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Susquehanna 1 – Quarterly Performance Indicators

3Q/2017 Performance Indicators

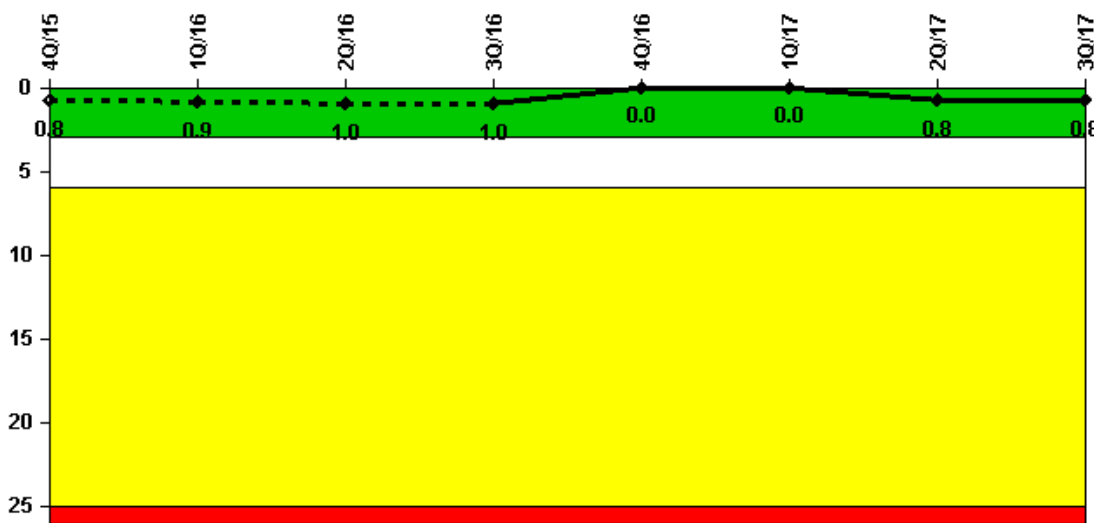
The solid trend line represents the current reporting period.

Licensee's General Comments: none

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- [Unplanned Power Changes per 7000 Critical Hours \(IE03\)](#)
- [Unplanned Scrams with Complications \(IE04\)](#)
- [Safety System Functional Failures \(MS05\)](#)
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Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

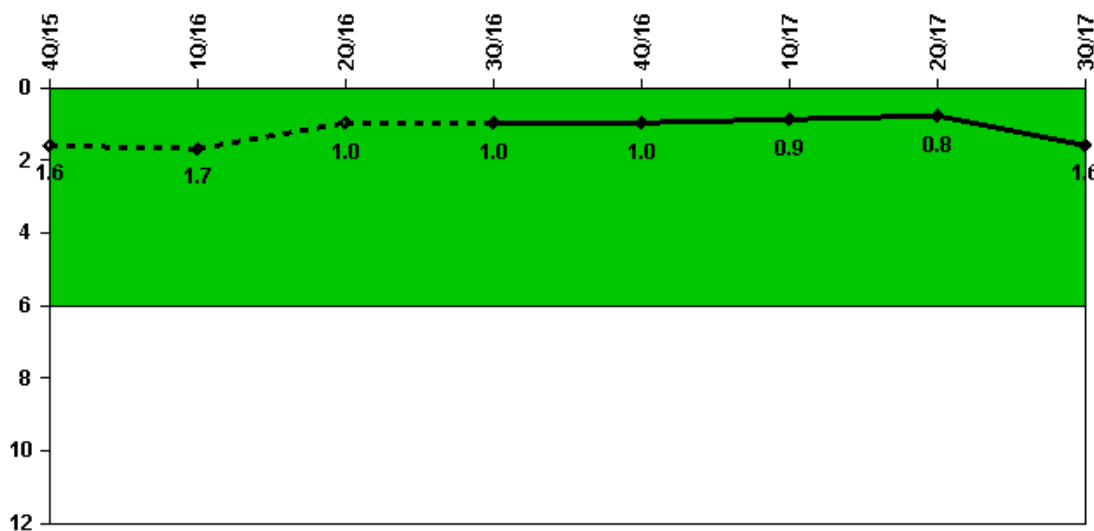
Unplanned Scrams per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned scrams	1.0	0	0	0	0	0	1.0	0
Critical hours	2057.5	1711.4	1002.7	2208.0	2209.0	2159.0	2149.7	2208.0

Indicator value	0.8	0.9	1.0	1.0	0	0	0.8	0.8
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Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

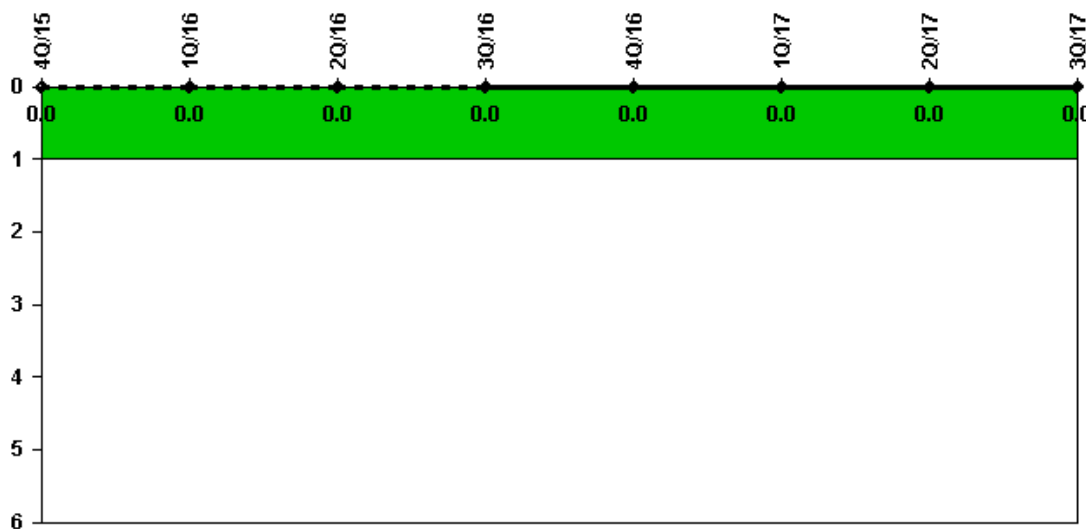
Notes

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	1.0	0	0	0	1.0	0	0	1.0
Critical hours	2057.5	1711.4	1002.7	2208.0	2209.0	2159.0	2149.7	2208.0
Indicator value	1.6	1.7	1.0	1.0	1.0	0.9	0.8	1.6

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Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

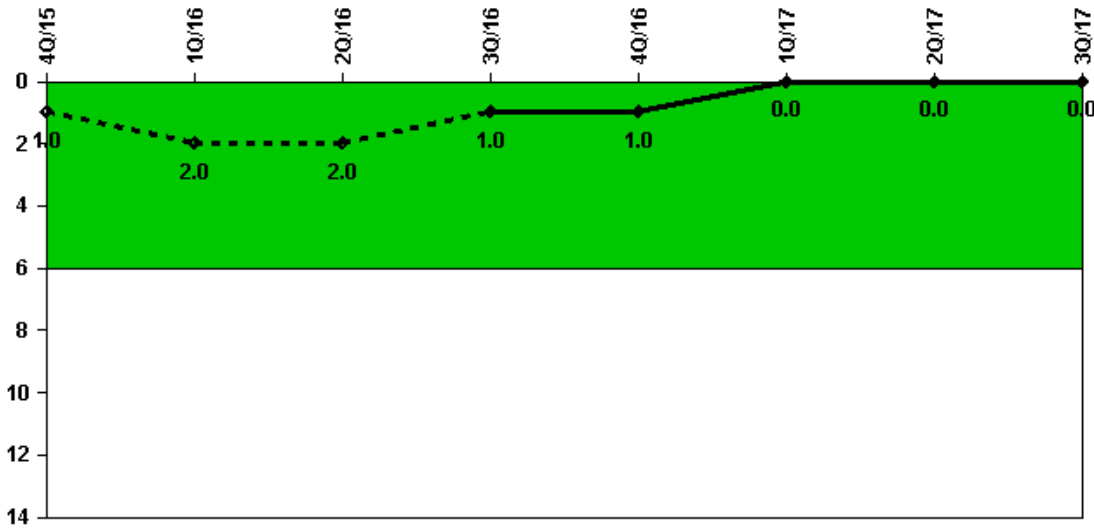
Notes

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

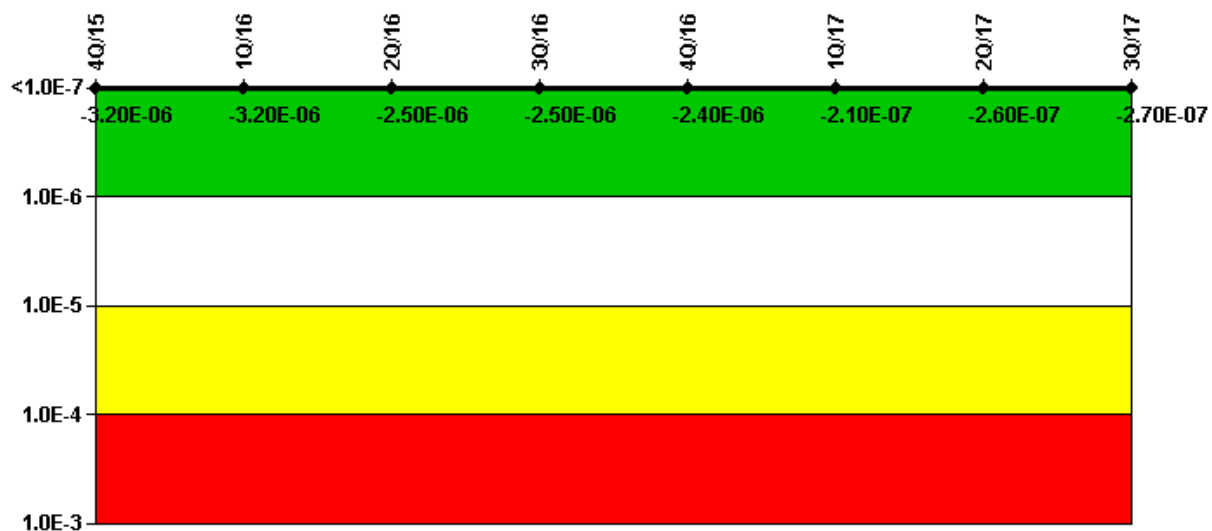
Safety System Functional Failures 0 1 0 0 0 0 0 0

Indicator value 1 2 2 1 1 0 0 0

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Licensee Comments:
1Q/16: LER 387(388)/2015-014

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

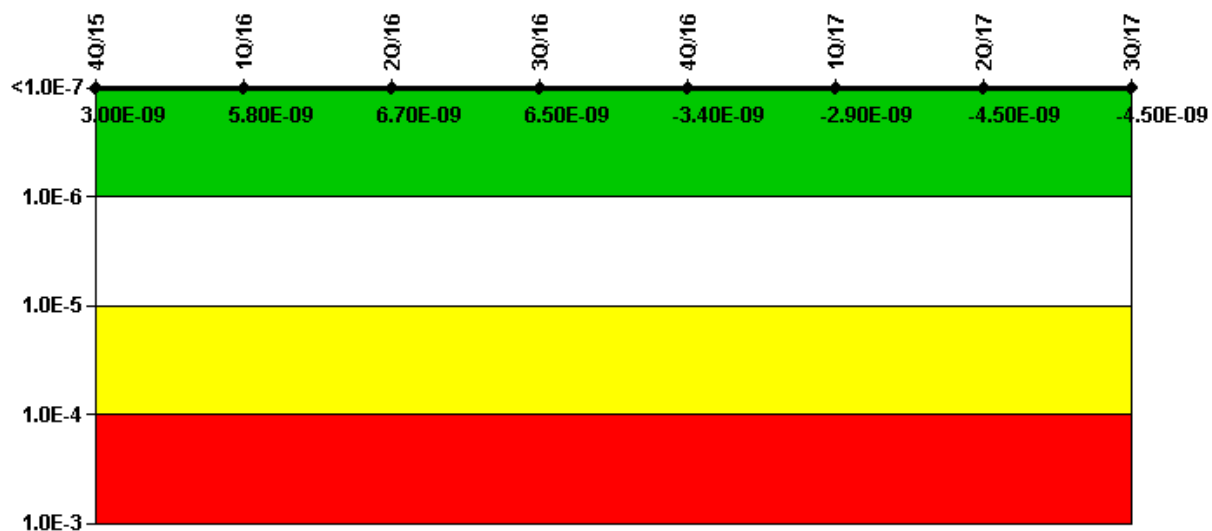
	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	-1.08E-08	-1.45E-08	-1.30E-08	-1.12E-08	-1.14E-08	-6.28E-09	-7.76E-09	-9.78E-09
URI (ΔCDF)	-3.15E-06	-3.16E-06	-2.52E-06	-2.44E-06	-2.36E-06	-2.03E-07	-2.55E-07	-2.56E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.20E-06	-3.20E-06	-2.50E-06	-2.50E-06	-2.40E-06	-2.10E-07	-2.60E-07	-2.70E-07

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Licensee Comments:

- 4Q/16: Risk Cap Invoked.
- 3Q/16: Risk Cap Invoked.
- 2Q/16: Risk Cap Invoked.
- 1Q/16: Risk Cap Invoked.
- 4Q/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

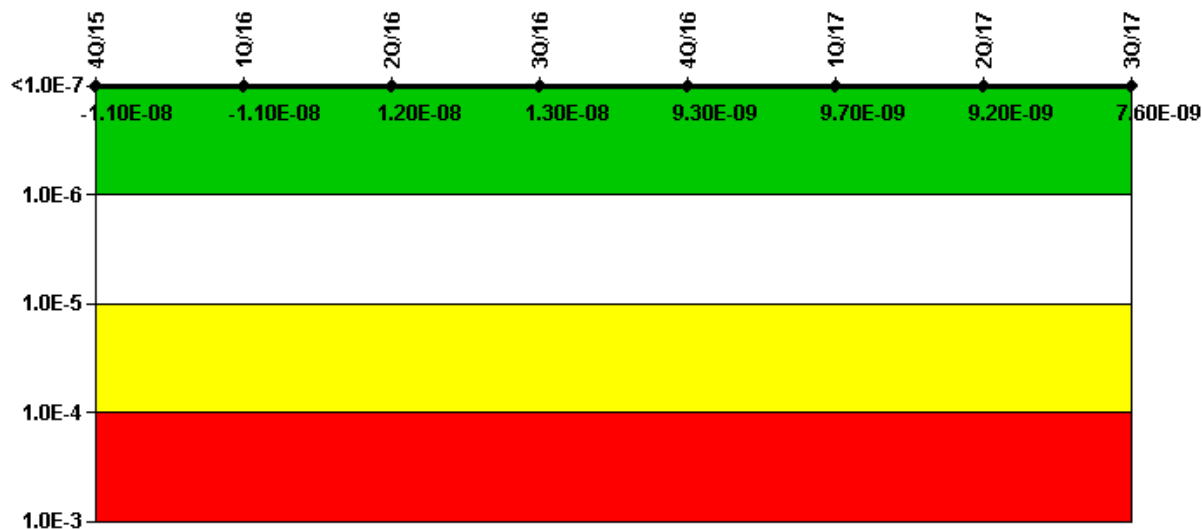
Mitigating Systems Performance Index, High Pressure Injection System

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (Δ CDF)	1.24E-08	1.52E-08	1.65E-08	1.63E-08	6.42E-09	6.51E-09	4.98E-09	4.98E-09
URI (Δ CDF)	-9.33E-09	-9.40E-09	-9.81E-09	-9.81E-09	-9.81E-09	-9.45E-09	-9.46E-09	-9.46E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.00E-09	5.80E-09	6.70E-09	6.50E-09	-3.40E-09	-2.90E-09	-4.50E-09	-4.50E-09

TOP

Licensee Comments: none

Mitigating Systems Performance Index, Heat Removal System



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

Notes

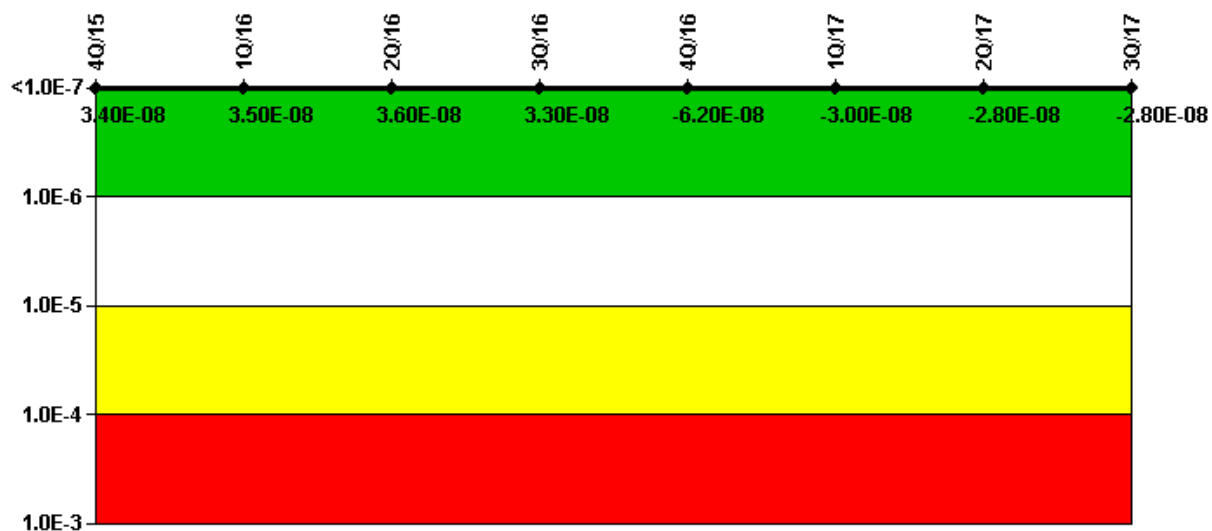
Mitigating Systems Performance Index, Heat Removal System

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (Δ CDF)	-9.98E-10	-7.77E-10	5.03E-10	1.81E-09	-1.82E-09	-1.94E-09	-2.07E-09	-3.64E-09
URI (Δ CDF)	-9.93E-09	-9.97E-09	1.12E-08	1.12E-08	1.11E-08	1.16E-08	1.12E-08	1.12E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.10E-08	-1.10E-08	1.20E-08	1.30E-08	9.30E-09	9.70E-09	9.20E-09	7.60E-09

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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

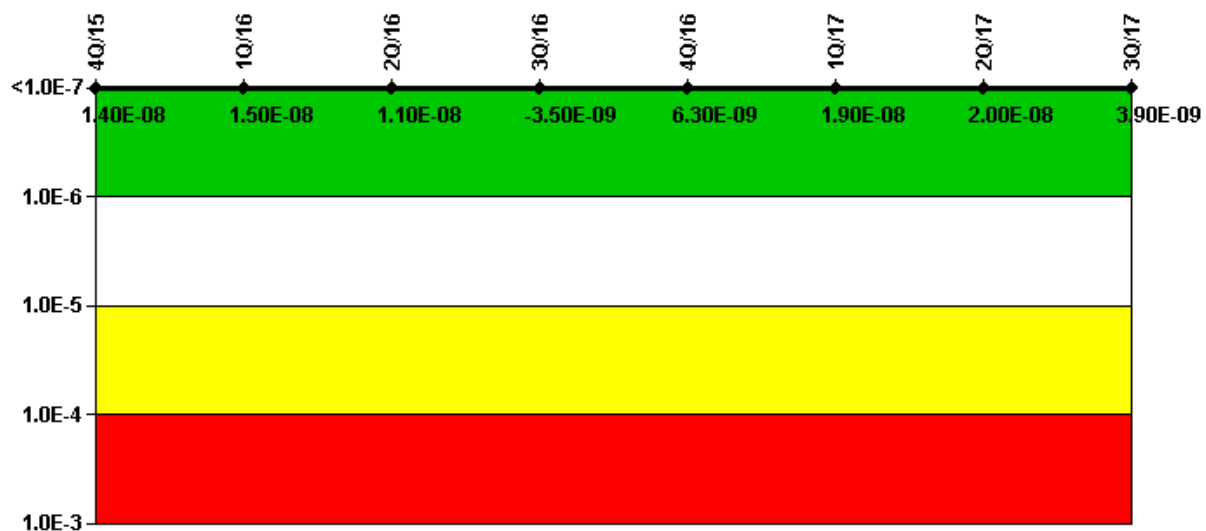
Mitigating Systems Performance Index, Residual Heat Removal System

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (Δ CDF)	5.42E-09	9.15E-09	9.56E-09	7.58E-09	-4.47E-10	-9.02E-10	2.14E-10	2.14E-10
URI (Δ CDF)	2.82E-08	2.62E-08	2.61E-08	2.54E-08	-6.12E-08	-2.94E-08	-2.82E-08	-2.83E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.40E-08	3.50E-08	3.60E-08	3.30E-08	-6.20E-08	-3.00E-08	-2.80E-08	-2.80E-08

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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

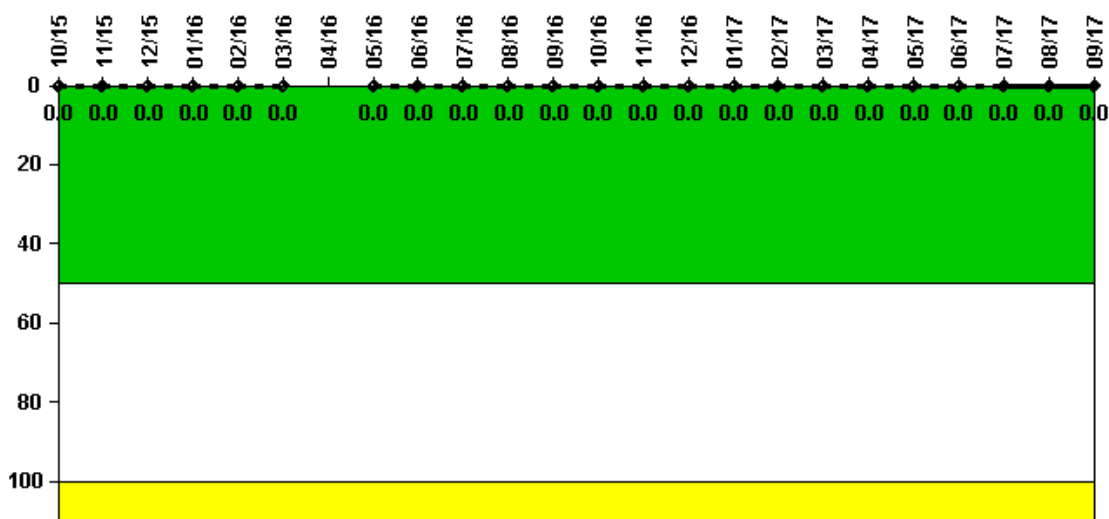
	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	6.05E-08	6.21E-08	5.90E-08	4.50E-08	5.50E-08	5.05E-08	5.15E-08	3.48E-08
URI (ΔCDF)	-4.67E-08	-4.74E-08	-4.79E-08	-4.85E-08	-4.86E-08	-3.14E-08	-3.10E-08	-3.09E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO

Indicator value	1.40E-08	1.50E-08	1.10E-08	-3.50E-09	6.30E-09	1.90E-08	2.00E-08	3.90E-09
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Licensee Comments: none

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

Notes

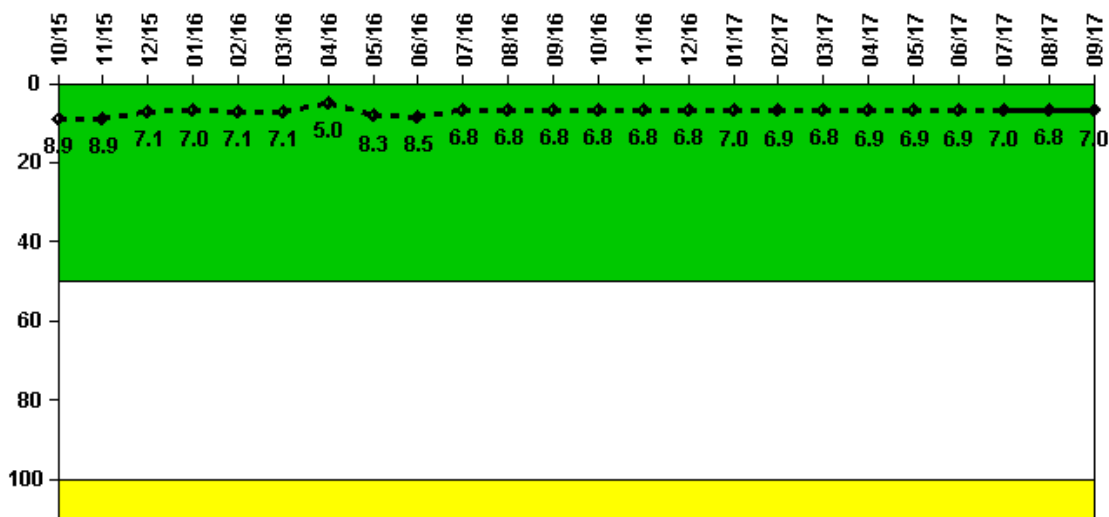
Reactor Coolant System Activity	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum activity	0.000009	0.000008	0.000008	0.000009	0.000008	0.000008	N/A	0.000004	0.000004	0.000004	0.000004	0.000005
Technical specification limit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Indicator value	0	0	0	0	0	0	N/A	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	0.000005	0.000005	0.000006	0.000006	0.000006	0.000006	0.000006	0.000008	0.000006	0.000006	0.000006	0.000007
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

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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	2.230	2.220	1.770	1.760	1.780	1.780	1.260	2.070	2.130	1.700	1.700	1.700
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

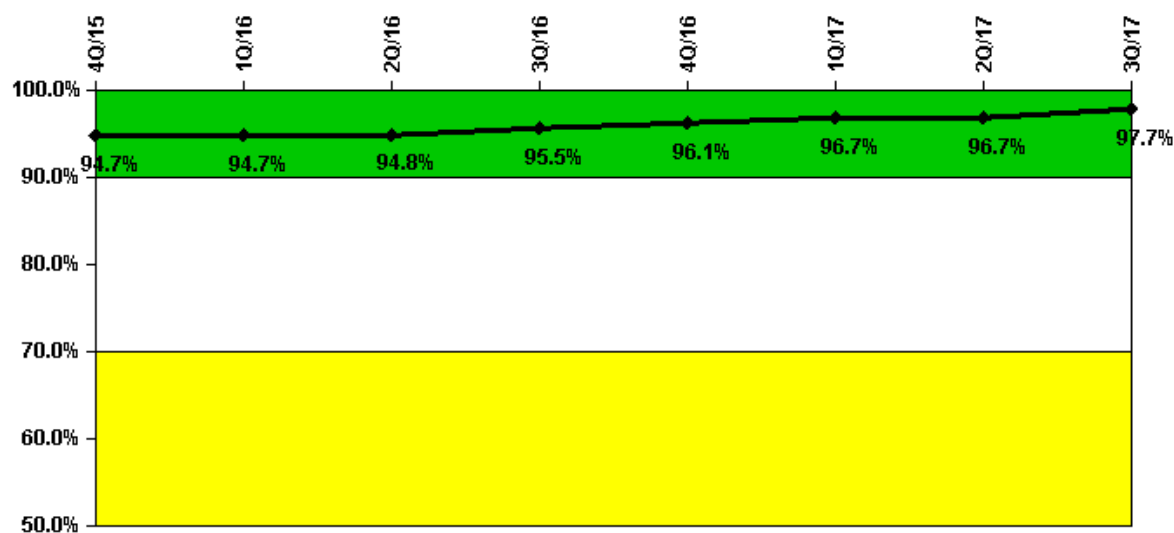
Indicator value	8.9	8.9	7.1	7.0	7.1	7.1	5.0	8.3	8.5	6.8	6.8	6.8
Reactor Coolant System Leakage	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum leakage	1.710	1.690	1.700	1.750	1.720	1.710	1.720	1.730	1.720	1.740	1.700	1.740
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0

Indicator value	6.8	6.8	6.8	7.0	6.9	6.8	6.9	6.9	6.9	7.0	6.8	7.0
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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

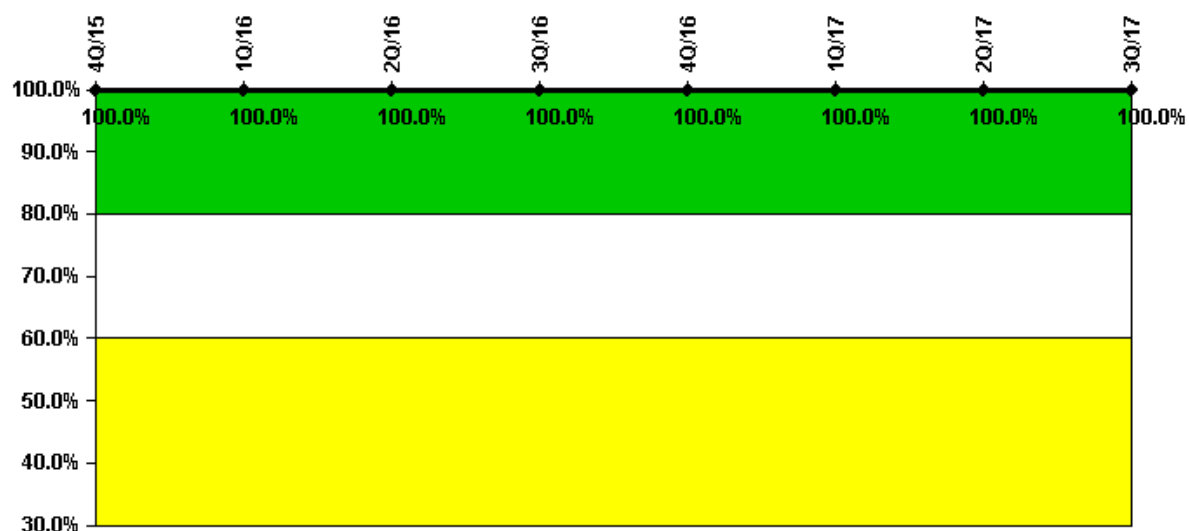
Drill/Exercise Performance	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful opportunities	32.0	18.0	47.0	44.0	38.0	56.0	64.0	47.0
Total opportunities	35.0	19.0	49.0	44.0	39.0	56.0	65.0	47.0

Indicator value 94.7% 94.7% 94.8% 95.5% 96.1% 96.7% 96.7% 97.7%

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

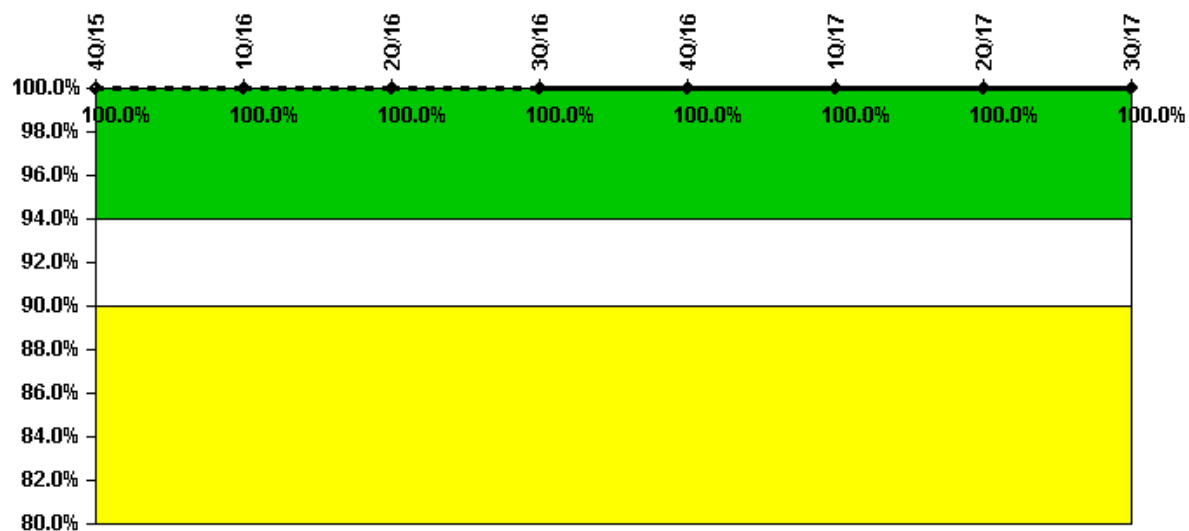
ERO Drill Participation	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Participating Key personnel	87.0	84.0	79.0	78.0	74.0	67.0	65.0	67.0
Total Key personnel	87.0	84.0	79.0	78.0	74.0	67.0	65.0	67.0

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

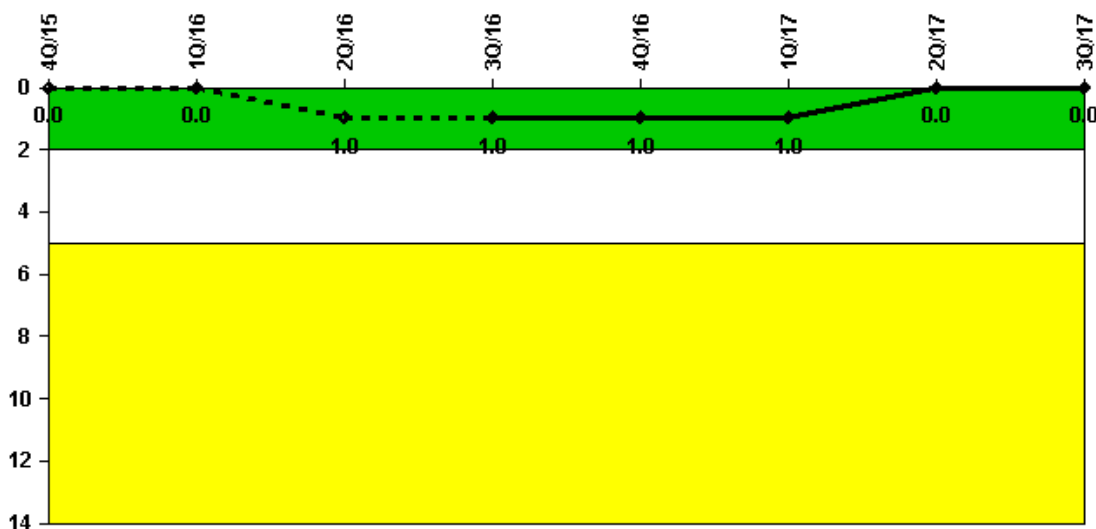
Alert & Notification System	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful siren-tests	608	532	608	607	532	608	532	608
Total sirens-tests	608	532	608	608	532	608	532	608

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

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

Notes

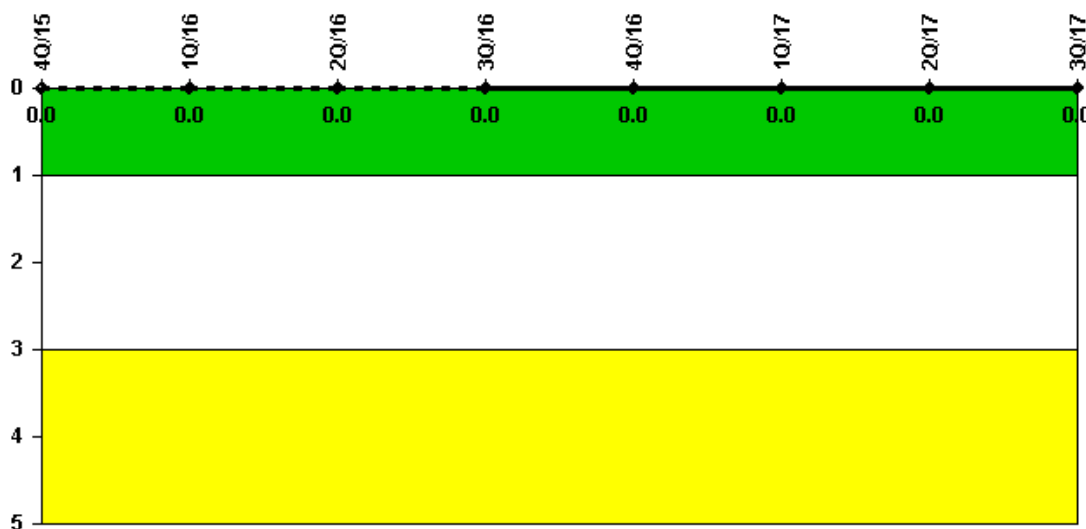
Occupational Exposure Control Effectiveness 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

High radiation area occurrences	0	0	1	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	1	1	1	1	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