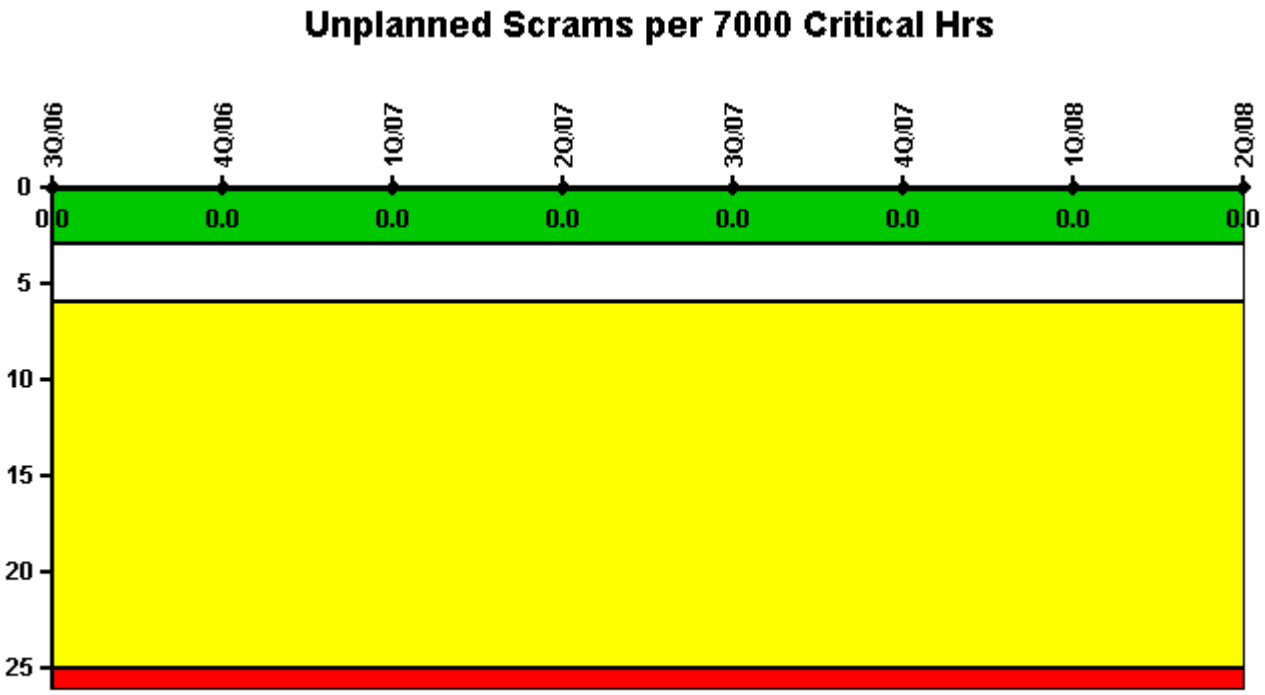
Brunswick 1

2Q/2008 Performance Indicators

Licensee's General Comments: A revision to previously submitted data is included in this Change File. An e-mail from INPO dated 05/02/2008 to industry EPIX coordinators identified a potential problem where Licensees may not have accurately setup device records for Emergency Diesel Generator (EDG) output breakers (non-monitored components in MSPI). Upon review of past output breaker failures at Brunswick, it was determined that one failure met the criteria for a MSPI failure against the EDGs. Failure no. 1191 on 08/14/2004 has been re-classified in CDE as a MSPI failure, and affected the MSPI of EAC Power systems for both Unit nos. 1 and 2 for the period August 2004 through July 2007 (36 month duration). Both Unit nos. 1 and 2 were "White" from the beginning of MSPI, implemented in April 2006, through September 2007. Thus, the addition of the failure would not have made BNP go White any sooner, and the failure dropped-off in August 2007, while BNP stayed White through September 2007. A review of the MSPI data identified the worst case month for this period as December 2006, and after applying the failure, the margin to the Yellow threshold decreased from about 54% margin to 41% margin remaining to the Yellow threshold. Thus, the addition of the MSPI failure on 08/14/2004 had no affect on the color of the indicator on either Unit 1 or Unit 2 during the respective timeframe. (Reference NCR 282146).



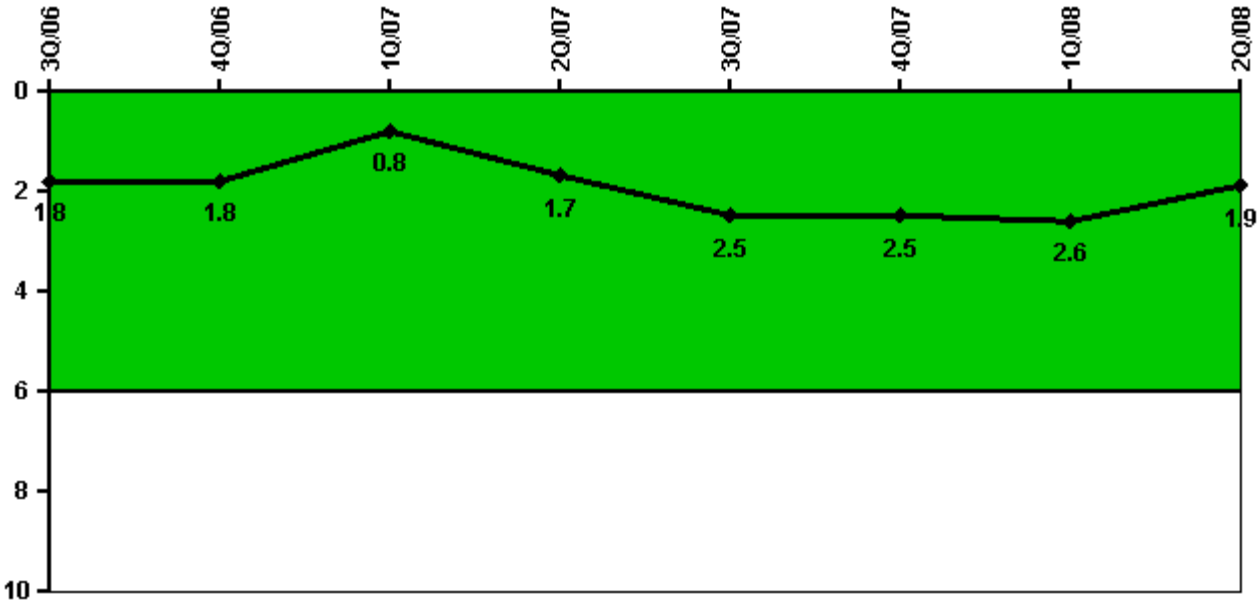
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	1923.3	2209.0	2159.0	2087.5	1915.5	2209.0	1778.0	1532.6
Indicator value	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



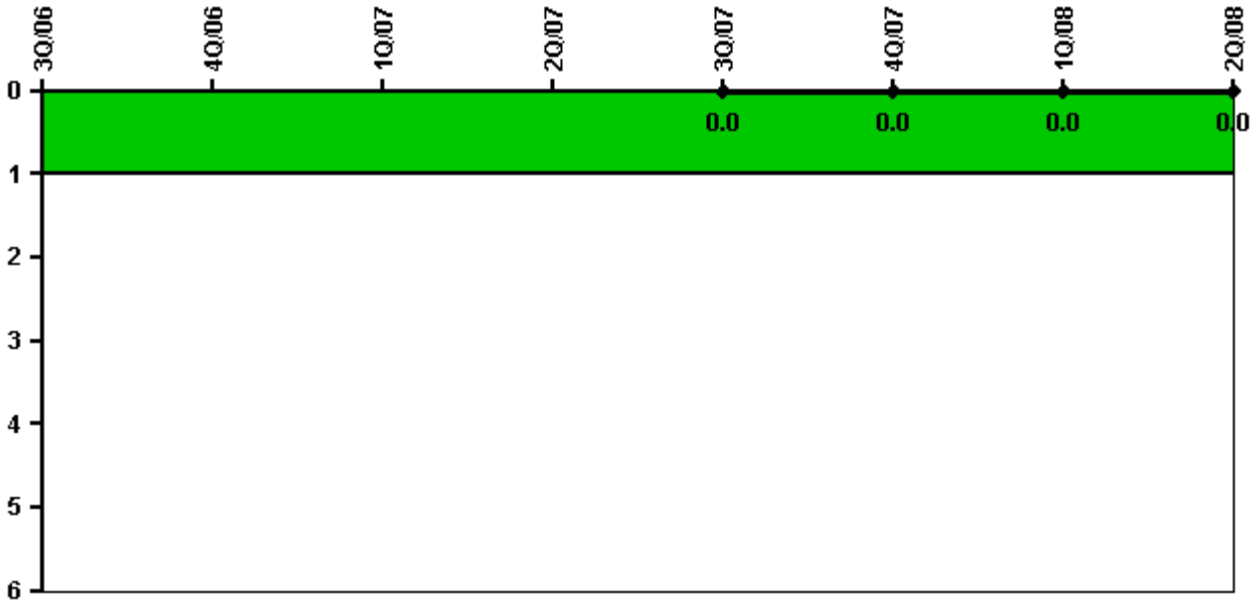
Thresholds: White > 6.0

Notes

Unplanned Power Changes per 7000 Critical Hrs	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
Unplanned power changes	1.0	0	0	1.0	2.0	0	0	0
Critical hours	1923.3	2209.0	2159.0	2087.5	1915.5	2209.0	1778.0	1532.6
Indicator value	**1.8**	**1.8**	**0.8**	**1.7**	**2.5**	**2.5**	**2.6**	**1.9**

Licensee Comments: none

Unplanned Scrams with Complications



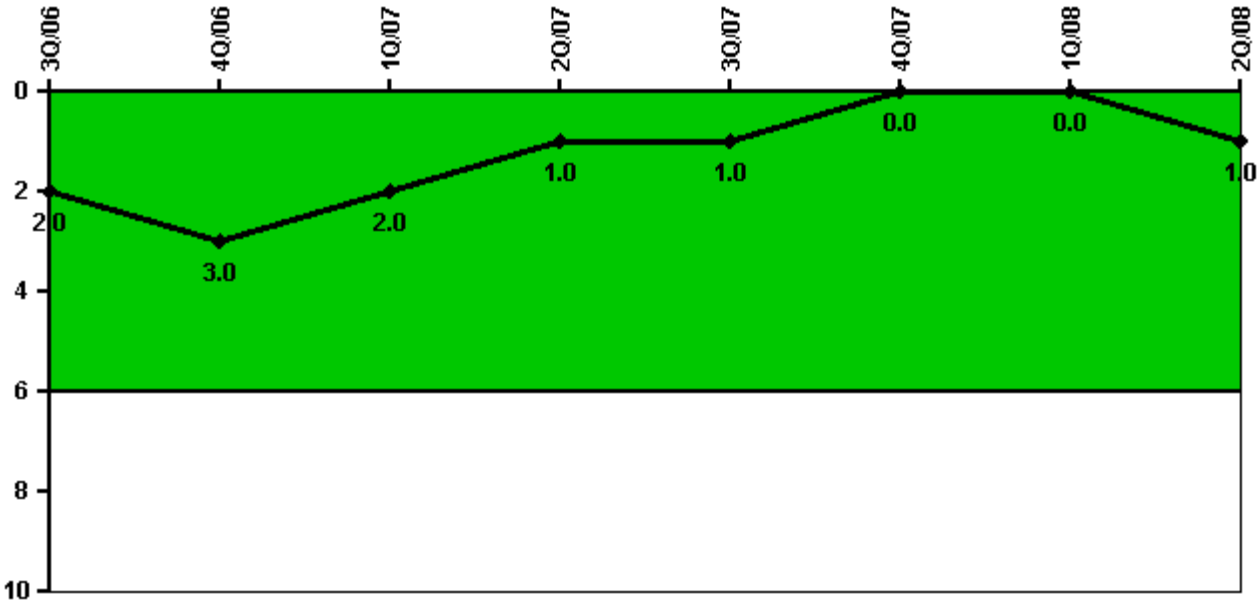
Thresholds: White > 1.0

Notes

Unplanned Scrams with Complications	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
Scrams with complications		0	0	0	0	0	0	0
Indicator value					**0.0**	**0.0**	**0.0**	**0.0**

Licensee Comments: none

Safety System Functional Failures (BWR)



Thresholds: White > 6.0

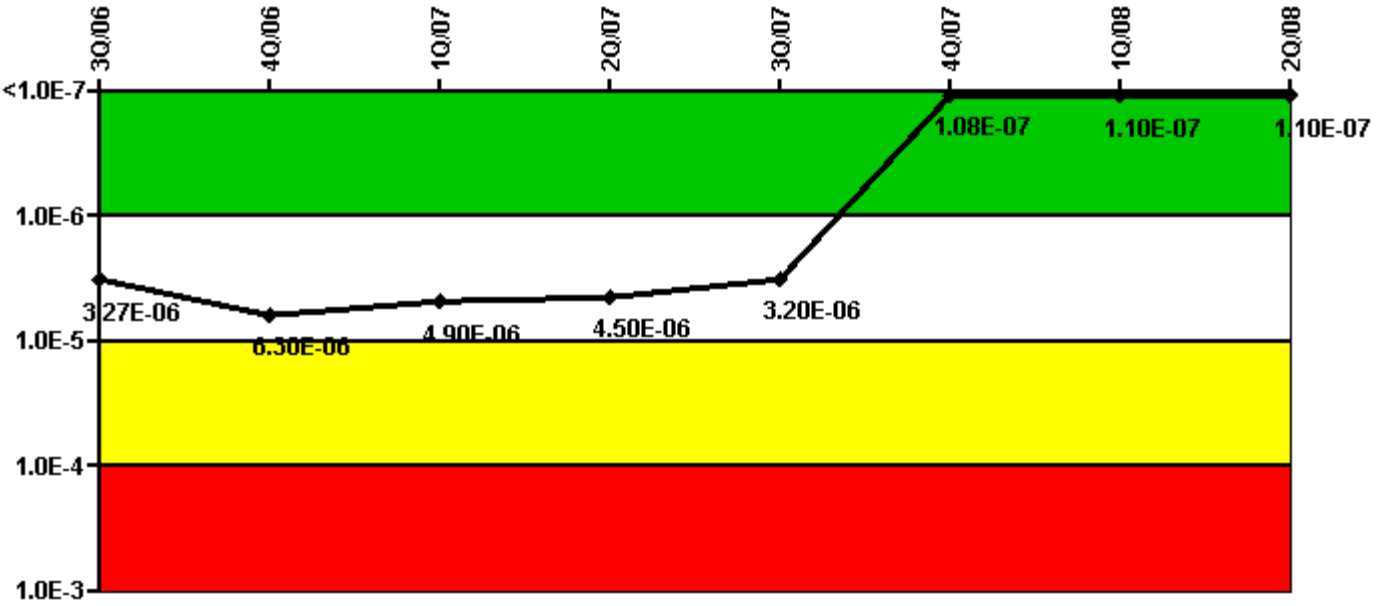
Notes

Safety System Functional Failures (BWR)	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
Safety System Functional Failures	0	1	0	0	0	0	0	1
Indicator value	**2**	**3**	**2**	**1**	**1**	**0**	**0**	**1**

Licensee Comments:

2Q/08: LER 1-2008-01 was submitted in June due to a HPCI main pump seal failure, resulting in an event or condition that could have prevented fulfillment of a safety function. An engineering evaluation is ongoing, and based on preliminary results, the HPCI system has been determined to meet its intended safety function. Upon finalization of the evaluation, this LER is expected to be withdrawn.

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/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
UAI (ΔCDF)	3.70E-07	1.20E-06	1.30E-06	1.80E-06	1.60E-06	1.70E-08	1.90E-08	2.00E-08
URI (ΔCDF)	2.90E-06	5.10E-06	3.60E-06	2.70E-06	1.60E-06	9.10E-08	9.10E-08	9.00E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**3.27E-06**	**6.30E-06**	**4.90E-06**	**4.50E-06**	**3.20E-06**	**1.08E-07**	**1.10E-07**	**1.10E-07**

Licensee Comments:

2Q/08: A Change File will be submitted for the re-classification of a failure on 08/14/2004 that affected the Emergency AC Power system MSPI for the period August 2004 through July 2007. The change did not affect the color of the indicator. See Change File for details.

2Q/07: Risk Cap Invoked. Added four trains/segments that include emergency bus cross-tie breakers that were previously inadvertently omitted. Unreliability data for the new segments is complete and entered, Unavailability data is not entered pending required changes to INPOs CDE software. PI color was unaffected and remains WHITE. WHITE threshold exceeded since inception of MSPI in 2Q2006 due to multiple failures and corresponding unavailability. Due to unique plant configuration, failures and unavailable hours of each diesel contribute to both Units 1 & 2.

1Q/07: Risk Cap Invoked. New PRA values were entered beginning 1st Quarter 2007 based on Revision 6 to the BNP Basis Document. EDG2 had a fail to start on 02/19/2007 due to a failed LPSCR relay. Also, an evaluation is pending for a potential MSPI failure to the Emergency AC Power system due to an E-bus cross-tie breaker found misaligned. This evaluation shall be complete prior to the end of the 2nd Quarter 2007. The MSPI for Unit 1 Emergency AC Power system remains WHITE since the 2nd Quarter of 2006.

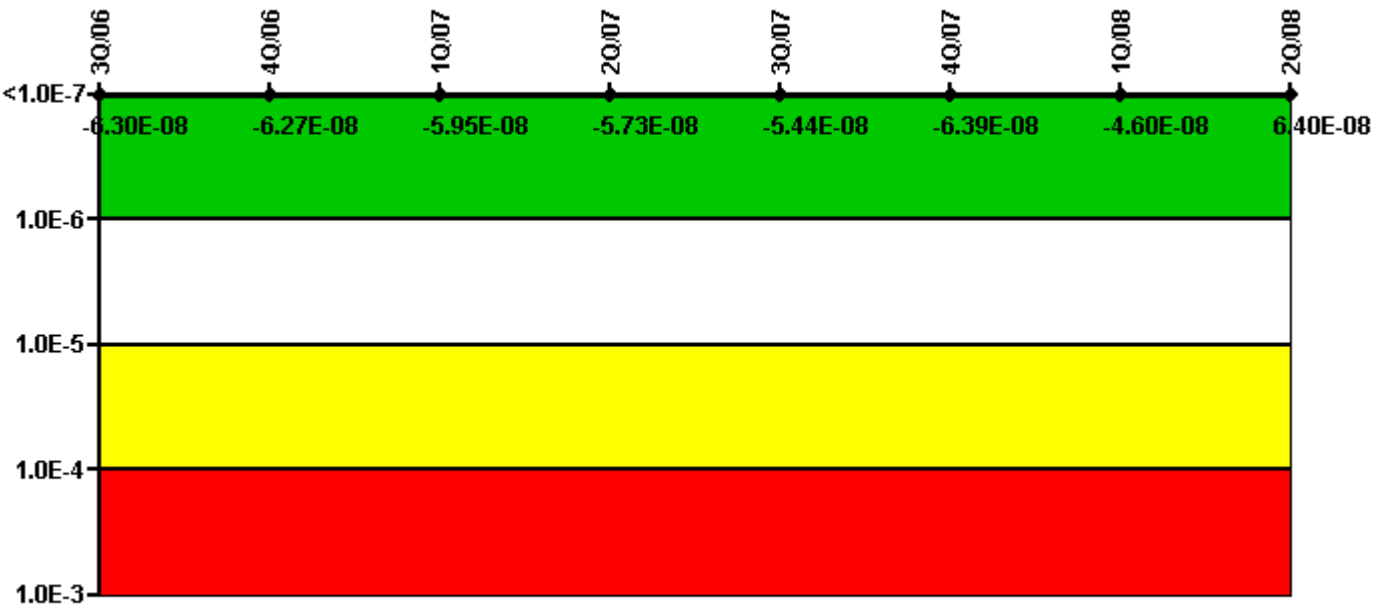
4Q/06: Risk Cap Invoked. Emergency AC power MSPI for Unit 1 remains WHITE from the previous quarter. White threshold exceeded due to increased unreliability factor of Emergency Diesel Generators (EDGs). There are currently seven MSPI failures between the four EDGs during the previous 36 months. Due to unique system configuration, failure on any one of four EDGs affects both Units.

3Q/06: Risk Cap Invoked. MS06: White threshold exceeded due to increased unreliability factor of Emergency Diesel Generators (EDGs). Six total MSPI failures between four DGs in the previous 36 months. Due to unique system configuration, failure on any one of four EDGs is counted against both Units. Revision to previously submitted data: Changed two MSPI failures from Start Demands to Load Run Demands, #1164 on 06/06/2004 and #1215 on

11/10/2004. Revised the Estimated Start and Load Run Demands in baseline. Indicator color unaffected. Change File created.

2Q/06: Risk Cap Invoked.

Mitigating Systems Performance Index, High Pressure Injection System



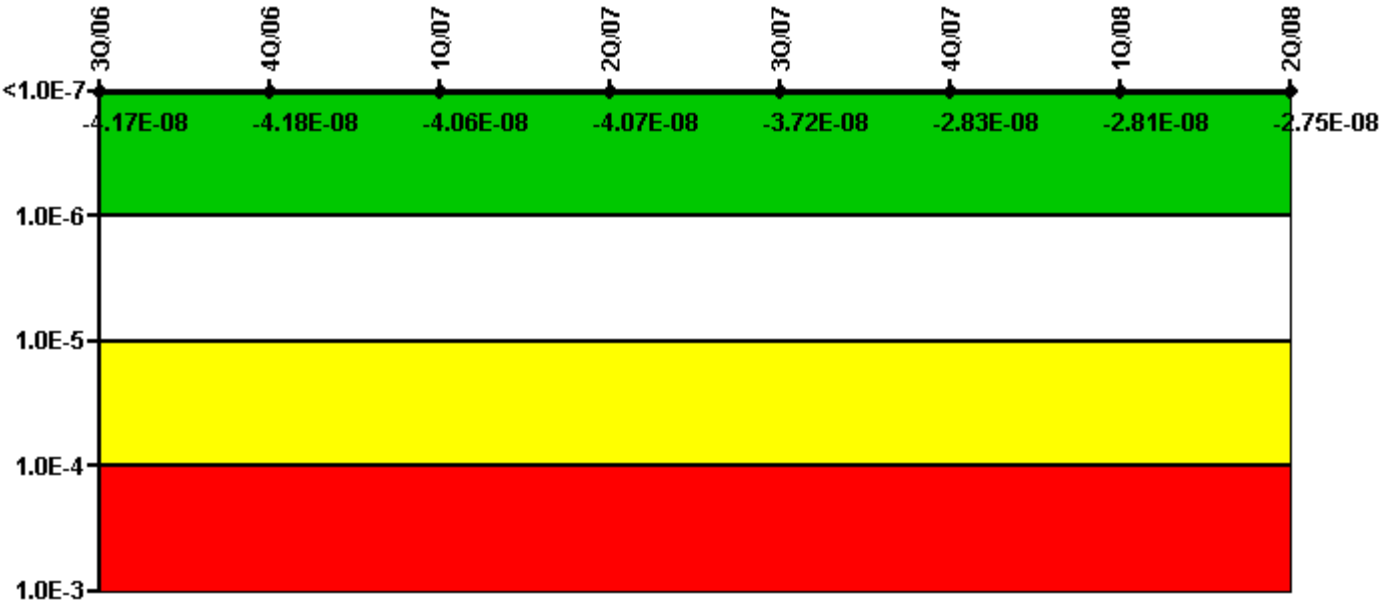
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

Mitigating Systems Performance Index, High Pressure Injection System	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
UAI (ΔCDF)	4.00E-09	4.30E-09	2.50E-09	4.70E-09	7.60E-09	3.10E-09	2.10E-08	1.00E-07
URI (ΔCDF)	-6.70E-08	-6.70E-08	-6.20E-08	-6.20E-08	-6.20E-08	-6.70E-08	-6.70E-08	-3.60E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-6.30E-08**	**-6.27E-08**	**-5.95E-08**	**-5.73E-08**	**-5.44E-08**	**-6.39E-08**	**-4.60E-08**	**6.40E-08**

Licensee Comments: none

Mitigating Systems Performance Index, Heat Removal System



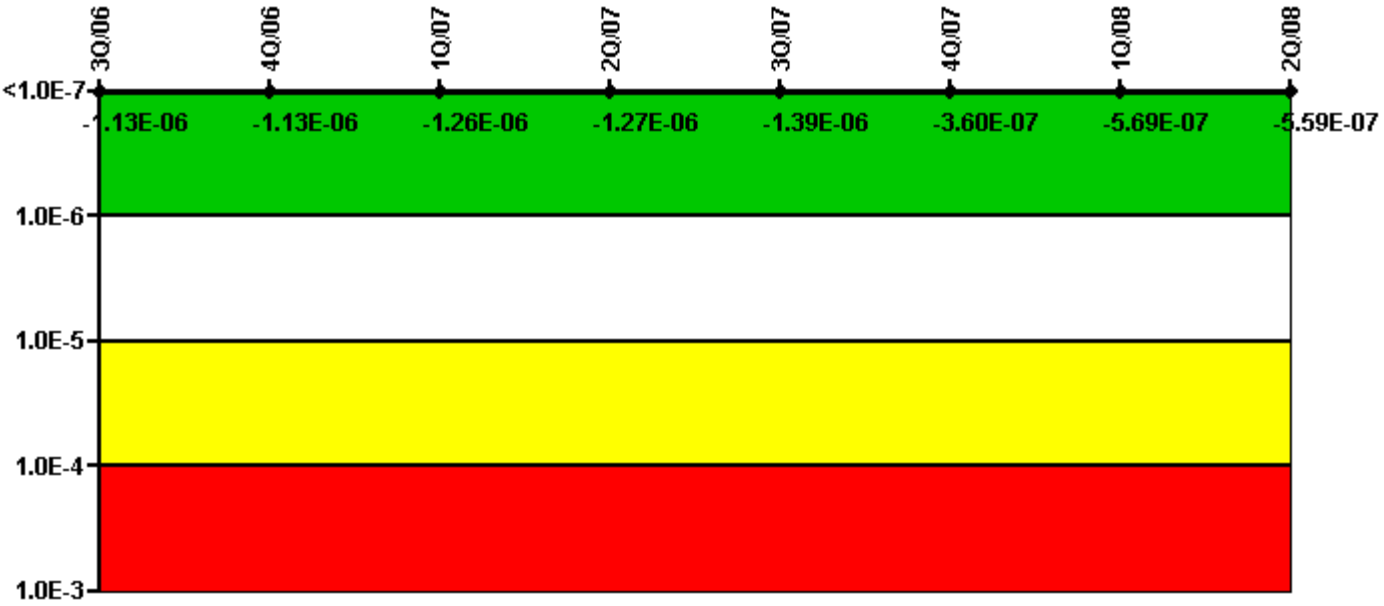
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

Mitigating Systems Performance Index, Heat Removal System	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
UAI (ΔCDF)	-6.70E-09	-6.80E-09	-7.60E-09	-7.70E-09	-4.20E-09	6.90E-10	8.80E-10	1.50E-09
URI (ΔCDF)	-3.50E-08	-3.50E-08	-3.30E-08	-3.30E-08	-3.30E-08	-2.90E-08	-2.90E-08	-2.90E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-4.17E-08**	**-4.18E-08**	**-4.06E-08**	**-4.07E-08**	**-3.72E-08**	**-2.83E-08**	**-2.81E-08**	**-2.75E-08**

Licensee Comments: none

Mitigating Systems Performance Index, Residual Heat Removal System



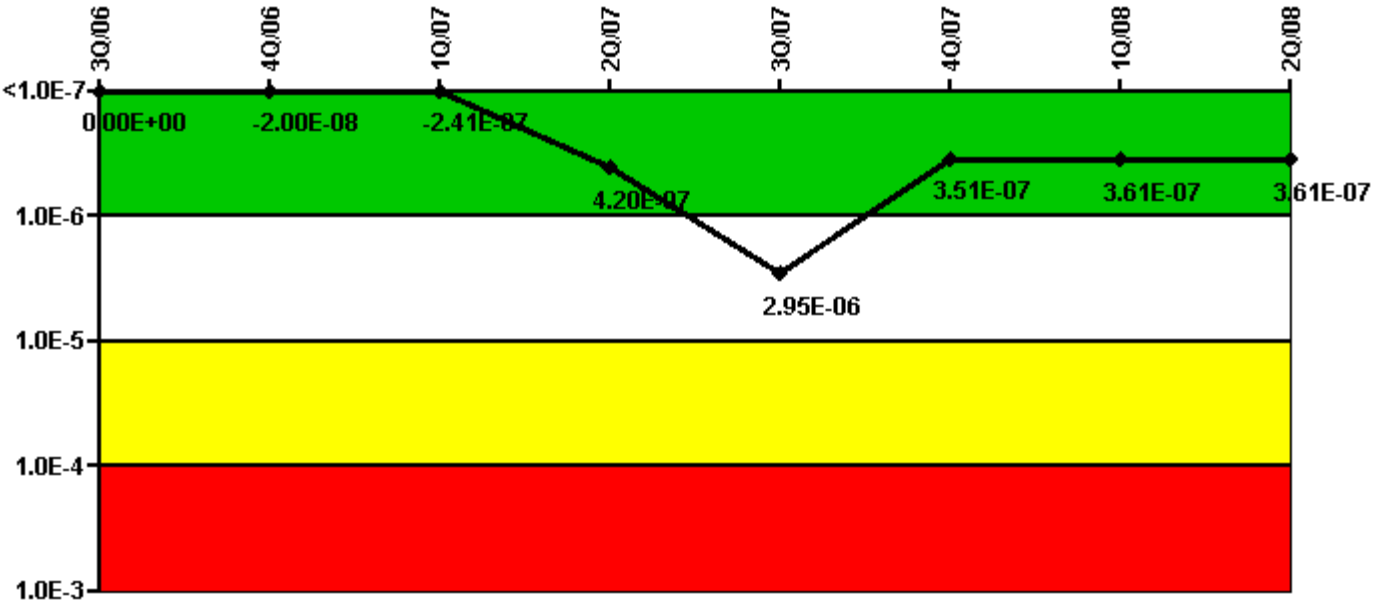
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

Mitigating Systems Performance Index, Residual Heat Removal System	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
UAI (ΔCDF)	6.70E-07	6.70E-07	6.40E-07	6.30E-07	5.10E-07	1.10E-07	-9.90E-08	-9.90E-08
URI (ΔCDF)	-1.80E-06	-1.80E-06	-1.90E-06	-1.90E-06	-1.90E-06	-4.70E-07	-4.70E-07	-4.60E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-1.13E-06**	**-1.13E-06**	**-1.26E-06**	**-1.27E-06**	**-1.39E-06**	**-3.60E-07**	**-5.69E-07**	**-5.59E-07**

Licensee Comments: none

Mitigating Systems Performance Index, Cooling Water Systems



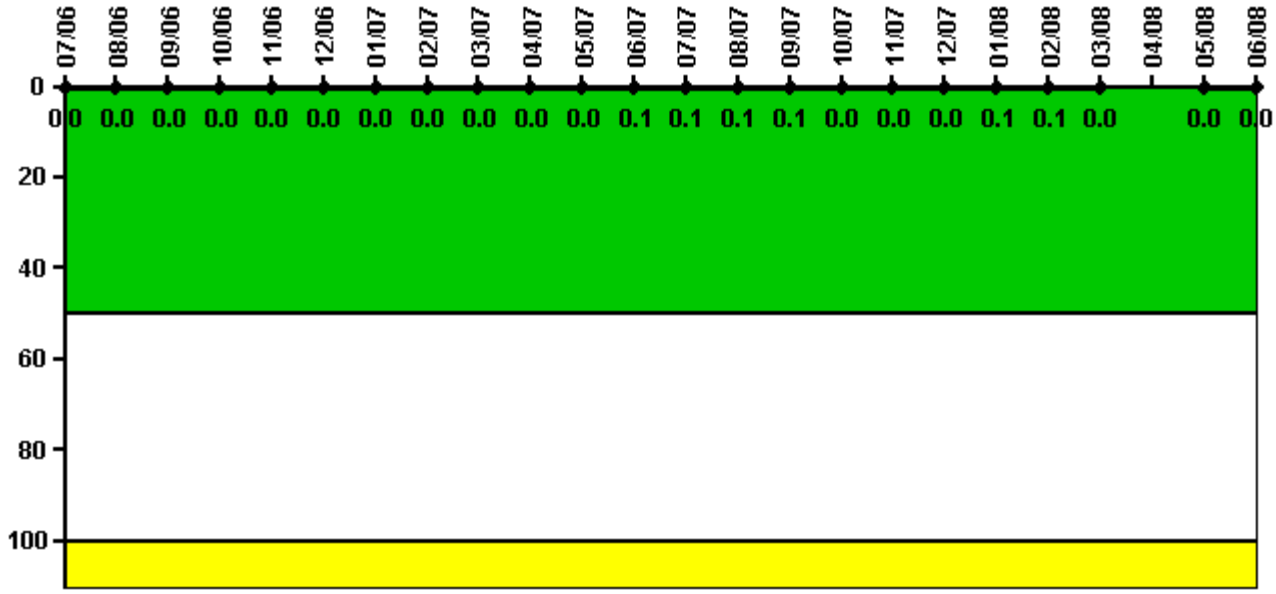
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

Mitigating Systems Performance Index, Cooling Water Systems	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
UAI (ΔCDF)	2.20E-07	2.00E-07	-1.40E-09	7.00E-07	2.70E-06	3.10E-07	3.20E-07	3.20E-07
URI (ΔCDF)	-2.20E-07	-2.20E-07	-2.40E-07	-2.80E-07	2.50E-07	4.10E-08	4.10E-08	4.10E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**0.00E+00**	**-2.00E-08**	**-2.41E-07**	**4.20E-07**	**2.95E-06**	**3.51E-07**	**3.61E-07**	**3.61E-07**

Licensee Comments: none

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

Notes

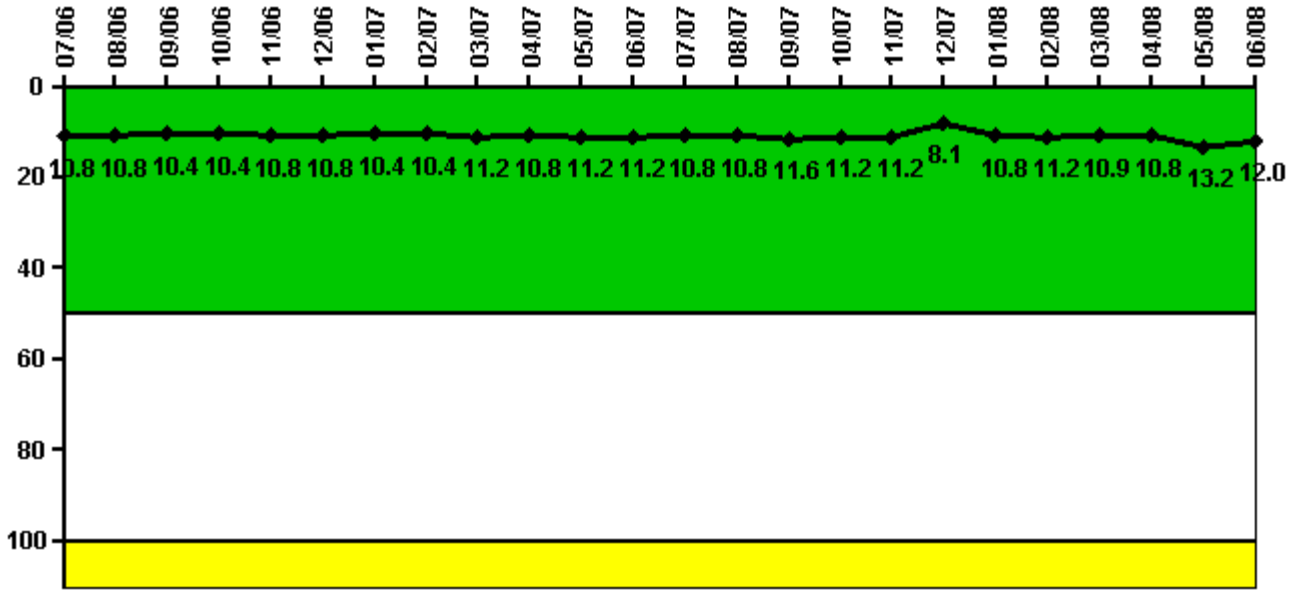
Reactor Coolant System Activity	7/06	8/06	9/06	10/06	11/06	12/06	1/07	2/07	3/07	4/07	5/07	6/07
Maximum activity	0.000085	0.000089	0.000090	0.000057	0.000091	0.000089	0.000095	0.000074	0.000099	0.000097	0.000099	0.000127
Technical specification limit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Indicator value	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.1**

Reactor Coolant System Activity	7/07	8/07	9/07	10/07	11/07	12/07	1/08	2/08	3/08	4/08	5/08	6/08
Maximum activity	0.000104	0.000103	0.000135	0.000098	0.000096	0.000096	0.000130	0.000169	0.000089	N/A	0.000057	0.000058
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	**0.1**	**0.1**	**0.1**	**0**	**0**	**0**	**0.1**	**0.1**	**0**	**N/A**	**0**	**0**

Licensee Comments:

6/08: Per the guidelines, RCSA not provided in April because steady state conditions did not exist due to the refuel outage and subsequent startup.

Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

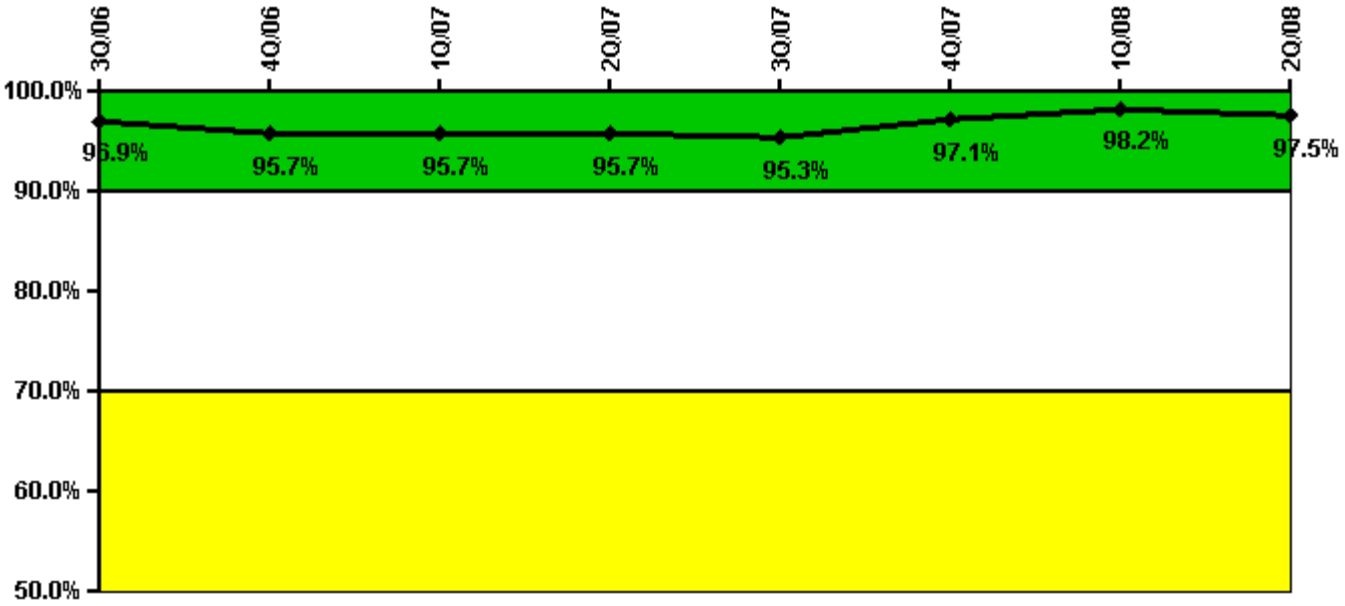
Notes

Reactor Coolant System Leakage	7/06	8/06	9/06	10/06	11/06	12/06	1/07	2/07	3/07	4/07	5/07	6/07
Maximum leakage	2.700	2.700	2.600	2.600	2.700	2.700	2.600	2.600	2.800	2.700	2.800	2.800
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	**10.8**	**10.8**	**10.4**	**10.4**	**10.8**	**10.8**	**10.4**	**10.4**	**11.2**	**10.8**	**11.2**	**11.2**

Reactor Coolant System Leakage	7/07	8/07	9/07	10/07	11/07	12/07	1/08	2/08	3/08	4/08	5/08	6/08
Maximum leakage	2.700	2.700	2.900	2.800	2.800	2.020	2.700	2.800	2.730	2.700	3.300	3.000
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	**10.8**	**10.8**	**11.6**	**11.2**	**11.2**	**8.1**	**10.8**	**11.2**	**10.9**	**10.8**	**13.2**	**12.0**

Licensee Comments: none

Drill/Exercise Performance



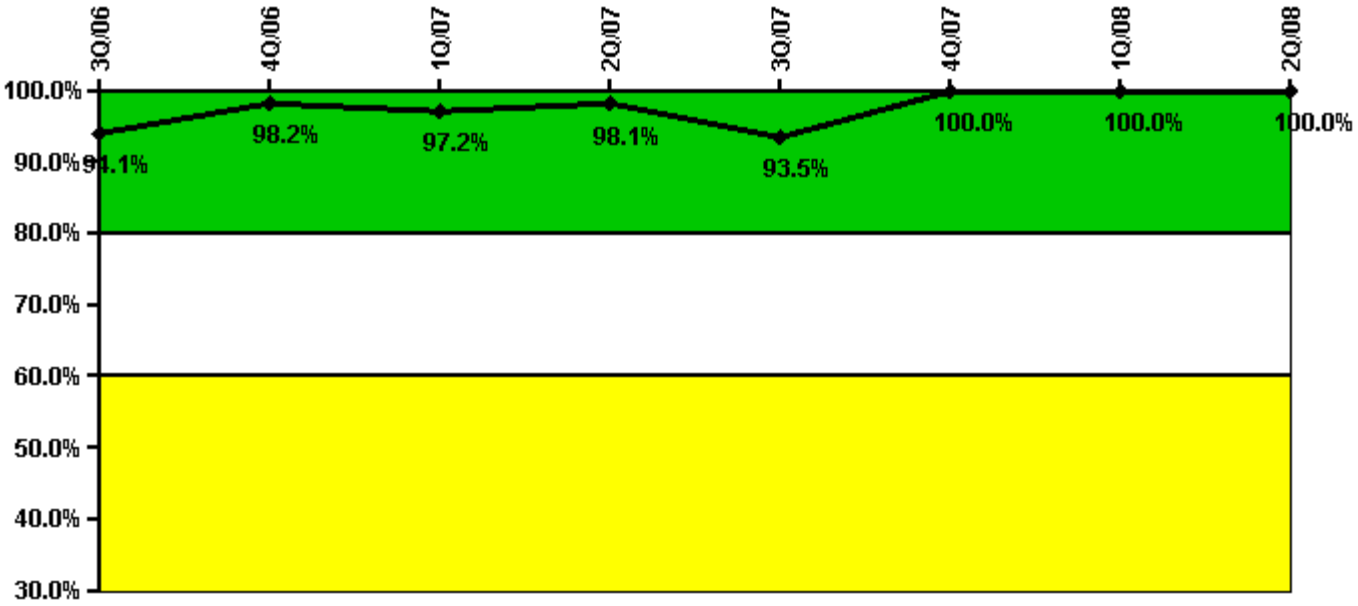
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
Successful opportunities	7.0	26.0	0	13.0	18.0	38.0	0	13.0
Total opportunities	7.0	28.0	0	13.0	18.0	38.0	0	14.0
Indicator value	**96.9%**	**95.7%**	**95.7%**	**95.7%**	**95.3%**	**97.1%**	**98.2%**	**97.5%**

Licensee Comments: none

ERO Drill Participation



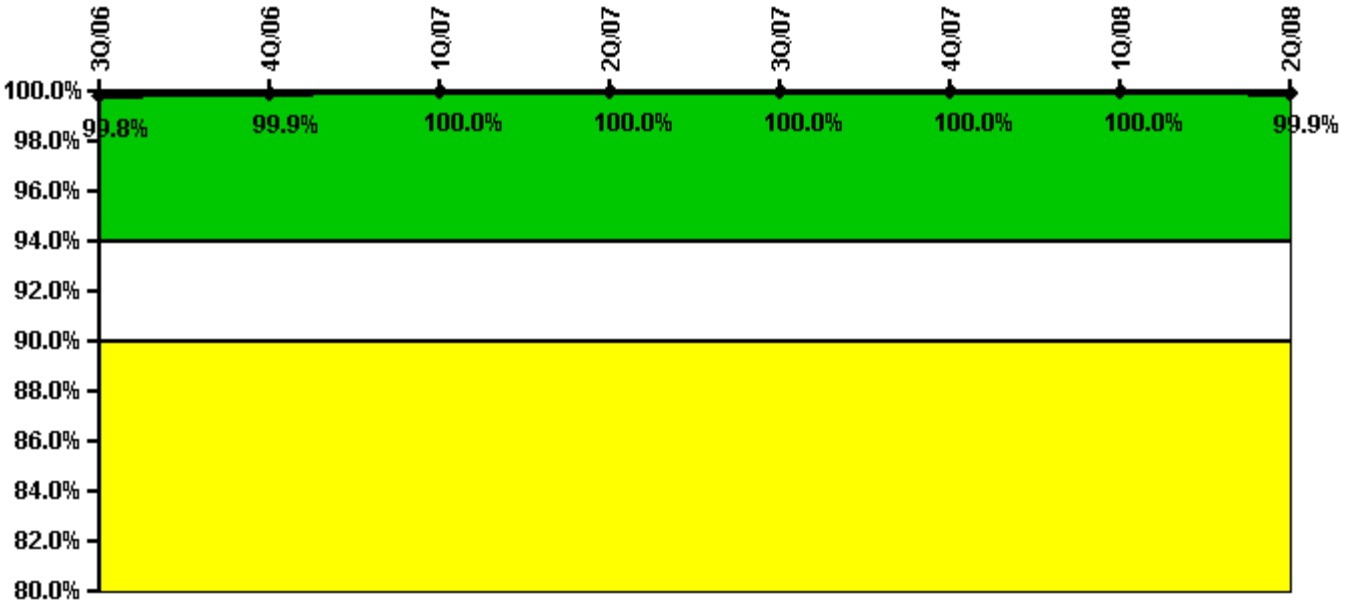
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
Participating Key personnel	95.0	108.0	104.0	105.0	101.0	102.0	97.0	95.0
Total Key personnel	101.0	110.0	107.0	107.0	108.0	102.0	97.0	95.0
Indicator value	**94.1%**	**98.2%**	**97.2%**	**98.1%**	**93.5%**	**100.0%**	**100.0%**	**100.0%**

Licensee Comments: none

Alert & Notification System



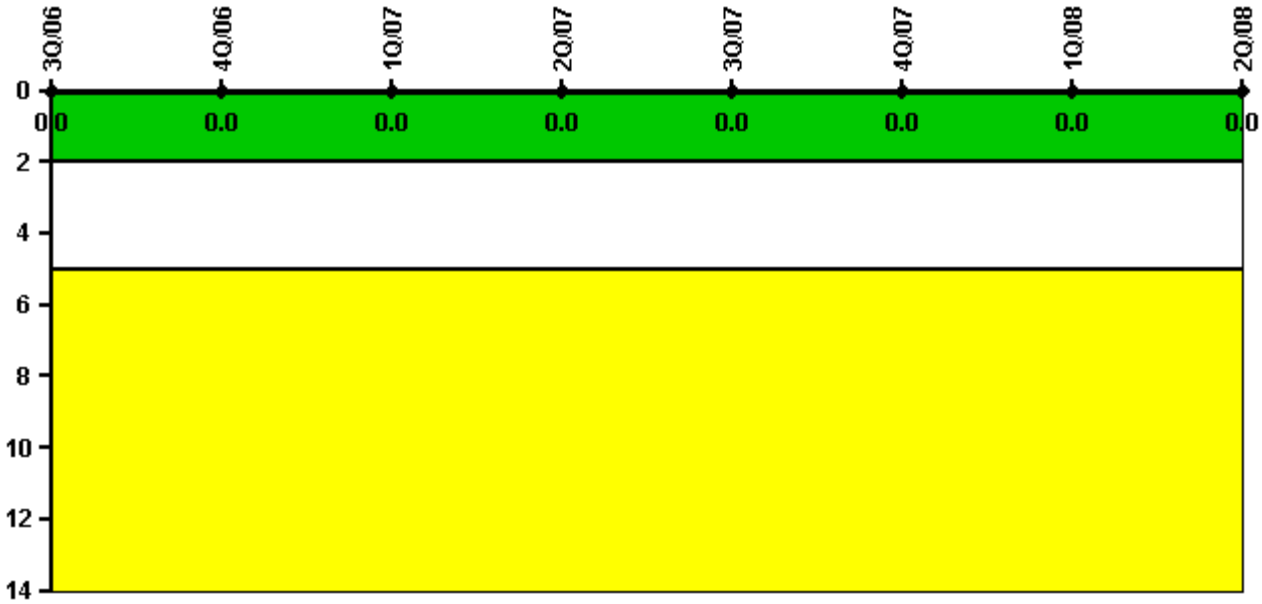
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
Successful siren-tests	504	560	532	532	532	569	532	531
Total sirens-tests	504	560	532	532	532	570	532	532
Indicator value	**99.8%**	**99.9%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**99.9%**

Licensee Comments: none

Occupational Exposure Control Effectiveness



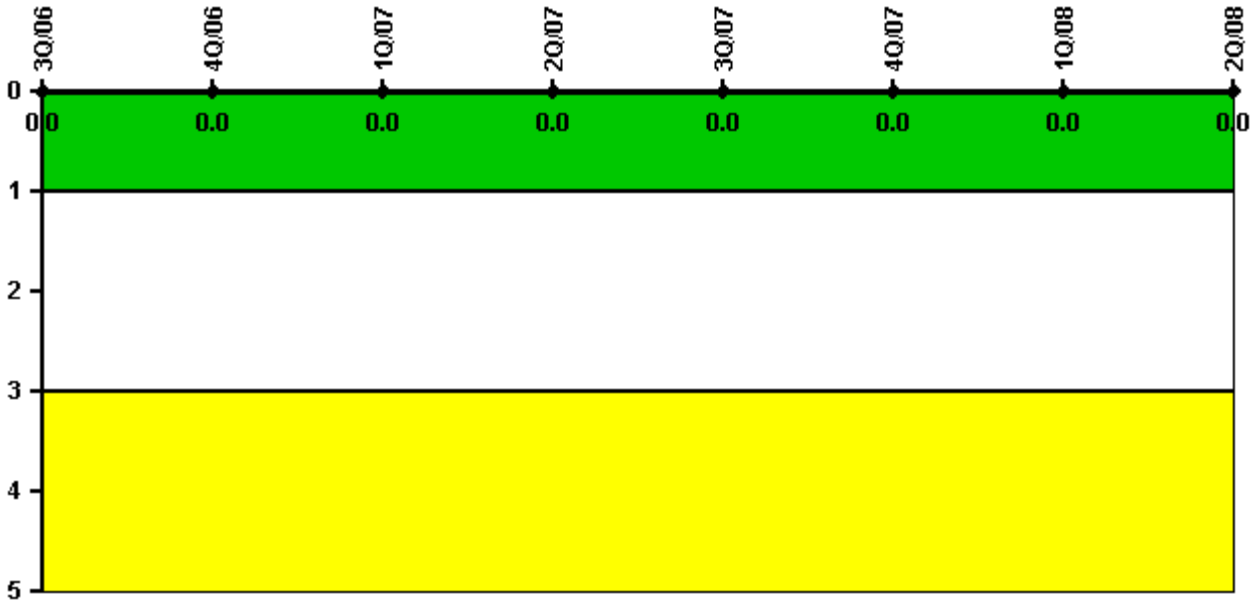
Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
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	3Q/06	4Q/06	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08
RETS/ODCM occurrences	0	0	0	0	0	0	0	0
Indicator value	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Licensee Comments: none

Physical Protection information not publicly available.

▲ Action Matrix Summary | Inspection Findings Summary | PI Summary | Reactor Oversight Process

Last Modified: August 4, 2008