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Duane Arnold – Quarterly Performance Indicators

3Q/2017 Performance Indicators

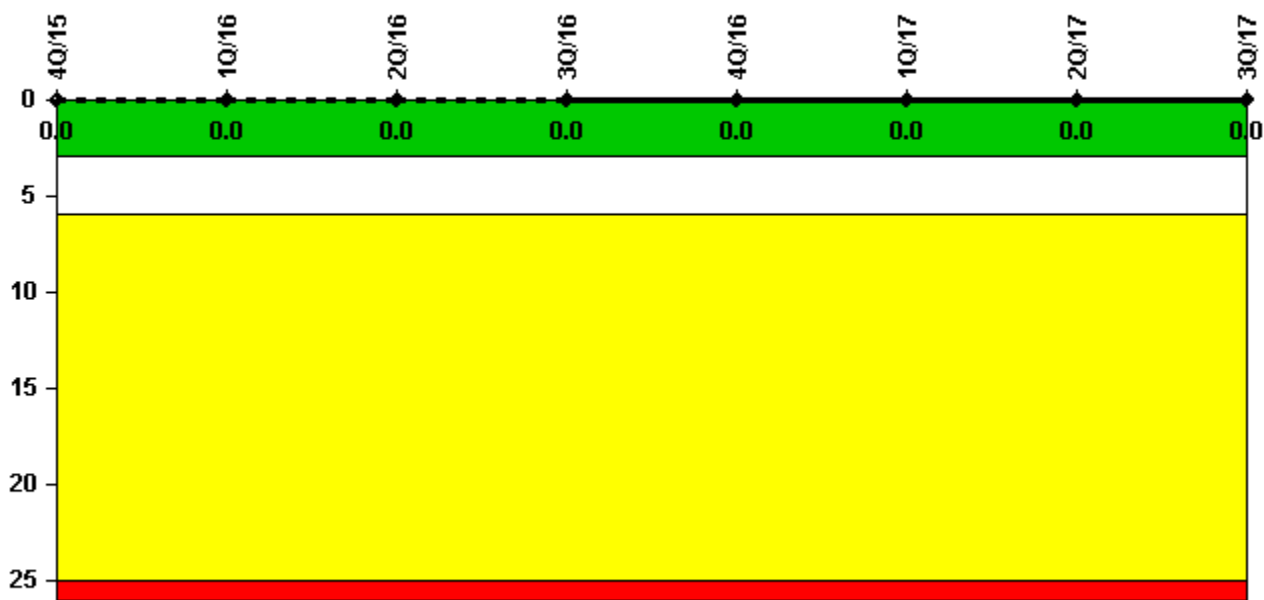
The solid trend line represents the current reporting period.

Licensee's General Comments: none

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- [Unplanned Scrams \(IE01\)](#)
- [Unplanned Power Changes per 7000 Critical Hours \(IE03\)](#)
- [Unplanned Scrams with Complications \(IE04\)](#)
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- [High Pressure Injection Systems \(MS07\)](#)
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Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

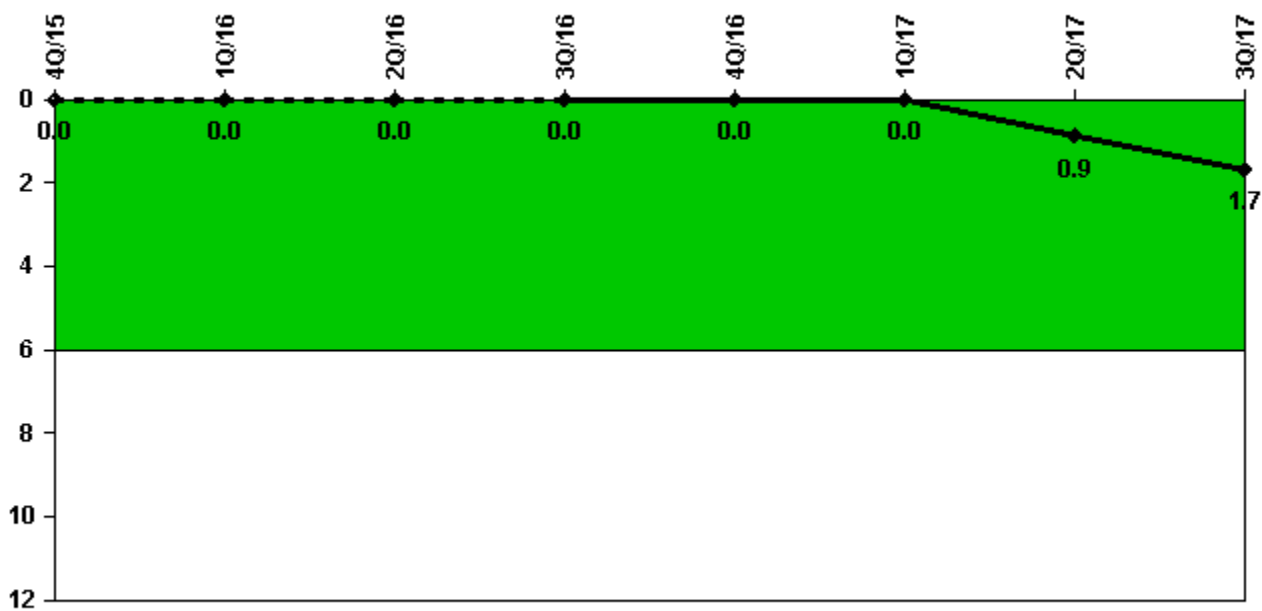
Notes

Unplanned Scrams per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2209.0	2183.0	2184.0	2208.0	1551.5	2159.0	2184.0	2208.0
Indicator value	0	0	0	0	0	0	0	0

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Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

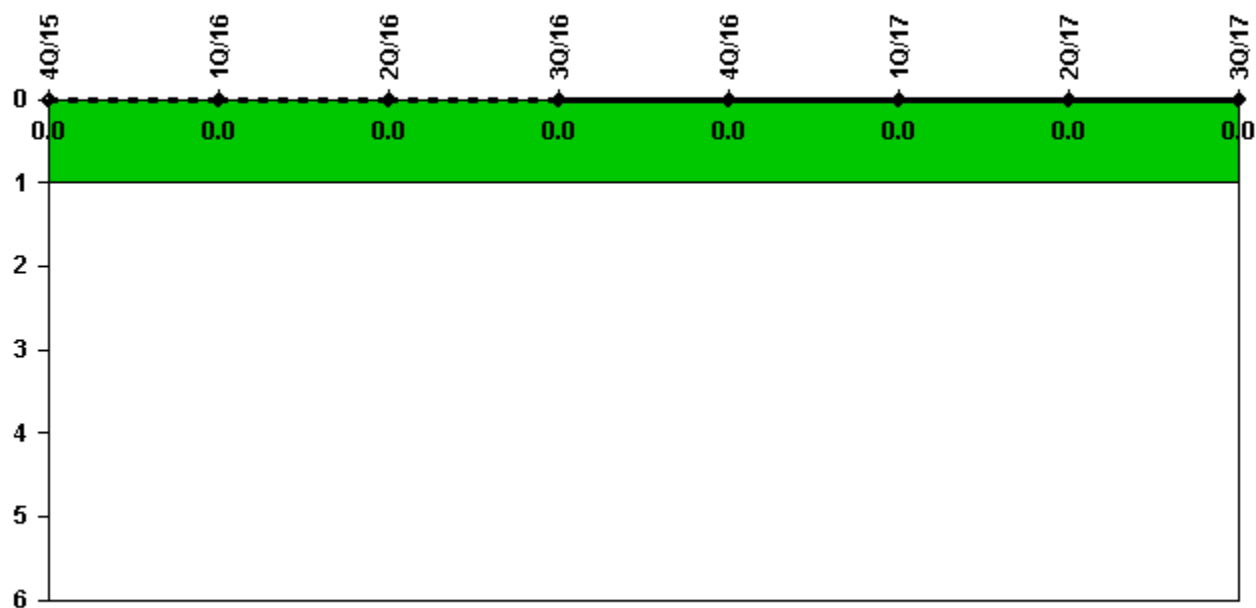
Notes

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	1.0	1.0
Critical hours	2209.0	2183.0	2184.0	2208.0	1551.5	2159.0	2184.0	2208.0
Indicator value	0	0	0	0	0	0	0.9	1.7

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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

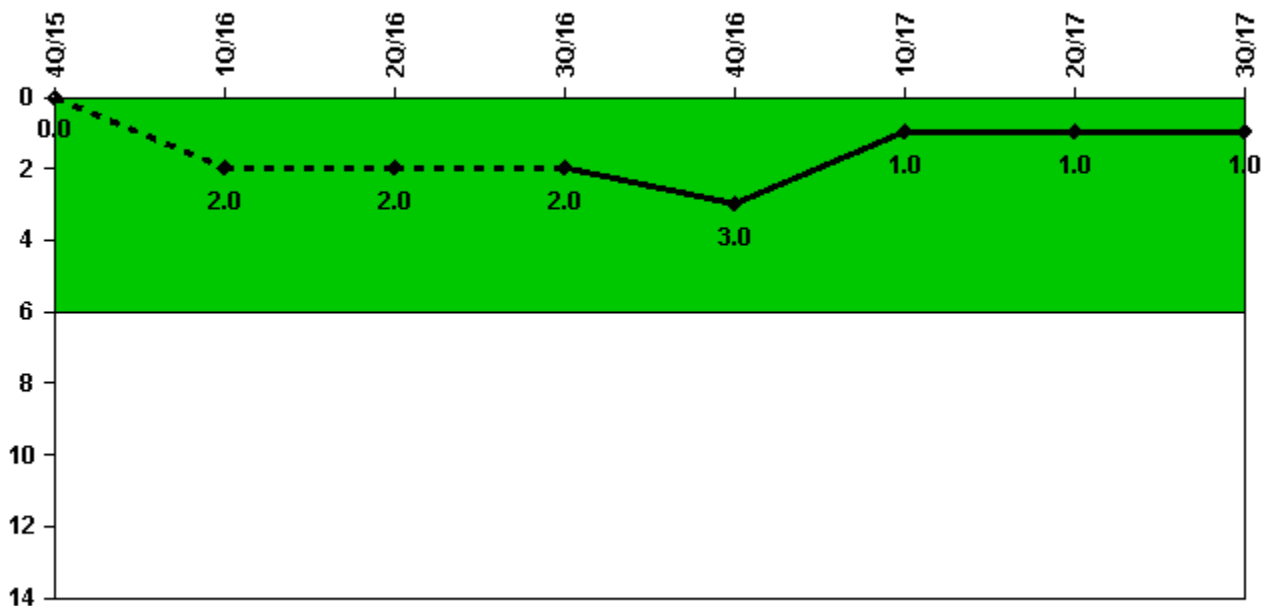
Scrams with complications 0 0 0 0 0 0 0 0

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 (BWR)



Thresholds: White > 6.0

Notes

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

Safety System Functional Failures 0 2 0 0 1 0 0 0

Indicator value 0 2 2 2 3 1 1 1

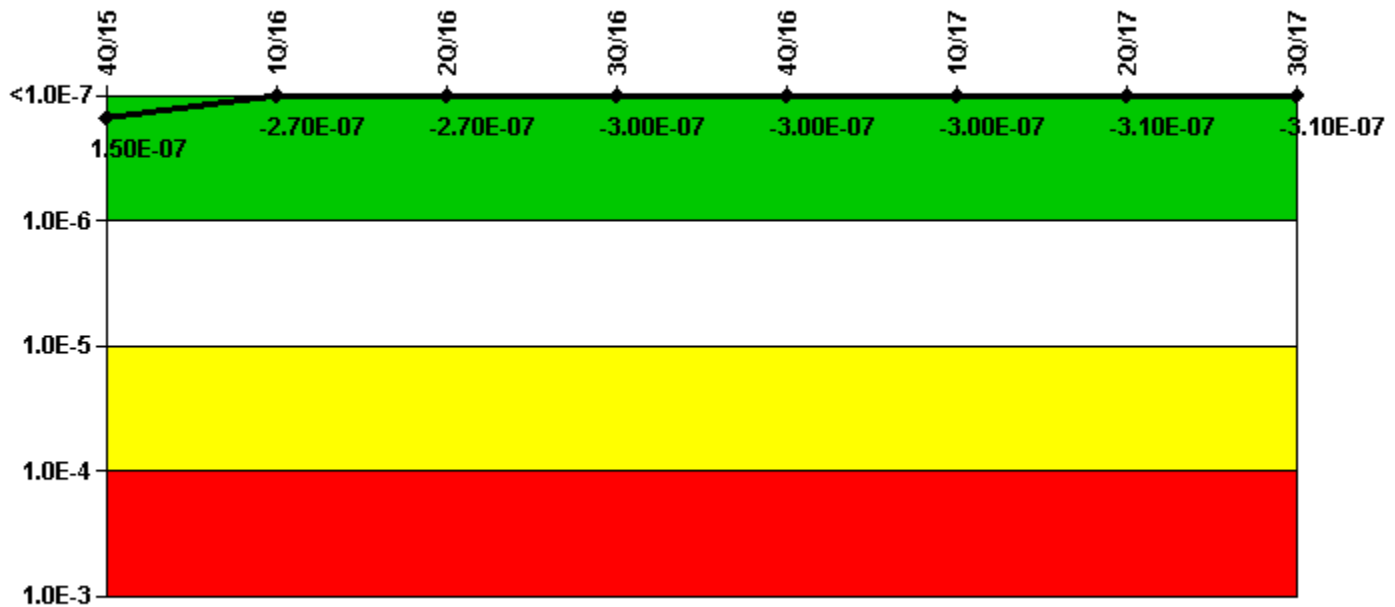
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Licensee Comments:

4Q/16: LER 2016-002 RCIC SSFF

1Q/16: Revised LER 2015-005 was submitted 1/28/16 for the affect on ECCS from the torus coating event. LER 2015-006, HPCI and RCIC CST Suction Transfer Inoperable.

Mitigating Systems Performance Index, Emergency AC Power System



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

Notes

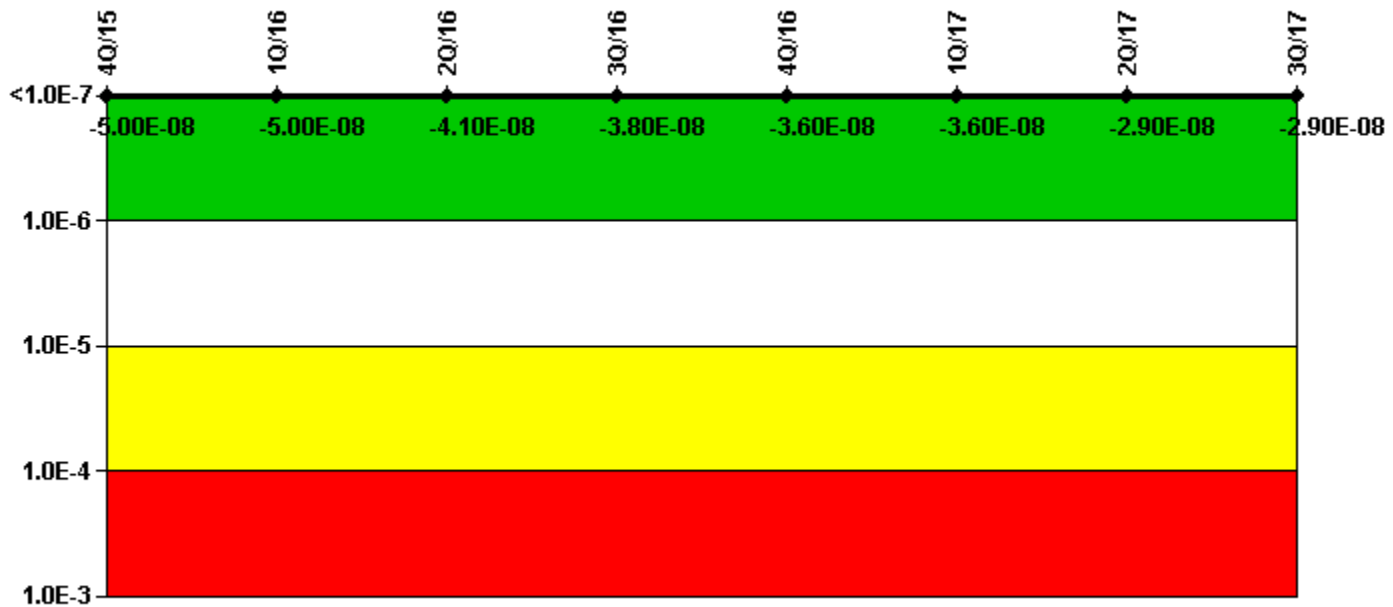
Mitigating Systems Performance

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)	2.61E-07	-2.11E-09	3.11E-09	-2.81E-08	-2.64E-08	-2.92E-08	-3.61E-08	-3.61E-08
URI (Δ CDF)	-1.10E-07	-2.70E-07	-2.70E-07	-2.70E-07	-2.70E-07	-2.70E-07	-2.70E-07	-2.70E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	1.50E-07	-2.70E-07	-2.70E-07	-3.00E-07	-3.00E-07	-3.00E-07	-3.10E-07	-3.10E-07

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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

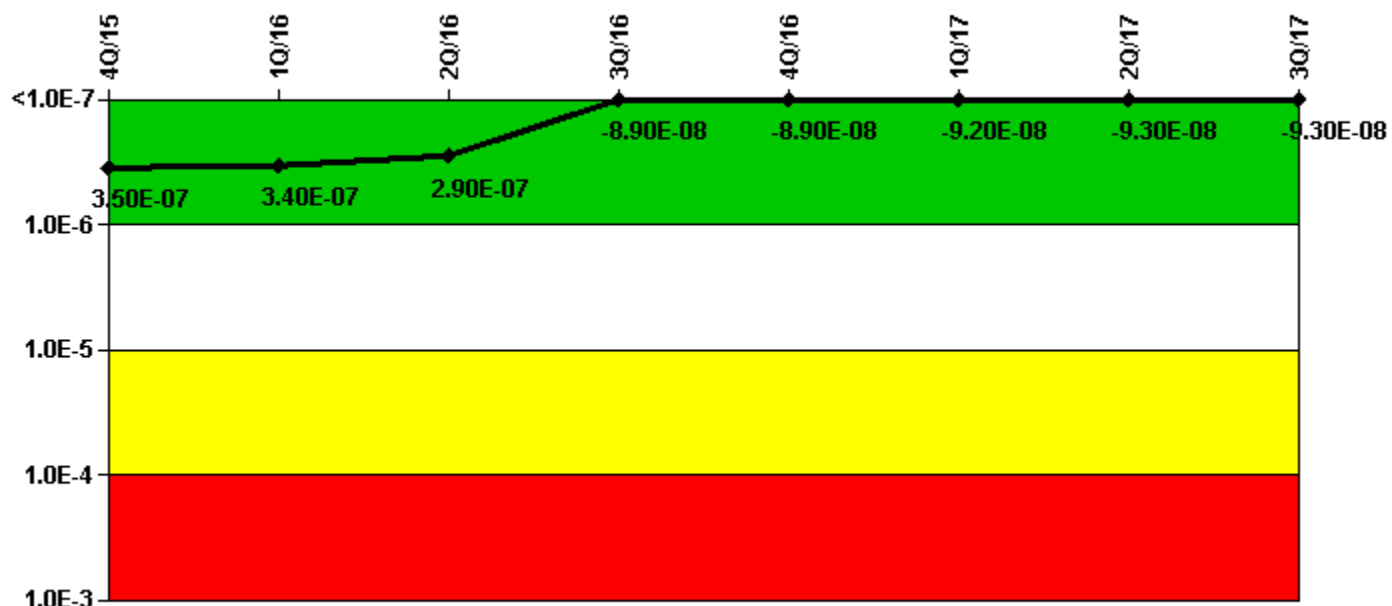
Mitigating Systems Performance

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)	-1.65E-08	-1.65E-08	-7.31E-09	-4.34E-09	-2.31E-09	-2.60E-09	4.31E-09	4.40E-09
URI (Δ CDF)	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08	-3.33E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-5.00E-08	-5.00E-08	-4.10E-08	-3.80E-08	-3.60E-08	-3.60E-08	-2.90E-08	-2.90E-08

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Licensee Comments: none

Mitigating Systems Performance Index, Heat Removal System



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

Notes

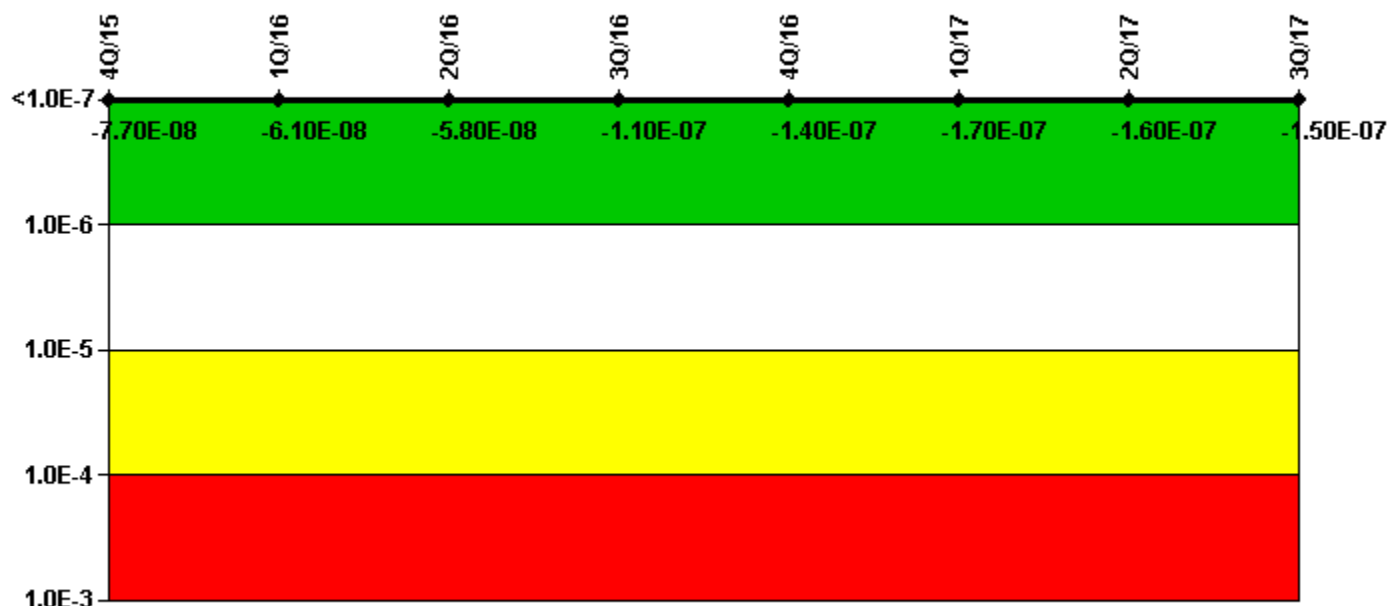
Mitigating Systems Performance Index, Heat Removal System

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	3.34E-07	3.30E-07	2.80E-07	-1.25E-08	-1.19E-08	-1.50E-08	-1.58E-08	-1.58E-08
URI (ΔCDF)	1.35E-08	1.35E-08	1.35E-08	-7.69E-08	-7.69E-08	-7.69E-08	-7.69E-08	-7.69E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.50E-07	3.40E-07	2.90E-07	-8.90E-08	-8.90E-08	-9.20E-08	-9.30E-08	-9.30E-08

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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

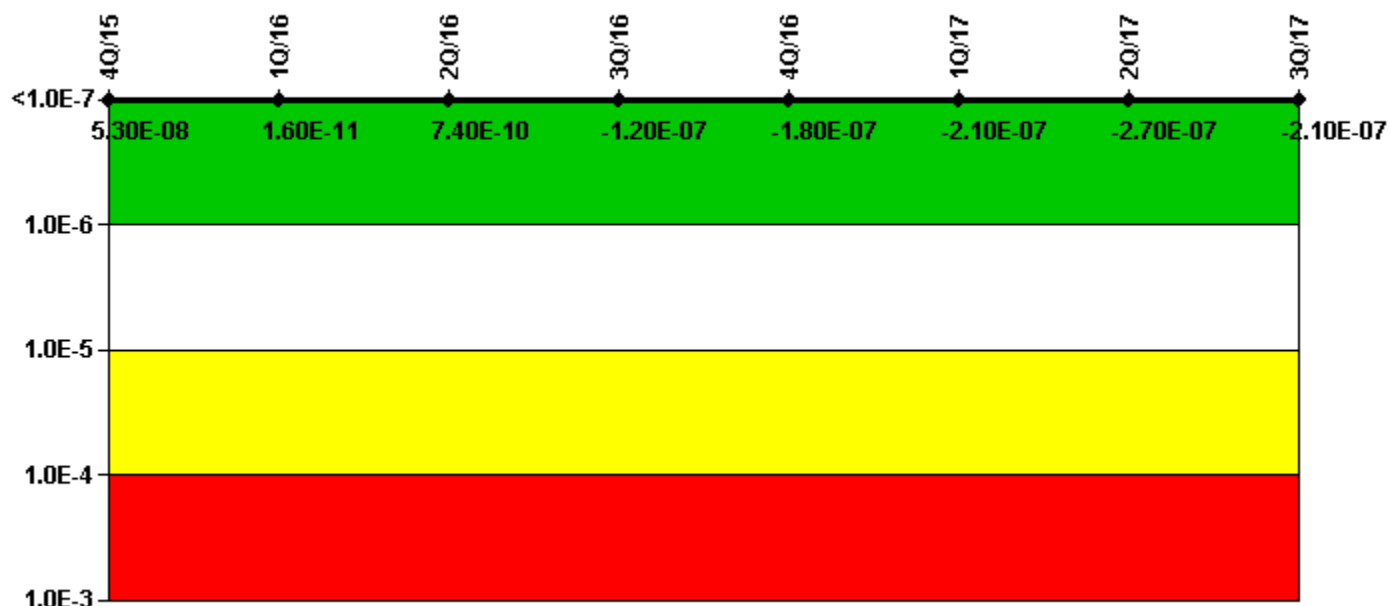
Mitigating Systems Performance

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)	1.59E-07	1.75E-07	1.78E-07	1.23E-07	1.01E-07	6.42E-08	7.61E-08	8.65E-08
URI (Δ CDF)	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.70E-08	-6.10E-08	-5.80E-08	-1.10E-07	-1.40E-07	-1.70E-07	-1.60E-07	-1.50E-07

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Licensee Comments: none

Mitigating Systems Performance Index, Cooling Water Systems



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

Notes

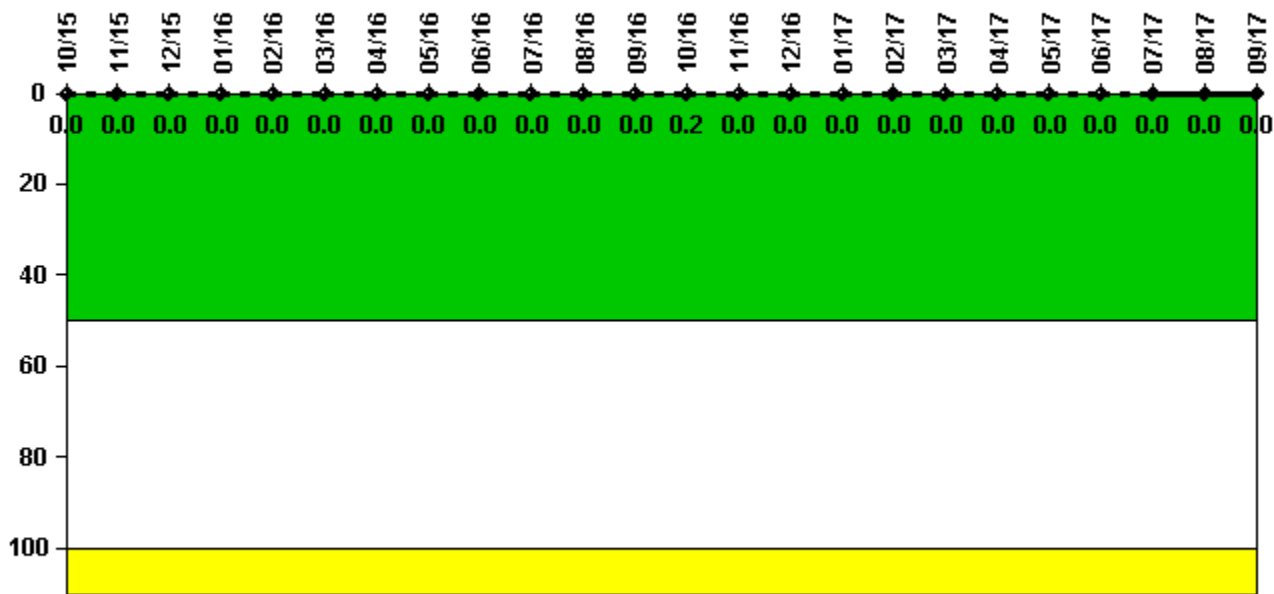
Mitigating Systems Performance Index, Cooling Water Systems

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (Δ CDF)	3.34E-07	2.81E-07	2.82E-07	1.63E-07	1.02E-07	7.34E-08	7.70E-09	6.77E-08
URI (Δ CDF)	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	5.30E-08	1.60E-11	7.40E-10	-1.20E-07	-1.80E-07	-2.10E-07	-2.70E-07	-2.10E-07

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Licensee Comments: none

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Activity 10/15 11/15 12/15 01/16 02/16 03/16 04/16 05/16 06/16 07/16 08/16 09/16

Maximum activity	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0.2

Indicator value 0 0 0 0 0 0 0 0 0 0 0 0 0

Reactor Coolant System Activity 10/16 11/16 12/16 01/17 02/17 03/17 04/17 05/17 06/17 07/17 08/17 09/17

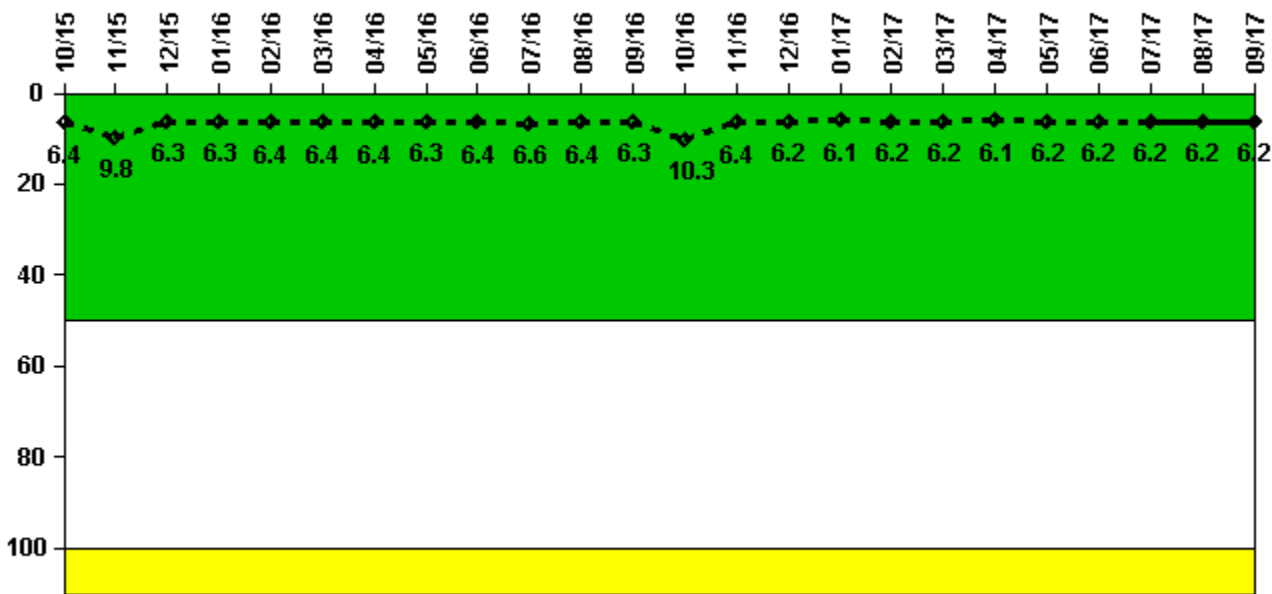
Maximum activity	0.000380	0	0	0	0	0	0	0	0	0	0	0
Technical specification limit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Indicator value 0.2 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	1.600	2.460	1.580	1.580	1.590	1.590	1.590	1.580	1.590	1.640	1.590	1.580
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	6.4	9.8	6.3	6.3	6.4	6.4	6.4	6.3	6.4	6.6	6.4	6.3
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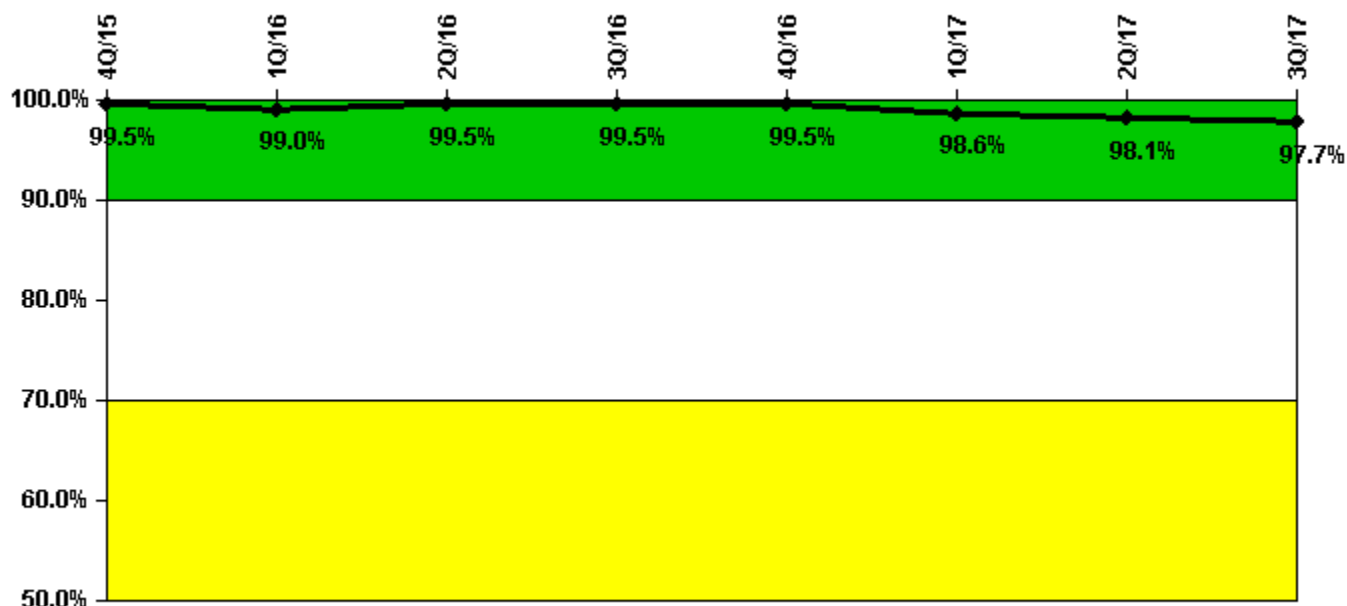
Reactor Coolant System Leakage	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum leakage	2.570	1.600	1.540	1.530	1.540	1.540	1.530	1.550	1.560	1.560	1.550	1.540
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0

Indicator value	10.3	6.4	6.2	6.1	6.2	6.2	6.1	6.2	6.2	6.2	6.2	6.2
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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

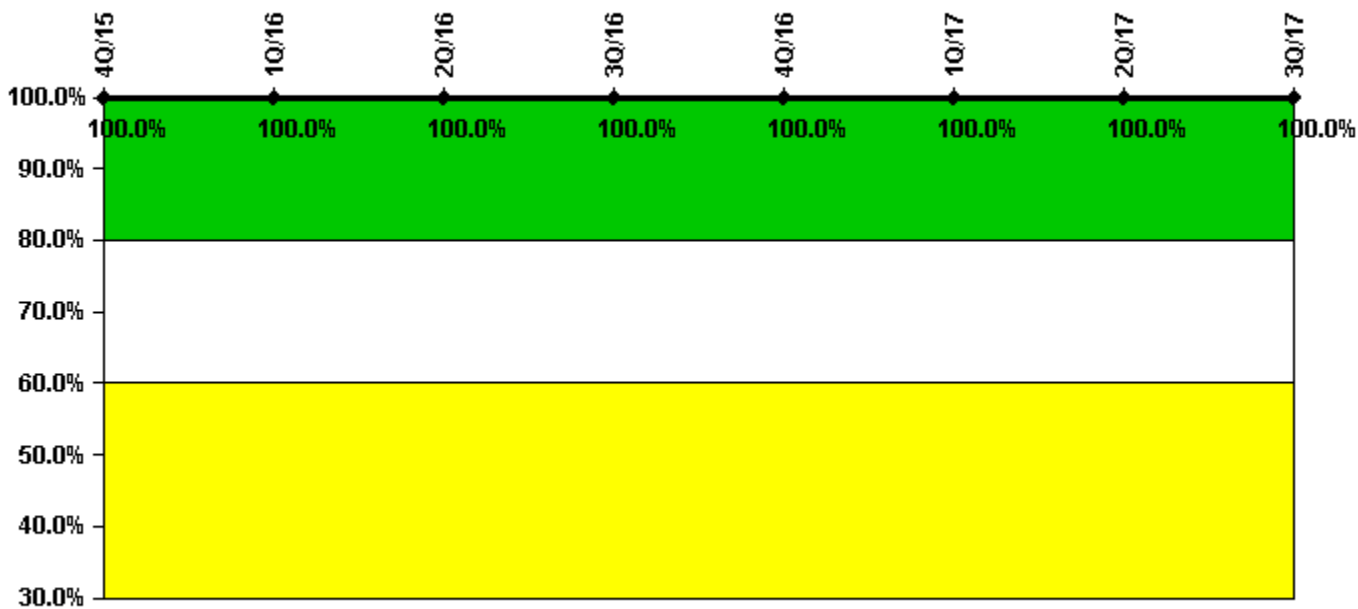
Drill/Exercise Performance	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful opportunities	18.0	39.0	39.0	11.0	20.0	20.0	29.0	33.0
Total opportunities	18.0	40.0	39.0	11.0	20.0	22.0	30.0	34.0

Indicator value 99.5% 99.0% 99.5% 99.5% 99.5% 98.6% 98.1% 97.7%

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

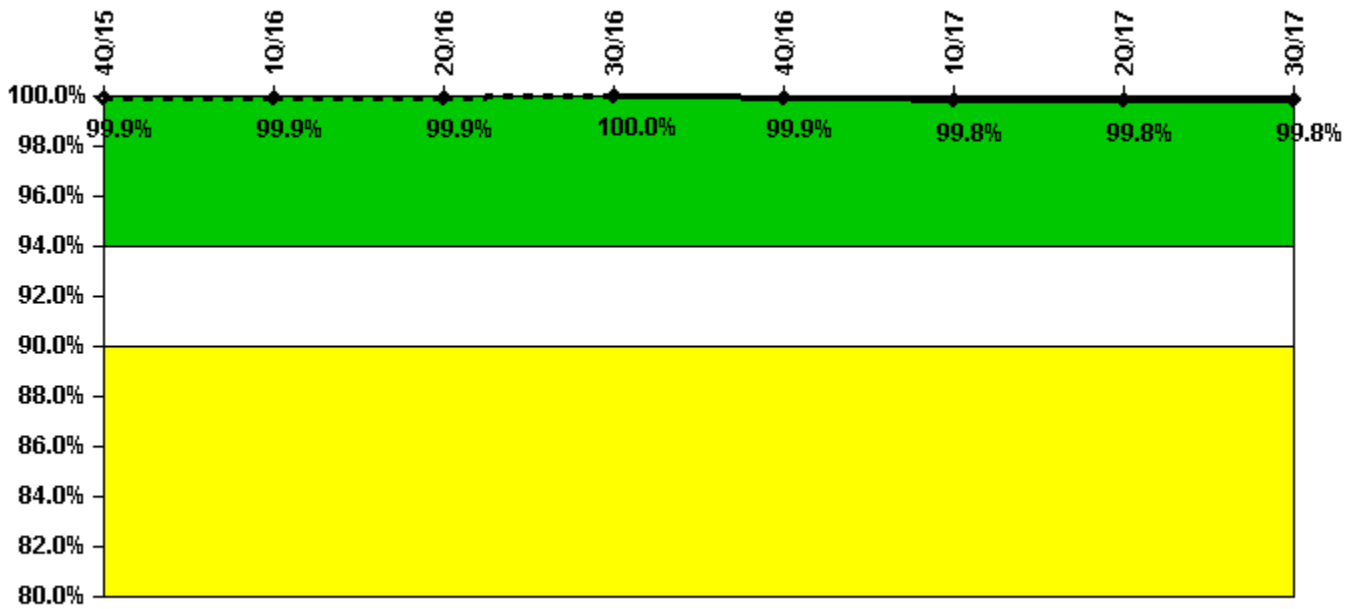
ERO Drill Participation	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Participating Key personnel	89.0	90.0	90.0	86.0	86.0	84.0	87.0	90.0
Total Key personnel	89.0	90.0	90.0	86.0	86.0	84.0	87.0	90.0

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

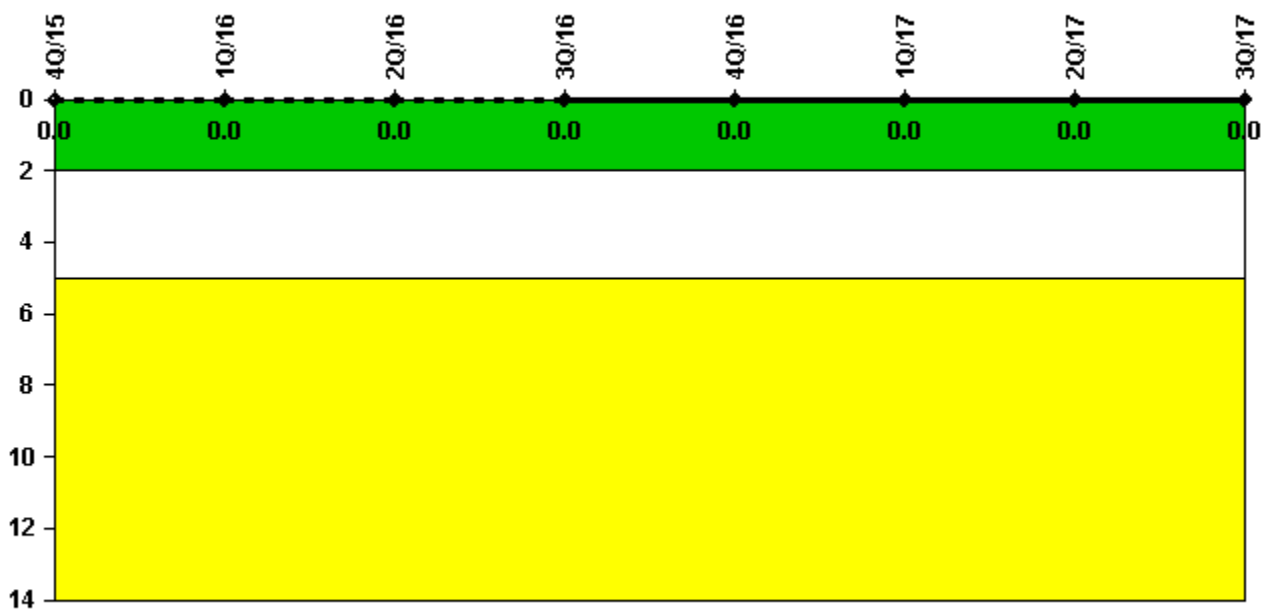
Alert & Notification System	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful siren-tests	430	432	432	432	431	429	432	432
Total sirens-tests	430	432	432	432	432	432	432	432

Indicator value 99.9% 99.9% 99.9% 100.0% 99.9% 99.8% 99.8% 99.8%

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Licensee Comments: none

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

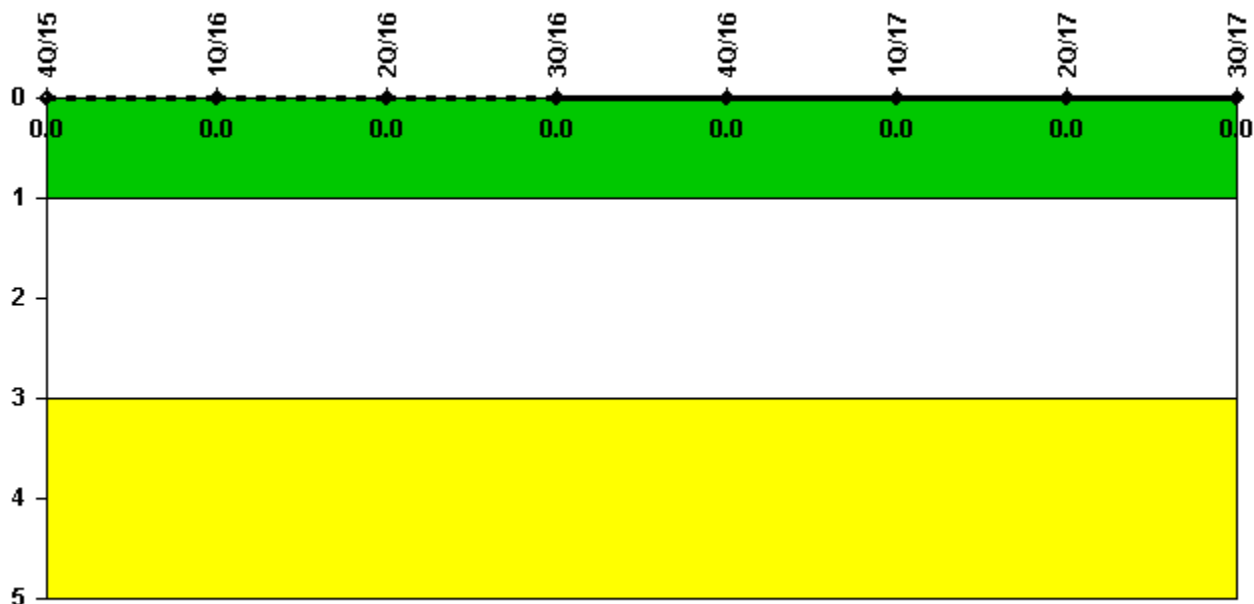
Notes

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