

Brunswick 2

1Q/2011 Performance Indicators

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs



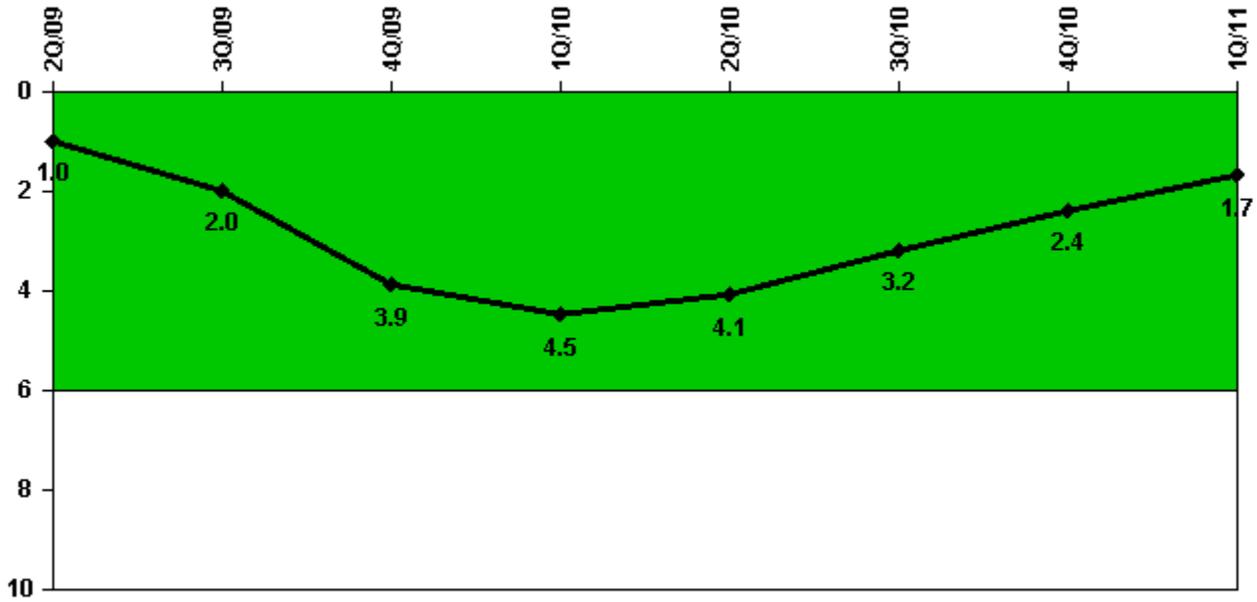
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	1572.1	1994.1	2209.0	2073.5	2184.0	2208.0	2209.0	1510.1
Indicator value	2.0	1.0	0	0	0	0	0	0

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



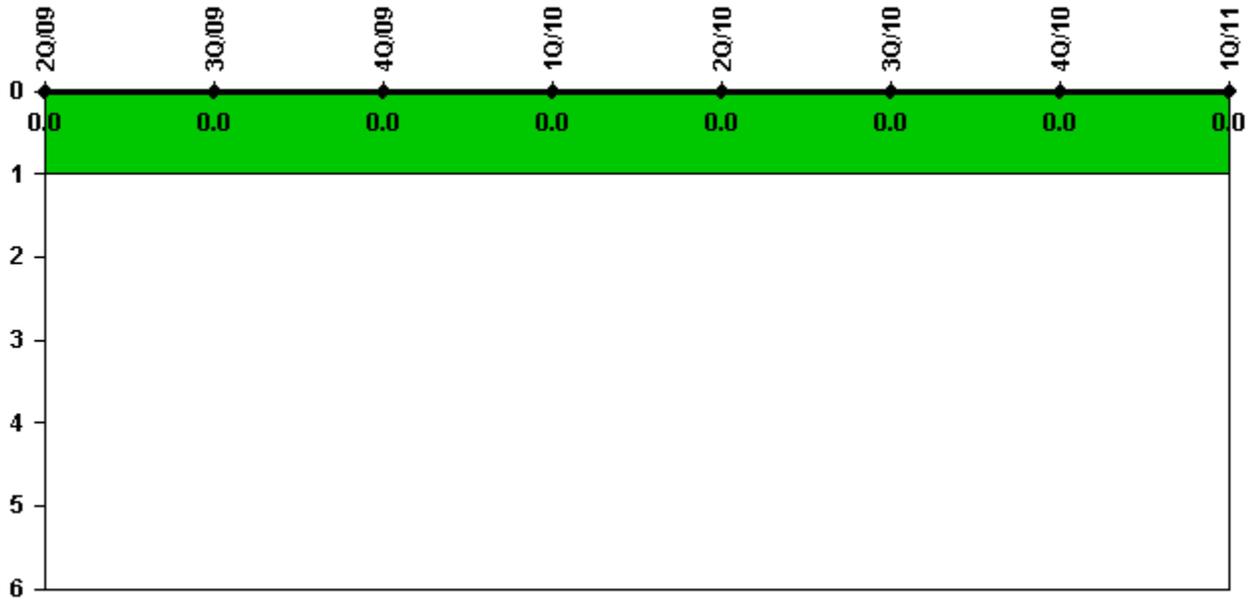
Thresholds: White > 6.0

Notes

Unplanned Power Changes per 7000 Critical Hrs	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
Unplanned power changes	1.0	1.0	2.0	1.0	1.0	0	1.0	0
Critical hours	1572.1	1994.1	2209.0	2073.5	2184.0	2208.0	2209.0	1510.1
Indicator value	1.0	2.0	3.9	4.5	4.1	3.2	2.4	1.7

Licensee Comments: none

Unplanned Scrams with Complications



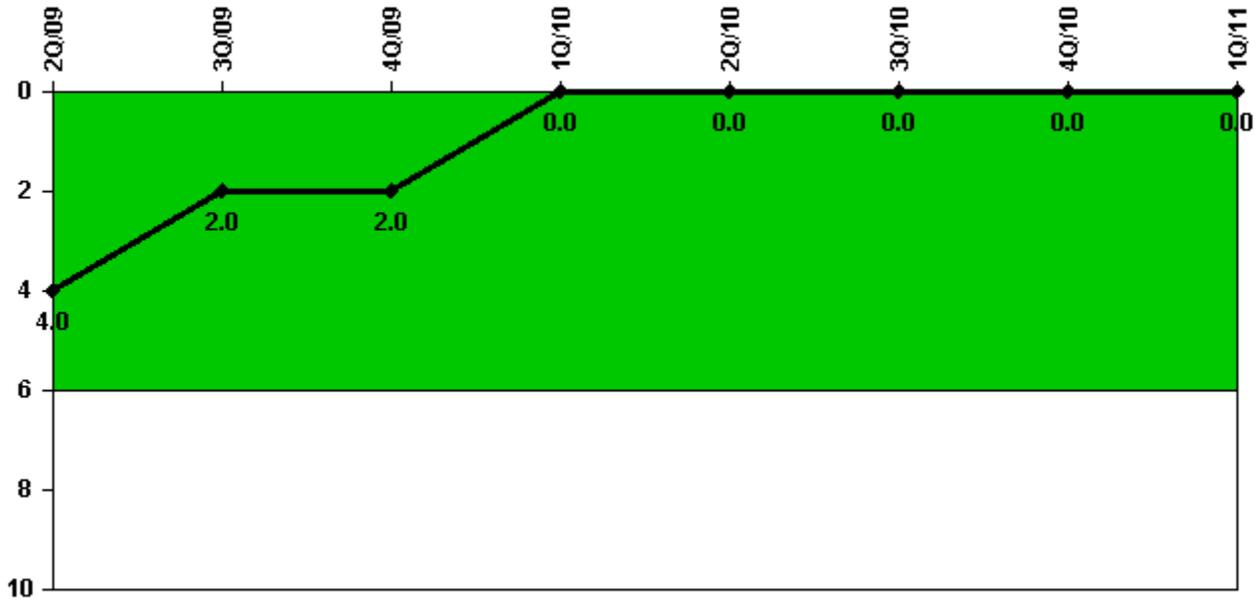
Thresholds: White > 1.0

Notes

Unplanned Scrams with Complications	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
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)



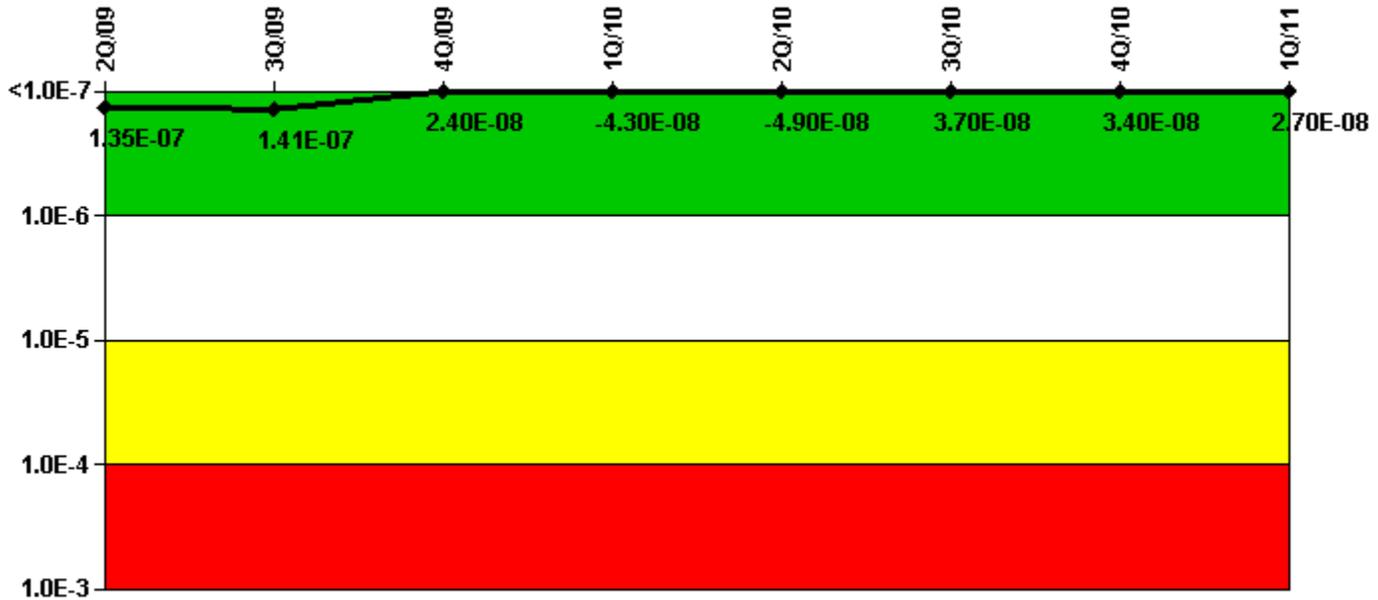
Thresholds: White > 6.0

Notes

Safety System Functional Failures (BWR)	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
Safety System Functional Failures	0	0	0	0	0	0	0	0
Indicator value	4	2	2	0	0	0	0	0

Licensee Comments: none

Mitigating Systems Performance Index, Emergency AC Power System



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

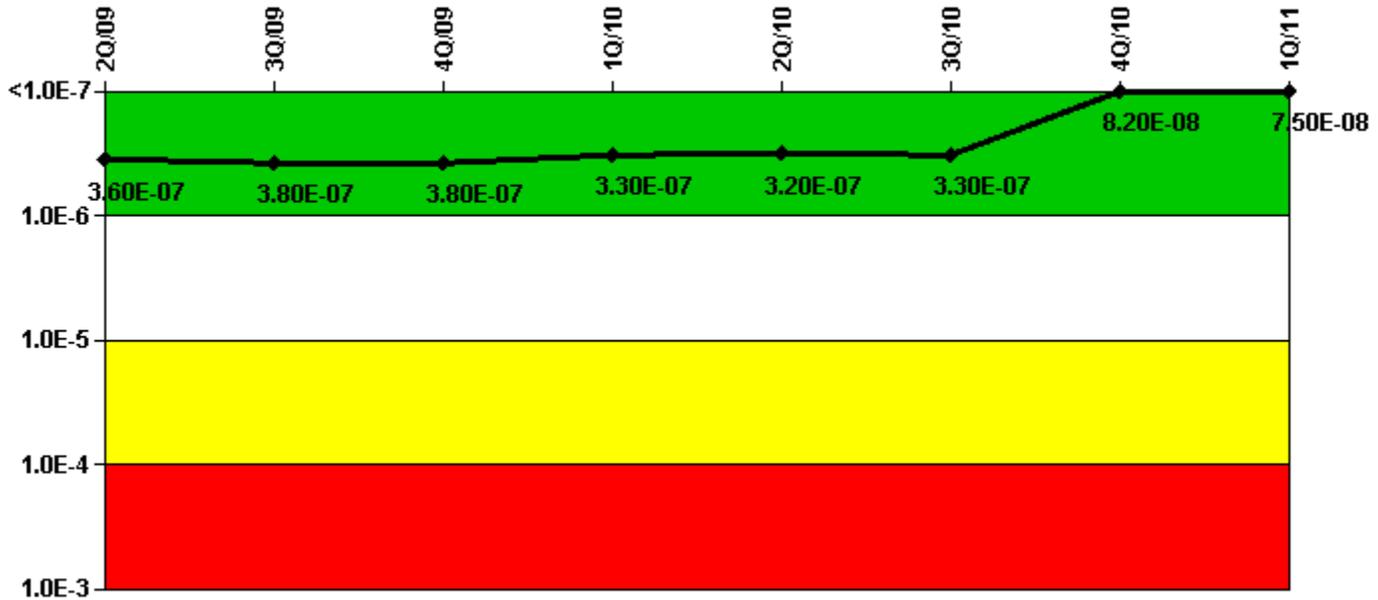
Notes

Mitigating Systems Performance Index, Emergency AC Power System	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
UAI (Δ CDF)	1.50E-08	4.80E-08	4.50E-08	4.35E-09	-5.22E-10	2.43E-09	-9.92E-11	2.03E-10
URI (Δ CDF)	1.20E-07	9.30E-08	-2.10E-08	-4.70E-08	-4.81E-08	3.46E-08	3.46E-08	2.68E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	1.35E-07	1.41E-07	2.40E-08	-4.30E-08	-4.90E-08	3.70E-08	3.40E-08	2.70E-08

Licensee Comments:

1Q/11: Changed PRA Parameter(s). The Brunswick PRA model-of-record was revised in December 2010, and the revised MSPI coefficients were entered into INPOs CDE and the Brunswick MSPI Basis Document to be effective for the 1st Quarter of 2011. Changes included using plant-specific Common Cause Factors (CCFs) for the RHR system versus generic values, updated the instrument air system due to plant modifications, incorporated some Reg Guide 1.200 improvements, and updated ATWS to industry standard BWR methodology. Coefficients on all five MSPI systems for both Unit 1 and Unit 2 were affected by this revision. In addition, 96 hours of Planned Unavailability was added to the baseline for Emergency Diesel Generator (EDG) 2 and EDG 4, to account for a one-time maintenance evolution to replace the collector rings. These additional hours will be removed in the first quarter 2014.

Mitigating Systems Performance Index, High Pressure Injection System



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

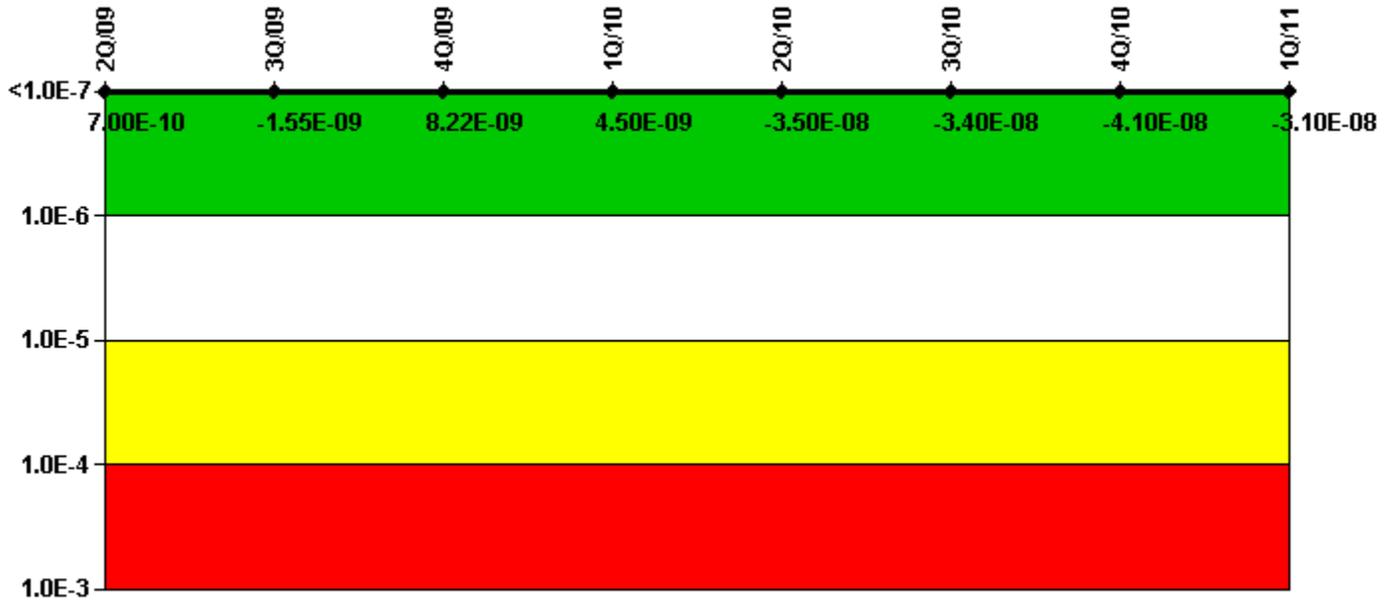
Notes

Mitigating Systems Performance Index, High Pressure Injection System	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
UAI (Δ CDF)	1.50E-07	1.70E-07	1.60E-07	1.08E-07	1.02E-07	1.10E-07	2.93E-09	5.01E-09
URI (Δ CDF)	2.10E-07	2.10E-07	2.20E-07	2.22E-07	2.21E-07	2.21E-07	7.86E-08	7.04E-08
PLE	NO							
Indicator value	3.60E-07	3.80E-07	3.80E-07	3.30E-07	3.20E-07	3.30E-07	8.20E-08	7.50E-08

Licensee Comments:

1Q/11: Changed PRA Parameter(s). The Brunswick PRA model-of-record was revised in December 2010, and the revised MSPI coefficients were entered into INPOs CDE and the Brunswick MSPI Basis Document to be effective for the 1st Quarter of 2011. Changes included using plant-specific Common Cause Factors (CCFs) for the RHR system versus generic values, updated the instrument air system due to plant modifications, incorporated some Reg Guide 1.200 improvements, and updated ATWS to industry standard BWR methodology. Coefficients on all five MSPI systems for both Unit 1 and Unit 2 were affected by this revision.

Mitigating Systems Performance Index, Heat Removal System



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

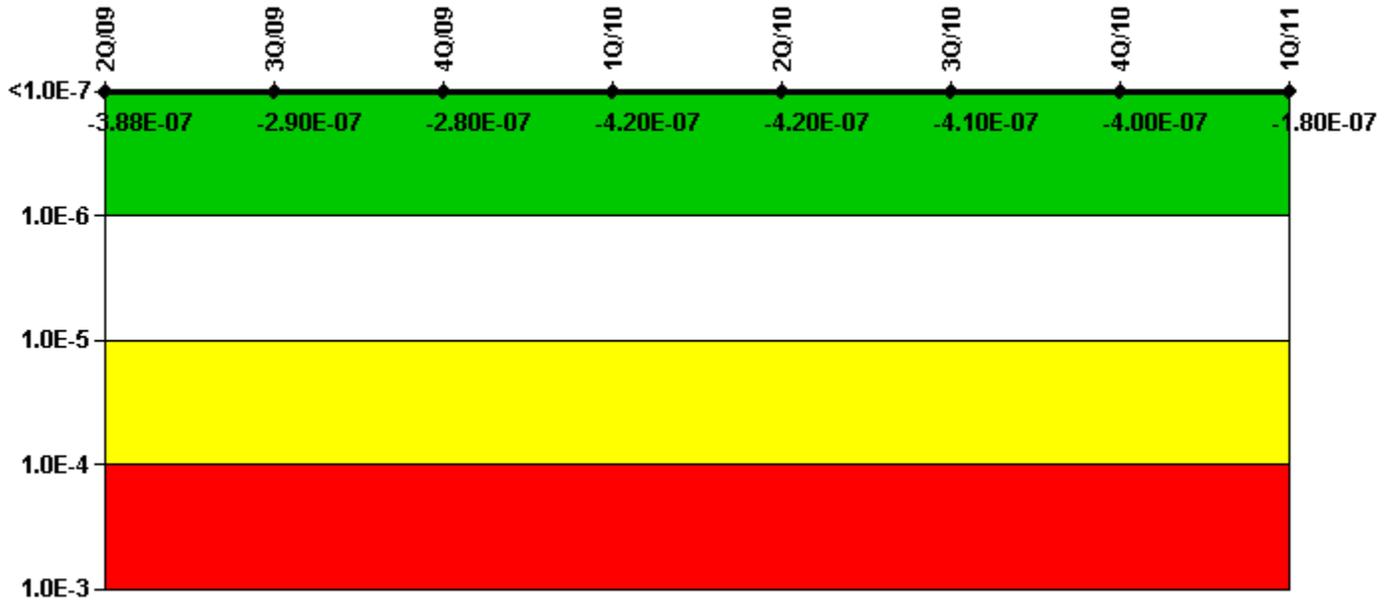
Notes

Mitigating Systems Performance Index, Heat Removal System	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
UAI (Δ CDF)	1.80E-09	2.50E-10	1.20E-10	-1.80E-09	-2.13E-09	-6.12E-10	-7.57E-09	-2.53E-09
URI (Δ CDF)	-1.10E-09	-1.80E-09	8.10E-09	6.27E-09	-3.32E-08	-3.37E-08	-3.39E-08	-2.88E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	7.00E-10	-1.55E-09	8.22E-09	4.50E-09	-3.50E-08	-3.40E-08	-4.10E-08	-3.10E-08

Licensee Comments:

1Q/11: Changed PRA Parameter(s). The Brunswick PRA model-of-record was revised in December 2010, and the revised MSPI coefficients were entered into INPOs CDE and the Brunswick MSPI Basis Document to be effective for the 1st Quarter of 2011. Changes included using plant-specific Common Cause Factors (CCFs) for the RHR system versus generic values, updated the instrument air system due to plant modifications, incorporated some Reg Guide 1.200 improvements, and updated ATWS to industry standard BWR methodology. Coefficients on all five MSPI systems for both Unit 1 and Unit 2 were affected by this revision.

Mitigating Systems Performance Index, Residual Heat Removal System



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

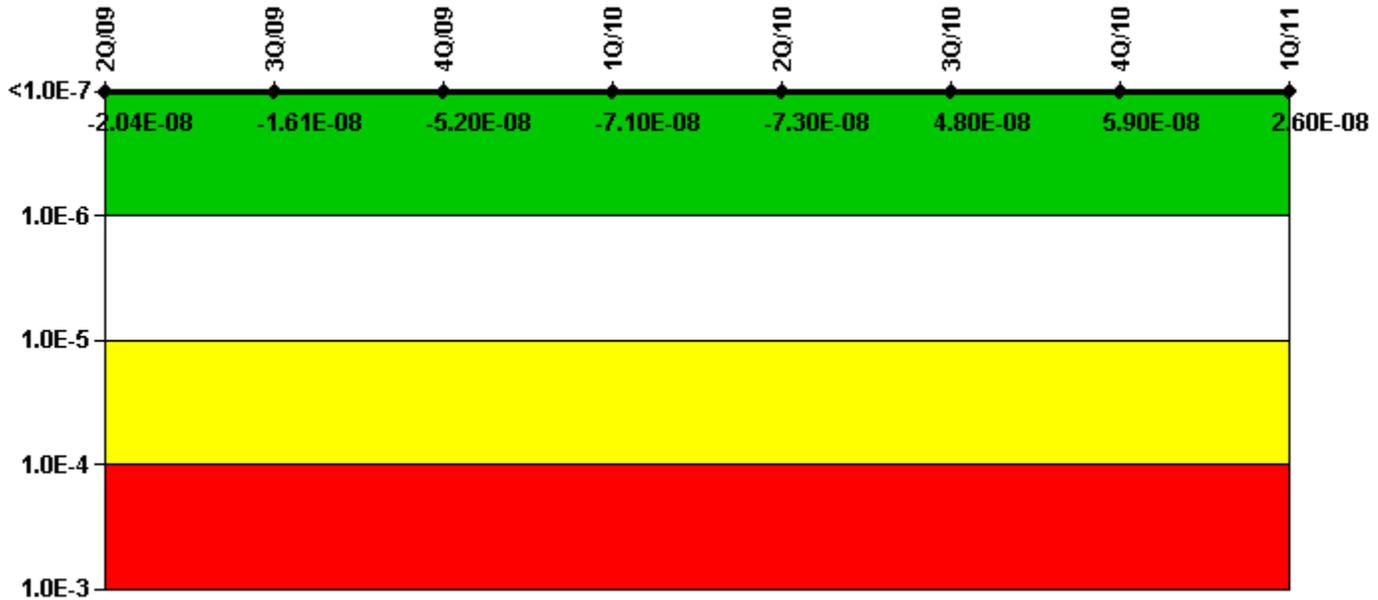
Notes

Mitigating Systems Performance Index, Residual Heat Removal System	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
UAI (Δ CDF)	3.20E-08	1.30E-07	1.30E-07	-2.05E-08	-2.18E-08	-2.18E-08	-2.18E-08	-1.38E-08
URI (Δ CDF)	-4.20E-07	-4.20E-07	-4.10E-07	-4.04E-07	-3.95E-07	-3.84E-07	-3.78E-07	-1.70E-07
PLE	NO							
Indicator value	-3.88E-07	-2.90E-07	-2.80E-07	-4.20E-07	-4.20E-07	-4.10E-07	-4.00E-07	-1.80E-07

Licensee Comments:

1Q/11: Changed PRA Parameter(s). The Brunswick PRA model-of-record was revised in December 2010, and the revised MSPI coefficients were entered into INPOs CDE and the Brunswick MSPI Basis Document to be effective for the 1st Quarter of 2011. Changes included using plant-specific Common Cause Factors (CCFs) for the RHR system versus generic values, updated the instrument air system due to plant modifications, incorporated some Reg Guide 1.200 improvements, and updated ATWS to industry standard BWR methodology. Coefficients on all five MSPI systems for both Unit 1 and Unit 2 were affected by this revision.

Mitigating Systems Performance Index, Cooling Water Systems



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

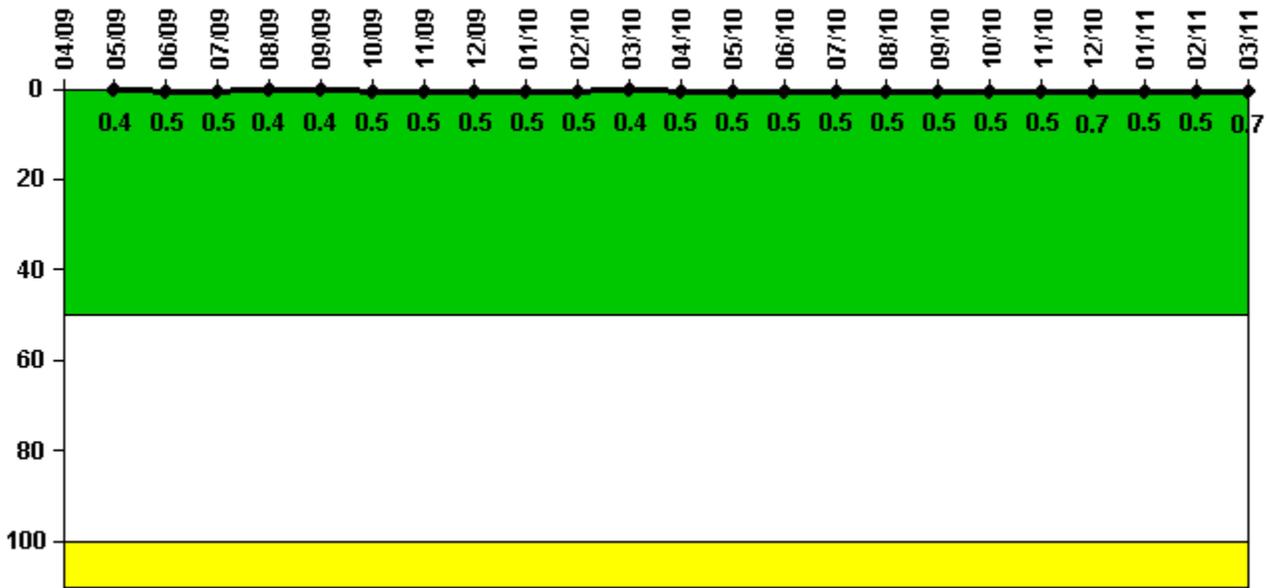
Notes

Mitigating Systems Performance Index, Cooling Water Systems	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
UAI (Δ CDF)	-5.40E-09	-1.10E-10	-3.60E-08	-5.47E-08	-5.71E-08	5.61E-08	6.69E-08	4.23E-08
URI (Δ CDF)	-1.50E-08	-1.60E-08	-1.60E-08	-1.60E-08	-1.62E-08	-7.69E-09	-7.69E-09	-1.66E-08
PLE	NO							
Indicator value	-2.04E-08	-1.61E-08	-5.20E-08	-7.10E-08	-7.30E-08	4.80E-08	5.90E-08	2.60E-08

Licensee Comments:

1Q/11: Changed PRA Parameter(s). The Brunswick PRA model-of-record was revised in December 2010, and the revised MSPI coefficients were entered into INPOs CDE and the Brunswick MSPI Basis Document to be effective for the 1st Quarter of 2011. Changes included using plant-specific Common Cause Factors (CCFs) for the RHR system versus generic values, updated the instrument air system due to plant modifications, incorporated some Reg Guide 1.200 improvements, and updated ATWS to industry standard BWR methodology. Coefficients on all five MSPI systems for both Unit 1 and Unit 2 were affected by this revision.

Reactor Coolant System Activity



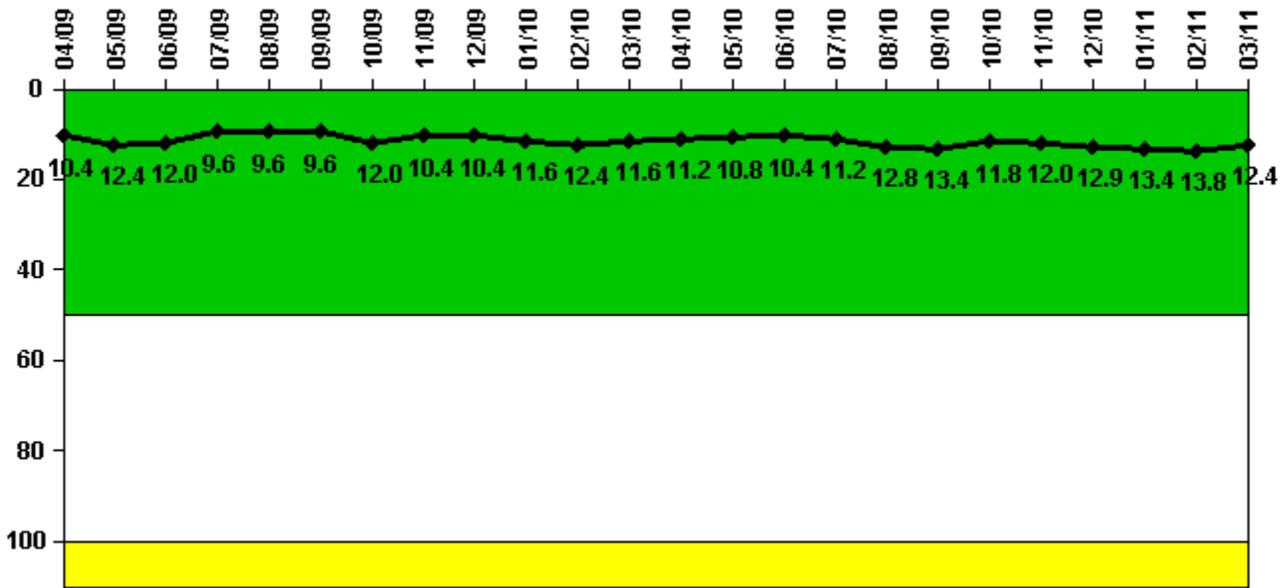
Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Activity	4/09	5/09	6/09	7/09	8/09	9/09	10/09	11/09	12/09	1/10	2/10	3/10
Maximum activity	N/A	0.000859	0.000967	0.000931	0.000886	0.000791	0.000905	0.000908	0.000917	0.000954	0.001015	0.000874
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	N/A	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4
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	0.000963	0.000920	0.000951	0.000979	0.000944	0.001097	0.000962	0.000900	0.001326	0.000962	0.000939	0.001409
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	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.5	0.5	0.7

Licensee Comments: none

Reactor Coolant System Leakage



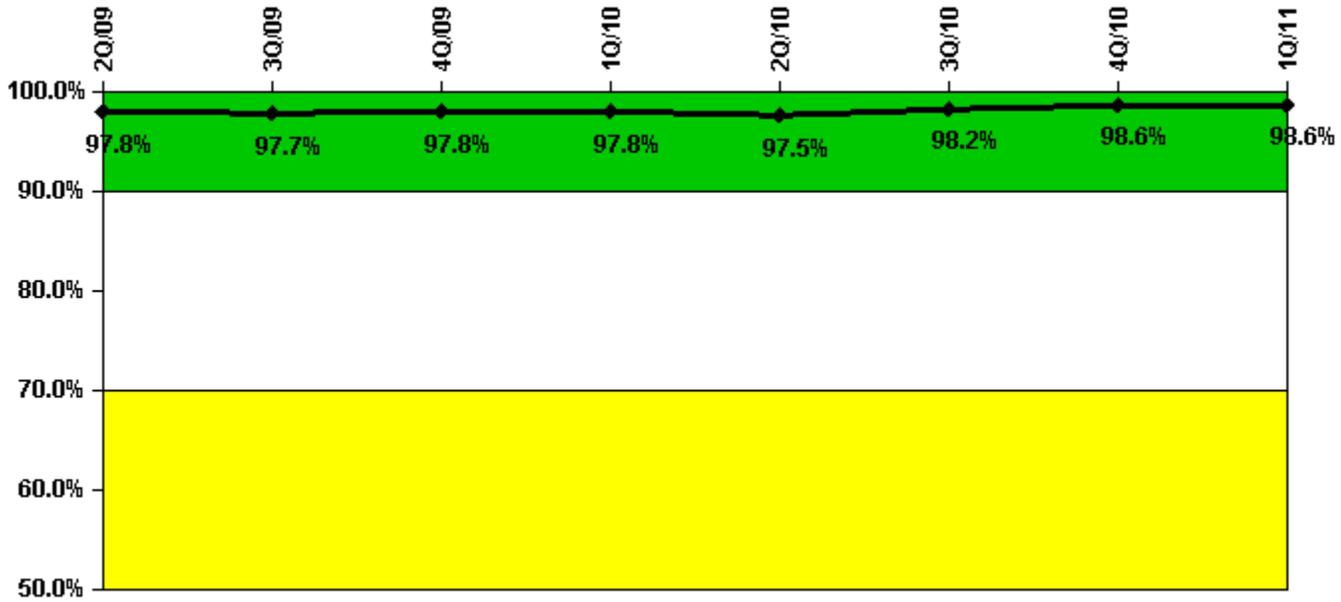
Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Leakage	4/09	5/09	6/09	7/09	8/09	9/09	10/09	11/09	12/09	1/10	2/10	3/10
Maximum leakage	2.600	3.100	3.000	2.400	2.400	2.400	3.000	2.600	2.600	2.900	3.100	2.900
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	10.4	12.4	12.0	9.6	9.6	9.6	12.0	10.4	10.4	11.6	12.4	11.6
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	2.800	2.700	2.600	2.800	3.200	3.350	2.960	3.010	3.220	3.350	3.440	3.090
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	11.2	10.8	10.4	11.2	12.8	13.4	11.8	12.0	12.9	13.4	13.8	12.4

Licensee Comments: none

Drill/Exercise Performance



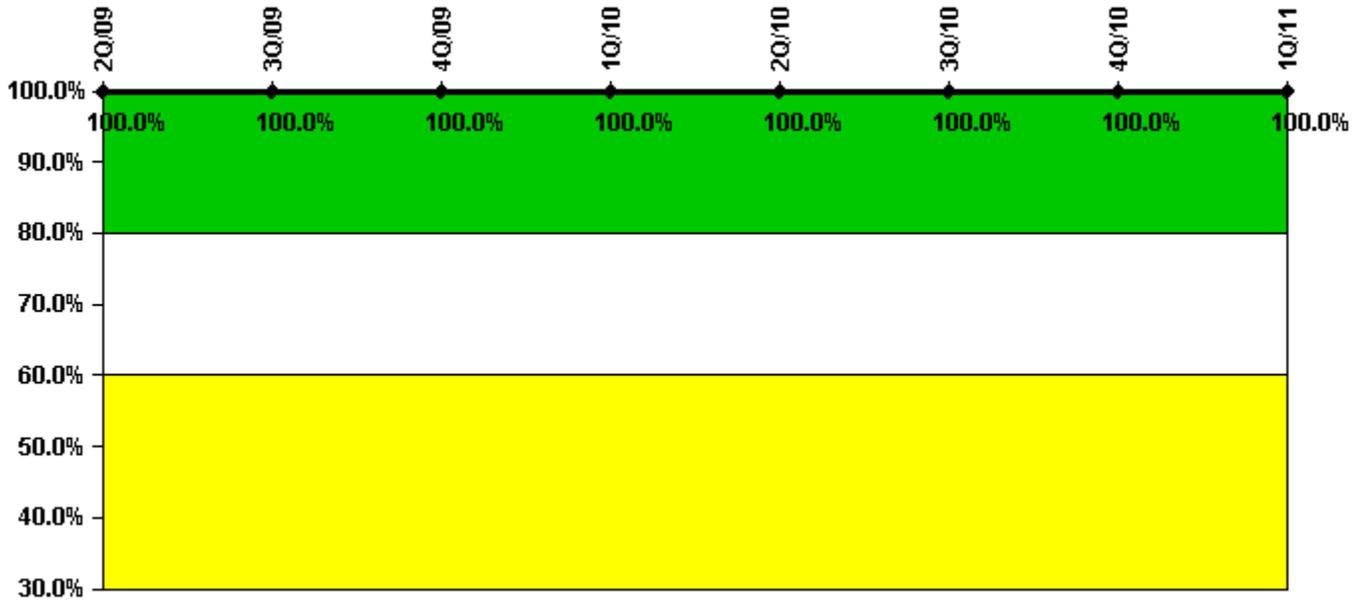
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
Successful opportunities	27.0	16.0	39.0	4.0	30.0	50.0	39.0	10.0
Total opportunities	27.0	16.0	39.0	4.0	32.0	50.0	40.0	10.0
Indicator value	97.8%	97.7%	97.8%	97.8%	97.5%	98.2%	98.6%	98.6%

Licensee Comments: none

ERO Drill Participation



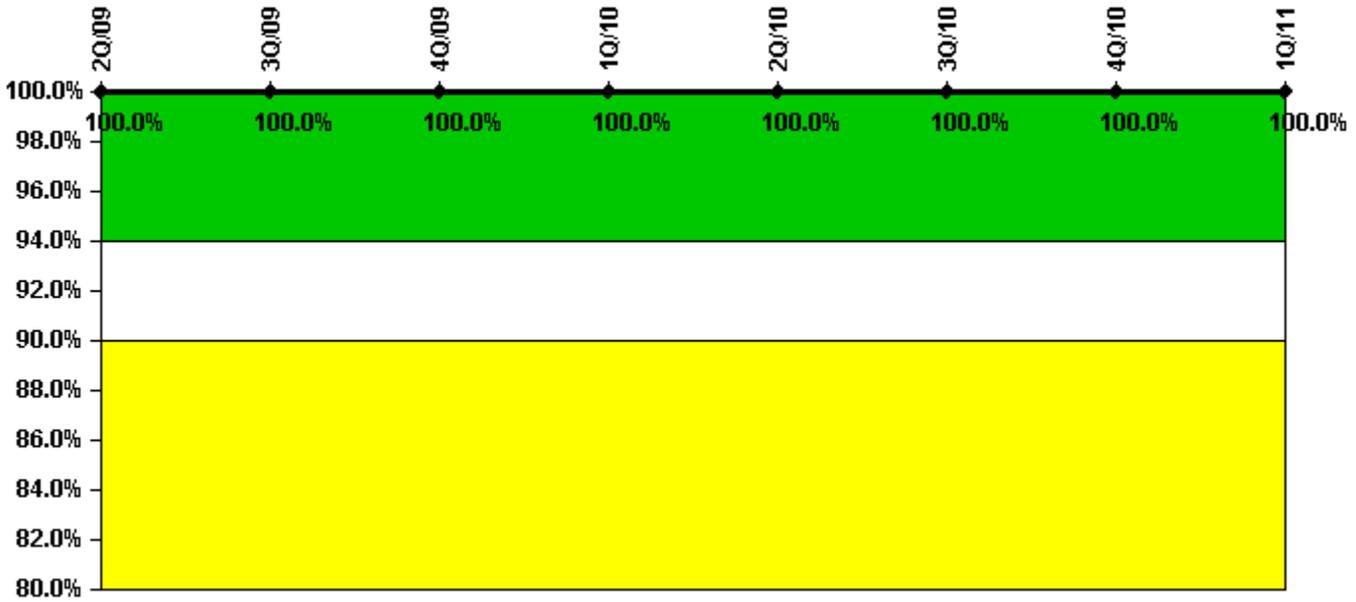
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
Participating Key personnel	97.0	102.0	97.0	95.0	98.0	109.0	102.0	109.0
Total Key personnel	97.0	102.0	97.0	95.0	98.0	109.0	102.0	109.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Alert & Notification System



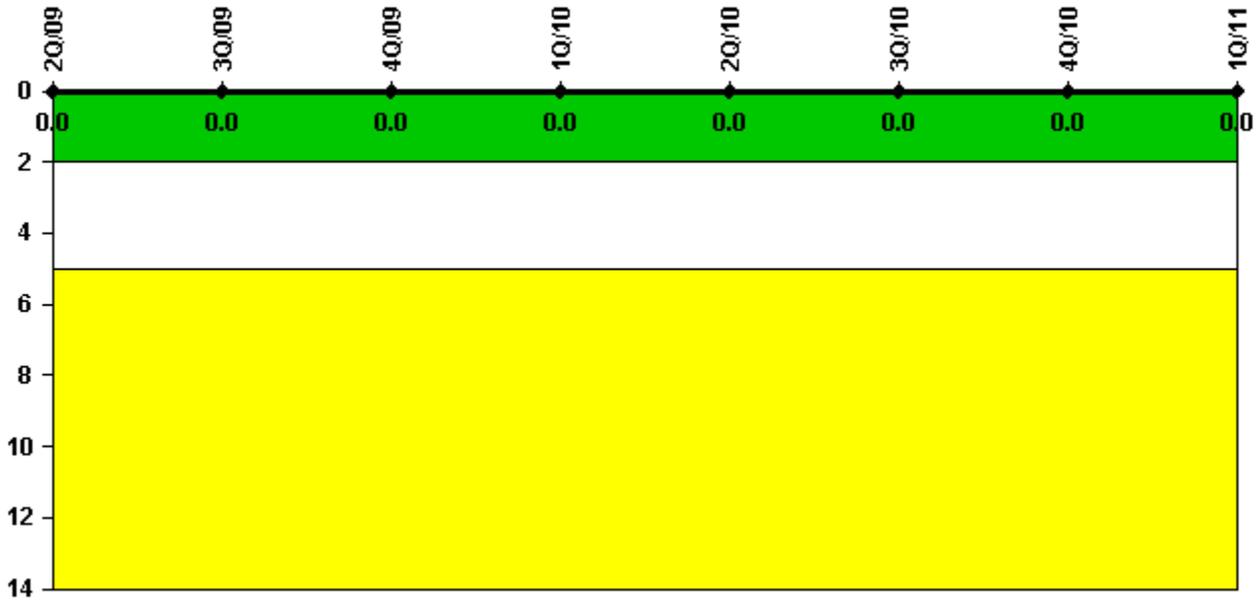
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
Successful siren-tests	532	531	570	532	532	532	570	532
Total sirens-tests	532	532	570	532	532	532	570	532
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Occupational Exposure Control Effectiveness



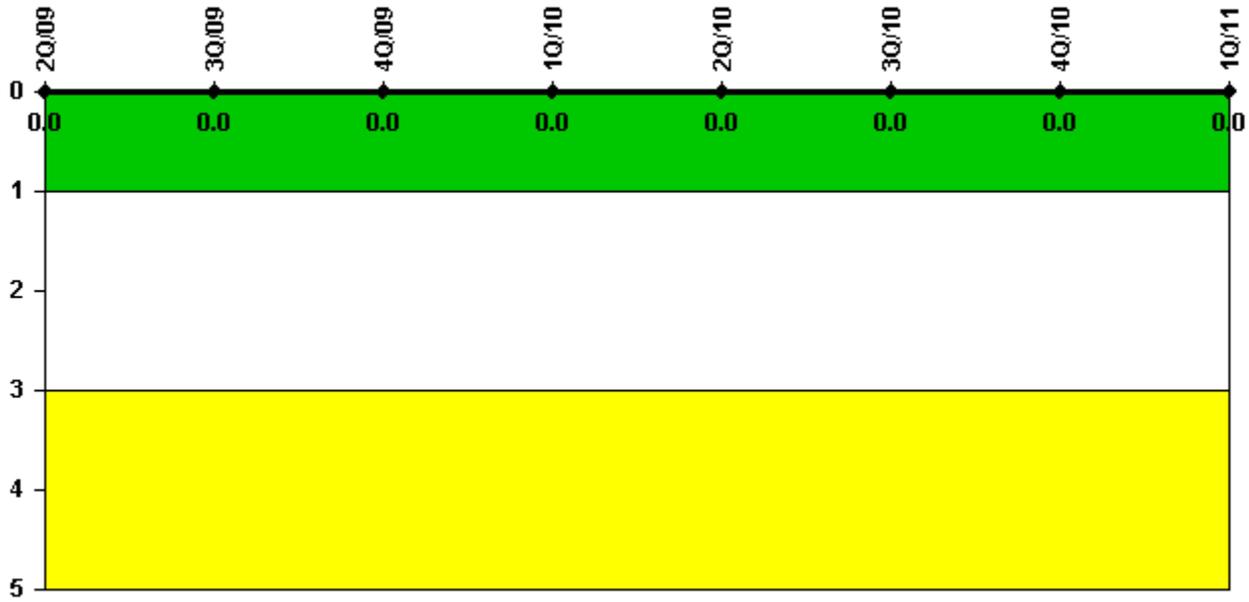
Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
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							

Licensee Comments: none

RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

Notes

RETS/ODCM Radiological Effluent	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11
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.