

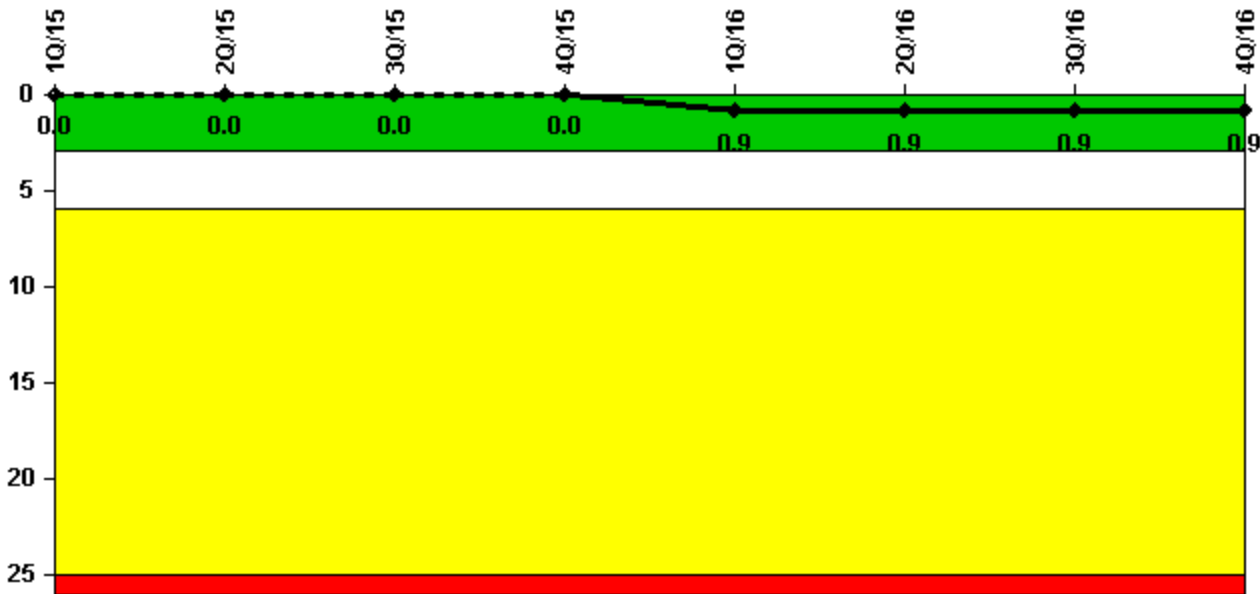
Brunswick 1

4Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs



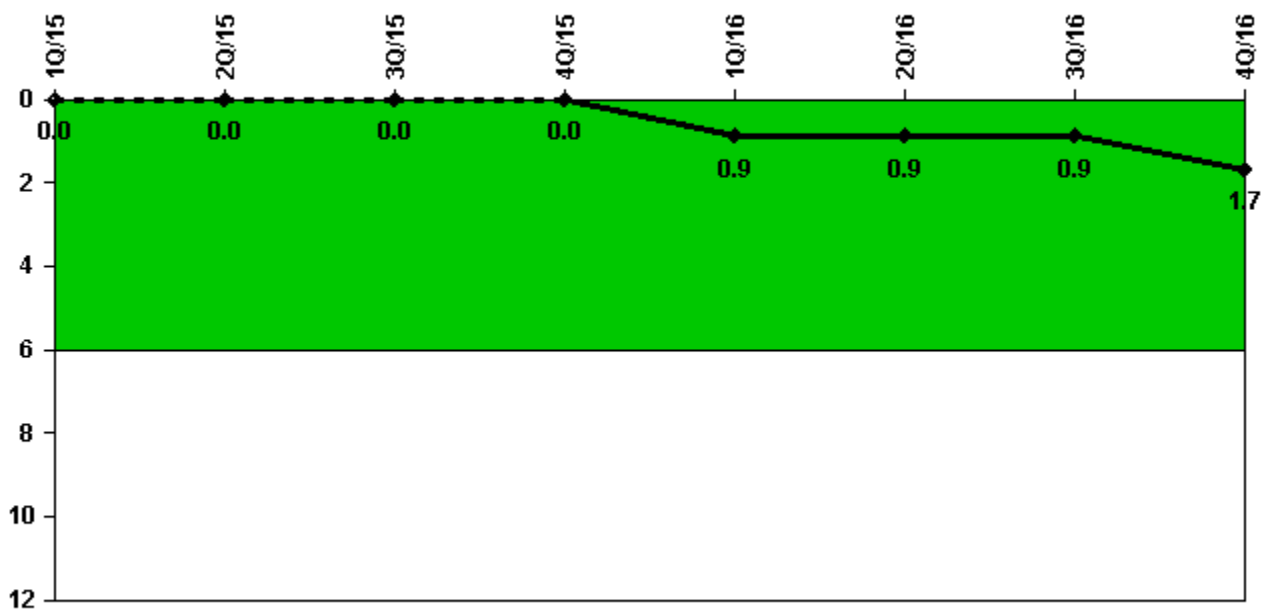
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Unplanned scrams	0	0	0	0	1.0	0	0	0
Critical hours	2159.0	2184.0	2208.0	2127.2	1421.2	2184.0	2208.0	2209.0
Indicator value	0	0	0	0	0.9	0.9	0.9	0.9

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



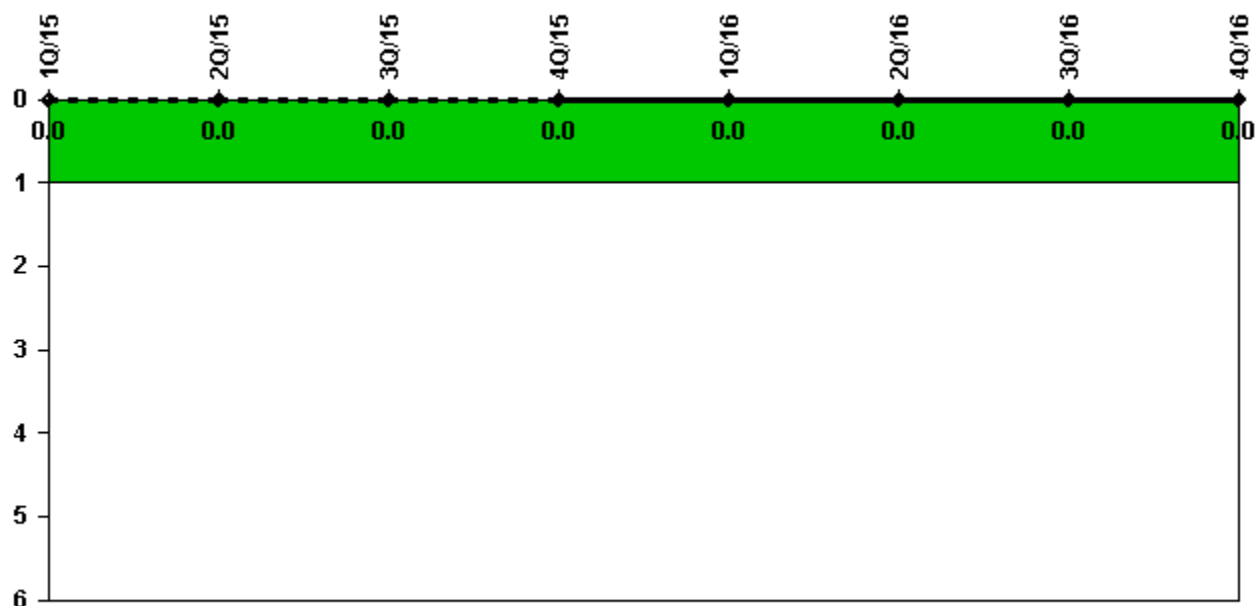
Thresholds: White > 6.0

Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Unplanned power changes	0	0	0	0	1.0	0	0	1.0
Critical hours	2159.0	2184.0	2208.0	2127.2	1421.2	2184.0	2208.0	2209.0
Indicator value	0	0	0	0	0.9	0.9	0.9	1.7

Licensee Comments: none

Unplanned Scrams with Complications



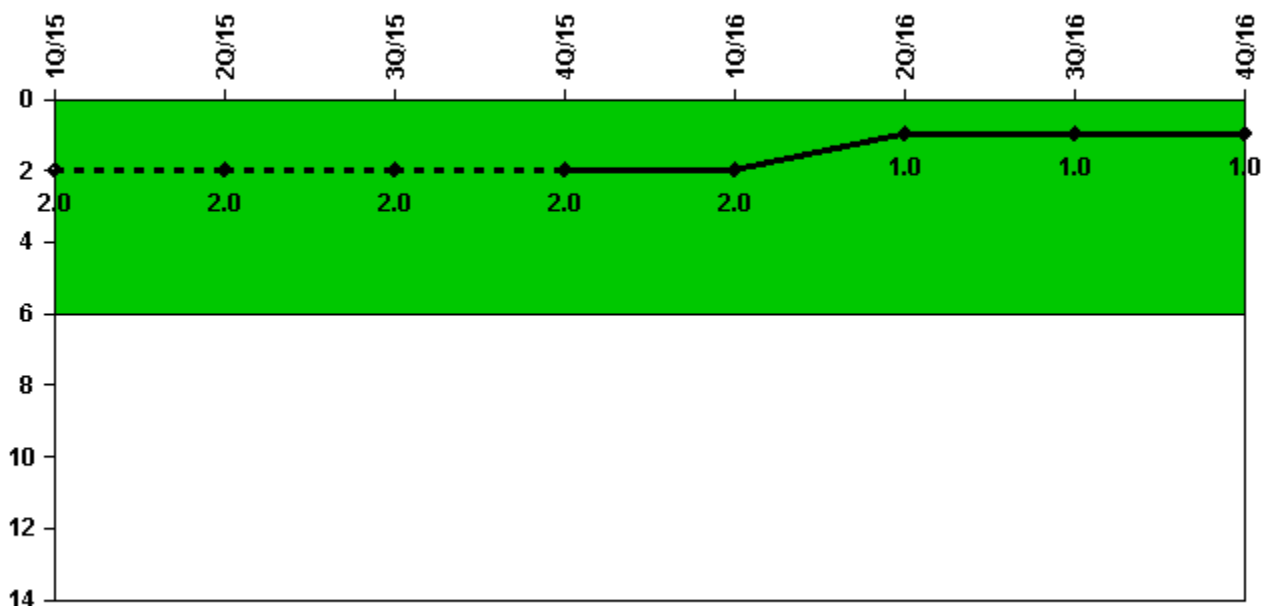
Thresholds: White > 1.0

Notes

Unplanned Scrams with Complications	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
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

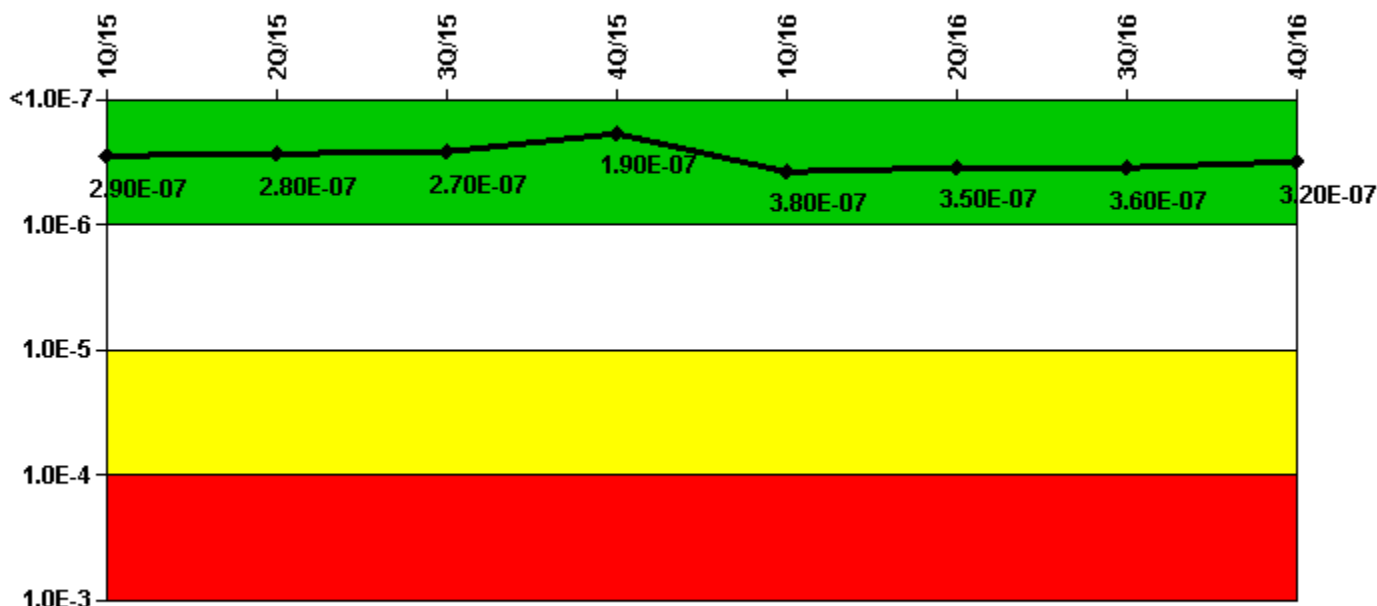
Safety System Functional Failures (BWR)	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Safety System Functional Failures	0	2	0	0	0	1	0	0
Indicator value	2	2	2	2	2	1	1	1

Licensee Comments:

2Q/16: LER 1-2016-002, dated 5/2/16, reported one event where EDG 3 failed to start and was considered inoperable. Therefore, this event was counted as a SSFF. This was applicable to both Unit 1 and 2.

2Q/15: LER 1-2015-001, dated 4/10/15, reported one event where the failure of the associated Auxiliary Oil pump for the HPCI system rendered the system inoperable and was considered a SSFF. LER 1-2015-002, dated 5/20/15, reported one event where DG3 and DG4 were simultaneously inoperable and considered a SSFF for the onsite standby AC power source. LER 1-2015-002 counted for both Unit 1 and Unit 2.

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	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI (ΔCDF)	1.41E-07	1.30E-07	1.24E-07	1.14E-07	1.68E-07	1.36E-07	1.42E-07	1.02E-07
URI (ΔCDF)	1.45E-07	1.46E-07	1.46E-07	7.27E-08	2.13E-07	2.14E-07	2.14E-07	2.14E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.90E-07	2.80E-07	2.70E-07	1.90E-07	3.80E-07	3.50E-07	3.60E-07	3.20E-07

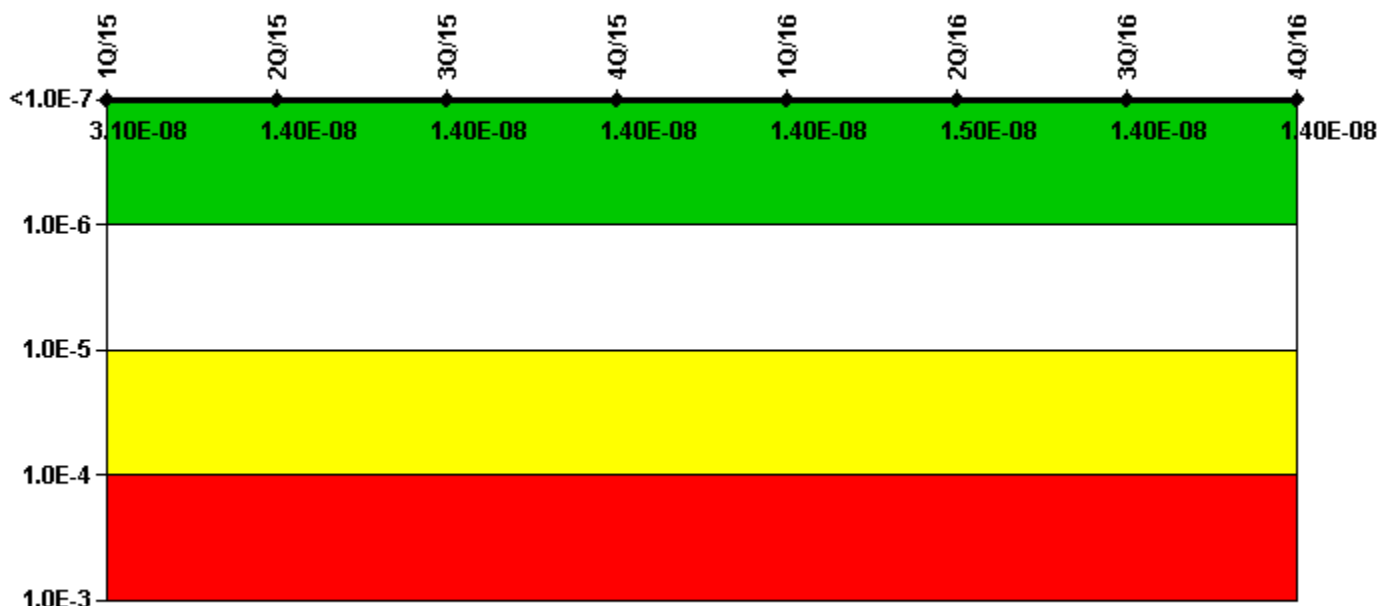
Licensee Comments:

1Q/16: Planned unavailability hours were adjusted for March 2016 on the Emergency Diesel Generators due to double counting of hours that was discovered during a review of Operations logs and the CDE database. This adjustment did not affect the color of the EAC MPSI indicator.

2Q/15: Planned unavailability hours were adjusted due to missing engine barring on Emergency Diesel Generator #2 in April 2015. This adjustment did not affect the color of the EAC MPSI indicator.

1Q/15: Planned unavailability hours were adjusted on the Emergency Diesel Generators due to missing a performance test ran in January 2015. This adjustment did not affect the color of the EAC MPSI indicator.

Mitigating Systems Performance Index, High Pressure Injection System



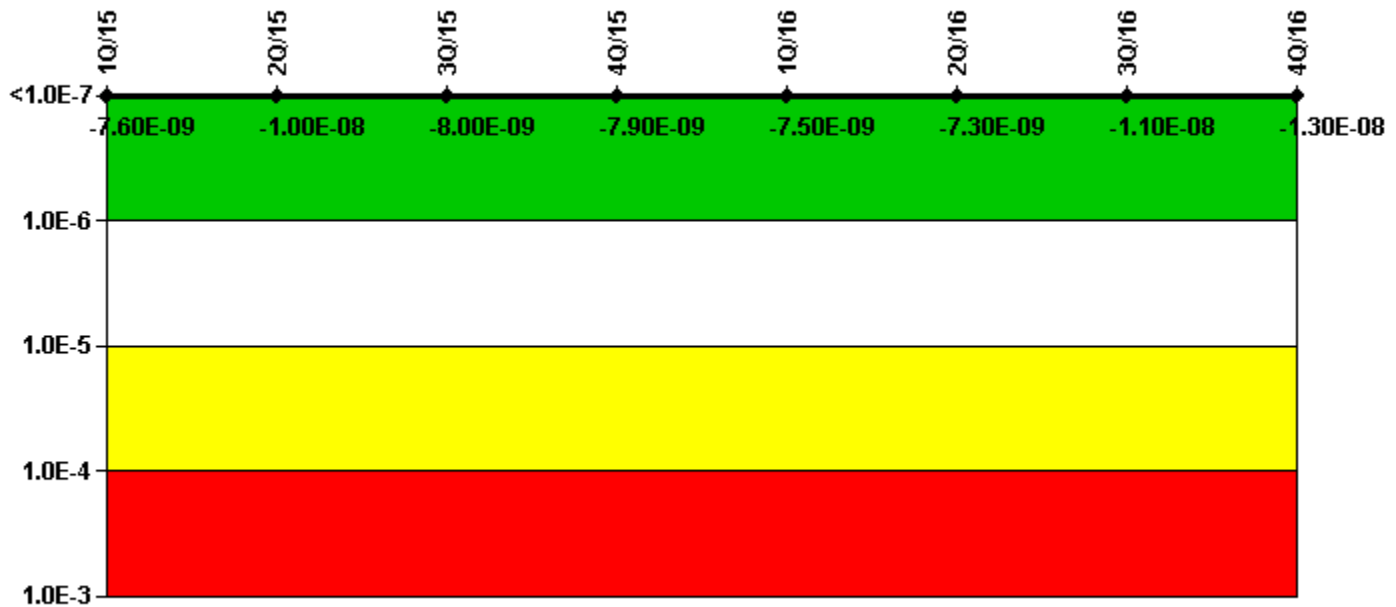
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

Mitigating Systems Performance Index, High Pressure Injection System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI (Δ CDF)	9.55E-09	6.87E-09	6.40E-09	6.43E-09	6.91E-09	7.34E-09	6.45E-09	6.44E-09
URI (Δ CDF)	2.10E-08	7.25E-09	7.25E-09	7.25E-09	7.25E-09	7.25E-09	7.25E-09	7.25E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.10E-08	1.40E-08	1.40E-08	1.40E-08	1.40E-08	1.50E-08	1.40E-08	1.40E-08

Licensee Comments: none

Mitigating Systems Performance Index, Heat Removal System



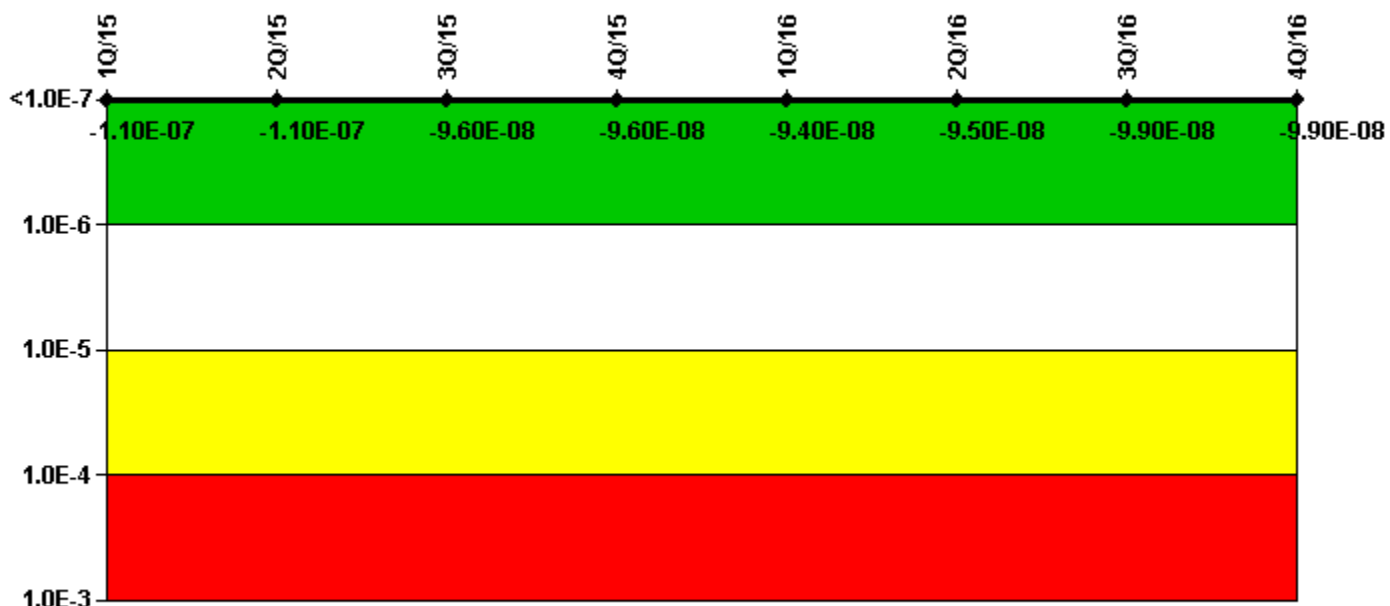
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

Mitigating Systems Performance Index, Heat Removal System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI (Δ CDF)	2.64E-09	-2.23E-10	2.21E-09	2.26E-09	2.64E-09	2.91E-09	-3.76E-10	-3.25E-09
URI (Δ CDF)	-1.02E-08	-1.02E-08	-1.02E-08	-1.02E-08	-1.02E-08	-1.02E-08	-1.02E-08	-1.02E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.60E-09	-1.00E-08	-8.00E-09	-7.90E-09	-7.50E-09	-7.30E-09	-1.10E-08	-1.30E-08

Licensee Comments: none

Mitigating Systems Performance Index, Residual Heat Removal System



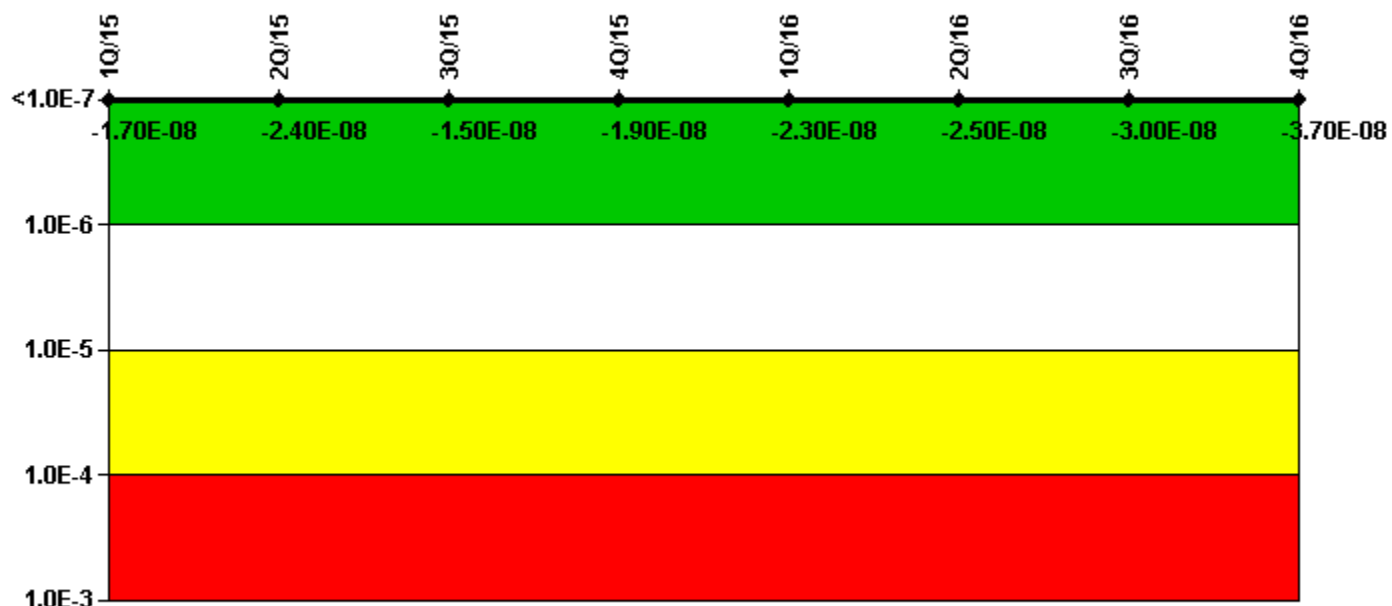
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

Mitigating Systems Performance Index, Residual Heat Removal System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI (Δ CDF)	-3.45E-08	-3.45E-08	-2.47E-08	-2.45E-08	-2.26E-08	-2.33E-08	-2.74E-08	-2.77E-08
URI (Δ CDF)	-7.13E-08	-7.13E-08	-7.13E-08	-7.13E-08	-7.13E-08	-7.13E-08	-7.13E-08	-7.13E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.10E-07	-1.10E-07	-9.60E-08	-9.60E-08	-9.40E-08	-9.50E-08	-9.90E-08	-9.90E-08

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	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI (ΔCDF)	-2.66E-09	-9.05E-09	-3.25E-10	-4.59E-09	-8.56E-09	-9.59E-09	-1.44E-08	-2.18E-08
URI (ΔCDF)	-1.48E-08	-1.48E-08	-1.48E-08	-1.48E-08	-1.48E-08	-1.56E-08	-1.56E-08	-1.56E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.70E-08	-2.40E-08	-1.50E-08	-1.90E-08	-2.30E-08	-2.50E-08	-3.00E-08	-3.70E-08

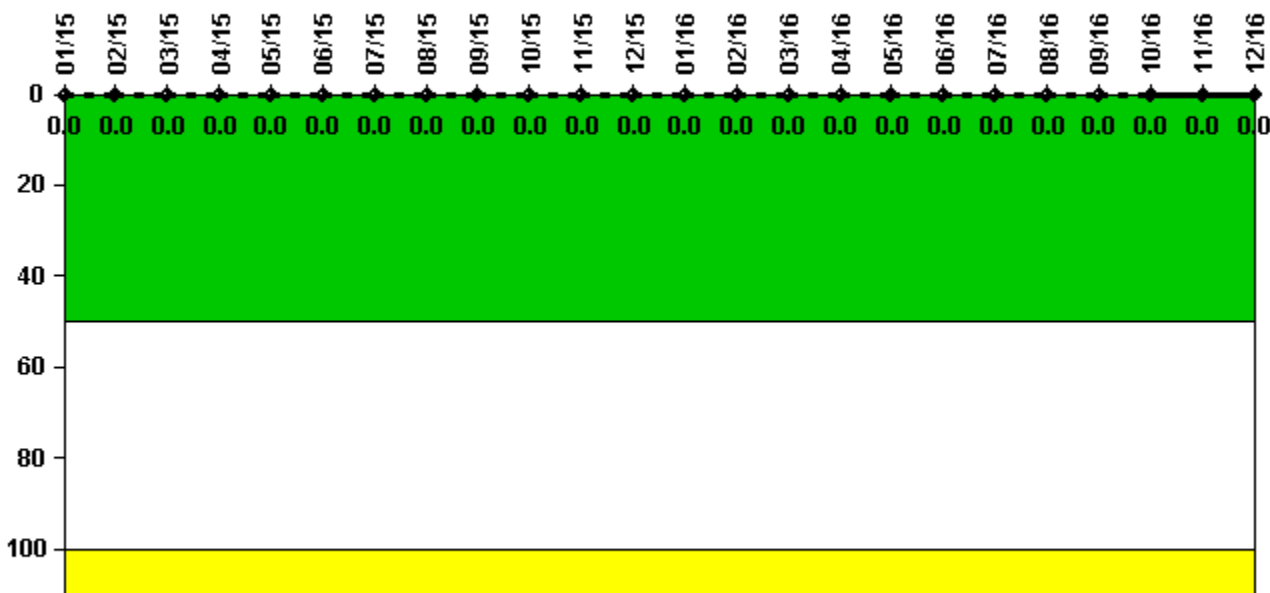
Licensee Comments:

3Q/15: Changed PRA Parameter(s). The MSPI Basis document (BNP-PSA-069), Revision 13, was approved on 3/24/14 that corrected data for the Service Water (Cooling Water) pump alignments and various valves. This data was not updated within CDE until 8/24/15 due to lack of communication of the change to the MSPI Basis Document. CDE values for Cooling Water were updated back to the approval date of the MSPI Basis Document. No thresholds were crossed due to this change and the greatest delta in calculated unavailability margin due to this change was only 3%.

2Q/15: Changed PRA Parameter(s). The MSPI Basis document (BNP-PSA-069), Revision 13, was approved on 3/24/14 that corrected data for the Service Water (Cooling Water) pump alignments and various valves. This data was not updated within CDE until 8/24/15 due to lack of communication of the change to the MSPI Basis Document. CDE values for Cooling Water were updated back to the approval date of the MSPI Basis Document. No thresholds were crossed due to this change and the greatest delta in calculated unavailability margin due to this change was only 3%.

1Q/15: Changed PRA Parameter(s). The MSPI Basis document (BNP-PSA-069), Revision 13, was approved on 3/24/14 that corrected data for the Service Water (Cooling Water) pump alignments and various valves. This data was not updated within CDE until 8/24/15 due to lack of communication of the change to the MSPI Basis Document. CDE values for Cooling Water were updated back to the approval date of the MSPI Basis Document. No thresholds were crossed due to this change and the greatest delta in calculated unavailability margin due to this change was only 3%.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

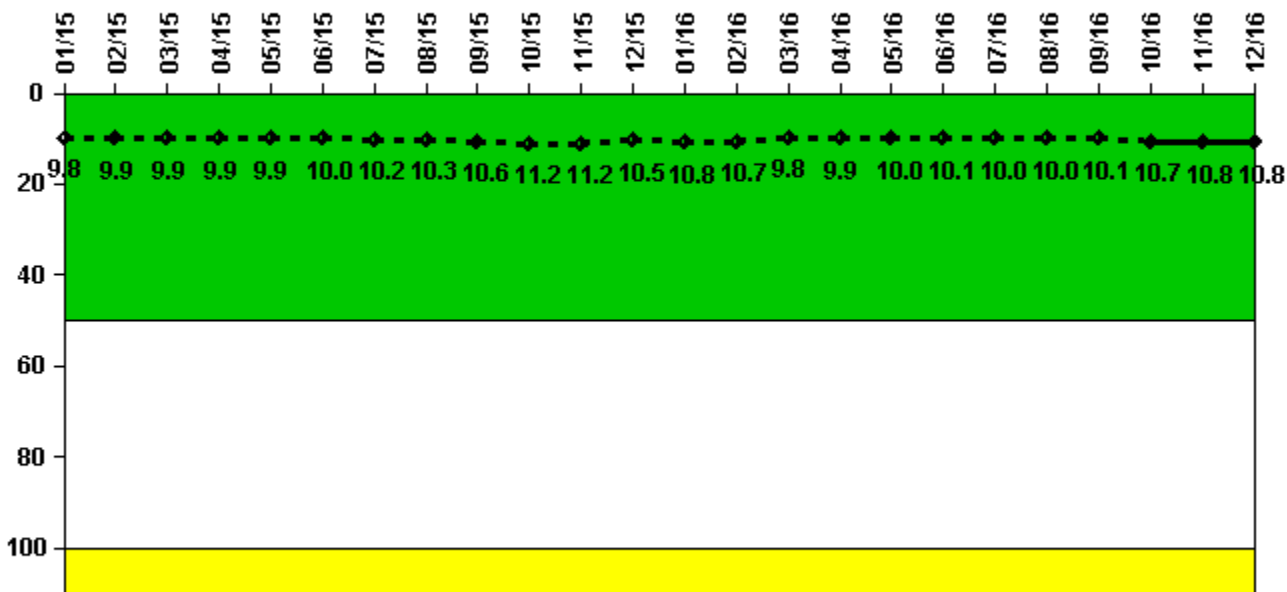
Notes

Reactor Coolant System Activity	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15
Maximum activity	0.000032	0.000037	0.000036	0.000034	0.000046	0.000036	0.000041	0.000035	0.000060	0.000038	0.000038	0.000038
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
Reactor Coolant System Activity	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16

Maximum activity	0.000036	0.000036	0.000035	0.000033	0.000029	0.000043	0.000031	0.000035	0.000034	0.000029	0.000036	0.000027
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

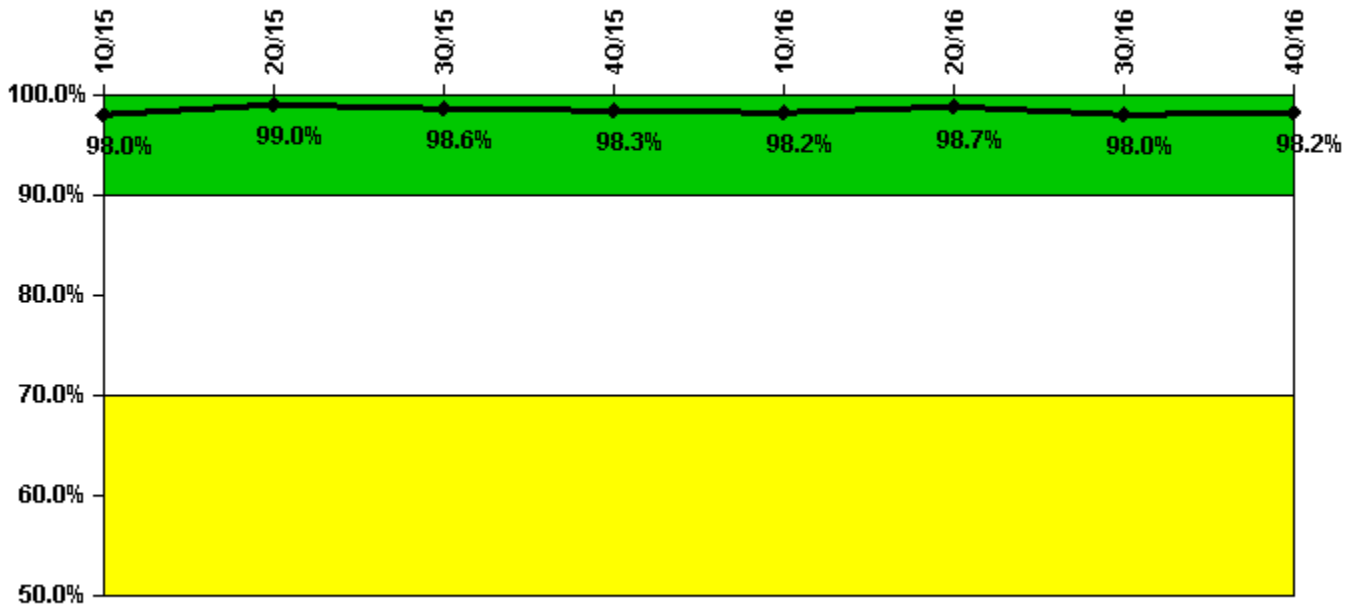
Notes

Reactor Coolant System Leakage	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15
Maximum leakage	2.461	2.482	2.482	2.485	2.480	2.500	2.540	2.570	2.650	2.800	2.790	2.620
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	9.8	9.9	9.9	9.9	9.9	10.0	10.2	10.3	10.6	11.2	11.2	10.5
Reactor Coolant System Leakage	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16
Maximum leakage	2.690	2.680	2.440	2.470	2.510	2.520	2.510	2.510	2.520	2.680	2.700	2.710
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	10.7	9.8	9.9	10.0	10.1	10.0	10.0	10.1	10.7	10.8	10.8
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Licensee Comments: none

Drill/Exercise Performance



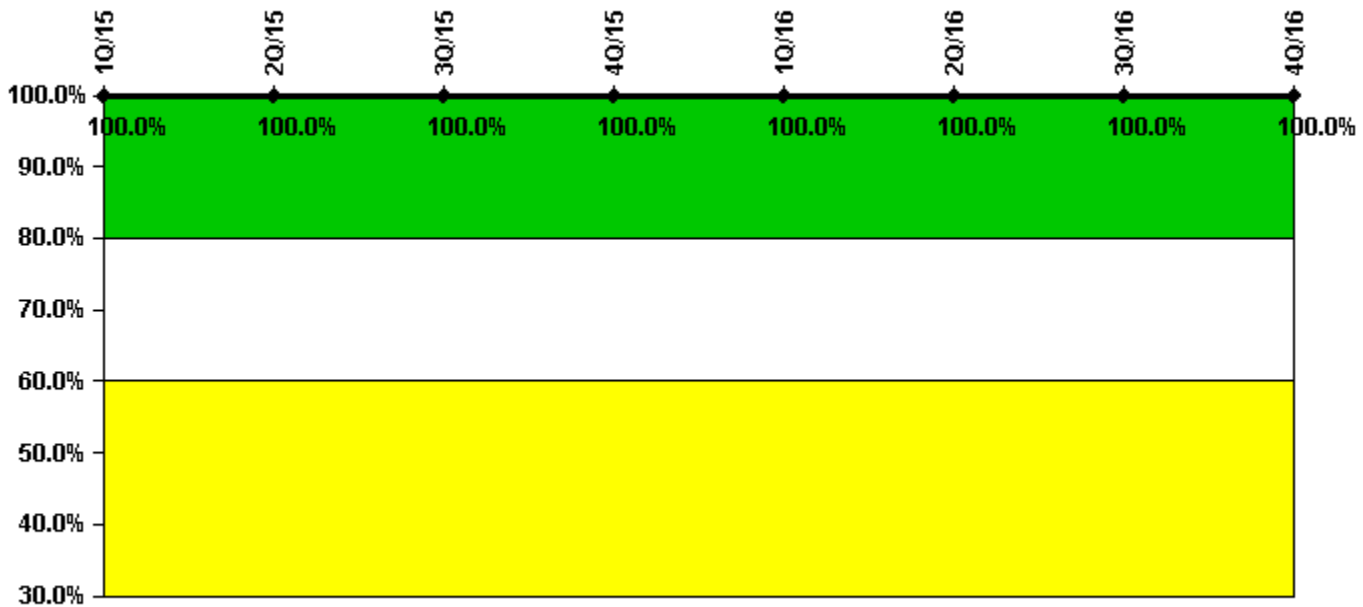
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Successful opportunities	8.0	21.0	30.0	22.0	8.0	9.0	29.0	35.0
Total opportunities	8.0	22.0	31.0	22.0	8.0	9.0	30.0	35.0
Indicator value	98.0%	99.0%	98.6%	98.3%	98.2%	98.7%	98.0%	98.2%

Licensee Comments: none

ERO Drill Participation



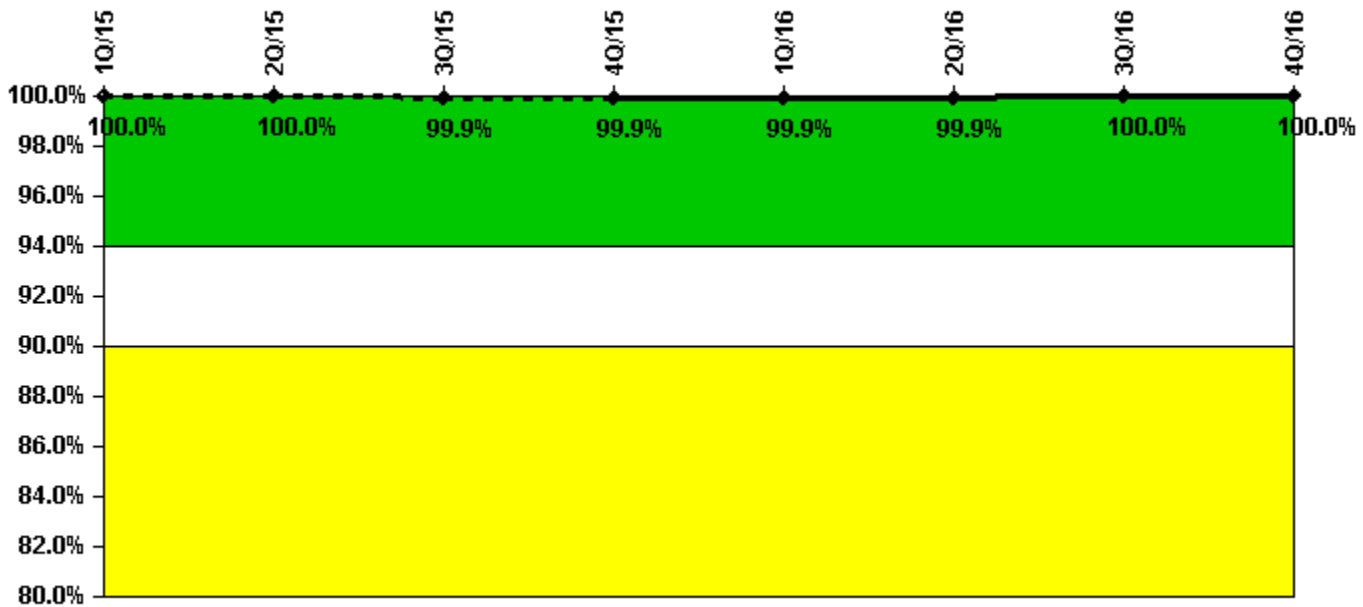
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Participating Key personnel	93.0	101.0	106.0	112.0	108.0	102.0	109.0	112.0
Total Key personnel	93.0	101.0	106.0	112.0	108.0	102.0	109.0	112.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Alert & Notification System



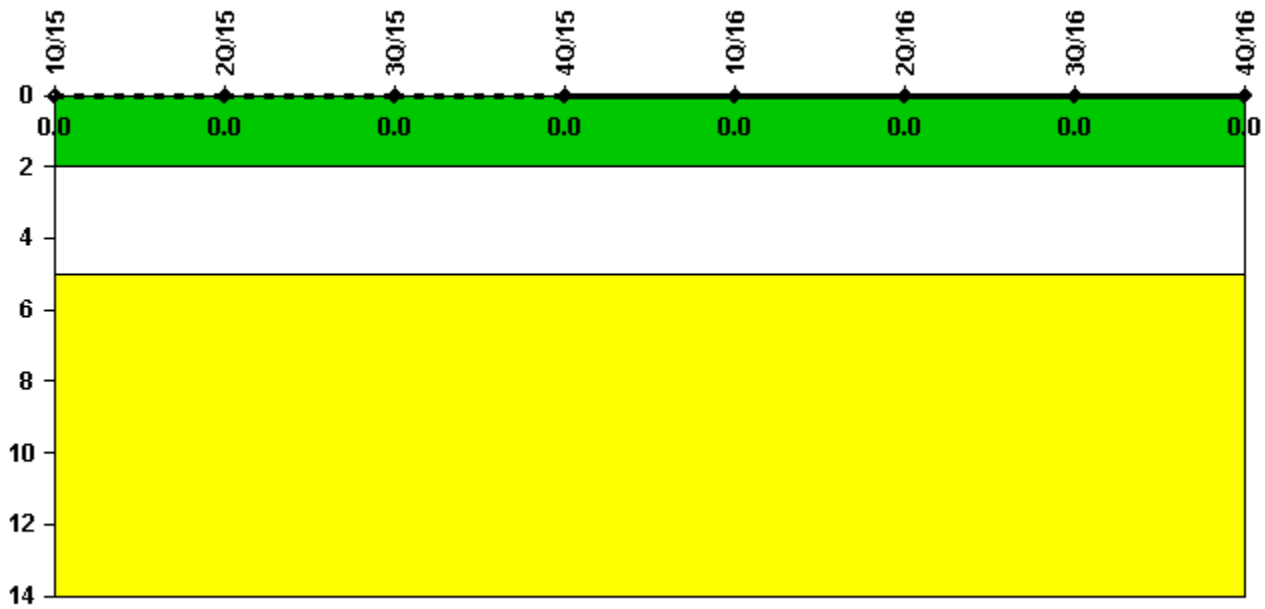
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Successful siren-tests	532	532	530	570	532	532	532	532
Total sirens-tests	532	532	532	570	532	532	532	532
Indicator value	100.0%	100.0%	99.9%	99.9%	99.9%	99.9%	100.0%	100.0%

Licensee Comments: none

Occupational Exposure Control Effectiveness



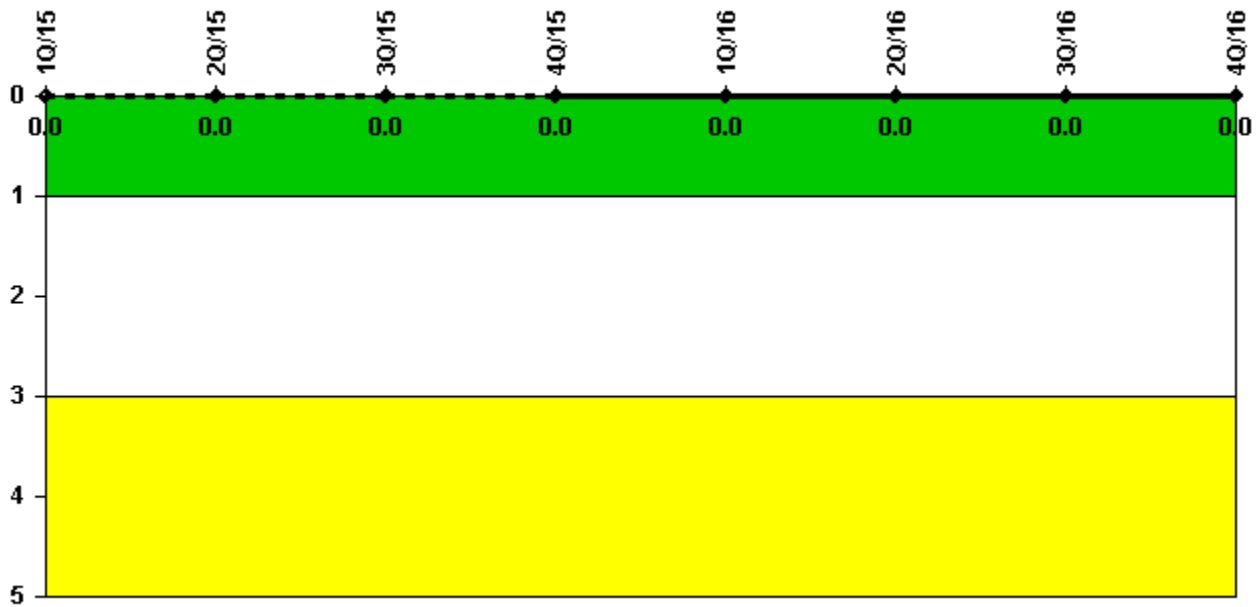
Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
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	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
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: January 24, 2017