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Byron 2 – Quarterly Performance Indicators

3Q/2017 Performance Indicators

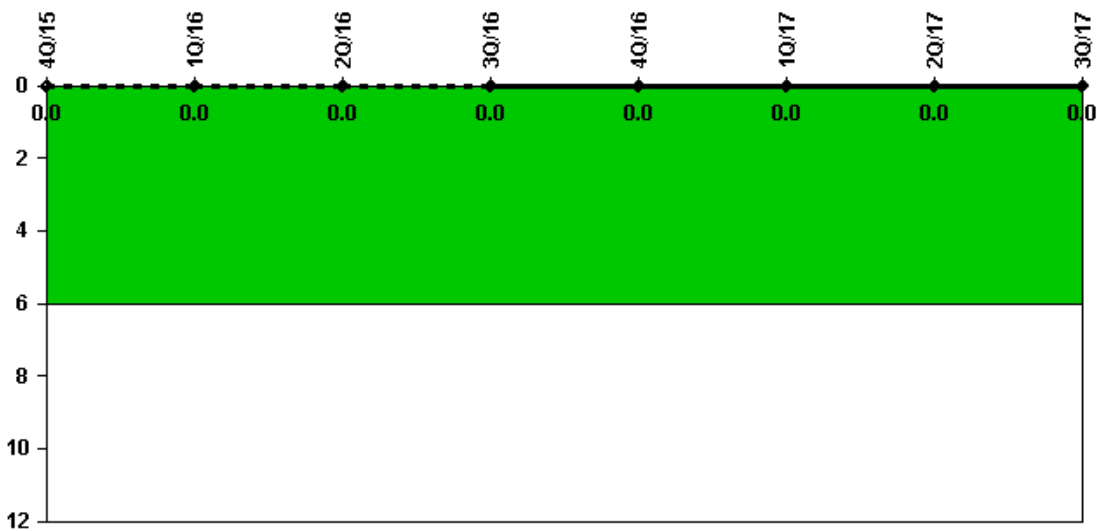
The solid trend line represents the current reporting period.

Licensee's General Comments: Byron Unit 2 Change file Jan 2017

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- Unplanned Power Changes per 7000 Critical Hours (IE03)
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Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

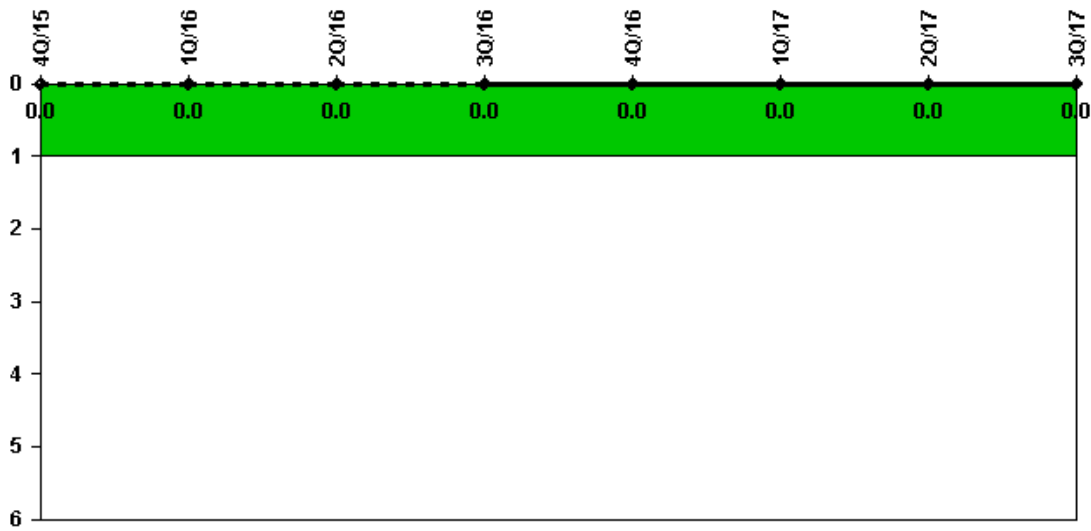
Notes

Unplanned Power Changes per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	2209.0	2183.0	1492.7	2208.0	2194.7	2159.0	2184.0	2208.0
Indicator value	0	0	0	0	0	0	0	0

TOP

Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

Notes

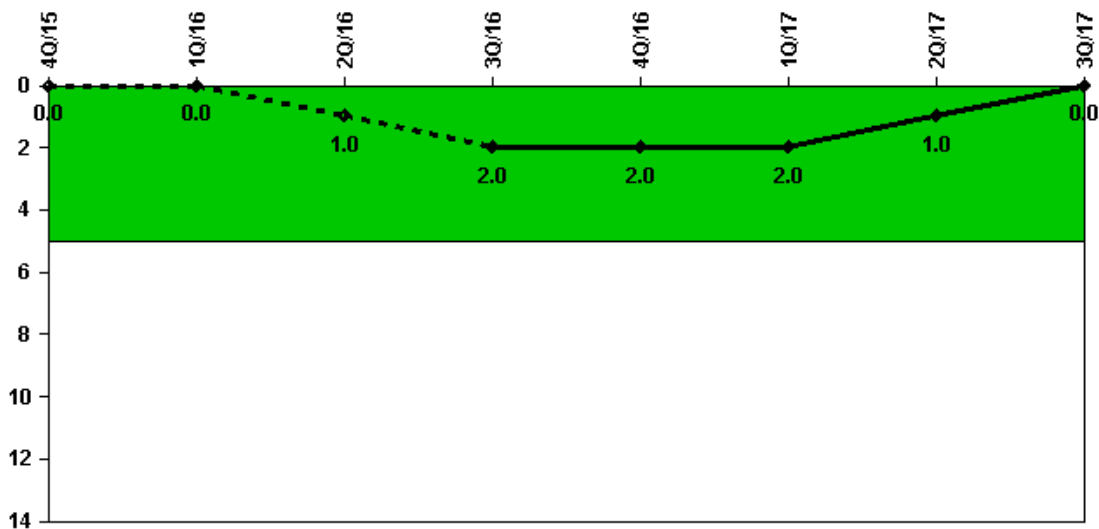
Unplanned Scrams with Complications 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17
 Scrams with complications 0 0 0 0 0 0 0 0

Indicator value 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

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Licensee Comments: none

Safety System Functional Failures (PWR)



Thresholds: White > 5.0

Notes

Safety System Functional Failures (PWR) 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

Safety System Functional Failures 0 0 1 1 0 0 0 0

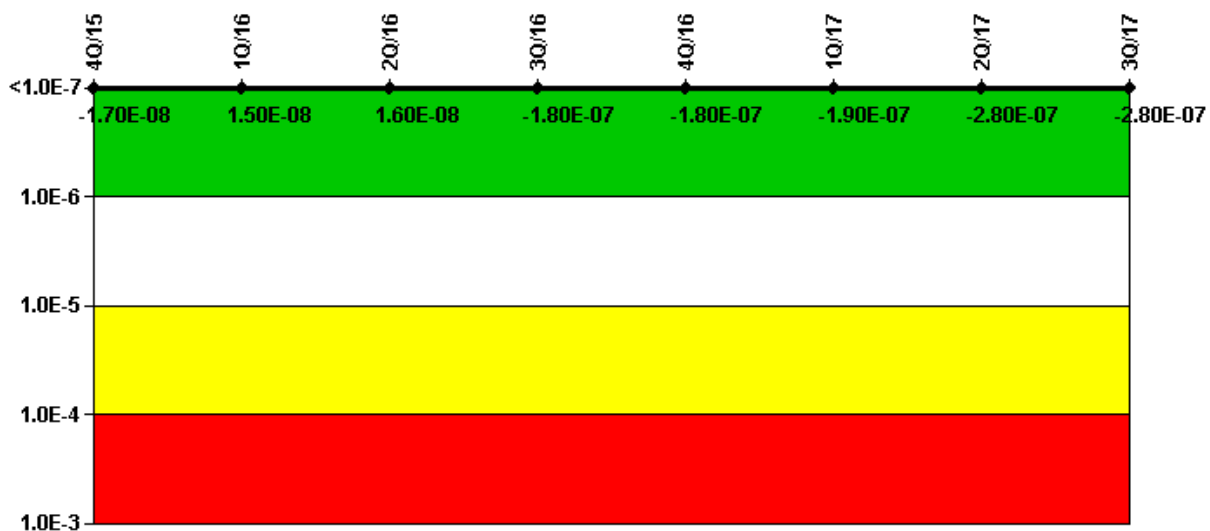
Indicator value 0 0 1 2 2 2 1 0

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Licensee Comments:

3Q/16: LER 2016-001-00, May 2016 AF Diesel Intake Design Deficiency Due to High Energy Line Break (HELB) Concerns. LER 2016-002-00 was issued 7/21/16, for Inadequate protection from Tornado Missiles Due to Non-conforming Design Conditions. 3Q16 U2 CDF and MSPI result were updated using the application specific model BB011b4, which takes credit for the Generation III Westinghouse RCP shutdown seals. The corresponding BY-MSPI-001 Rev 18 was approved in June 2016.

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

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (Δ CDF)	-1.44E-08	1.73E-08	1.85E-08	6.70E-10	7.06E-10	-1.33E-08	-1.89E-08	-1.95E-08
URI (Δ CDF)	-2.75E-09	-2.75E-09	-2.75E-09	-1.81E-07	-1.81E-07	-1.81E-07	-2.59E-07	-2.59E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.70E-08	1.50E-08	1.60E-08	-1.80E-07	-1.80E-07	-1.90E-07	-2.80E-07	-2.80E-07

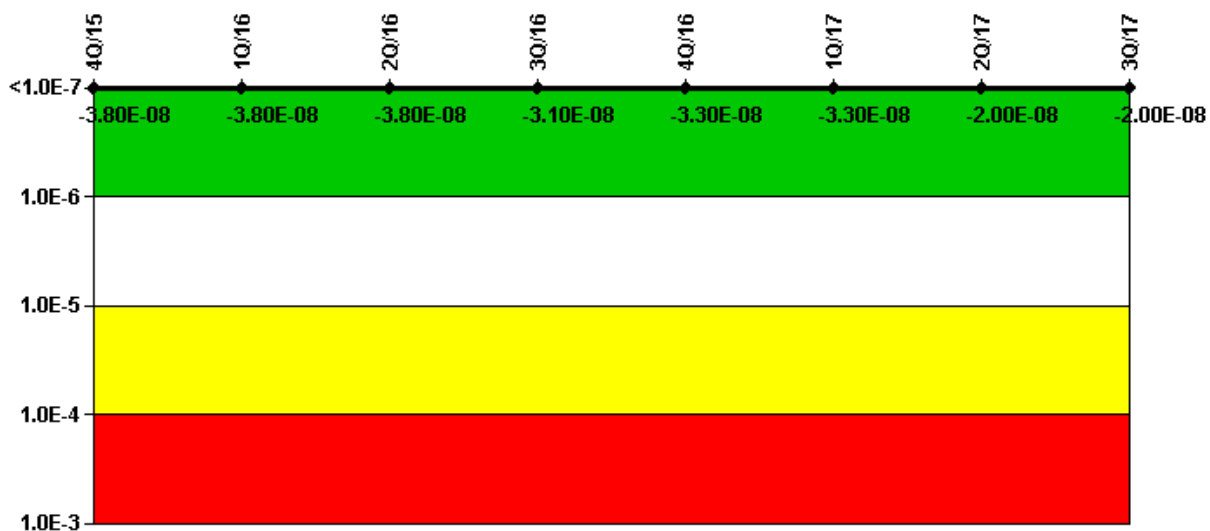
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Licensee Comments:

2Q/17: Changed PRA Parameter(s). Changed PRA Parameter(s).

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

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

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (Δ CDF)	-2.89E-08	-2.89E-08	-2.89E-08	-2.46E-08	-2.71E-08	-2.71E-08	-1.39E-08	-1.39E-08
URI (Δ CDF)	-8.61E-09	-8.61E-09	-8.61E-09	-6.17E-09	-6.17E-09	-6.17E-09	-6.00E-09	-6.00E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.80E-08	-3.80E-08	-3.80E-08	-3.10E-08	-3.30E-08	-3.30E-08	-2.00E-08	-2.00E-08

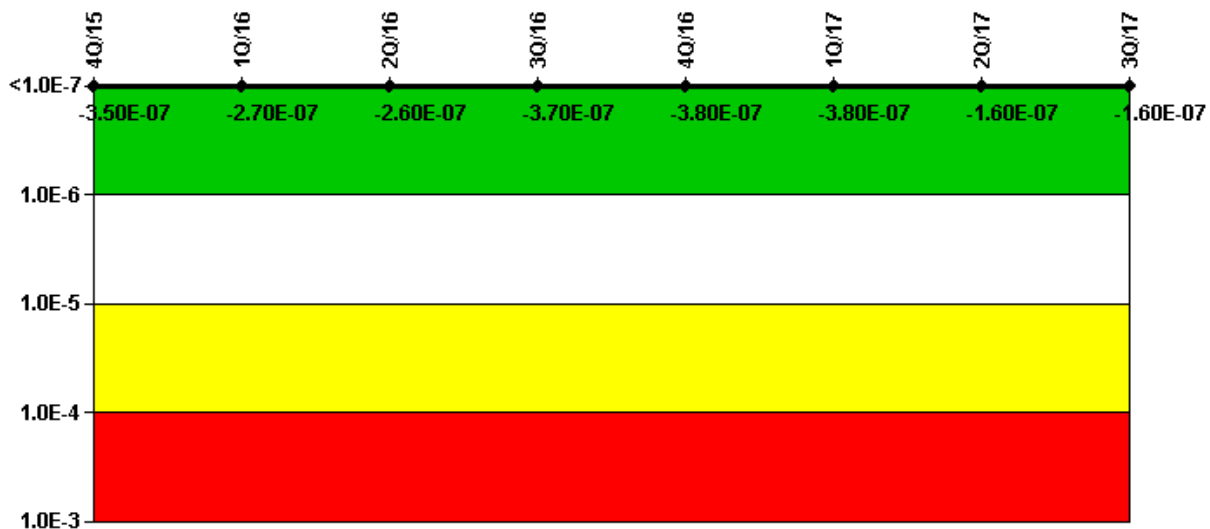
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Licensee Comments:

2Q/17: Changed PRA Parameter(s). Changed PRA Parameter(s).

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

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	4.62E-09	8.53E-08	8.41E-08	-1.04E-08	-1.29E-08	-1.33E-08	2.26E-08	1.80E-08
URI (ΔCDF)	-3.57E-07	-3.54E-07	-3.45E-07	-3.59E-07	-3.67E-07	-3.67E-07	-1.85E-07	-1.83E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.50E-07	-2.70E-07	-2.60E-07	-3.70E-07	-3.80E-07	-3.80E-07	-1.60E-07	-1.60E-07

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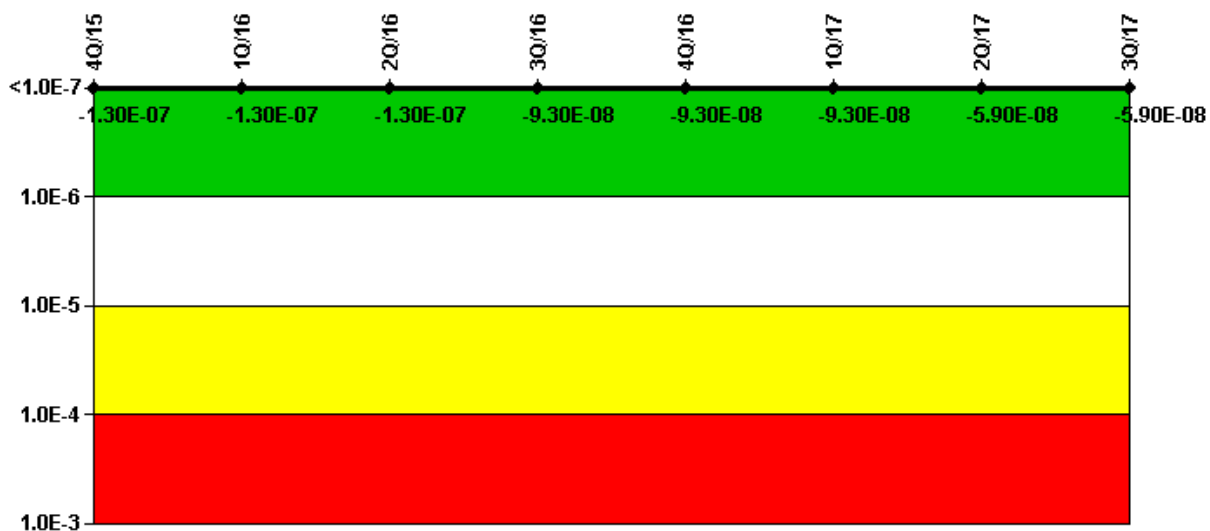
Licensee Comments:

2Q/17: Changed PRA Parameter(s). Changed PRA Parameter(s).

4Q/16: U1-U2 Train A crosstie considered unavailable starting 10/28/11 when standing order 11-057 and 1/2BFRH.1 procedure revisions were issued to remove procedural guidance on use of crosstie modification pending NRC approval. Reference IR 1257908

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

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (Δ CDF)	-3.33E-08	-3.33E-08	-3.33E-08	-2.38E-08	-2.38E-08	-2.38E-08	-1.42E-08	-1.42E-08
URI (Δ CDF)	-9.77E-08	-9.77E-08	-9.77E-08	-6.92E-08	-6.92E-08	-6.92E-08	-4.45E-08	-4.45E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.30E-07	-1.30E-07	-1.30E-07	-9.30E-08	-9.30E-08	-9.30E-08	-5.90E-08	-5.90E-08

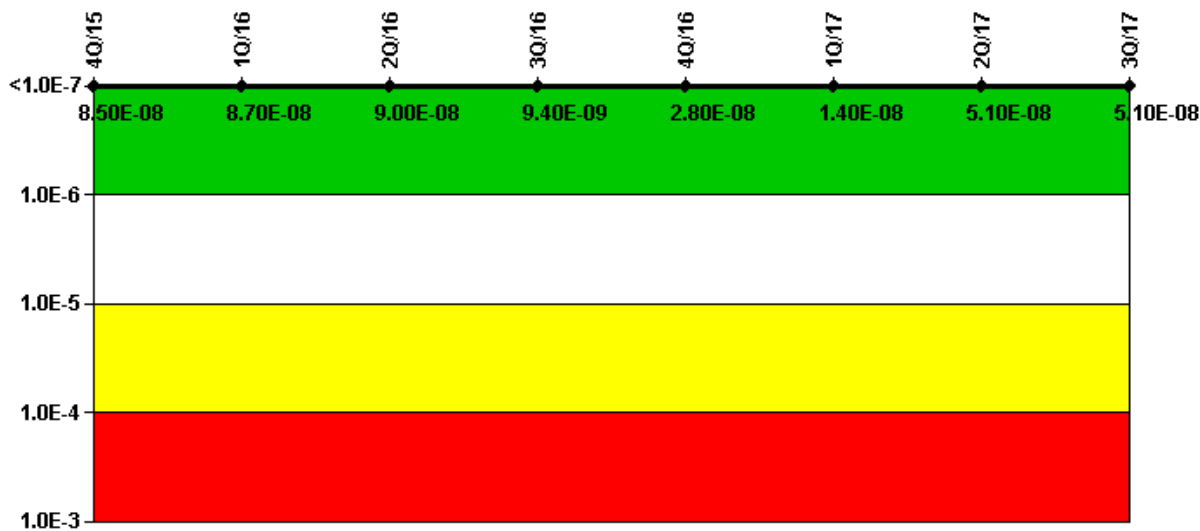
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Licensee Comments:

2Q/17: Changed PRA Parameter(s). Changed PRA Parameter(s).

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

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (Δ CDF)	1.78E-07	1.80E-07	1.82E-07	6.13E-08	7.98E-08	6.63E-08	1.43E-07	1.43E-07
URI (Δ CDF)	-9.23E-08	-9.23E-08	-9.23E-08	-5.20E-08	-5.20E-08	-5.20E-08	-9.17E-08	-9.17E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	8.50E-08	8.70E-08	9.00E-08	9.40E-09	2.80E-08	1.40E-08	5.10E-08	5.10E-08

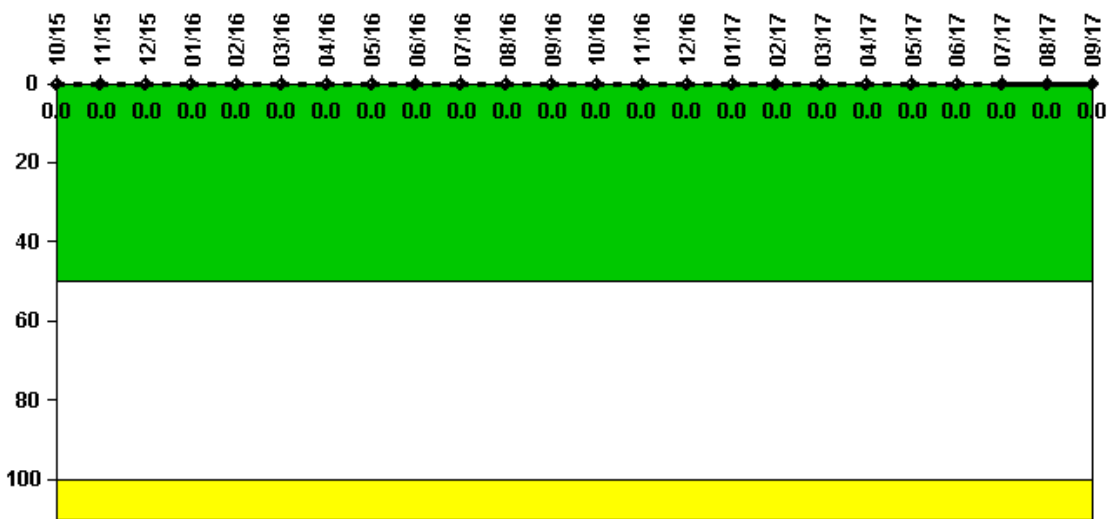
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Licensee Comments:

2Q/17: Changed PRA Parameter(s). Changed PRA Parameter(s).

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

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

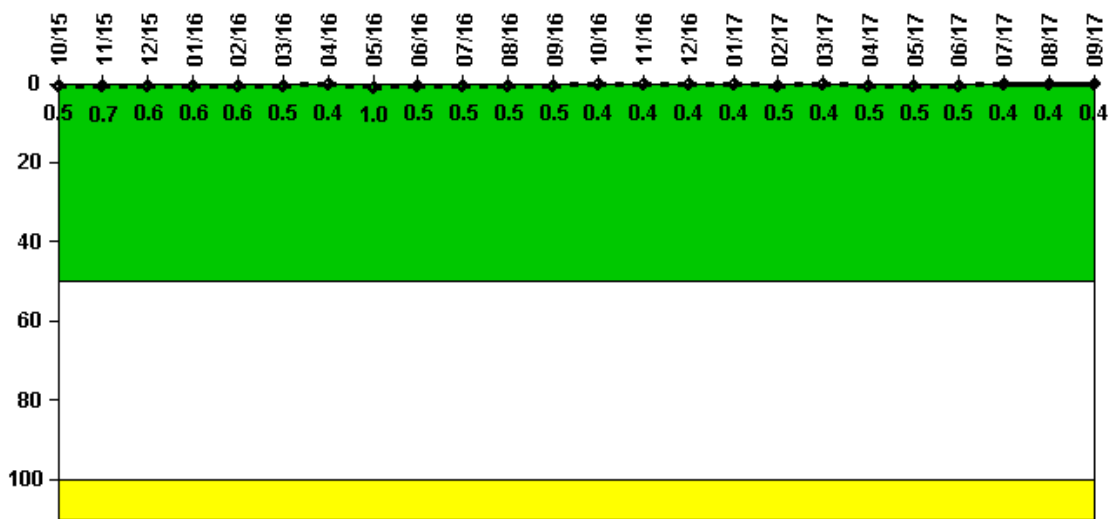
Notes

Reactor Coolant System Activity	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum activity	0.000073	0.000070	0.000078	0.000080	0.000078	0.000092	0.000079	0.000058	0.000050	0.000074	0.000049	0.000055
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
Reactor Coolant System Activity	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum activity	0.000054	0.000057	0.000061	0.000065	0.000063	0.000066	0.000067	0.000068	0.000069	0.000070	0.000081	0.000112
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

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Licensee Comments: none

Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

Notes

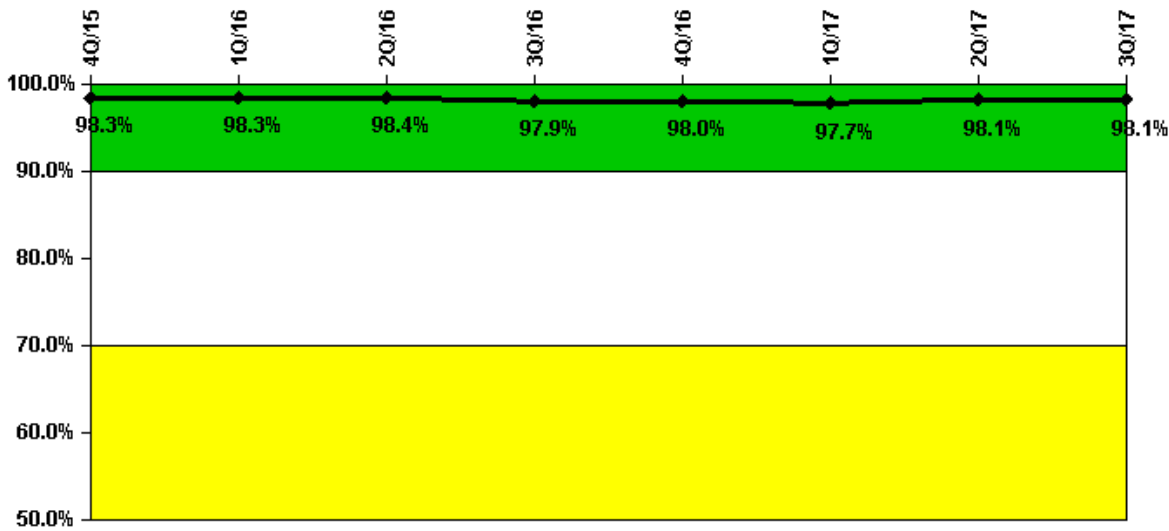
Reactor Coolant System Leakage	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum leakage	0.050	0.070	0.060	0.060	0.060	0.050	0.040	0.100	0.050	0.050	0.050	0.050
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	0.5	0.7	0.6	0.6	0.6	0.5	0.4	1.0	0.5	0.5	0.5	0.5
Reactor Coolant System Leakage	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum leakage	0.040	0.040	0.040	0.040	0.050	0.040	0.050	0.050	0.050	0.040	0.040	0.040
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	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.4

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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

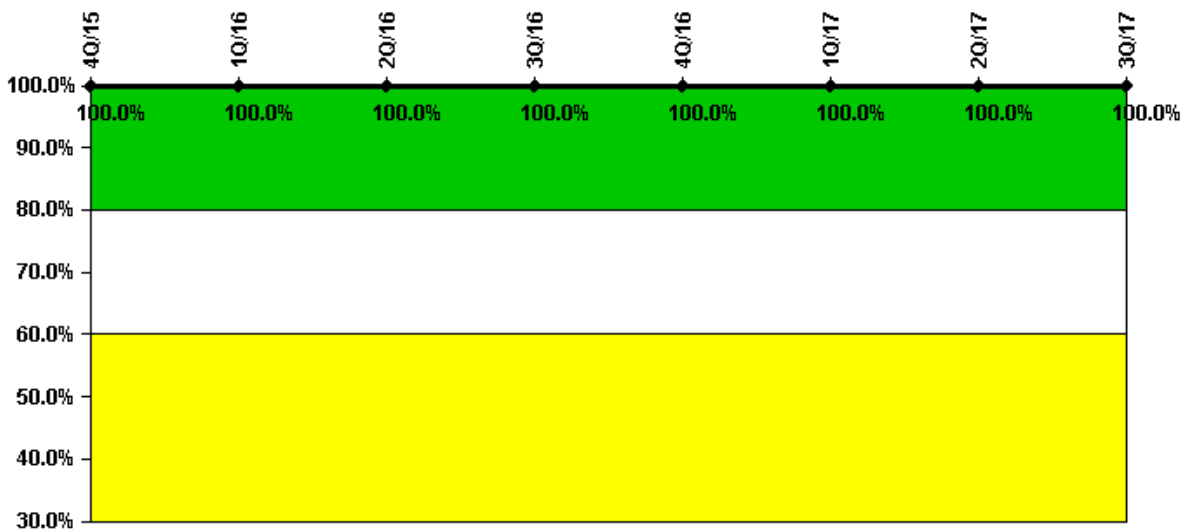
Drill/Exercise Performance	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful opportunities	32.0	106.0	44.0	29.0	34.0	28.0	55.0	40.0
Total opportunities	32.0	109.0	44.0	32.0	34.0	28.0	56.0	40.0

Indicator value **98.3% 98.3% 98.4% 97.9% 98.0% 97.7% 98.1% 98.1%**

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

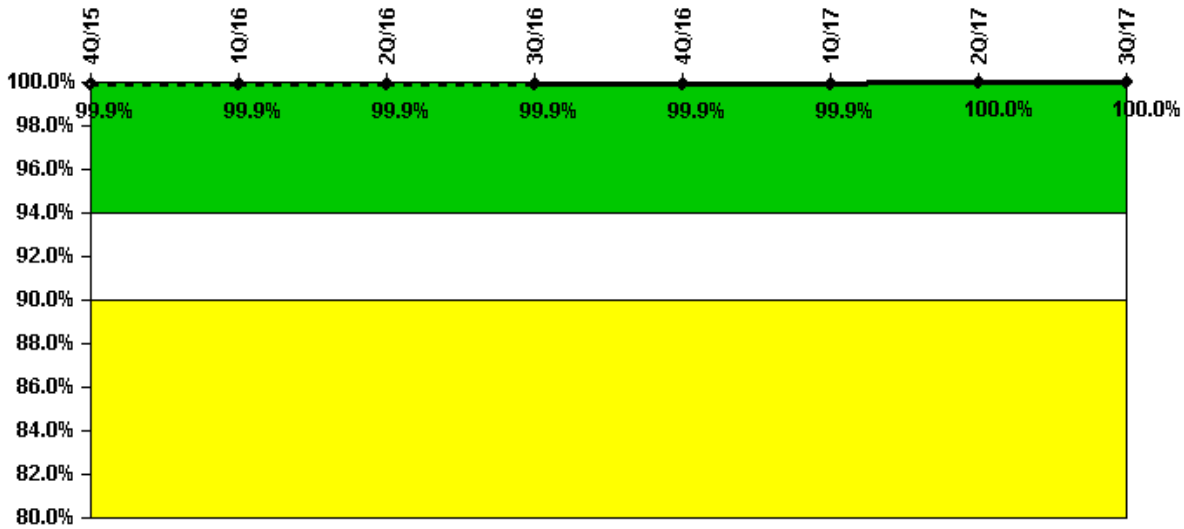
ERO Drill Participation	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Participating Key personnel	75.0	76.0	78.0	77.0	77.0	78.0	66.0	70.0
Total Key personnel	75.0	76.0	78.0	77.0	77.0	78.0	66.0	70.0

Indicator value **100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%**

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Licensee Comments: none

Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

Notes

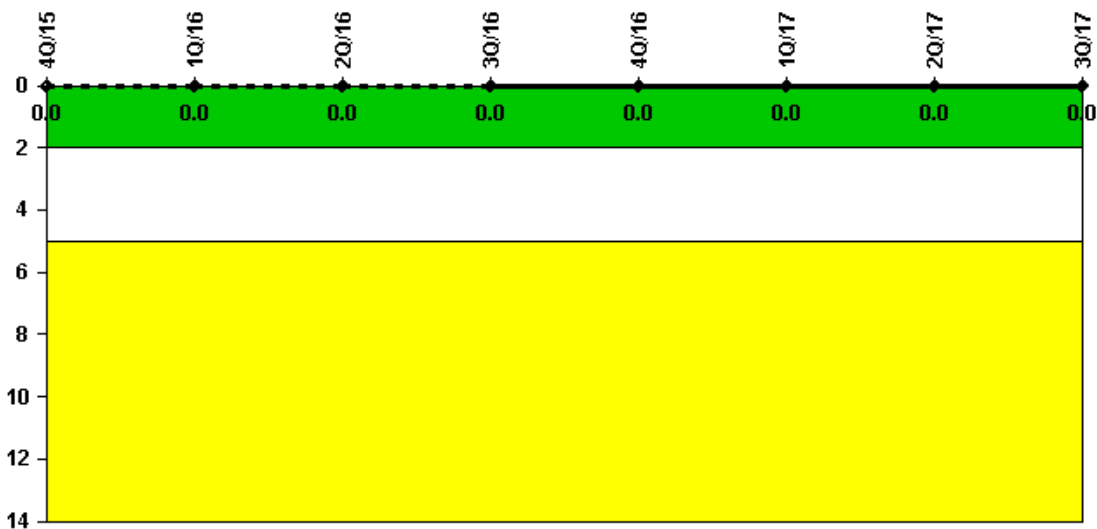
Alert & Notification System	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful siren-tests	3903	3897	3902	3900	3780	3964	3904	3842
Total sirens-tests	3904	3904	3904	3904	3782	3965	3904	3843

Indicator value **99.9%** **99.9%** **99.9%** **99.9%** **99.9%** **99.9%** **100.0%** **100.0%**

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Licensee Comments: none

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

Notes

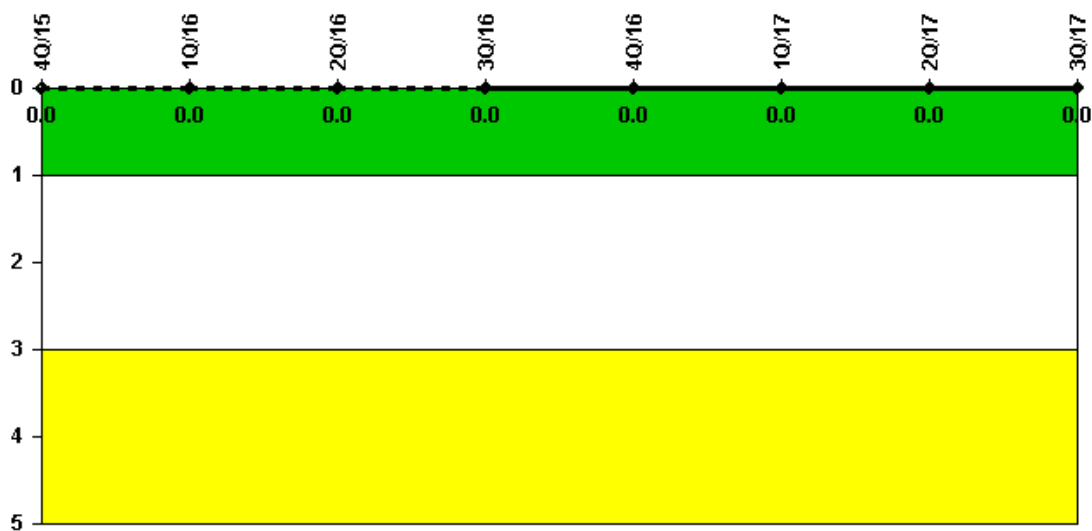
Occupational Exposure Control Effectiveness 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

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

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Licensee Comments: none

RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

Notes

RETS/ODCM Radiological Effluent 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

RETS/ODCM occurrences 0 0 0 0 0 0 0 0

Indicator value 0 0 0 0 0 0 0 0

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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.

Current data as of: October 31, 2017

Page Last Reviewed/Updated Monday, November 06, 2017