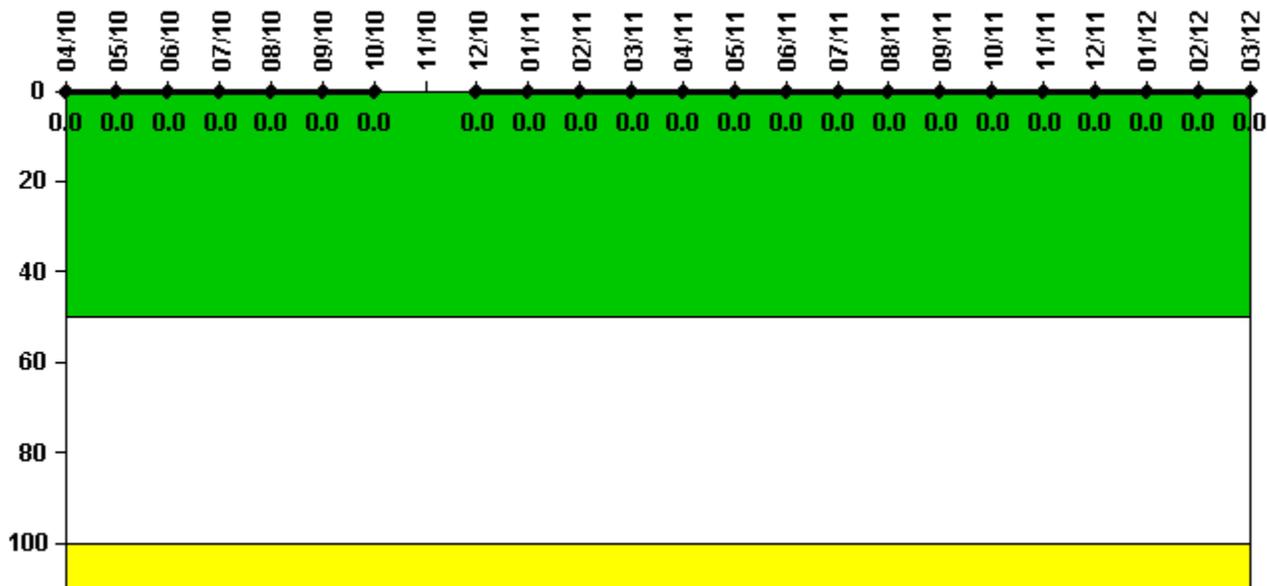
## Notes

Mitigating Systems Performance Index, Cooling Water Systems	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI ( $\Delta$ CDF)	1.10E-09	5.43E-09	-1.22E-08	-9.23E-09	-1.17E-08	-3.06E-08	3.18E-08	1.57E-07
URI ( $\Delta$ CDF)	-6.14E-08	-6.14E-08	-6.12E-08	-6.12E-08	-6.12E-08	-6.12E-08	-1.03E-07	-1.03E-07
PLE	NO							
Indicator value	-6.00E-08	-5.60E-08	-7.30E-08	-7.00E-08	-7.30E-08	-9.20E-08	-7.10E-08	5.50E-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.

# Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

## Notes

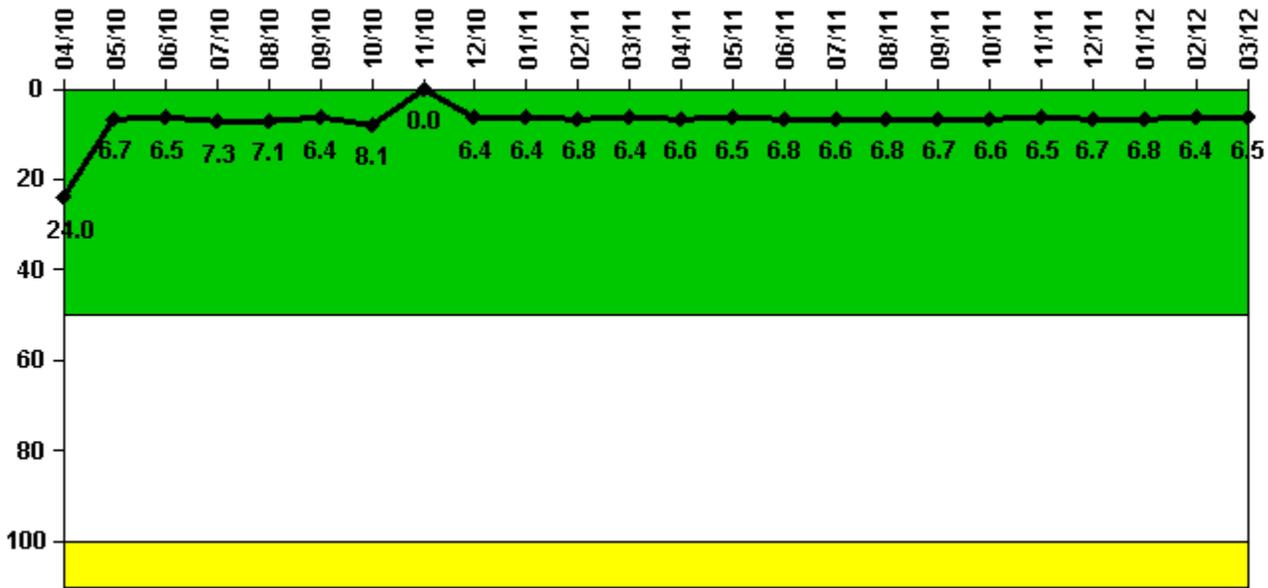
Reactor Coolant System Activity	4/10	5/10	6/10	7/10	8/10	9/10	10/10	11/10	12/10	1/11	2/11	3/11
Maximum activity	0	0.000001	0.000001	0	0	0	0	N/A	0	0	0	0
Technical specification limit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Indicator value	0	0	0	0	0	0	0	N/A	0	0	0	0

Reactor Coolant System Activity	4/11	5/11	6/11	7/11	8/11	9/11	10/11	11/11	12/11	1/12	2/12	3/12
Maximum activity	0	0.000002	0	0.000003	0	0.000001	0	0	0	0.000002	0.000002	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



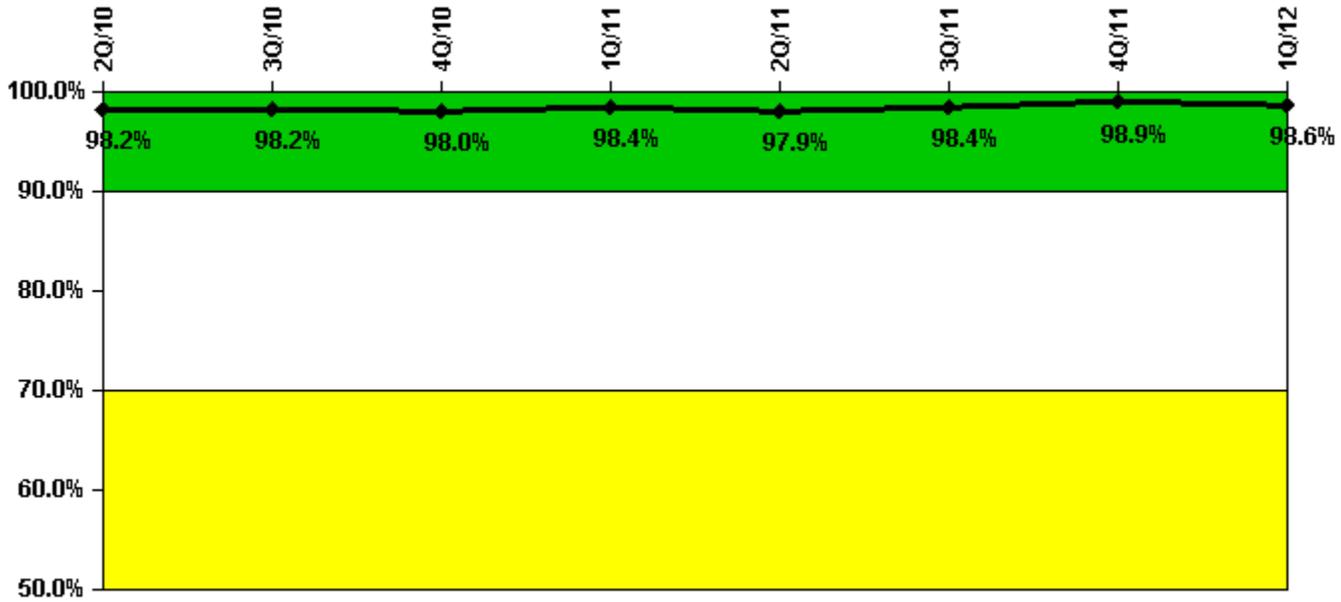
Thresholds: White > 50.0 Yellow > 100.0

### Notes

Reactor Coolant System Leakage	4/10	5/10	6/10	7/10	8/10	9/10	10/10	11/10	12/10	1/11	2/11	3/11
Maximum leakage	6.010	1.670	1.620	1.830	1.770	1.610	2.020	0	1.590	1.590	1.690	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
Indicator value	24.0	6.7	6.5	7.3	7.1	6.4	8.1	0	6.4	6.4	6.8	6.4
Reactor Coolant System Leakage	4/11	5/11	6/11	7/11	8/11	9/11	10/11	11/11	12/11	1/12	2/12	3/12
Maximum leakage	1.660	1.630	1.710	1.660	1.700	1.680	1.640	1.620	1.680	1.690	1.600	1.630
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	6.8	6.6	6.8	6.7	6.6	6.5	6.7	6.8	6.4	6.5

Licensee Comments: none

## Drill/Exercise Performance



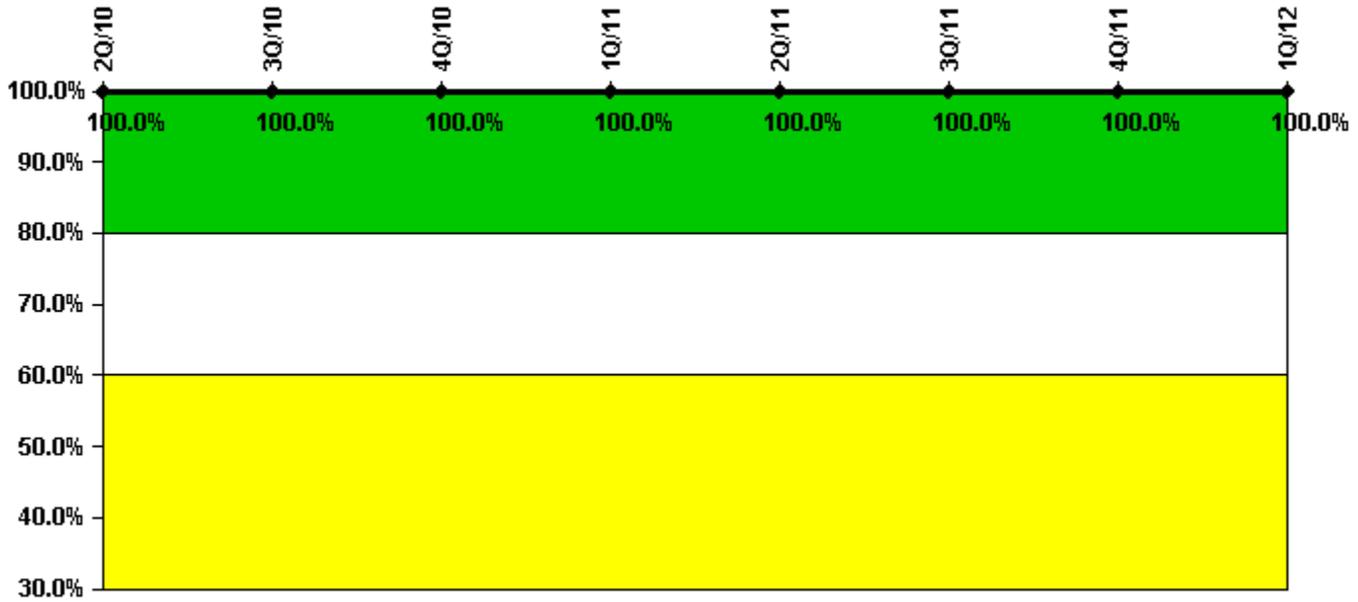
Thresholds: White < 90.0% Yellow < 70.0%

### Notes

Drill/Exercise Performance	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Successful opportunities	41.0	39.0	0	55.0	27.0	36.0	58.0	35.0
Total opportunities	41.0	40.0	0	55.0	29.0	36.0	58.0	36.0
Indicator value	98.2%	98.2%	98.0%	98.4%	97.9%	98.4%	98.9%	98.6%

Licensee Comments: none

## ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

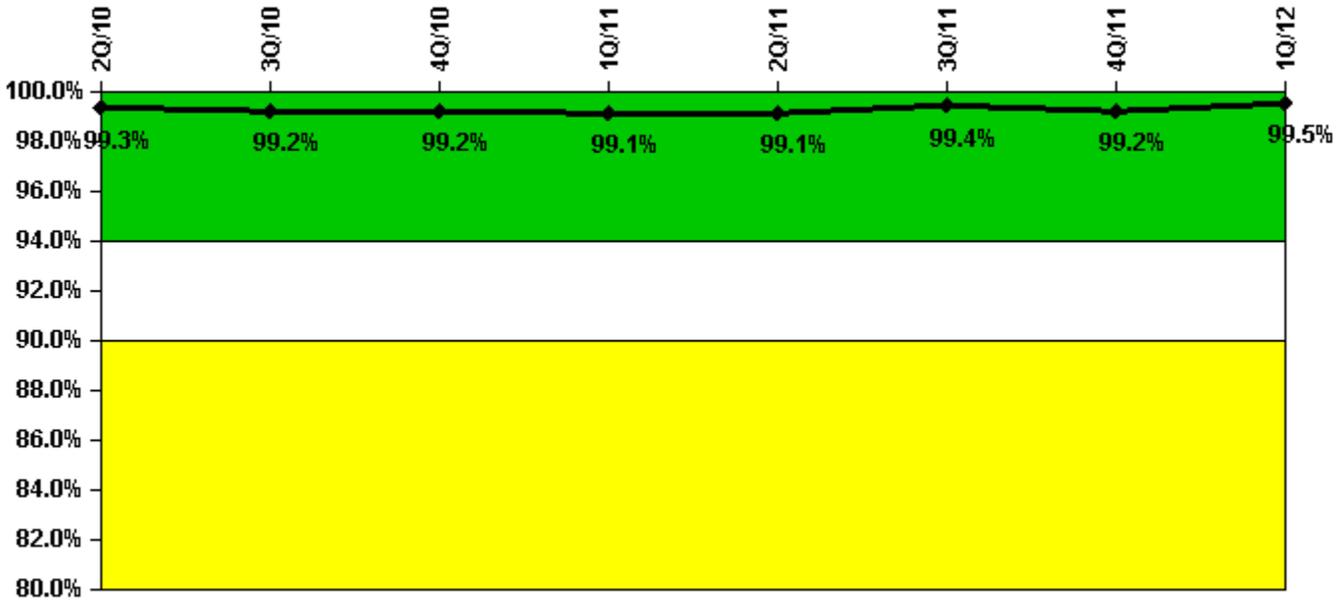
### Notes

ERO Drill Participation	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Participating Key personnel	103.0	101.0	100.0	101.0	101.0	113.0	101.0	95.0
Total Key personnel	103.0	101.0	100.0	101.0	101.0	113.0	101.0	95.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

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# Alert & Notification System



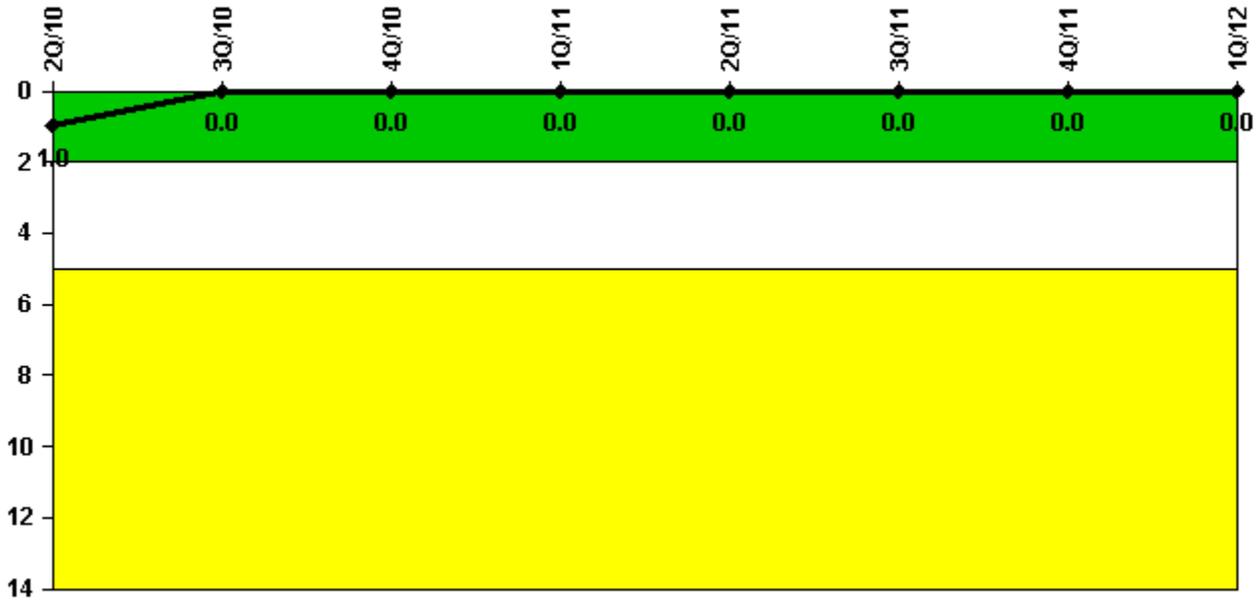
Thresholds: White < 94.0% Yellow < 90.0%

## Notes

Alert & Notification System	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Successful siren-tests	430	425	429	428	430	431	426	432
Total sirens-tests	432	432	432	432	432	432	432	432
Indicator value	99.3%	99.2%	99.2%	99.1%	99.1%	99.4%	99.2%	99.5%

Licensee Comments: none

# Occupational Exposure Control Effectiveness



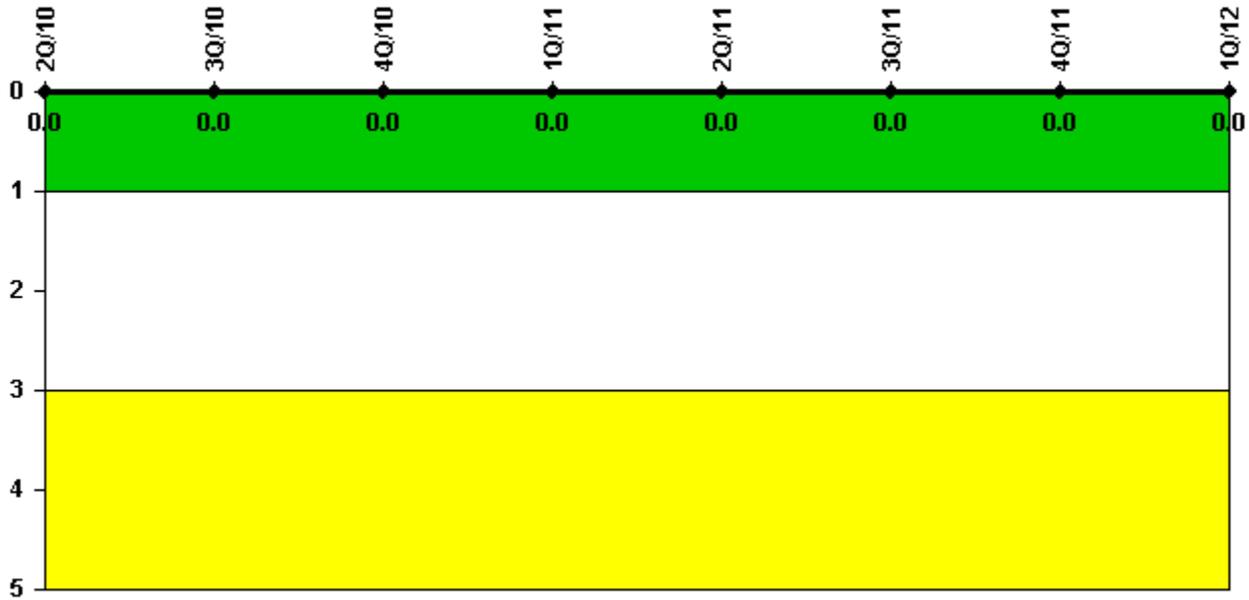
Thresholds: White > 2.0 Yellow > 5.0

## Notes

Occupational Exposure Control Effectiveness	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/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>1</b>	<b>0</b>						

Licensee Comments: none

## RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

### Notes

RETS/ODCM Radiological Effluent	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/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

[Security](#) information not publicly available.