

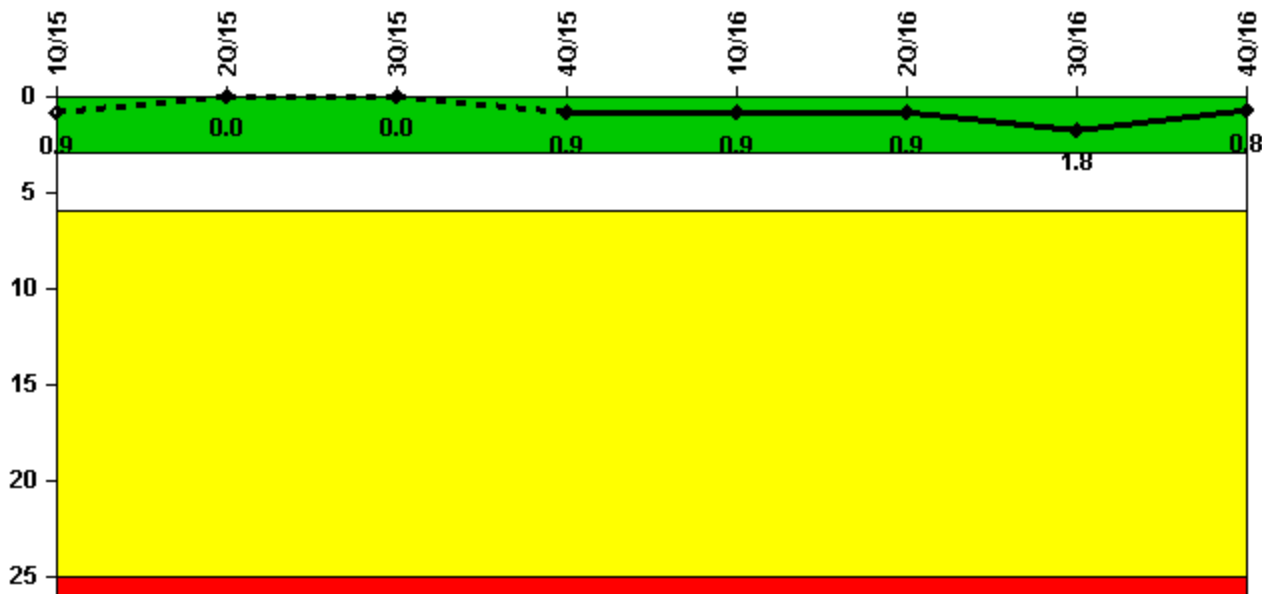
Millstone 2

4Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs



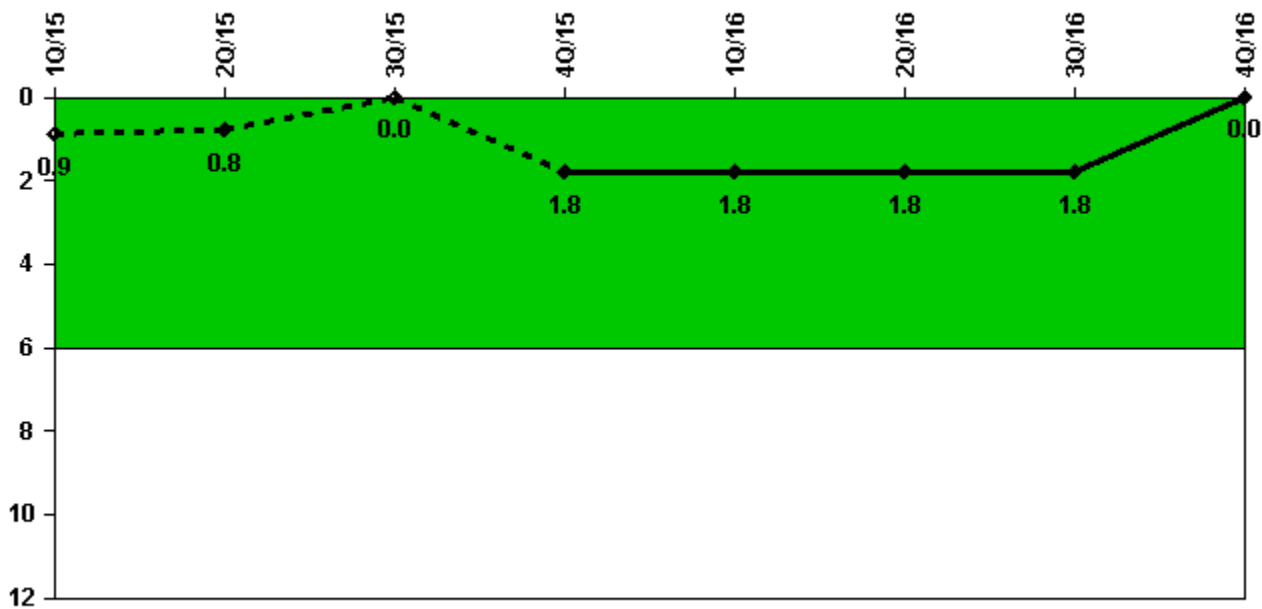
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

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	1.0	0	0	1.0	0
Critical hours	2159.0	2184.0	2208.0	1334.0	2183.0	2184.0	2168.2	2209.0
Indicator value	0.9	0	0	0.9	0.9	0.9	1.8	0.8

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



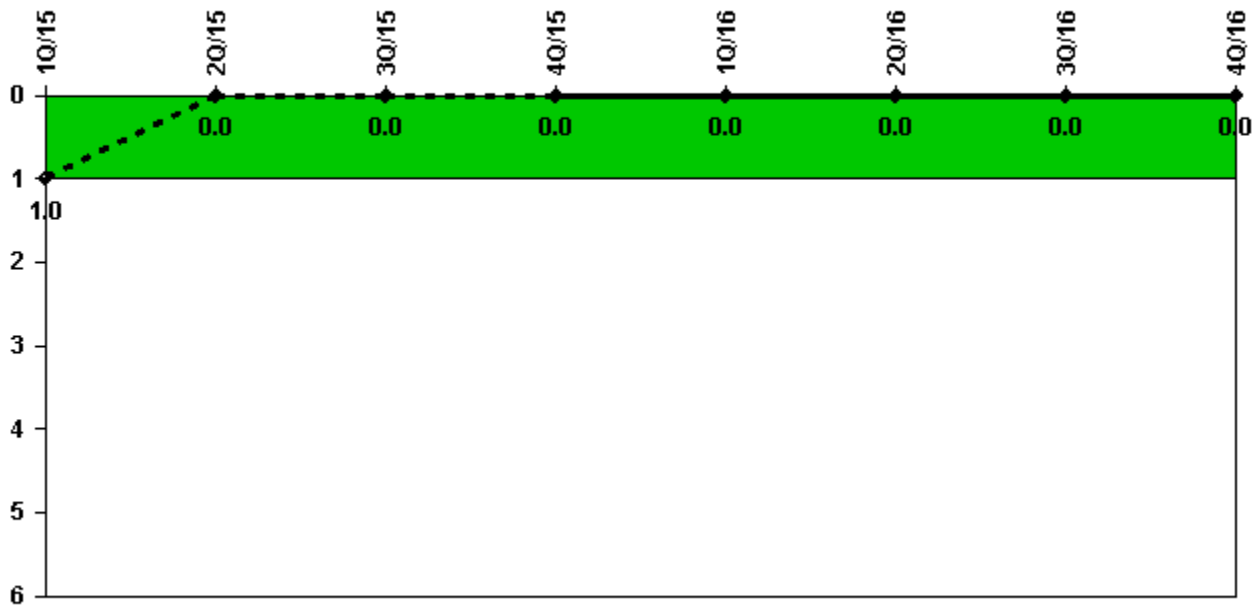
Thresholds: White > 6.0

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	2.0	0	0	0	0
Critical hours	2159.0	2184.0	2208.0	1334.0	2183.0	2184.0	2168.2	2209.0
Indicator value	0.9	0.8	0	1.8	1.8	1.8	1.8	0

Licensee Comments: none

Unplanned Scrams with Complications



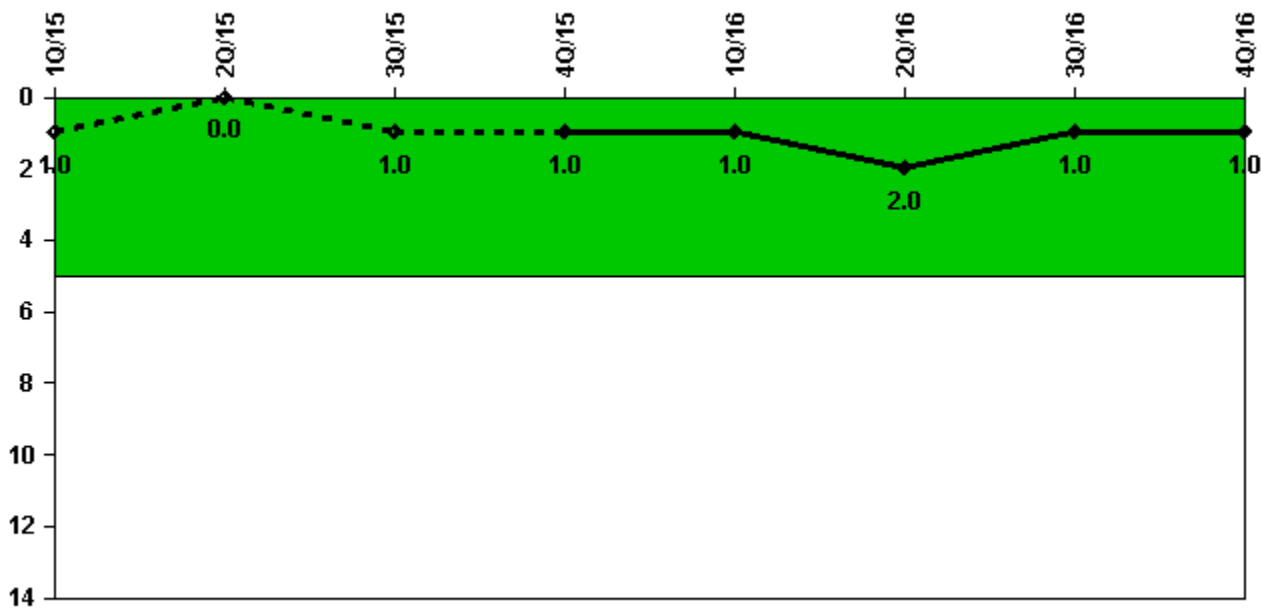
Thresholds: White > 1.0

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	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Licensee Comments: none

Safety System Functional Failures (PWR)



Thresholds: White > 5.0

Notes

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

Licensee Comments:

2Q/16: LER 2016-001-00, Turbine Driven Auxiliary Feedwater Pump Room HELB Door Left Open

3Q/15: LER 2015-002-00, Degraded Emergency Core Cooling System Check Valve

Mitigating Systems Performance Index, Emergency AC Power System



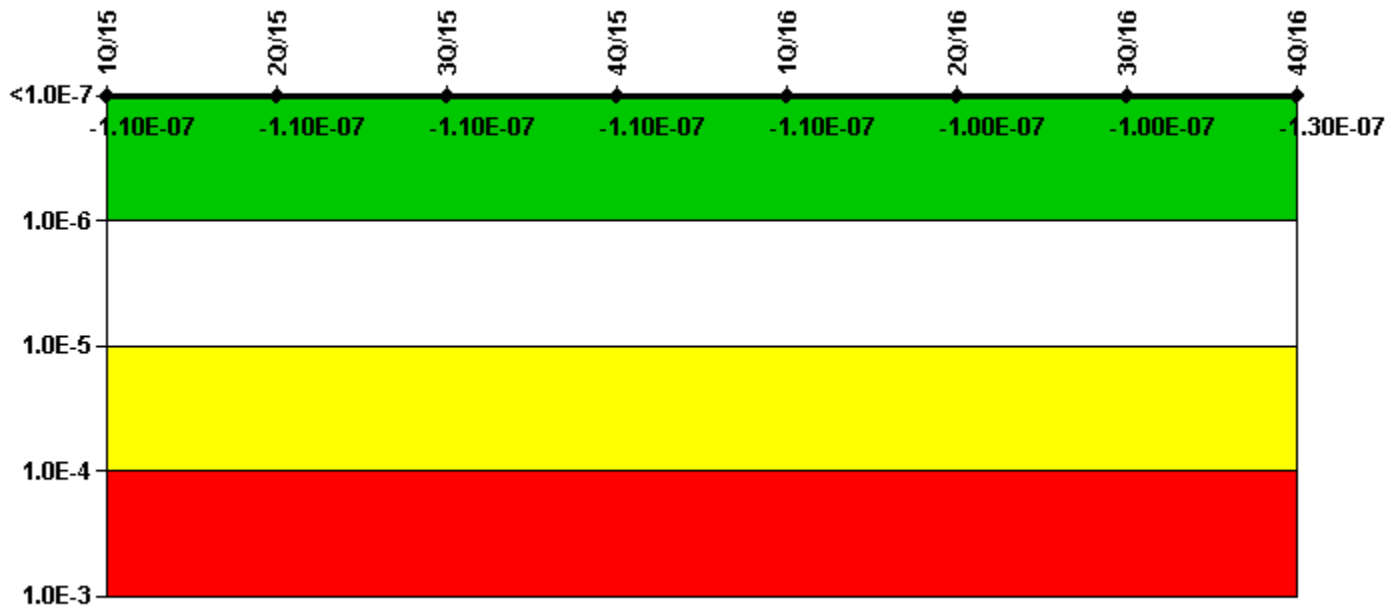
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

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)	4.84E-08	2.46E-08	1.14E-08	7.91E-09	-1.14E-08	-1.14E-08	-1.14E-08	1.85E-09
URI (ΔCDF)	4.30E-07	4.72E-08	-2.49E-08	-2.44E-08	-2.49E-08	-2.44E-08	-2.27E-08	5.41E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	4.80E-07	7.20E-08	-1.30E-08	-1.60E-08	-3.60E-08	-3.60E-08	-3.40E-08	5.60E-08

Licensee Comments: none

Mitigating Systems Performance Index, High Pressure Injection System



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

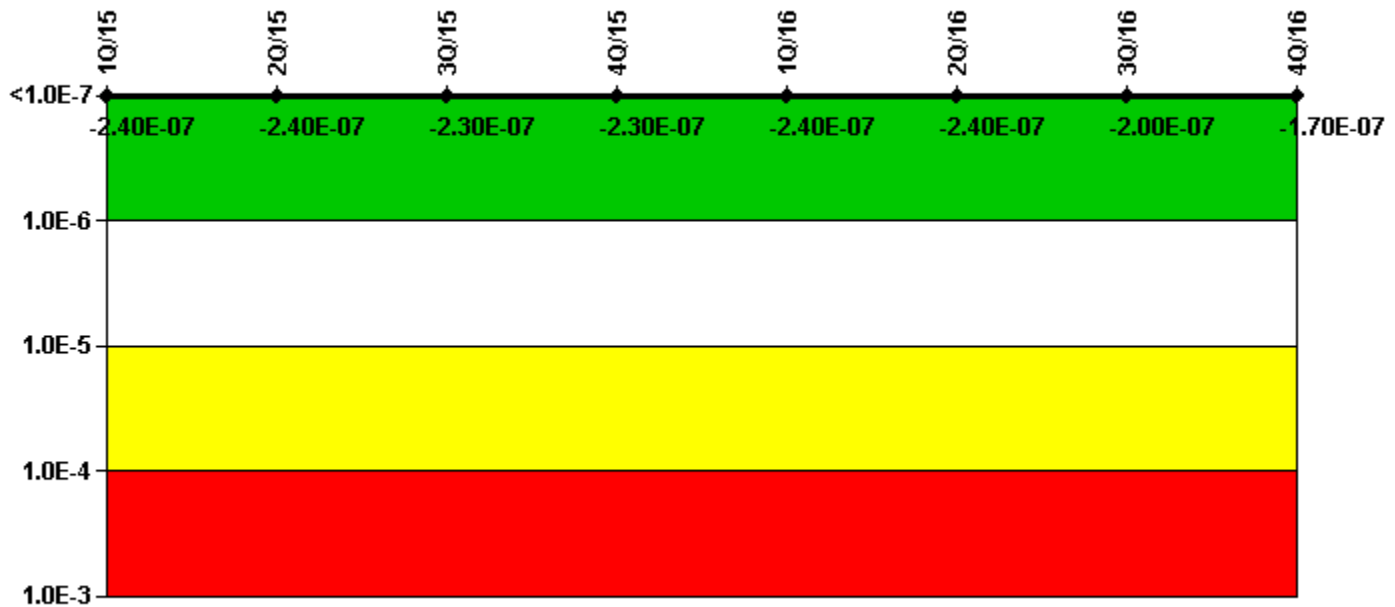
Notes

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)	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08
URI (Δ CDF)	-4.15E-08	-4.15E-08	-4.12E-08	-4.18E-08	-4.12E-08	-4.06E-08	-4.09E-08	-6.35E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07	-1.00E-07	-1.00E-07	-1.30E-07

Licensee Comments:

4Q/16: Changed PRA Parameter(s). The generic common cause factor for the HPSI pumps was corrected in the fourth quarter. The error did not result in the indicator value crossing the green white threshold.

Mitigating Systems Performance Index, Heat Removal System



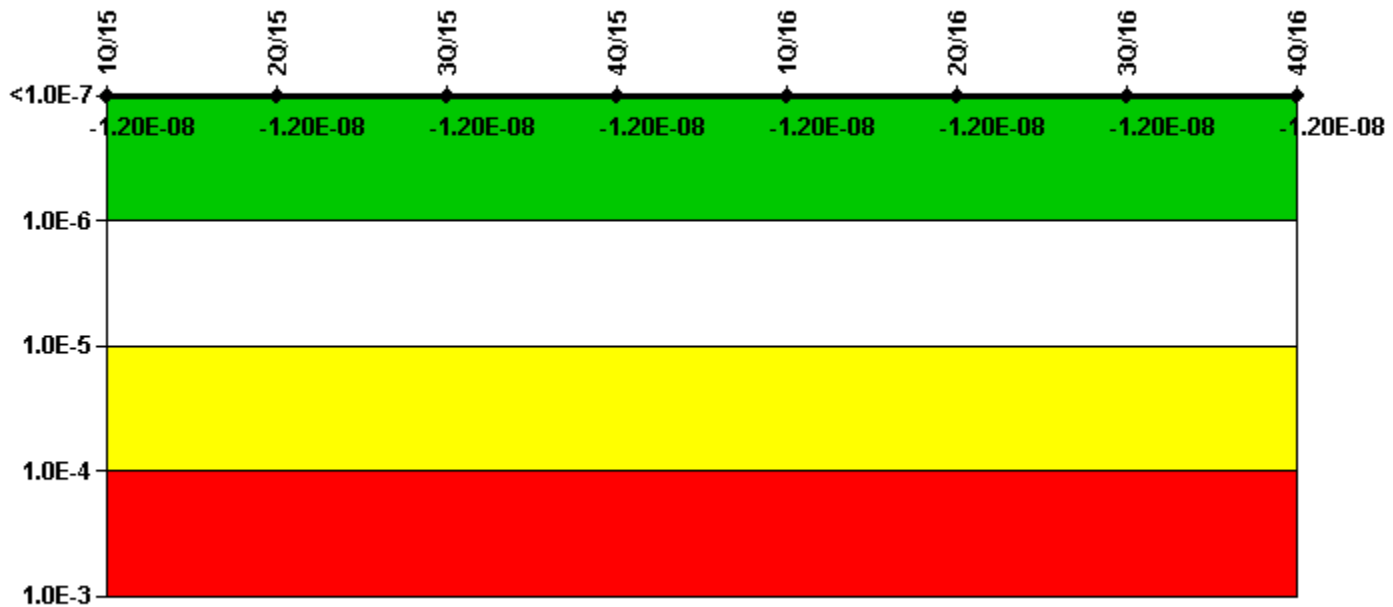
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

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)	-8.57E-08	-8.56E-08	-8.61E-08	-8.60E-08	-8.75E-08	-8.77E-08	-5.28E-08	-2.18E-08
URI (Δ CDF)	-1.51E-07	-1.51E-07	-1.47E-07	-1.47E-07	-1.48E-07	-1.48E-07	-1.48E-07	-1.48E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.40E-07	-2.40E-07	-2.30E-07	-2.30E-07	-2.40E-07	-2.40E-07	-2.00E-07	-1.70E-07

Licensee Comments: none

Mitigating Systems Performance Index, Residual Heat Removal System



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

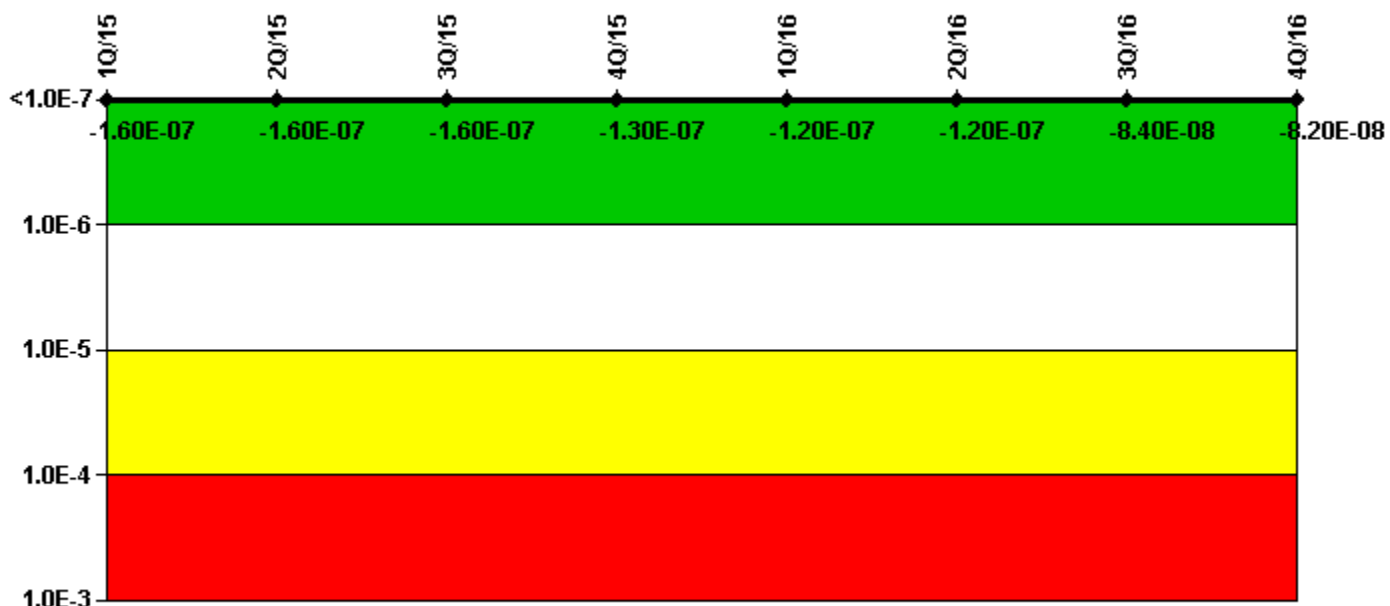
Notes

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)	-5.46E-11	2.05E-11	1.61E-11	1.33E-11	1.33E-10	-1.28E-10	-5.34E-11	-5.55E-11
URI (Δ CDF)	-1.20E-08	-1.20E-08	-1.23E-08	-1.25E-08	-1.23E-08	-1.23E-08	-1.23E-08	-1.23E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08

Licensee Comments:

3Q/16: The first quarter 2015 demand data was corrected to include an additional valve demand. This did not result in a change to the calculated MSPI. It did not result in the indicator value crossing the GREEN/WHITE threshold.

Mitigating Systems Performance Index, Cooling Water Systems



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

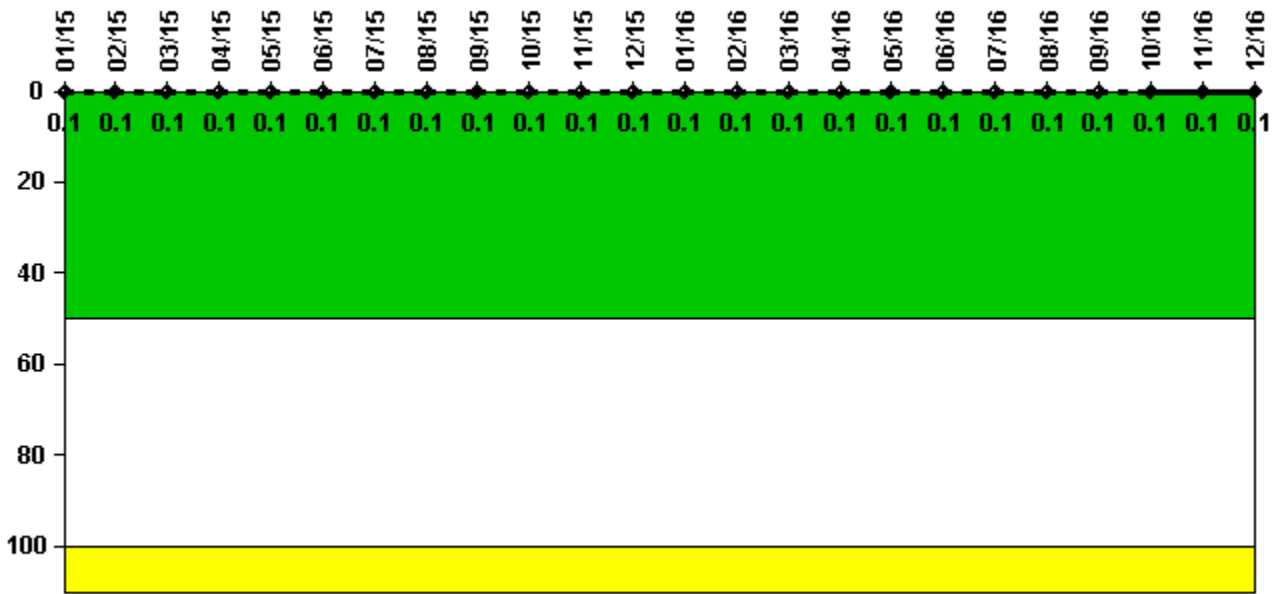
Notes

Mitigating Systems Performance Index, Cooling Water Systems	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI (Δ CDF)	-2.96E-09	-2.96E-09	-2.69E-09	2.54E-08	3.39E-08	3.46E-08	7.12E-08	7.10E-08
URI (Δ CDF)	-1.55E-07	-1.55E-07	-1.55E-07	-1.55E-07	-1.55E-07	-1.55E-07	-1.55E-07	-1.53E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.60E-07	-1.60E-07	-1.60E-07	-1.30E-07	-1.20E-07	-1.20E-07	-8.40E-08	-8.20E-08

Licensee Comments:

4Q/16: Changed PRA Parameter(s). The generic common cause factor for the reactor building cooling water pumps was corrected in the fourth quarter. The error did not result in the indicator value crossing the green white threshold.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

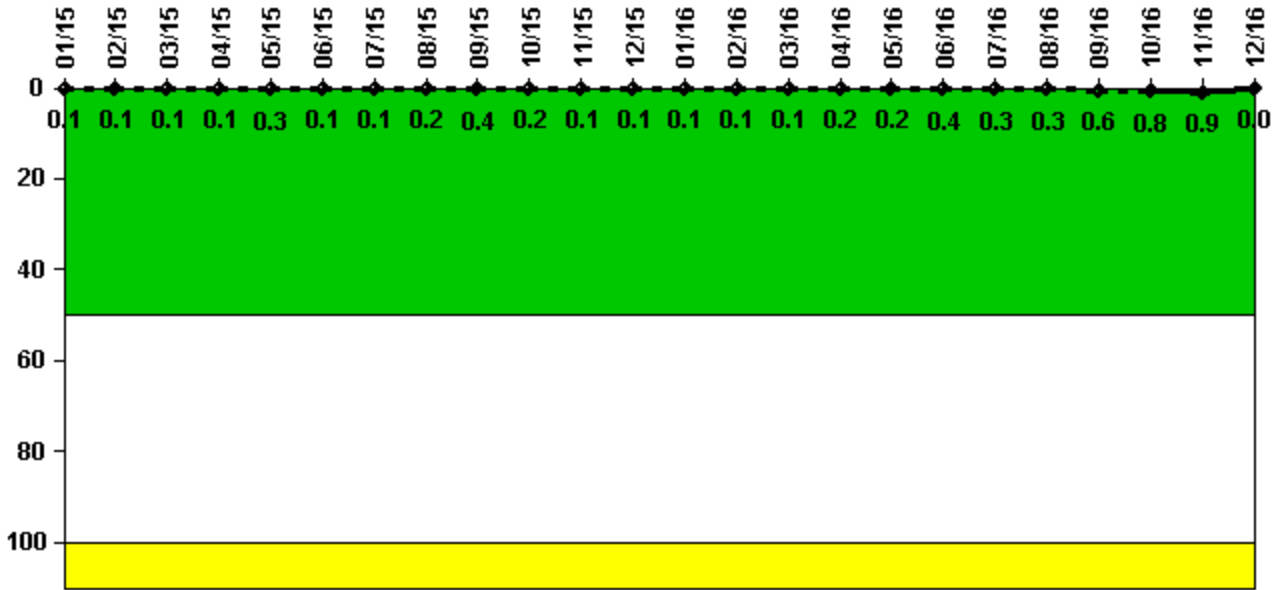
Notes

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	0.001100	0.001080	0.001090	0.001140	0.001210	0.001190	0.001270	0.001430	0.001390	0.001260	0.000768	0.000832
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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

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	0.000913	0.000882	0.000979	0.000971	0.001020	0.001030	0.001050	0.001190	0.001110	0.001120	0.001180	0.001200
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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Licensee Comments: none

Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

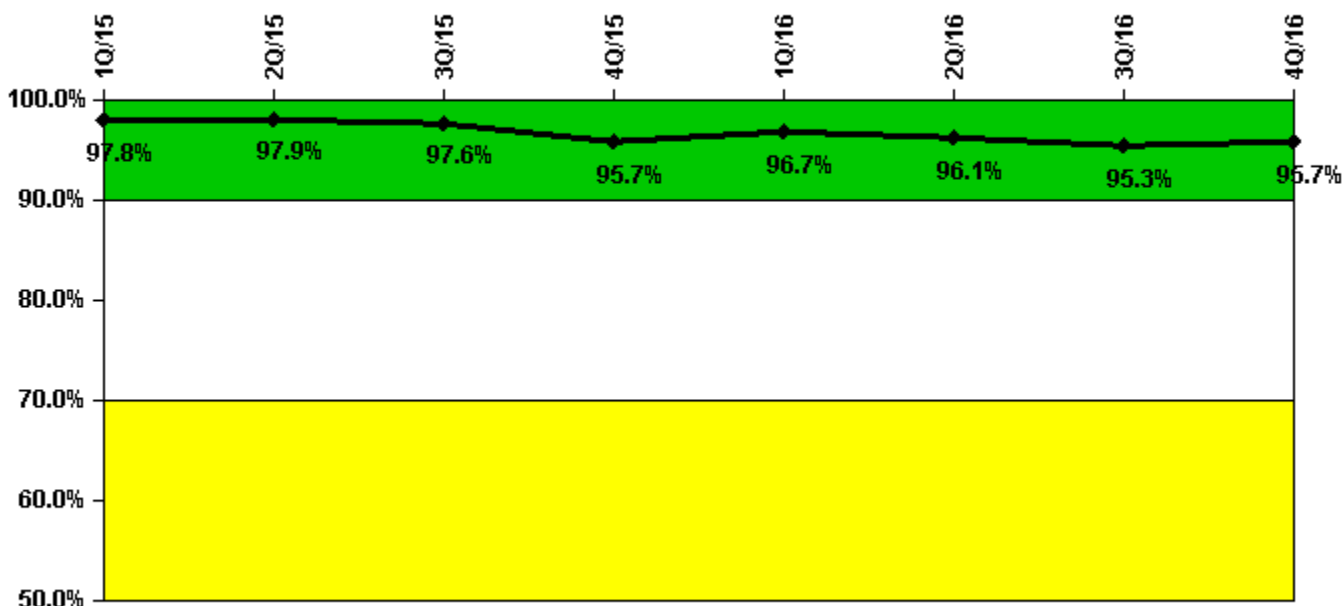
Notes

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	0.011	0.005	0.012	0.009	0.033	0.005	0.008	0.021	0.038	0.023	0.010	0.007
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	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.2	0.4	0.2	0.1	0.1

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	0.006	0.008	0.009	0.015	0.018	0.038	0.025	0.034	0.055	0.077	0.089	0.003
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	0.1	0.1	0.1	0.2	0.2	0.4	0.3	0.3	0.6	0.8	0.9	0

Licensee Comments: none

Drill/Exercise Performance



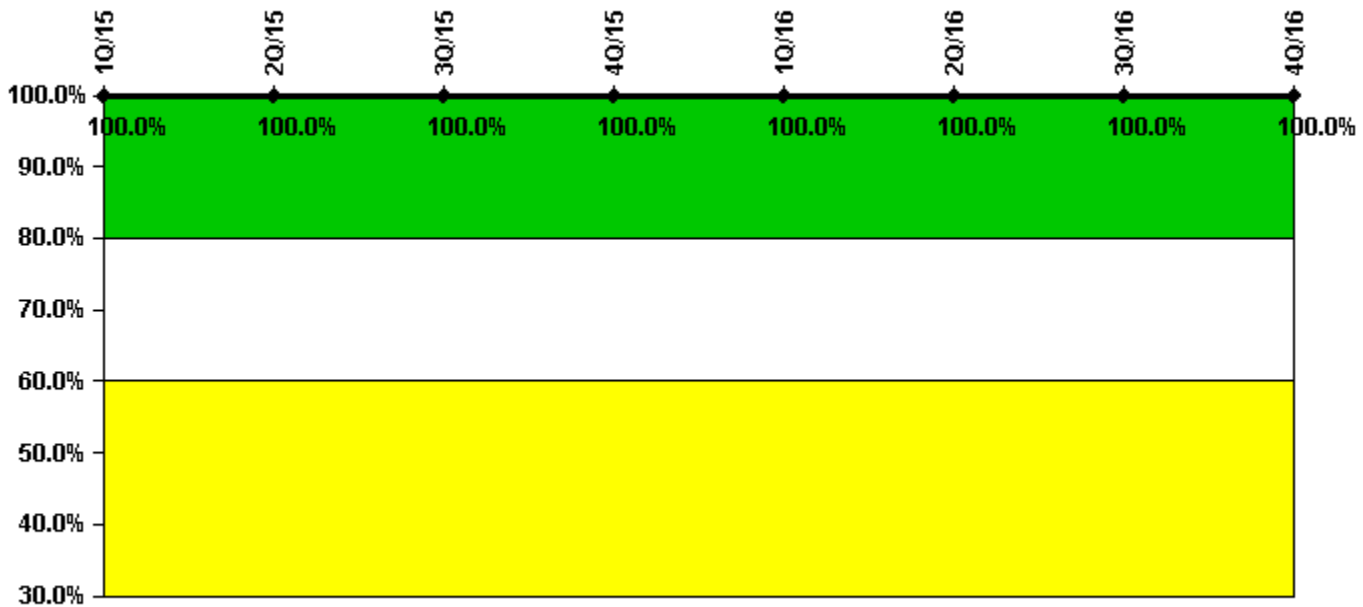
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Successful opportunities	23.0	36.0	30.0	24.0	36.0	16.0	31.0	25.0
Total opportunities	23.0	36.0	32.0	28.0	37.0	17.0	33.0	25.0
Indicator value	97.8%	97.9%	97.6%	95.7%	96.7%	96.1%	95.3%	95.7%

Licensee Comments: none

ERO Drill Participation



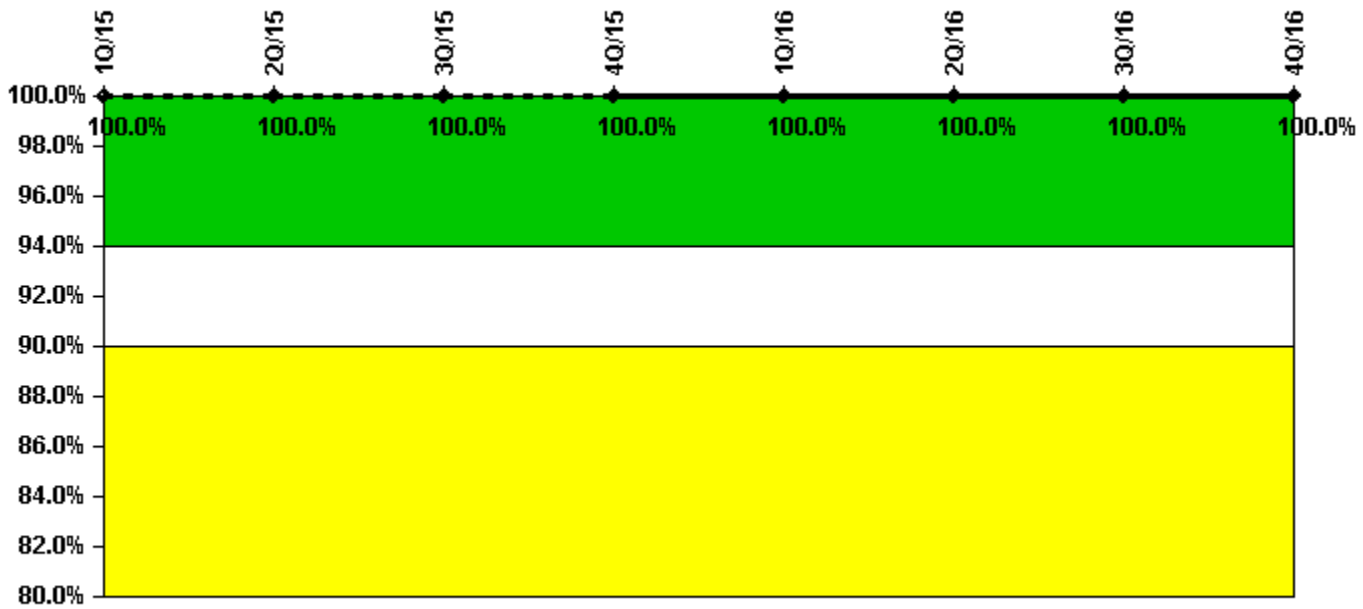
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Participating Key personnel	127.0	123.0	120.0	120.0	120.0	114.0	118.0	118.0
Total Key personnel	127.0	123.0	120.0	120.0	120.0	114.0	118.0	118.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Alert & Notification System



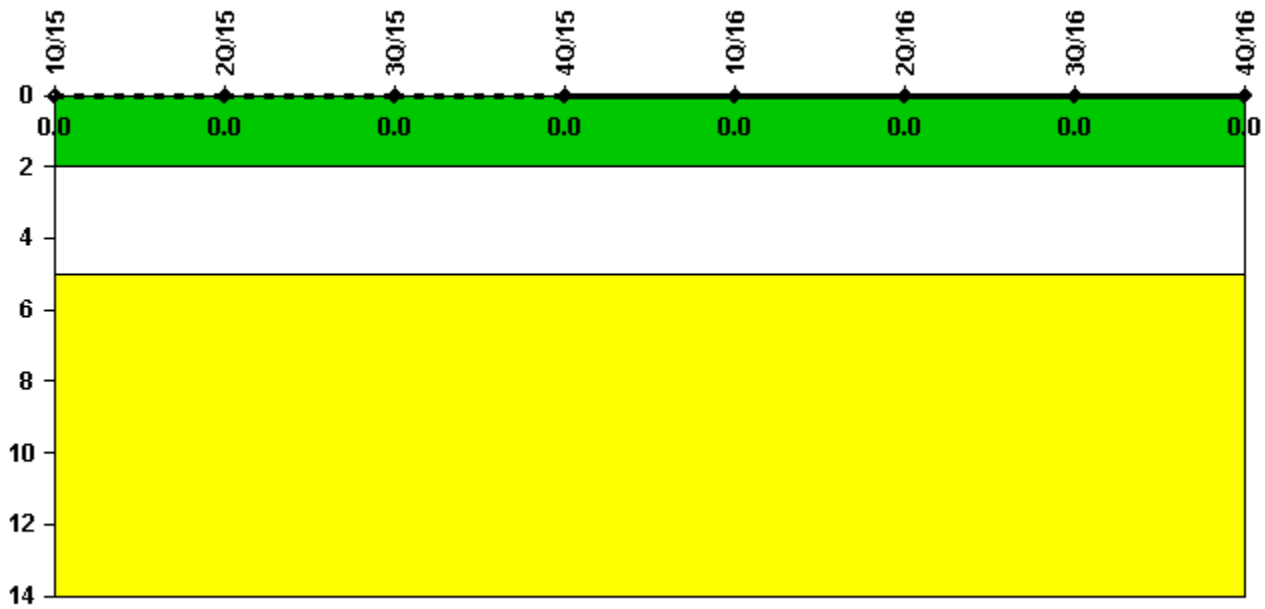
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Successful siren-tests	474	553	528	499	553	474	553	474
Total sirens-tests	474	553	528	499	553	474	553	474
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



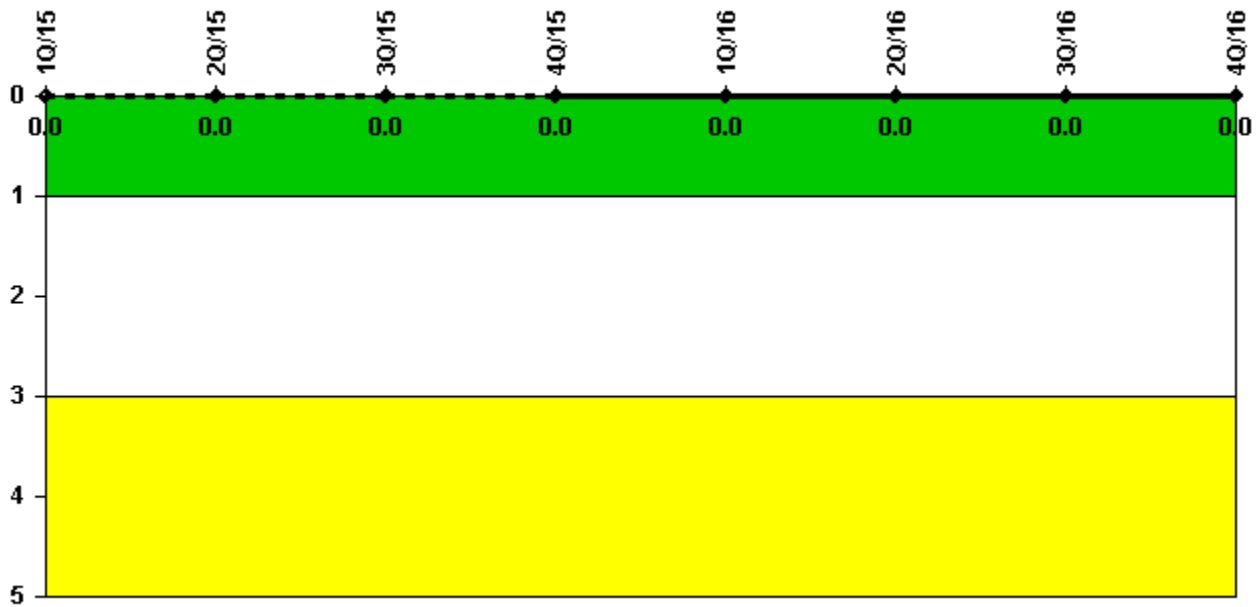
Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	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