

Crystal River 3

2Q/2011 Performance Indicators

Crystal River 3 has been shutdown since September 2009. Because the Unplanned Scrams with Complications (USwC) and Mitigating Systems Performance Index (MSPI) performance indicators (PIs) are heavily influenced by the operational status of the reactor, NRC staff has evaluated the validity of these PIs. The NRC also discussed the question of PI validity with NEI and other external stakeholders during the July 13, 2011, ROP working group meeting. Because the reactor has not been critical for two years, there have been no opportunities for a scram that would count in the USwC indicator. Similarly, the MSPI values are skewed because of the very low number of critical hours in three years. For these reasons, the staff has determined that these PIs no longer provide valid indications of performance.

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs



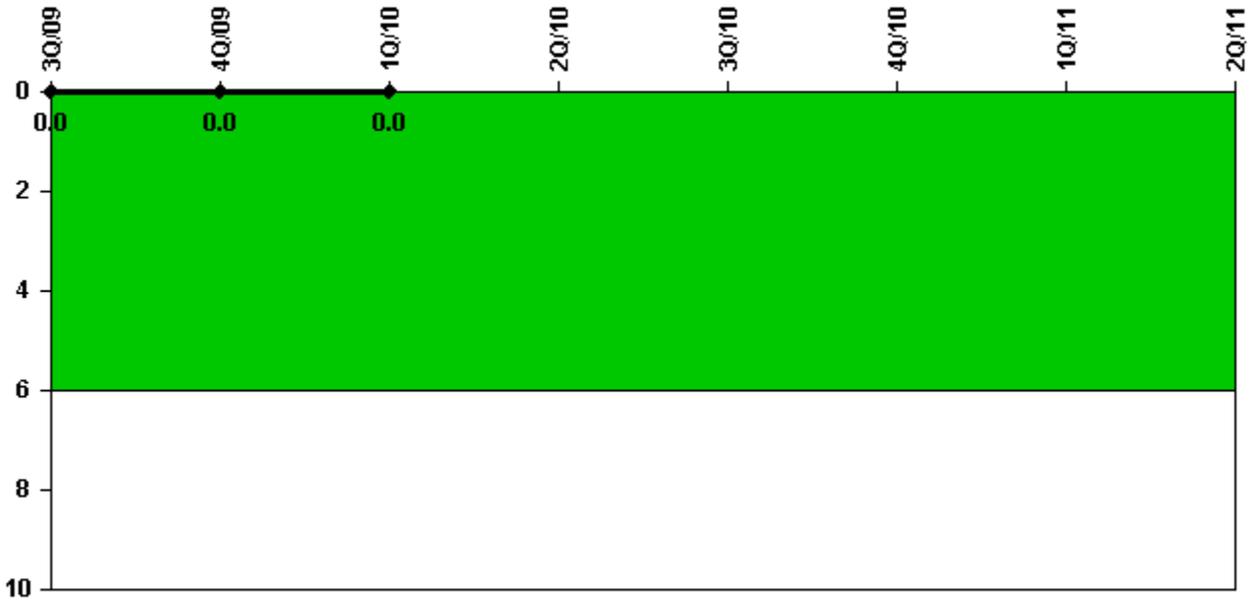
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
Unplanned scrams	1.0	0	0	0	0	0	0	0
Critical hours	2056.7	0	0	0	0	0	0	0
Indicator value	1.6	2.2	1.7	N/A	N/A	N/A	N/A	N/A

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



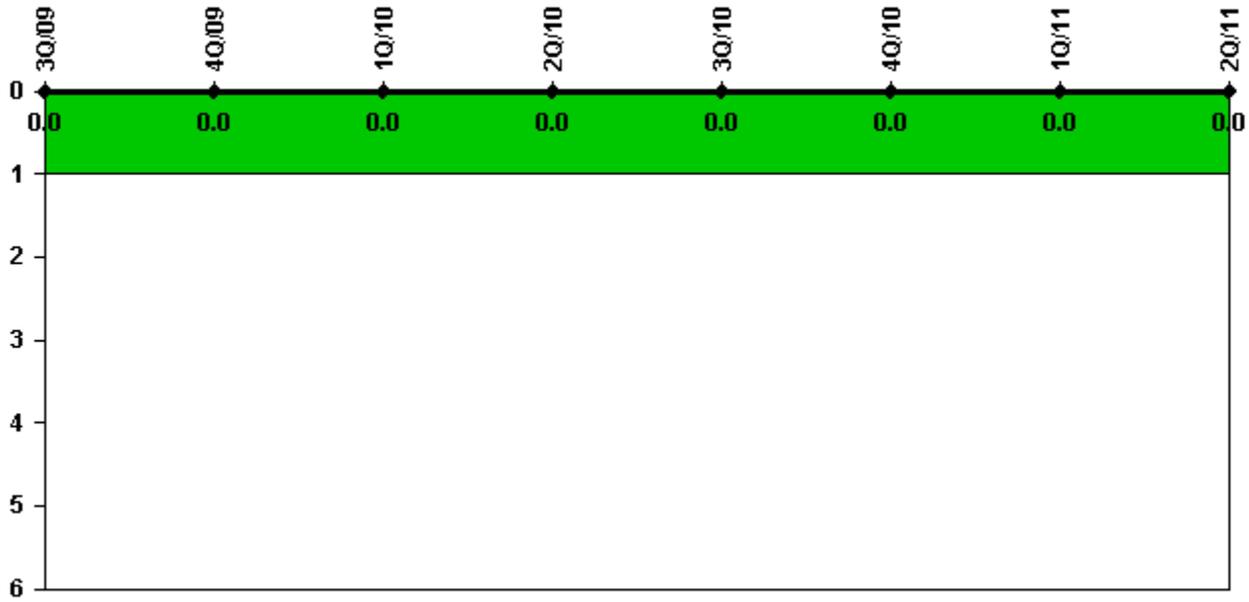
Thresholds: White > 6.0

Notes

Unplanned Power Changes per 7000 Critical Hrs	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	2056.7	0	0	0	0	0	0	0
Indicator value	0	0	0	N/A	N/A	N/A	N/A	N/A

Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

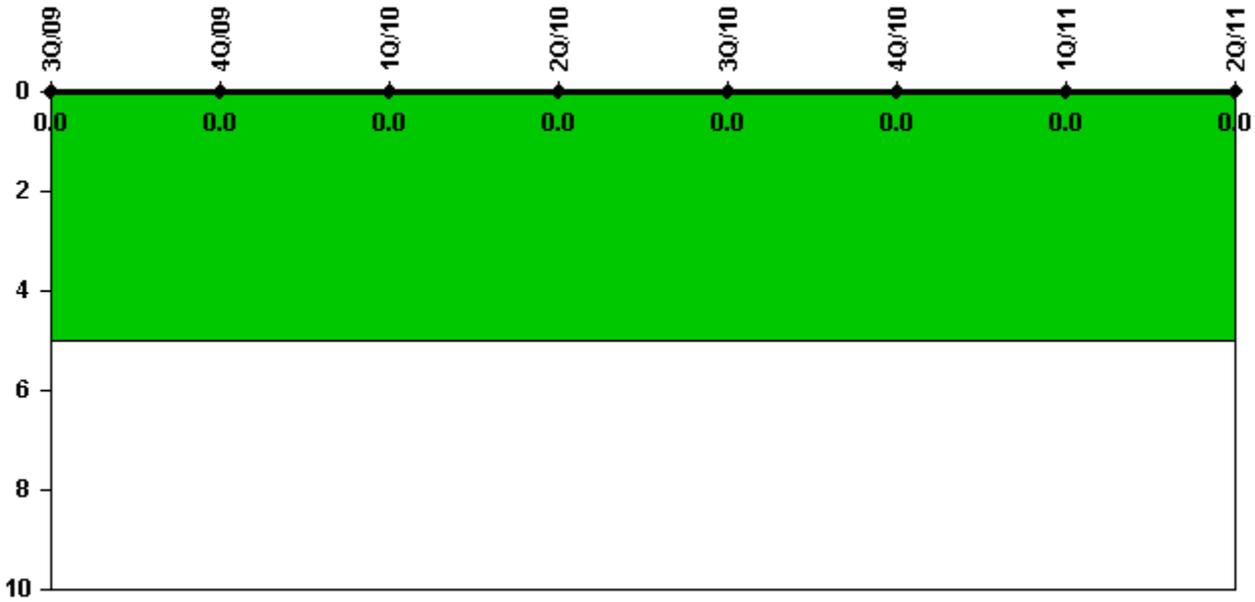
Notes

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

2Q/11: Proposed FAQ 11-09 has been submitted to consider adding guidance to NEI 99-02 to address the CR-3 extended shutdown condition.

Safety System Functional Failures (PWR)



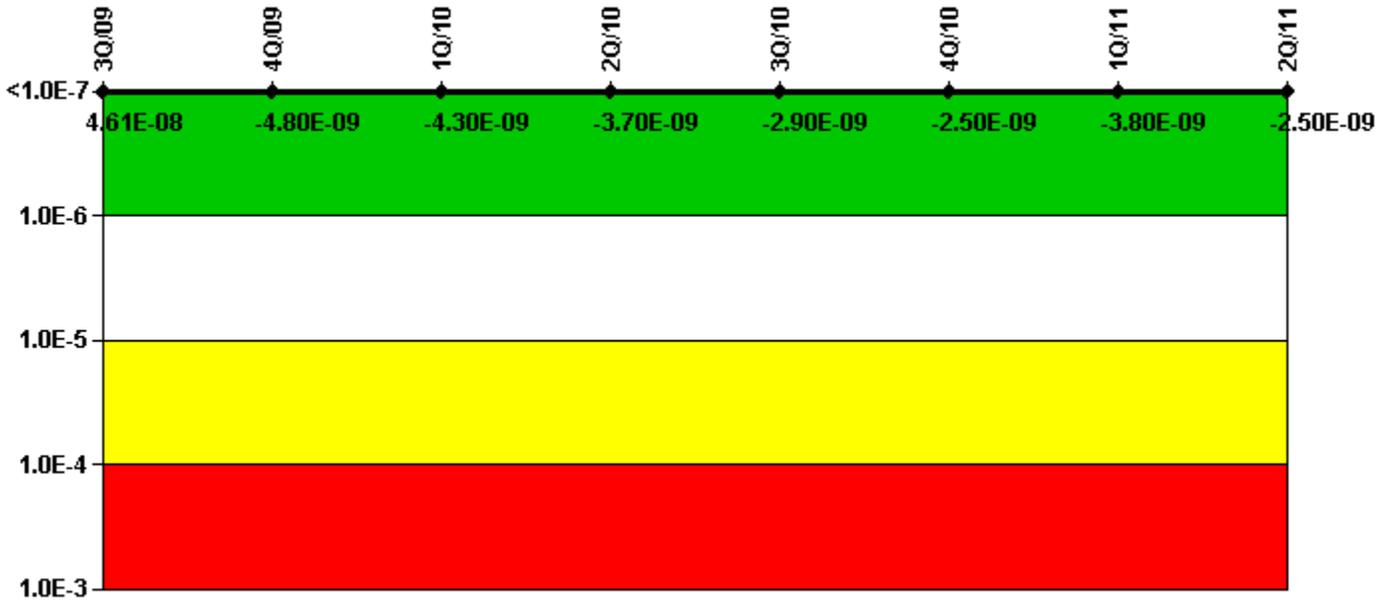
Thresholds: White > 5.0

Notes

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

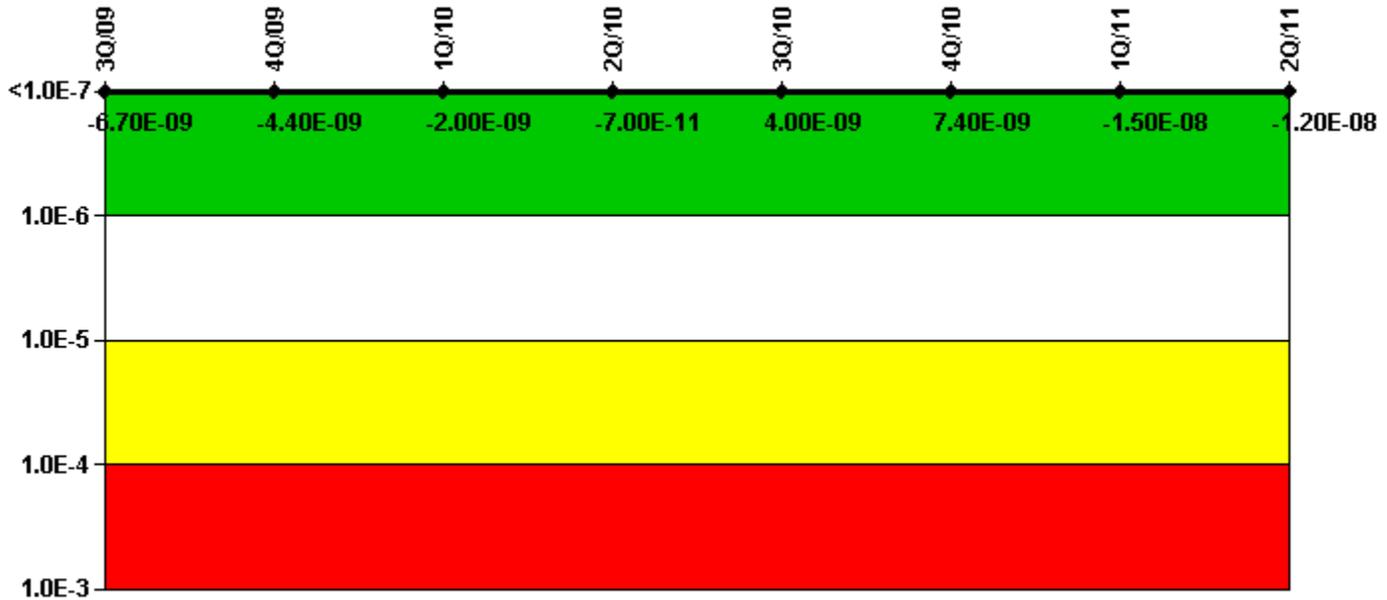
Notes

Mitigating Systems Performance Index, Emergency AC Power System	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
UAI (Δ CDF)	-3.90E-09	-3.50E-09	-3.03E-09	-2.38E-09	-1.55E-09	-8.71E-10	-2.14E-09	-8.44E-10
URI (Δ CDF)	5.00E-08	-1.30E-09	-1.31E-09	-1.31E-09	-1.31E-09	-1.68E-09	-1.68E-09	-1.68E-09
PLE	NO							
Indicator value	4.61E-08	-4.80E-09	-4.30E-09	-3.70E-09	-2.90E-09	-2.50E-09	-3.80E-09	-2.50E-09

Licensee Comments:

2Q/11: Proposed FAQ 11-09 has been submitted to consider adding guidance to NEI 99-02 to address the CR-3 extended shutdown condition and recovery after startup.

Mitigating Systems Performance Index, High Pressure Injection System



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

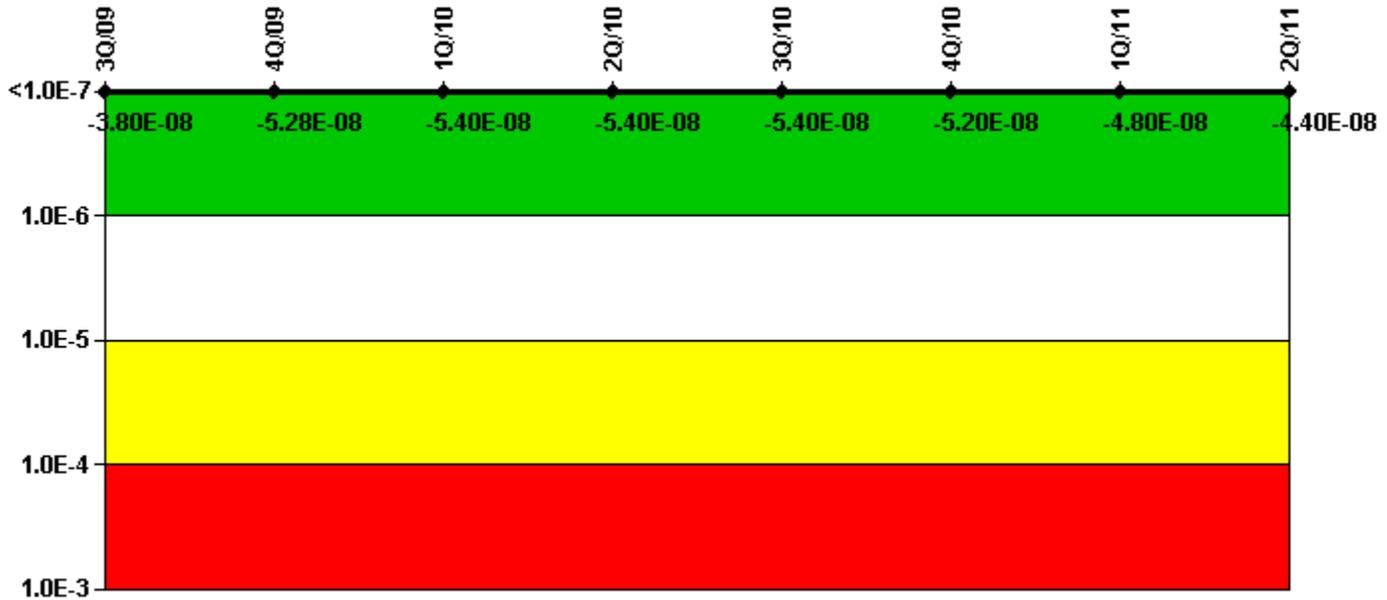
Notes

Mitigating Systems Performance Index, High Pressure Injection System	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
UAI (Δ CDF)	3.30E-09	5.60E-09	8.05E-09	9.98E-09	1.41E-08	1.74E-08	-4.88E-09	-1.86E-09
URI (Δ CDF)	-1.00E-08	-1.00E-08	-1.01E-08	-1.01E-08	-1.00E-08	-1.00E-08	-9.96E-09	-9.91E-09
PLE	NO							
Indicator value	-6.70E-09	-4.40E-09	-2.00E-09	-7.00E-11	4.00E-09	7.40E-09	-1.50E-08	-1.20E-08

Licensee Comments:

2Q/11: Proposed FAQ 11-09 has been submitted to consider adding guidance to NEI 99-02 to address the CR-3 extended shutdown condition and recovery after startup.

Mitigating Systems Performance Index, Heat Removal System



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

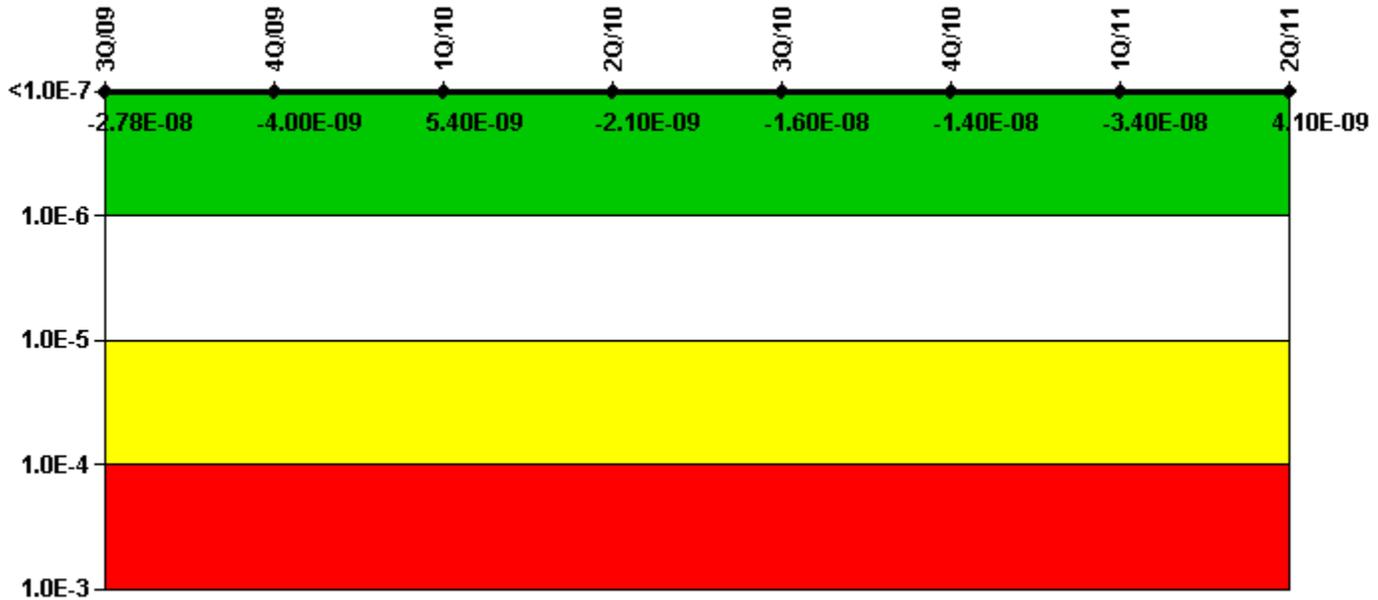
Notes

Mitigating Systems Performance Index, Heat Removal System	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
UAI (Δ CDF)	1.10E-08	-3.80E-09	-6.82E-09	-6.54E-09	-6.54E-09	-6.28E-09	-4.90E-09	-2.37E-09
URI (Δ CDF)	-4.90E-08	-4.90E-08	-4.76E-08	-4.76E-08	-4.72E-08	-4.59E-08	-4.30E-08	-4.17E-08
PLE	NO							
Indicator value	-3.80E-08	-5.28E-08	-5.40E-08	-5.40E-08	-5.40E-08	-5.20E-08	-4.80E-08	-4.40E-08

Licensee Comments:

2Q/11: Proposed FAQ 11-09 has been submitted to consider adding guidance to NEI 99-02 to address the CR-3 extended shutdown condition and recovery after startup.

Mitigating Systems Performance Index, Residual Heat Removal System



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

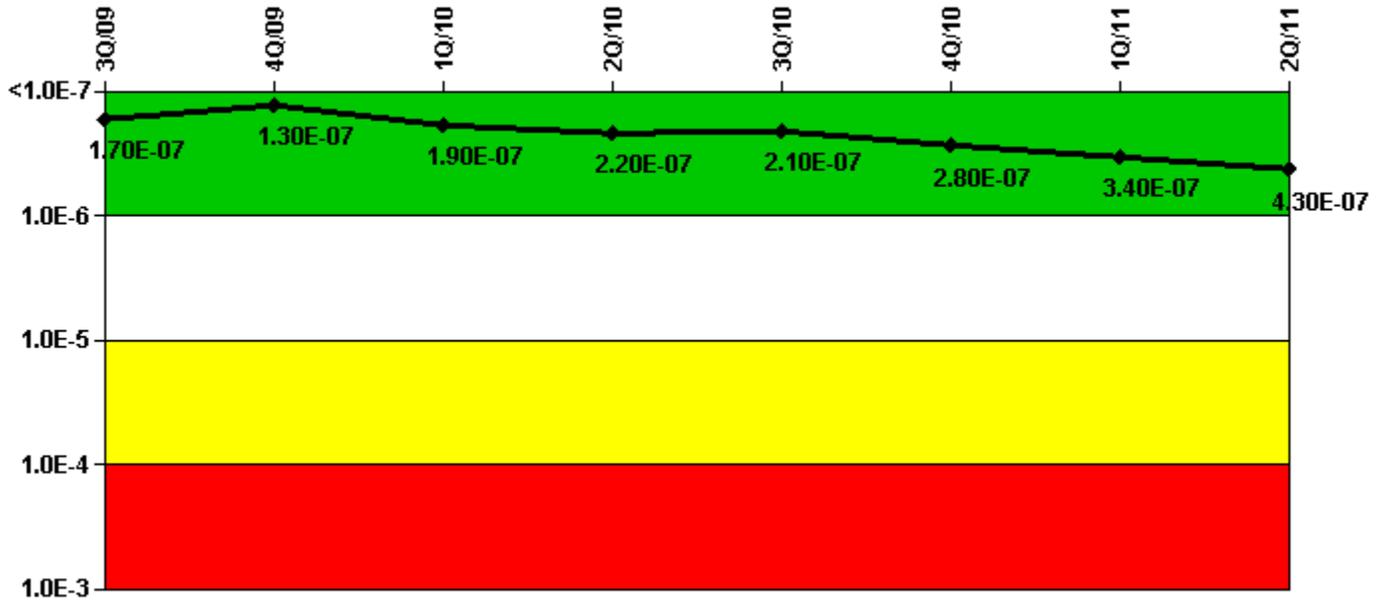
Notes

Mitigating Systems Performance Index, Residual Heat Removal System	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
UAI (Δ CDF)	1.20E-09	2.60E-08	3.50E-08	2.75E-08	1.36E-08	1.73E-08	-6.36E-10	3.87E-08
URI (Δ CDF)	-2.90E-08	-3.00E-08	-2.95E-08	-2.95E-08	-3.01E-08	-3.16E-08	-3.31E-08	-3.45E-08
PLE	NO							
Indicator value	-2.78E-08	-4.00E-09	5.40E-09	-2.10E-09	-1.60E-08	-1.40E-08	-3.40E-08	4.10E-09

Licensee Comments:

2Q/11: Proposed FAQ 11-09 has been submitted to consider adding guidance to NEI 99-02 to address the CR-3 extended shutdown condition and recovery after startup.

Mitigating Systems Performance Index, Cooling Water Systems



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

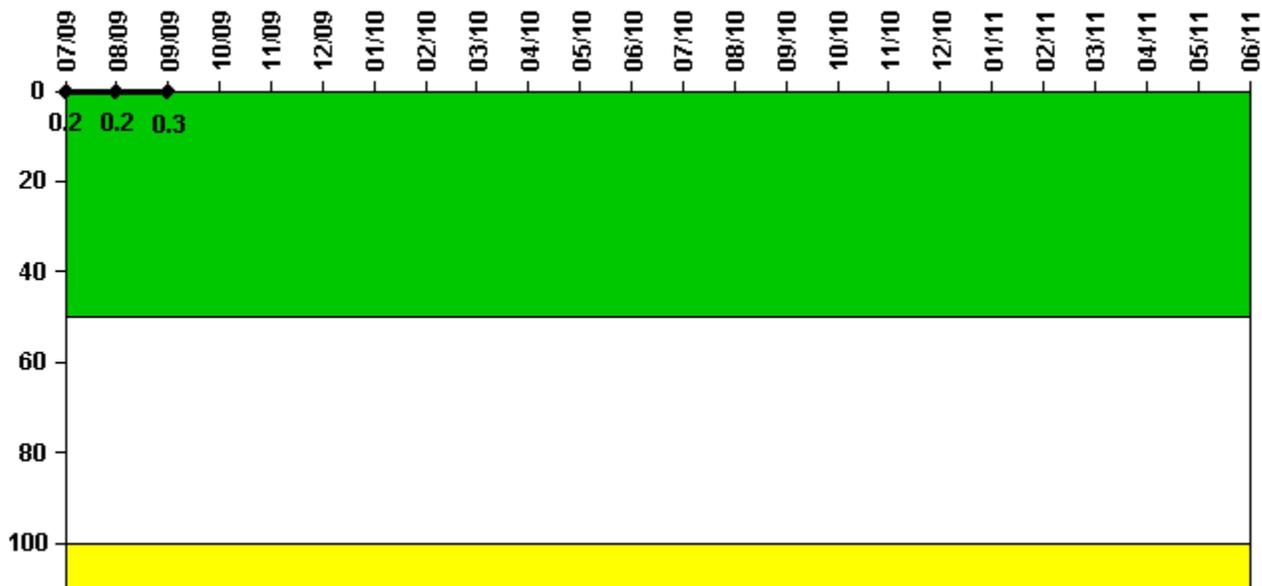
Notes

Mitigating Systems Performance Index, Cooling Water Systems	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
UAI (ΔCDF)	2.00E-07	1.94E-07	2.11E-07	2.33E-07	2.21E-07	2.80E-07	3.34E-07	4.24E-07
URI (ΔCDF)	-3.00E-08	-6.66E-08	-1.58E-08	-1.34E-08	-1.09E-08	4.49E-09	7.23E-09	1.01E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	1.70E-07	1.30E-07	1.90E-07	2.20E-07	2.10E-07	2.80E-07	3.40E-07	4.30E-07

Licensee Comments:

2Q/11: Proposed FAQ 11-09 has been submitted to consider adding guidance to NEI 99-02 to address the CR-3 extended shutdown condition and recovery after startup.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

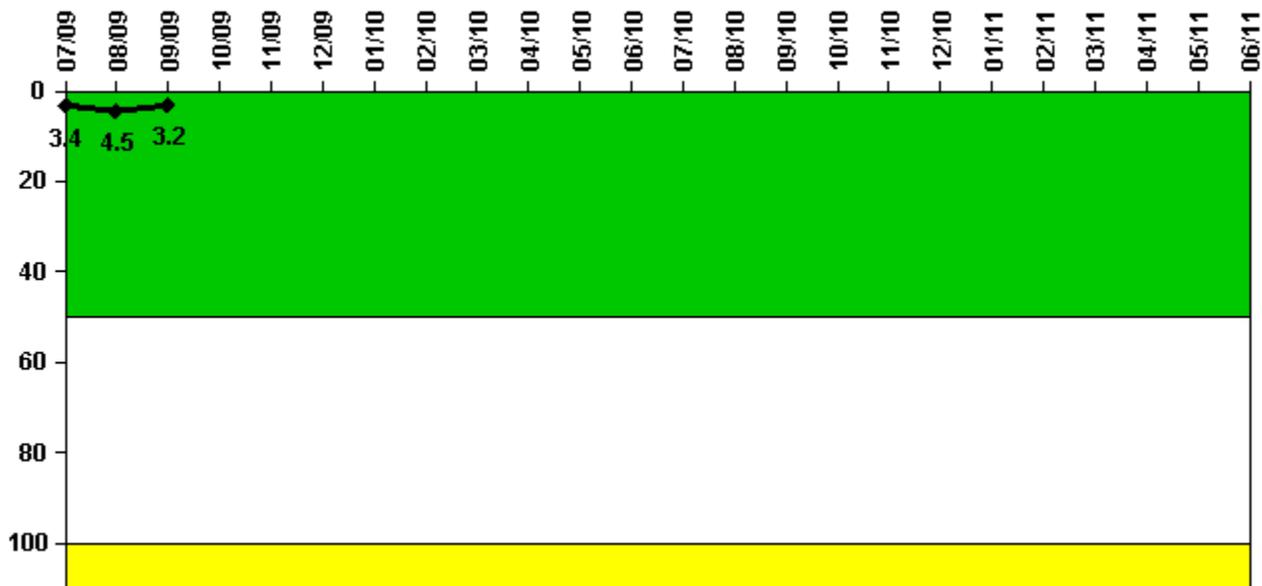
Notes

Reactor Coolant System Activity	7/09	8/09	9/09	10/09	11/09	12/09	1/10	2/10	3/10	4/10	5/10	6/10
Maximum activity	0.001630	0.001540	0.002510	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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	0.2	0.2	0.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Reactor Coolant System Activity	7/10	8/10	9/10	10/10	11/10	12/10	1/11	2/11	3/11	4/11	5/11	6/11
Maximum activity	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Licensee Comments: none

Reactor Coolant System Leakage



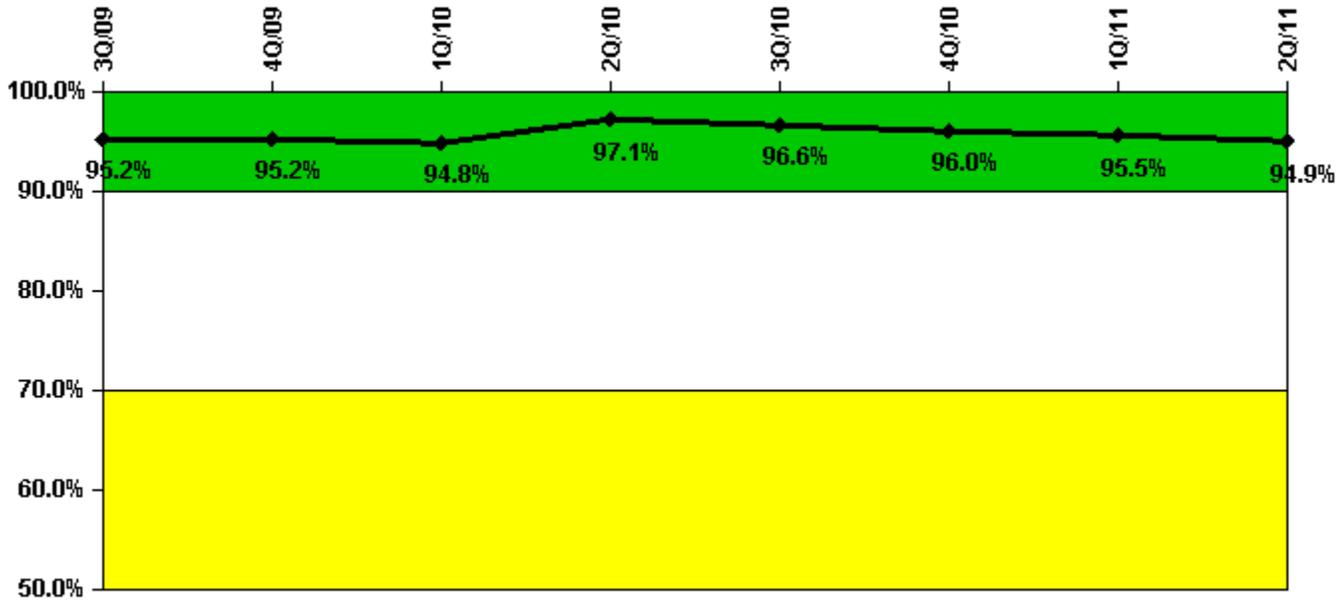
Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Leakage	7/09	8/09	9/09	10/09	11/09	12/09	1/10	2/10	3/10	4/10	5/10	6/10
Maximum leakage	0.340	0.450	0.320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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
Indicator value	3.4	4.5	3.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reactor Coolant System Leakage	7/10	8/10	9/10	10/10	11/10	12/10	1/11	2/11	3/11	4/11	5/11	6/11
Maximum leakage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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
Indicator value	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Licensee Comments: none

Drill/Exercise Performance



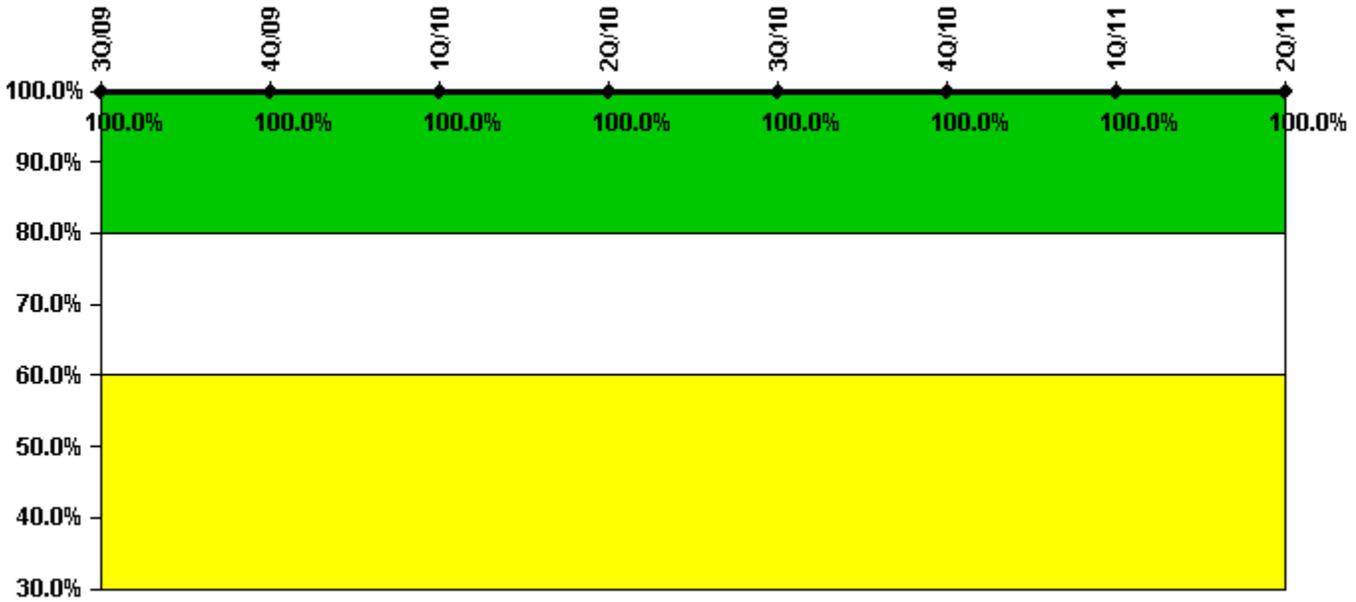
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
Successful opportunities	20.0	0	32.0	50.0	32.0	32.0	28.0	11.0
Total opportunities	21.0	0	34.0	52.0	33.0	34.0	30.0	12.0
Indicator value	95.2%	95.2%	94.8%	97.1%	96.6%	96.0%	95.5%	94.9%

Licensee Comments: none

ERO Drill Participation



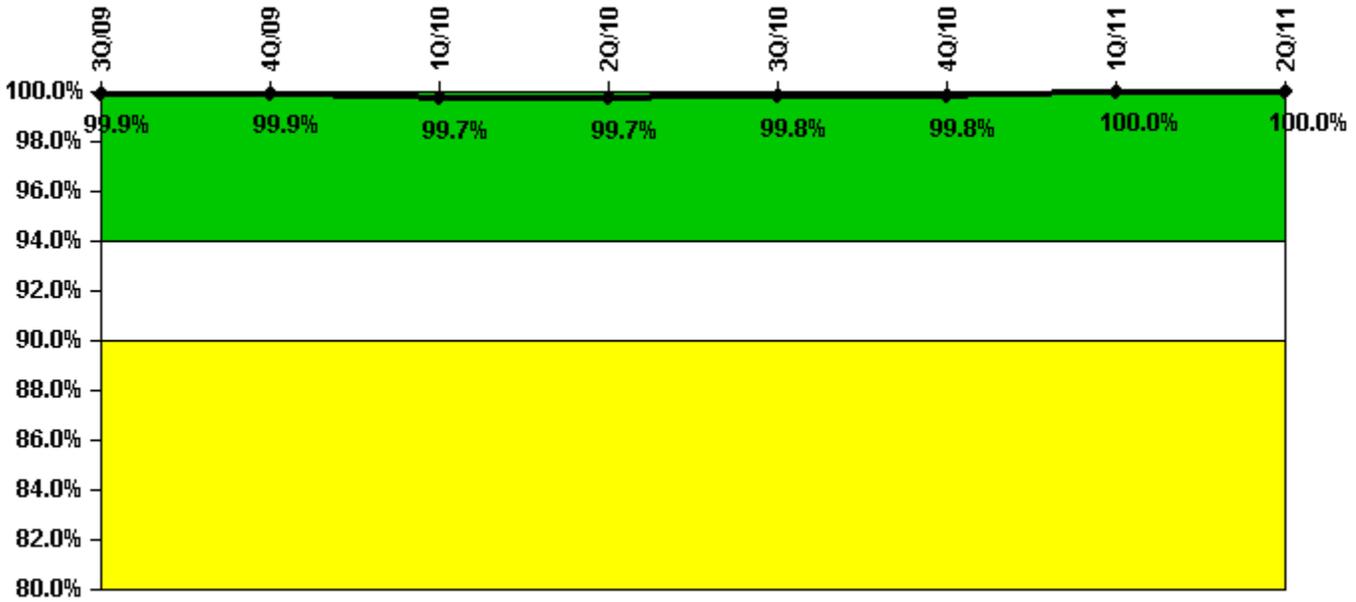
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
Participating Key personnel	82.0	80.0	79.0	76.0	75.0	69.0	71.0	69.0
Total Key personnel	82.0	80.0	79.0	76.0	75.0	69.0	71.0	69.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Alert & Notification System



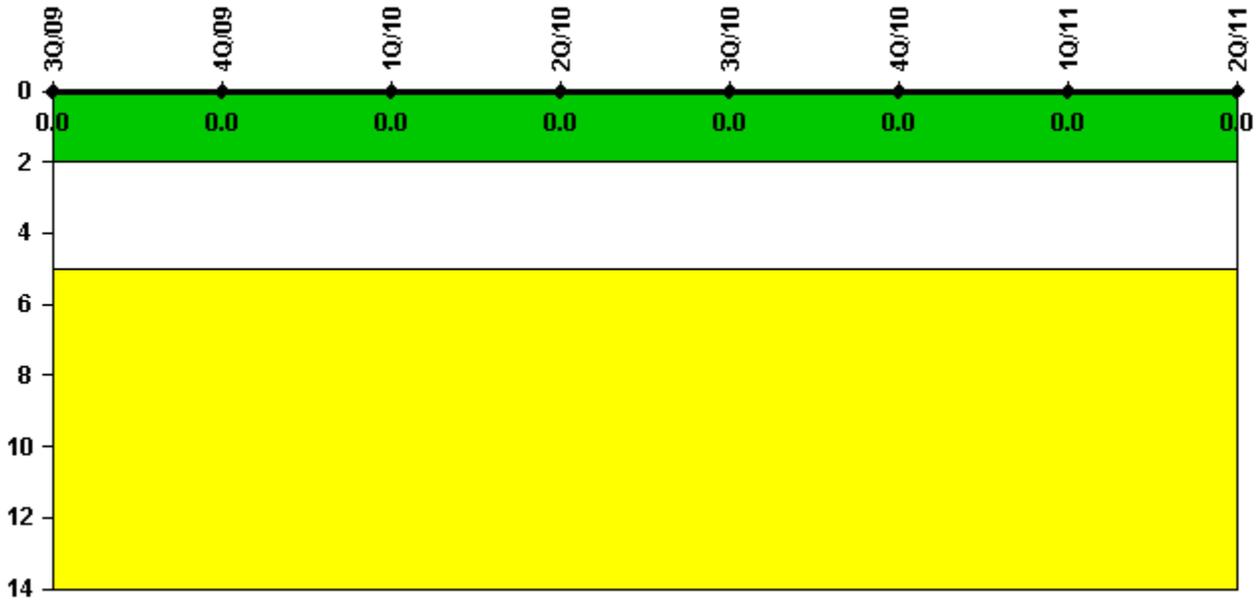
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11
Successful siren-tests	1078	998	992	1040	1040	1080	1000	1039
Total sirens-tests	1080	1000	1000	1040	1040	1080	1000	1040
Indicator value	99.9%	99.9%	99.7%	99.7%	99.8%	99.8%	100.0%	100.0%

Licensee Comments: none

Occupational Exposure Control Effectiveness



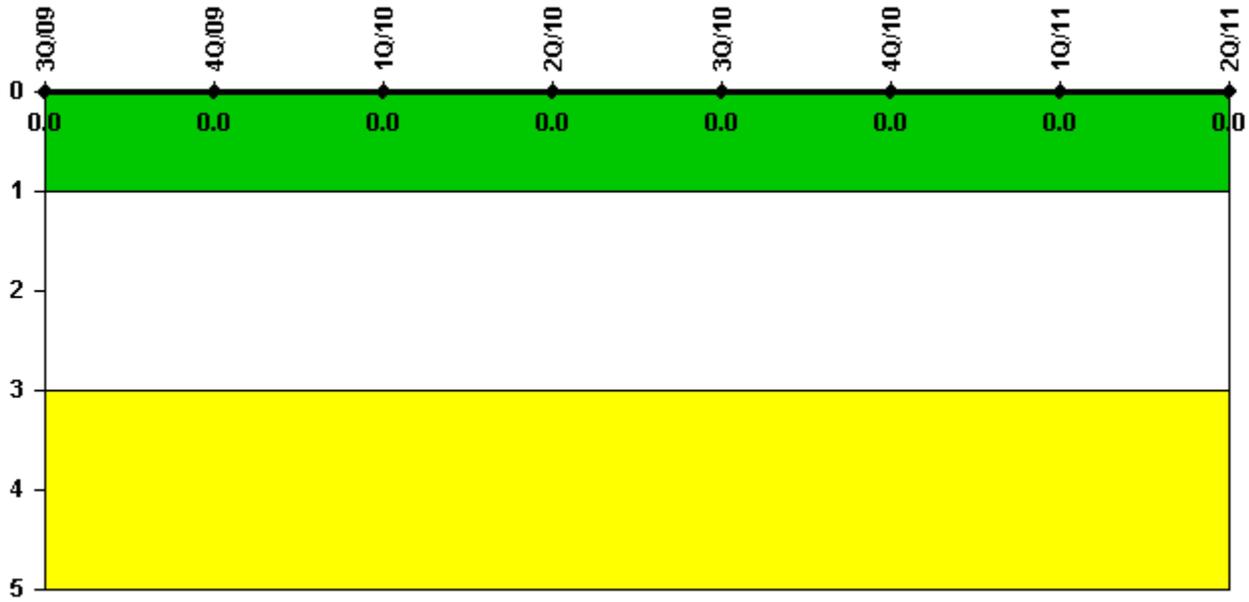
Thresholds: White > 2.0 Yellow > 5.0

Notes

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