

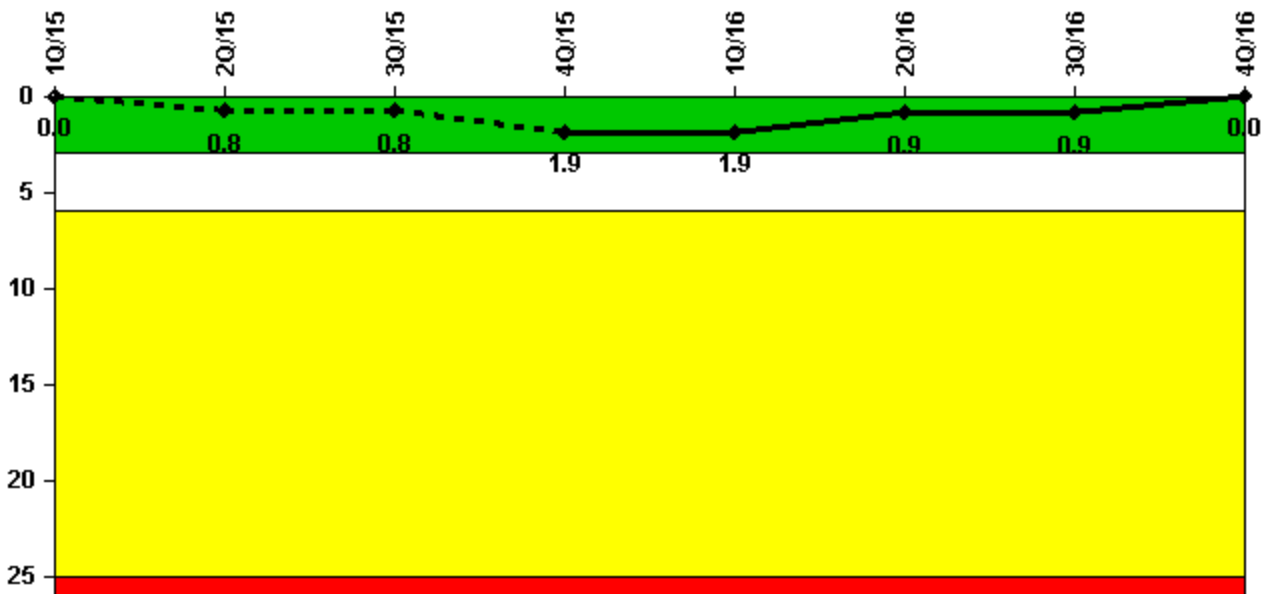
Waterford 3

4Q/2016 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: PRA Parameter calculation change 3Q2016

Unplanned Scrams per 7000 Critical Hrs



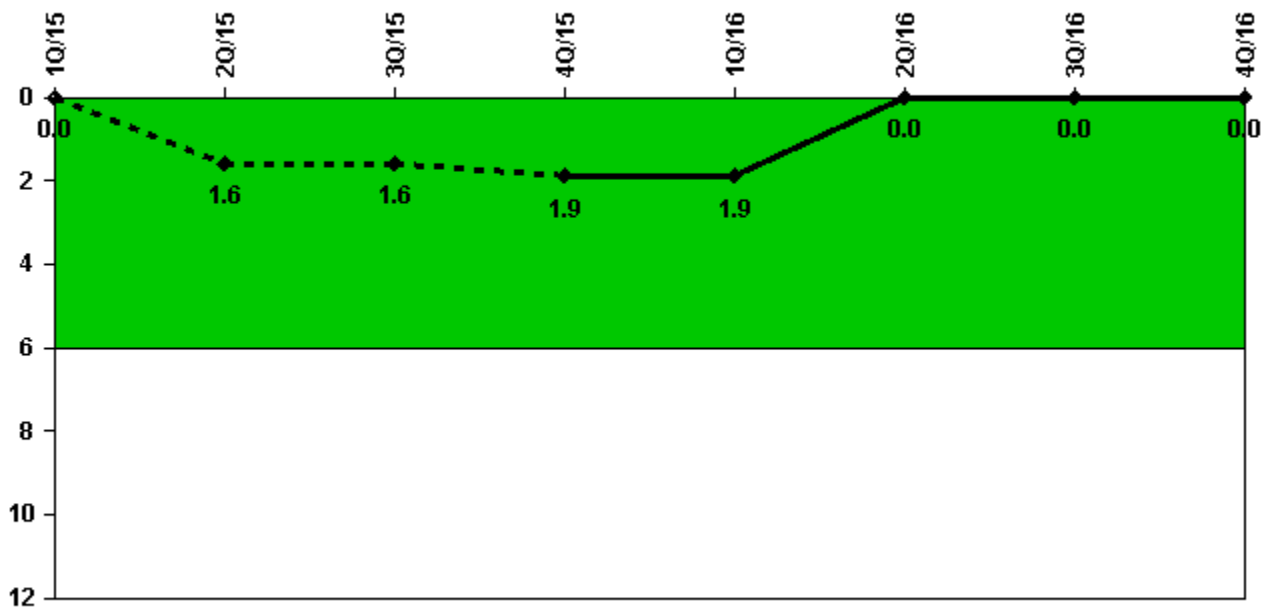
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

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	1.0	0	1.0	0	0	0	0
Critical hours	2159.0	2079.8	2208.0	929.5	2183.0	2184.0	2208.0	2067.3
Indicator value	0	0.8	0.8	1.9	1.9	0.9	0.9	0

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



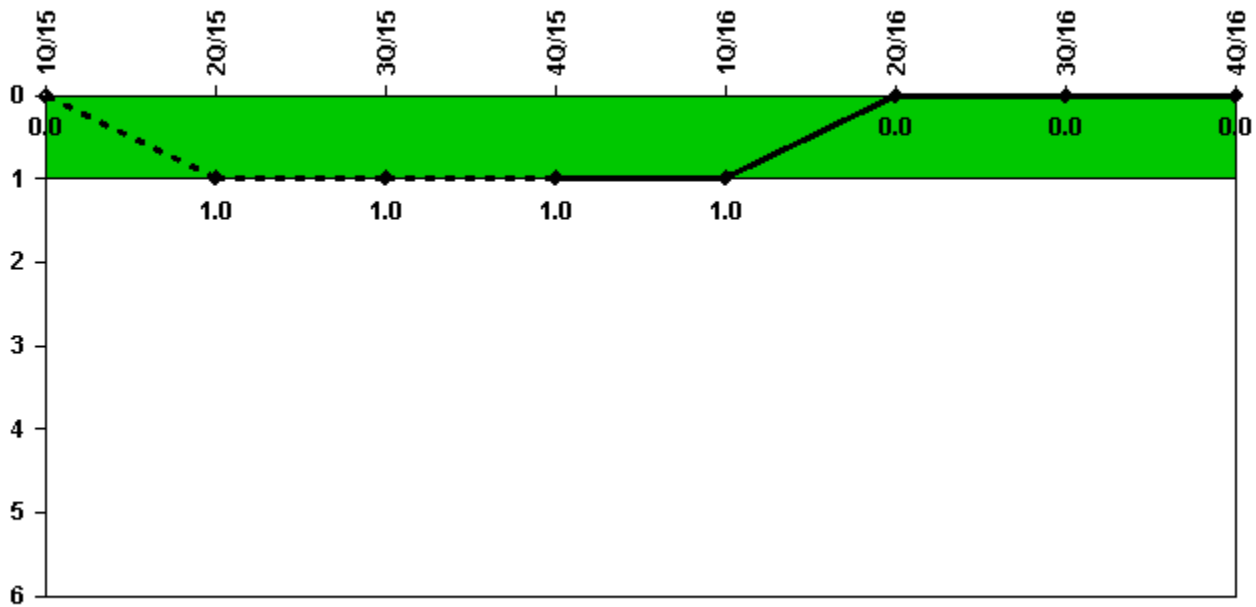
Thresholds: White > 6.0

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	2.0	0	0	0	0	0	0
Critical hours	2159.0	2079.8	2208.0	929.5	2183.0	2184.0	2208.0	2067.3
Indicator value	0	1.6	1.6	1.9	1.9	0	0	0

Licensee Comments: none

Unplanned Scrams with Complications



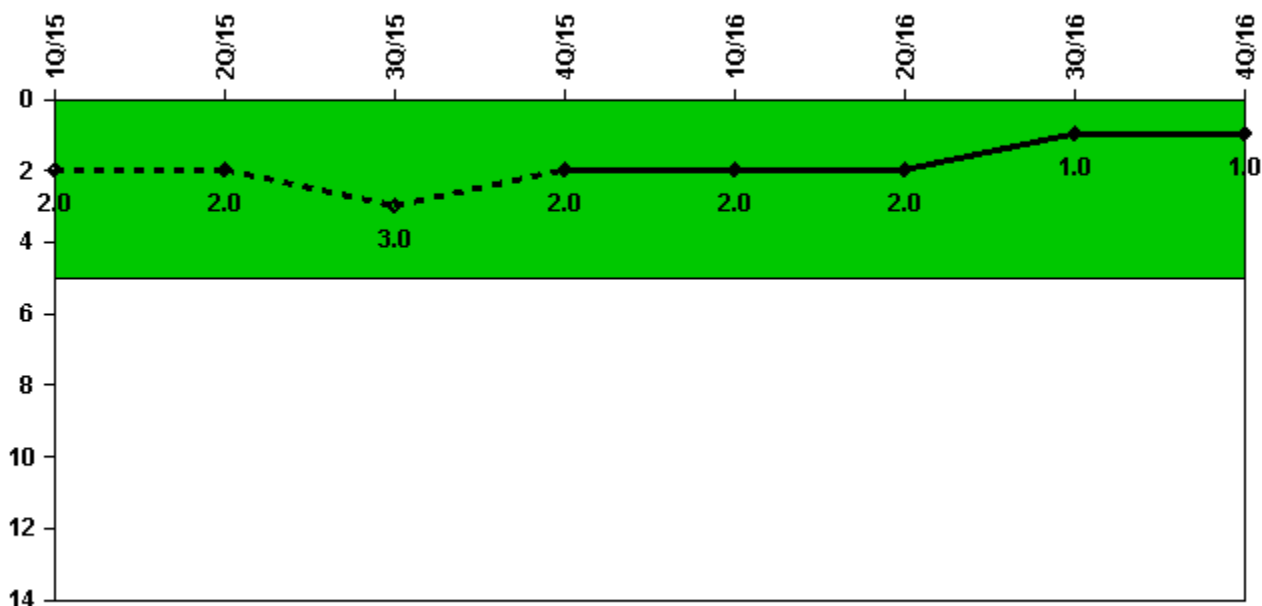
Thresholds: White > 1.0

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	1.0	0	0	0	0	0	0
Indicator value	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0

Licensee Comments: none

Safety System Functional Failures (PWR)



Thresholds: White > 5.0

Notes

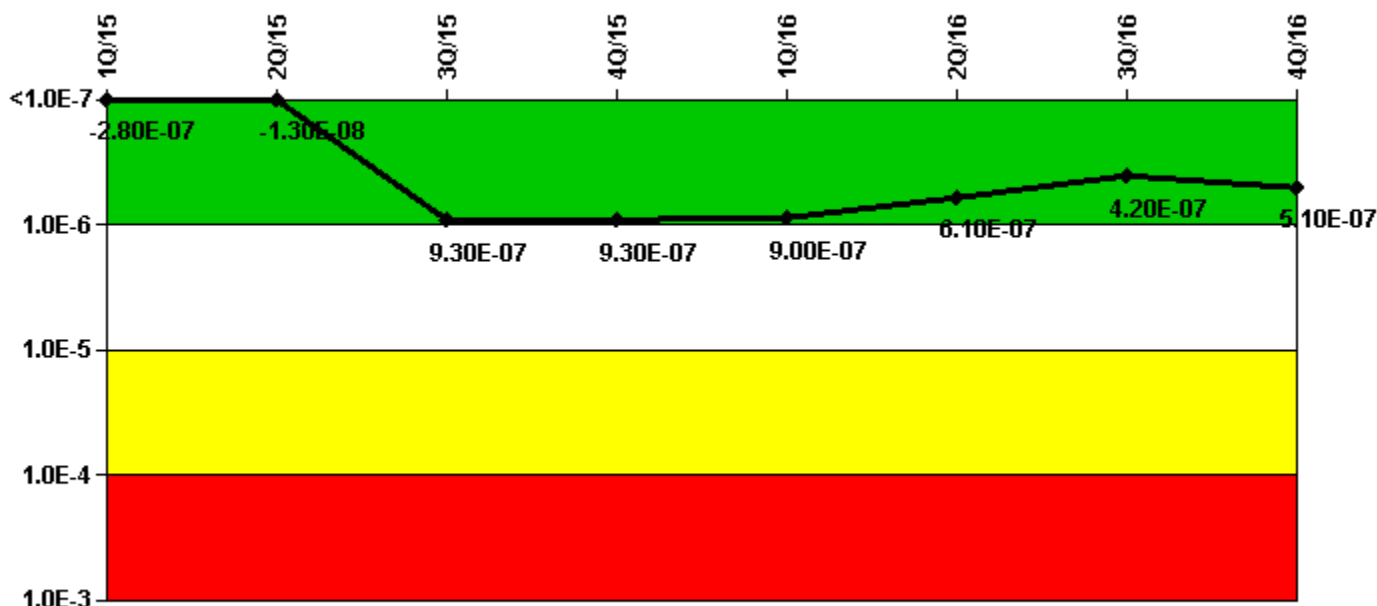
Safety System Functional Failures (PWR)	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Safety System Functional Failures	0	0	1	1	0	0	0	1
Indicator value	2	2	3	2	2	2	1	1

Licensee Comments:

4Q/16: LER 2016-002-00 reported 10/11/2016 - Incident occurred August 12th 2016.

4Q/15: LER 2015-007-00 issued 10/23/2015. On 8/16/2015, Both A & B EDG declared inoperable, entry into TS 3.8.1.1 action f. - EDG A was declared inoperable following a trip on generator differential due to failed current transformer. Then EDG B, which was subsequently started per TS 3.8.1.1 action b(1), was declared inoperable due to exhaust fan not starting when diesel was started then TS 3.8.1.1 action f was entered.

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 (Δ CDF)	1.15E-07	3.81E-07	5.69E-07	5.71E-07	5.55E-07	7.02E-07	1.61E-07	2.37E-07
URI (Δ CDF)	-3.95E-07	-3.95E-07	3.57E-07	3.56E-07	3.49E-07	-9.46E-08	2.54E-07	2.78E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	$-2.80E-07$	$-1.30E-08$	$9.30E-07$	$9.30E-07$	$9.00E-07$	$6.10E-07$	$4.20E-07$	$5.10E-07$

Licensee Comments:

4Q/16: Risk Cap Invoked.

4Q/16: Risk Cap Invoked. Changed PRA Parameter(s).

3Q/16: Risk Cap Invoked. Changed PRA Parameter(s).

3Q/16: Risk Cap Invoked. Changed PRA Parameter(s).

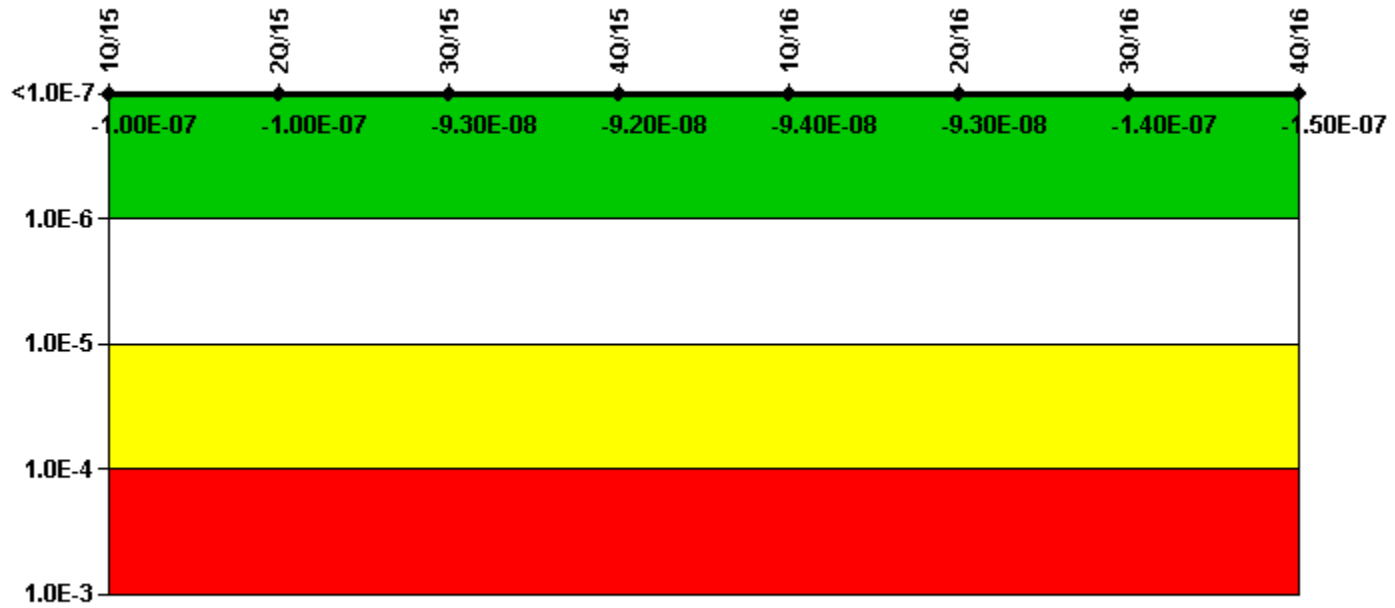
2Q/16: Risk Cap Invoked.

1Q/16: Risk Cap Invoked. The Generic Common Cause Failure (CCF) Factors applied to the Emergency Diesel Generator (EDG) runtime failure Birnbaum were not correct. The incorrect value of 1.0 should be changed to 1.25 per the guidance in NEI 99-02 Rev. 7. Ref. EC-63198.

4Q/15: Risk Cap Invoked.

3Q/15: Risk Cap Invoked.

Mitigating Systems Performance Index, High Pressure Injection System



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

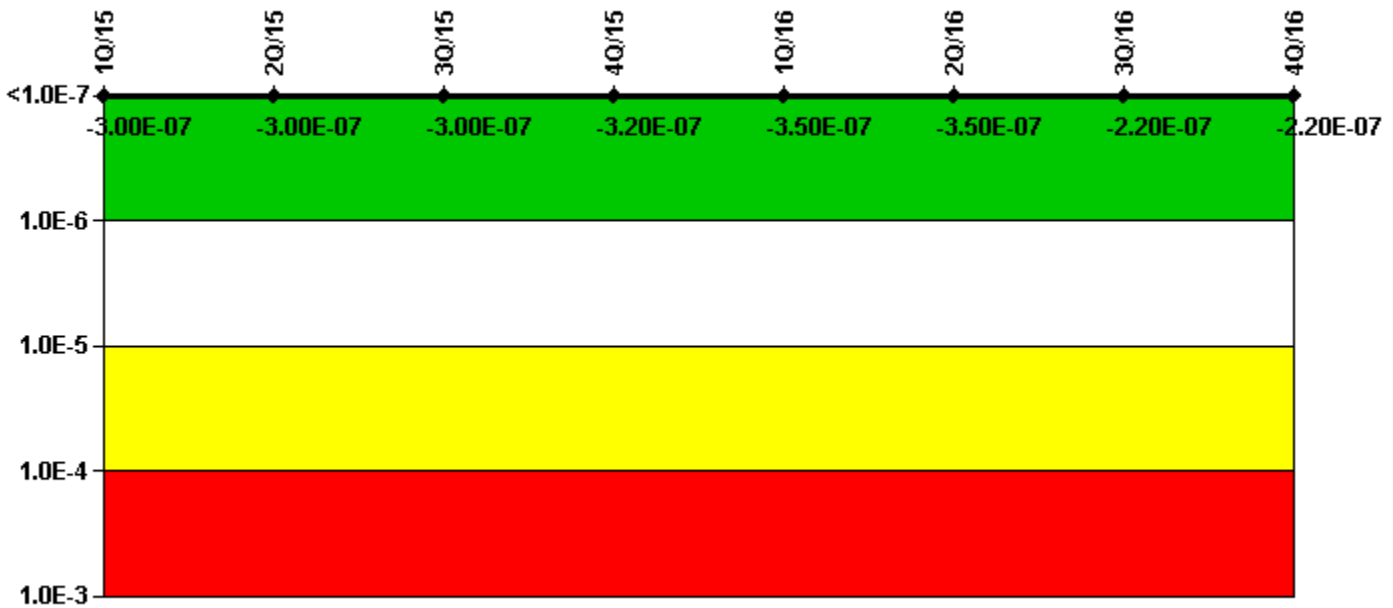
Notes

Mitigating Systems Performance Index, High Pressure Injection System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
UAI (Δ CDF)	-9.54E-09	-1.01E-08	-3.32E-10	-1.32E-09	-5.11E-09	-4.45E-09	-3.01E-09	-9.75E-09
URI (Δ CDF)	-9.35E-08	-9.24E-08	-9.26E-08	-9.11E-08	-8.93E-08	-8.88E-08	-1.41E-07	-1.41E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.00E-07	-1.00E-07	-9.30E-08	-9.20E-08	-9.40E-08	-9.30E-08	-1.40E-07	-1.50E-07

Licensee Comments:

3Q/16: Changed PRA Parameter(s).

Mitigating Systems Performance Index, Heat Removal System



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

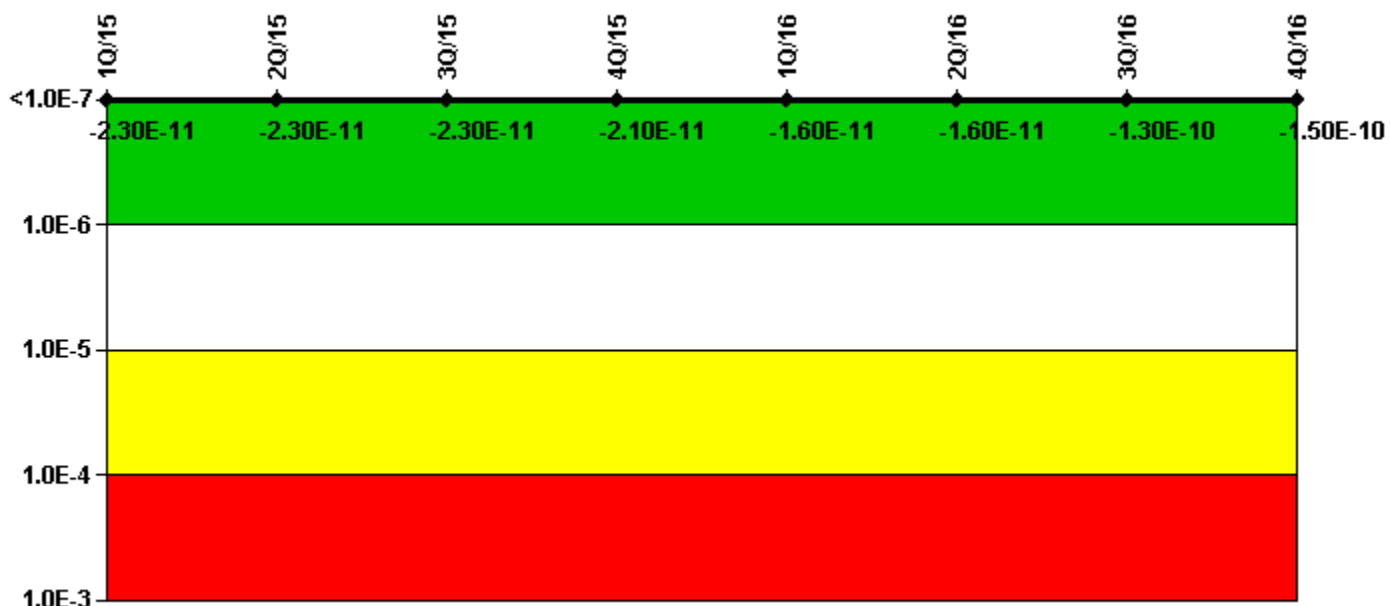
Notes

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)	1.85E-08	1.92E-08	1.86E-08	5.12E-09	-4.01E-08	-4.03E-08	-6.13E-08	-6.20E-08
URI (Δ CDF)	-3.19E-07	-3.19E-07	-3.21E-07	-3.26E-07	-3.13E-07	-3.13E-07	-1.63E-07	-1.60E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.00E-07	-3.00E-07	-3.00E-07	-3.20E-07	-3.50E-07	-3.50E-07	-2.20E-07	-2.20E-07

Licensee Comments:

3Q/16: Changed PRA Parameter(s).

Mitigating Systems Performance Index, Residual Heat Removal System



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

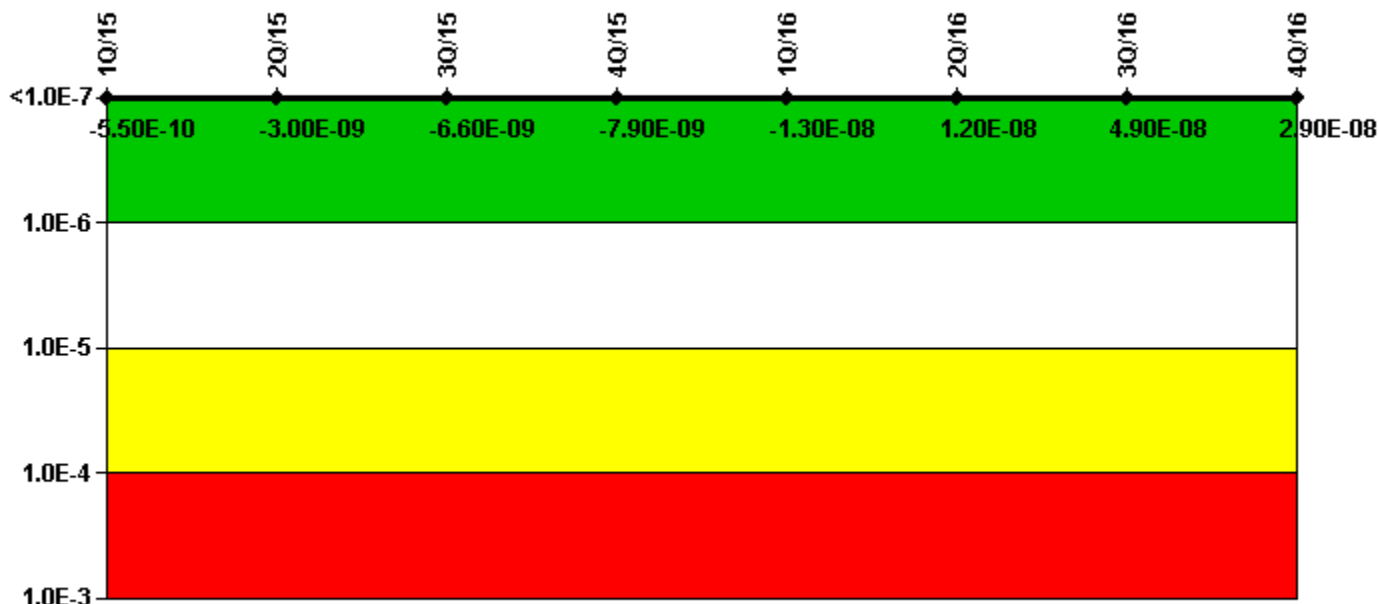
Notes

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)	-1.06E-11	-1.07E-11	-1.07E-11	-8.56E-12	-3.88E-12	-3.47E-12	2.58E-11	0.00E+00
URI (Δ CDF)	-1.25E-11	-1.25E-11	-1.22E-11	-1.22E-11	-1.20E-11	-1.22E-11	-1.57E-10	-1.54E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.30E-11	-2.30E-11	-2.30E-11	-2.10E-11	-1.60E-11	-1.60E-11	-1.30E-10	-1.50E-10

Licensee Comments:

3Q/16: Changed PRA Parameter(s).

Mitigating Systems Performance Index, Cooling Water Systems



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

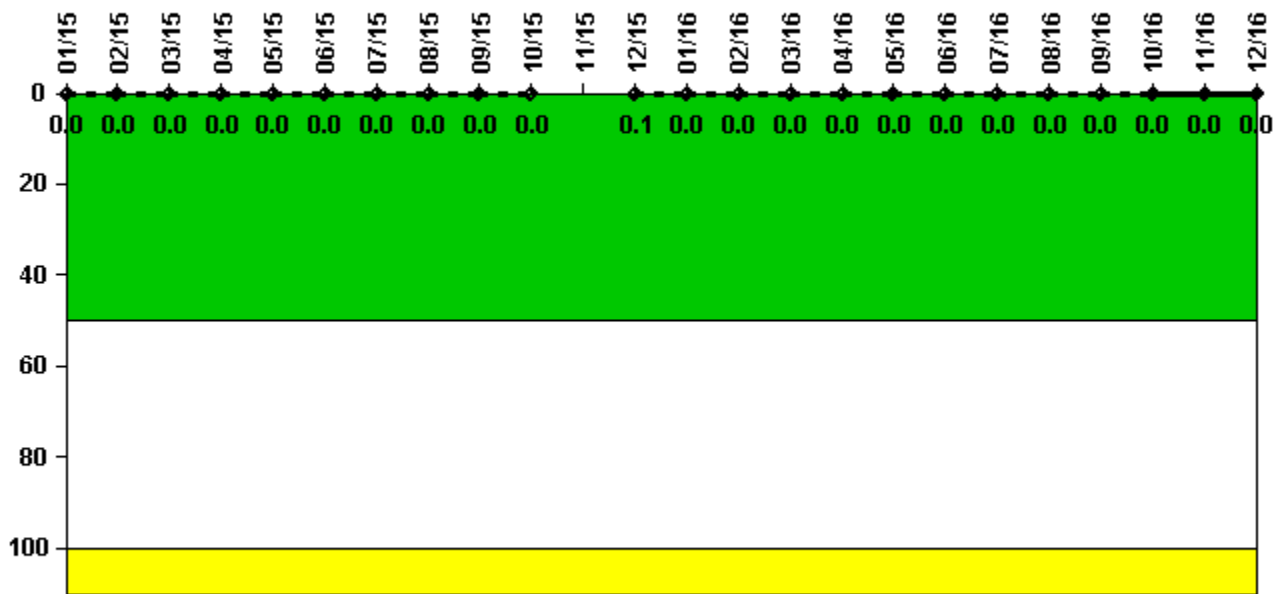
Notes

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)	4.28E-08	3.98E-08	3.61E-08	3.47E-08	3.52E-08	5.42E-08	2.61E-07	2.42E-07
URI (Δ CDF)	-4.34E-08	-4.28E-08	-4.27E-08	-4.26E-08	-4.81E-08	-4.20E-08	-2.12E-07	-2.13E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-5.50E-10	-3.00E-09	-6.60E-09	-7.90E-09	-1.30E-08	1.20E-08	4.90E-08	2.90E-08

Licensee Comments:

3Q/16: Changed PRA Parameter(s).

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

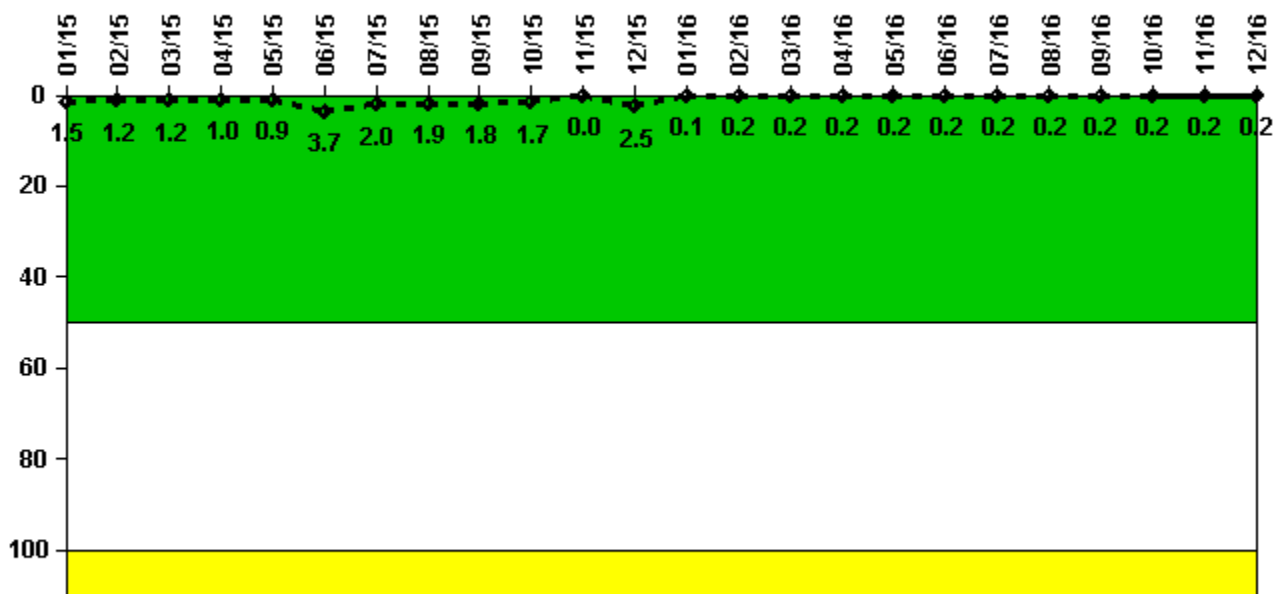
Notes

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	0.000151	0.000150	0.000162	0.000164	0.000151	0.000165	0.000178	0.000183	0.000178	0.000182	N/A	0.000984
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	0	0	0	0	0	0	0	0	0	N/A	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	0.000106	0.000183	0.000185	0.000200	0.000216	0.000200	0.000208	0.000214	0.000220	0.000216	0.000247	0.000245
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	0	0	0	0	0	0	0	0	0	0	0

Licensee Comments: none

Reactor Coolant System Leakage



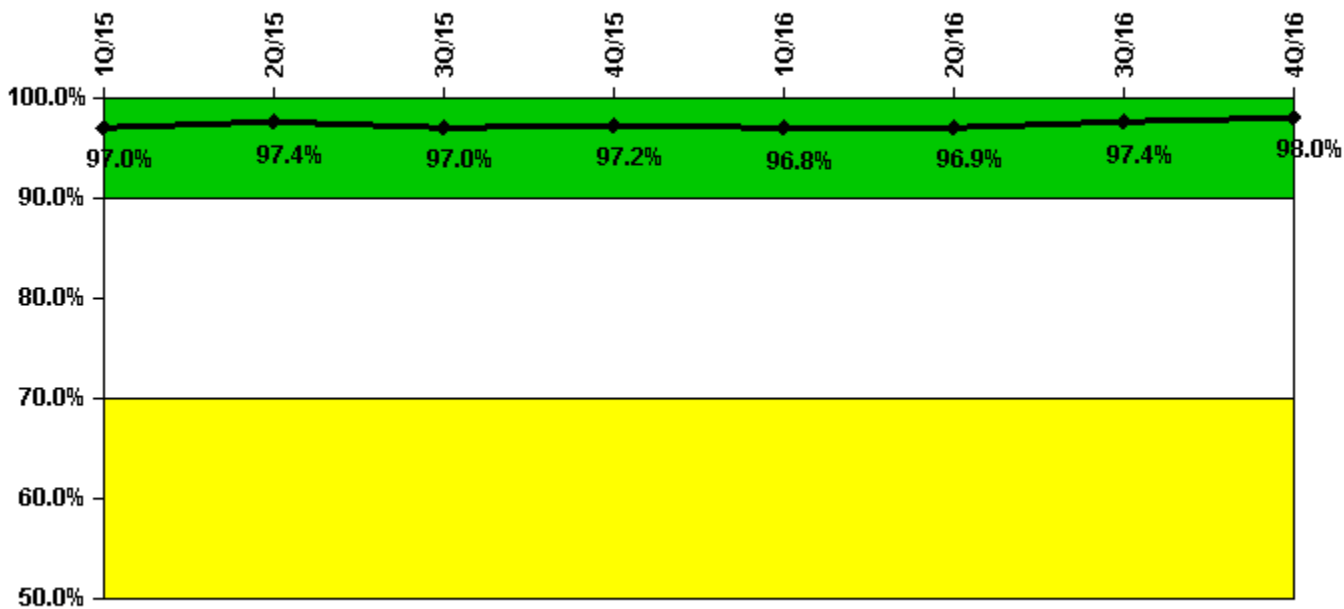
Thresholds: White > 50.0 Yellow > 100.0

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	0.150	0.120	0.120	0.100	0.090	0.370	0.200	0.190	0.180	0.170	0	0.249
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	1.5	1.2	1.2	1.0	0.9	3.7	2.0	1.9	1.8	1.7	0	2.5
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	0.010	0.020	0.017	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

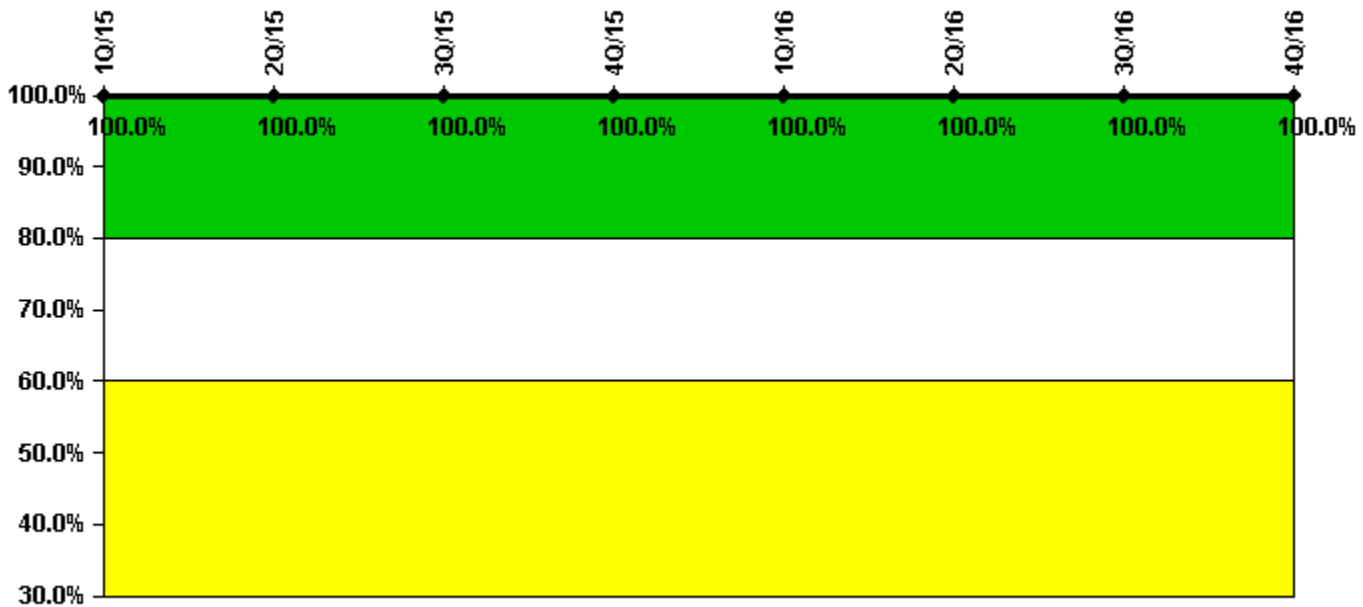
Drill/Exercise Performance	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Successful opportunities	22.0	36.0	47.0	2.0	60.0	148.0	28.0	4.0
Total opportunities	22.0	36.0	49.0	2.0	62.0	151.0	28.0	4.0
Indicator value	97.0%	97.4%	97.0%	97.2%	96.8%	96.9%	97.4%	98.0%

Licensee Comments:

3Q/16: Individual performed DEP (Drill Exercise Performance) session 3rd quarter 2016 not placed into ERO until 4th quarter 2016. Value chg. from 19 to 20.

3Q/15: DEP miss in 2nd Month of 3rd quarter was re-evaluated based on discussion of similar issue identified in evaluated session in 2016 with NRC. The number of successful opportunities was increased to 22.

ERO Drill Participation



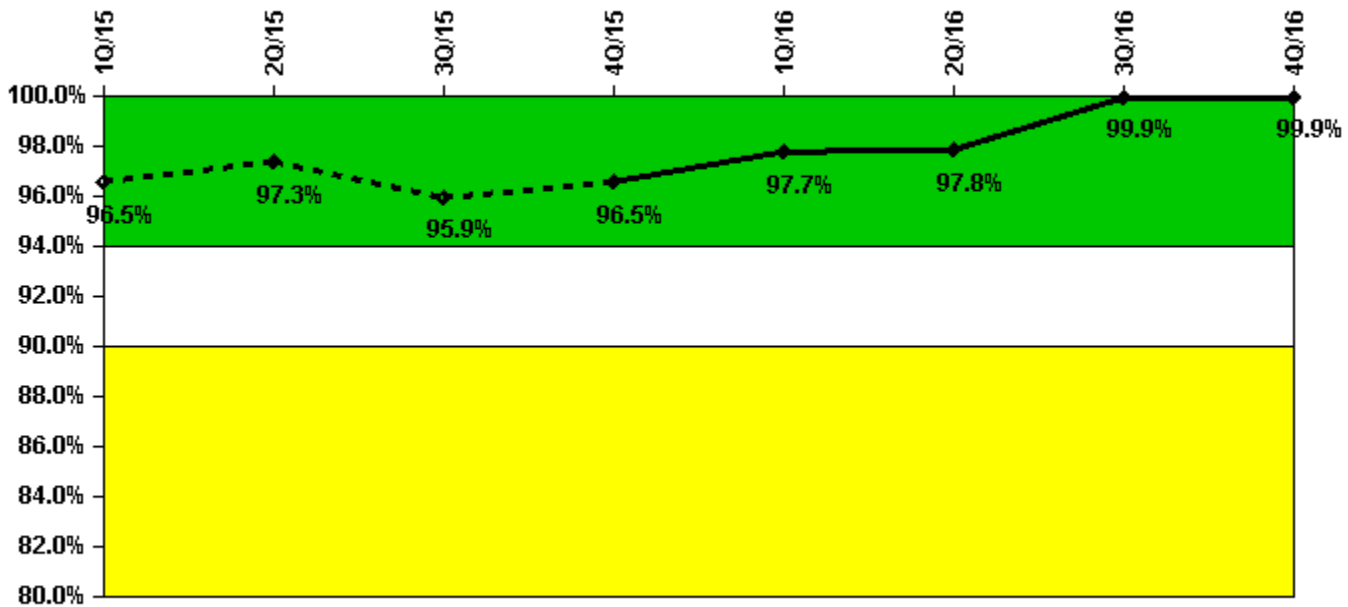
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Participating Key personnel	115.0	113.0	104.0	100.0	98.0	99.0	102.0	99.0
Total Key personnel	115.0	113.0	104.0	100.0	98.0	99.0	102.0	99.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Alert & Notification System



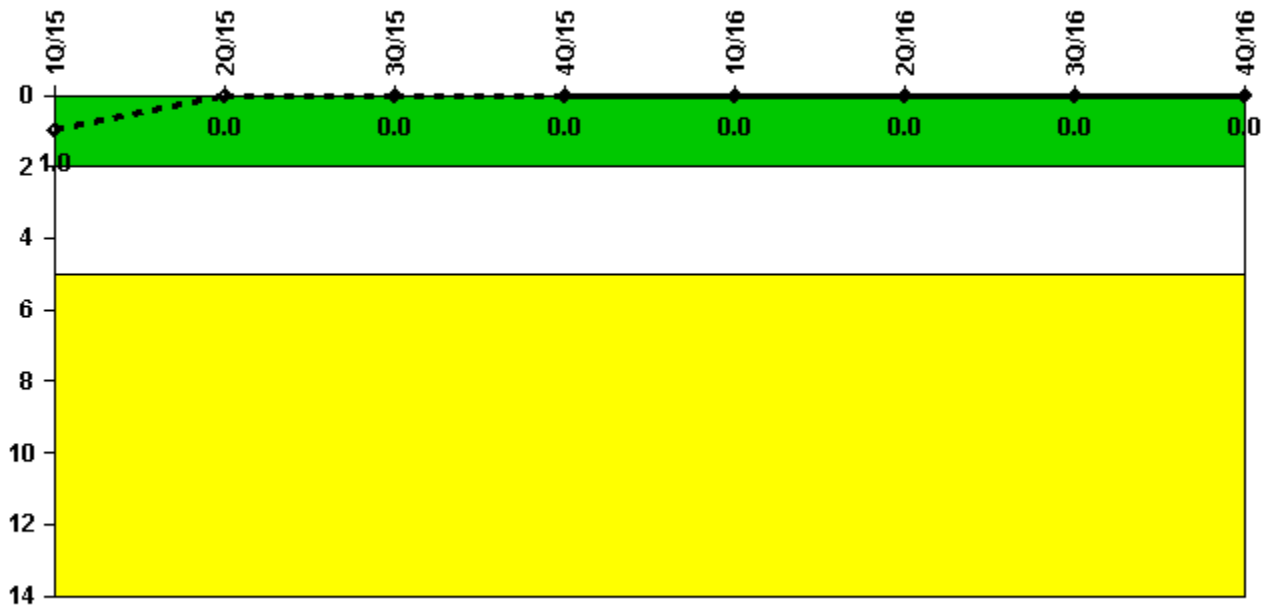
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	1Q/15	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16
Successful siren-tests	416	435	401	438	437	438	437	438
Total sirens-tests	438	438	438	438	438	438	438	438
Indicator value	96.5%	97.3%	95.9%	96.5%	97.7%	97.8%	99.9%	99.9%

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	1	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: February 1, 2017