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Quad Cities 2 – Quarterly Performance Indicators

4Q/2017 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

- Unplanned Scrams (IE01)
- Unplanned Power Changes per 7000 Critical Hours (IE03)
- Unplanned Scrams with Complications (IE04)
- Safety System Functional Failures (MS05)
- Emergency AC Power Systems (MS06)
- High Pressure Injection Systems (MS07)
- Heat Removal Systems (MS08)
- Residual Heat Removal Systems (MS09)
- Cooling Water Systems (MS10)
- Reactor Coolant System Activity (BI01)
- Reactor Coolant System Leakage (BI02)
- Drill/Exercise Performance (EP01)
- Emergency Response Organization Drill Participation (EP02)
- Alert and Notification System Reliability (EP03)
- Occupational Exposure Control Effectiveness (OR01)
- RETS/OCDM Radiological Effluent Occurrence (PR01)
- Protected Area Equipment (PP01)

Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

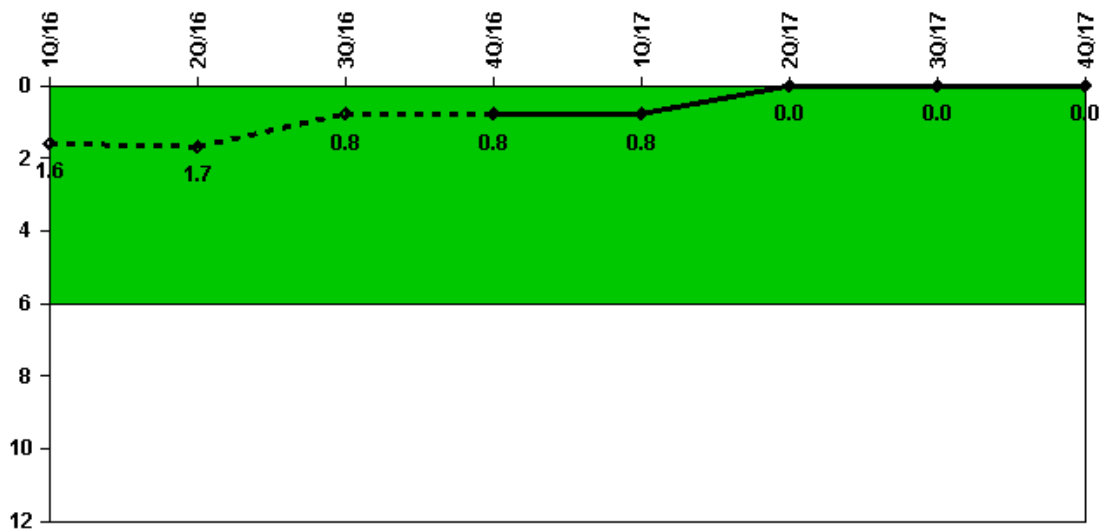
Unplanned Scrams per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	1919.9	2032.3	2208.0	2209.0	2159.0	2184.0	2076.5	2209.0

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

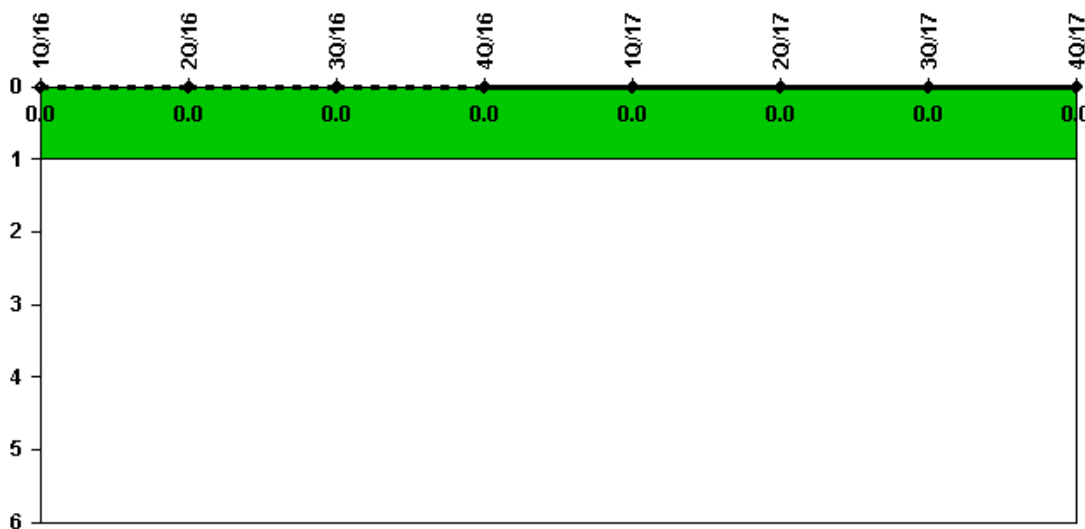
Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned power changes	0	1.0	0	0	0	0	0	0
Critical hours	1919.9	2032.3	2208.0	2209.0	2159.0	2184.0	2076.5	2209.0
Indicator value	1.6	1.7	0.8	0.8	0.8	0	0	0

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Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

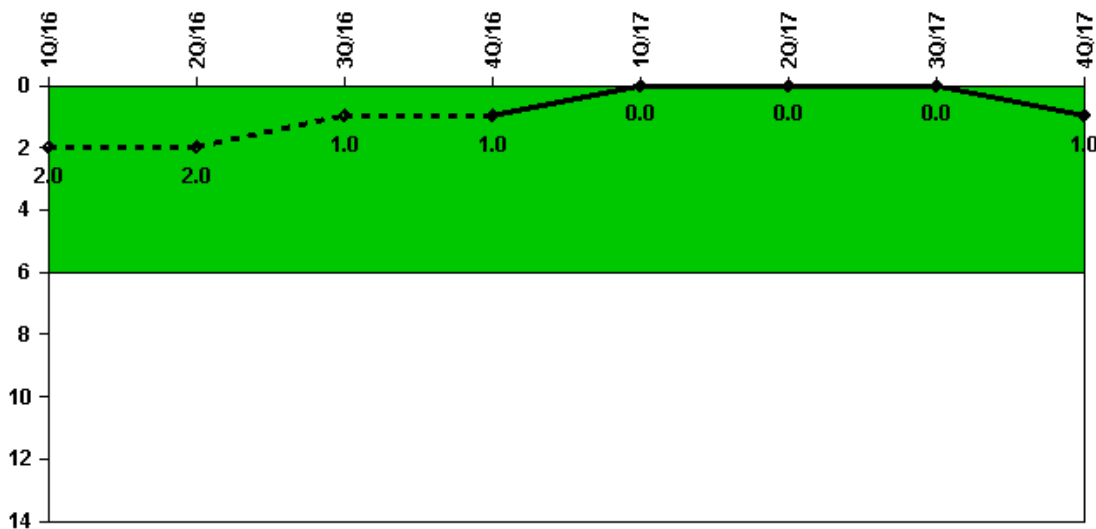
Notes

Unplanned Scrams with Complications	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/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) 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

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

Indicator value 2 2 1 1 0 0 0 1

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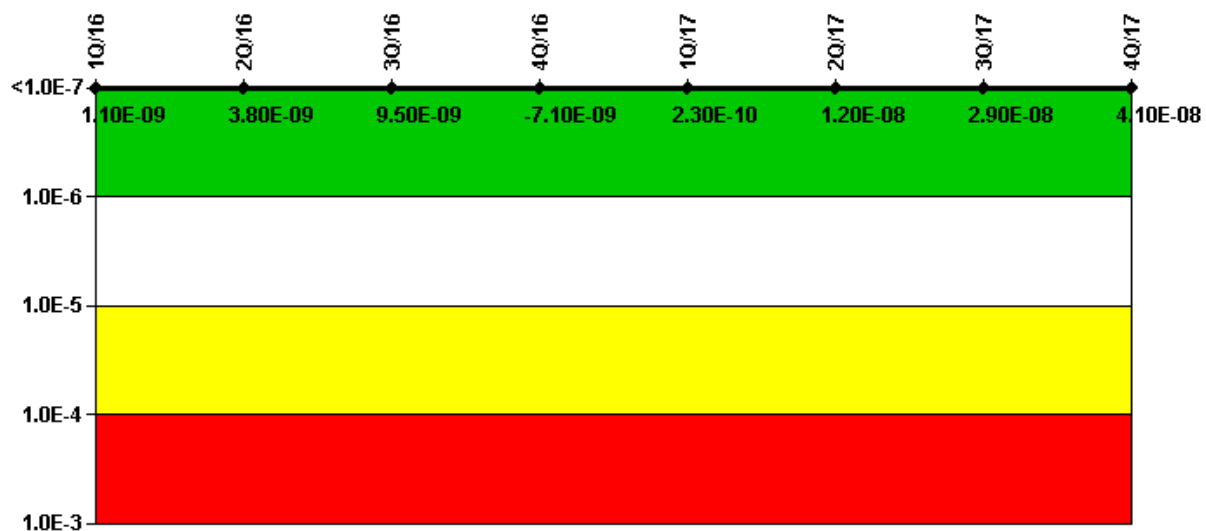
Licensee Comments:

4Q/17: LER 254/2017-003-00, Control Room Emergency Ventilation Air Conditioning Piping Refrigerant Leak Due to High Cycle Fatigue (affects Units 1 and 2)

3Q/17: August 2017 Unit 2 - 09/01/17 QCIS 0200-86 SDTC 08/10/2017 10:00 08/10/2017 10:24 09/01/2017 QCIS 0200-86 SDTC 8/10/2017 10:00 8/10/2017 10:24

1Q/16: LER 254/2015-010-00, Loss of Control Room Emergency Ventilation System Due to Differential Pressure Switch Failure

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/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	6.75E-08	7.24E-08	7.76E-08	6.18E-08	6.93E-08	7.81E-08	9.58E-08	1.07E-07
URI (ΔCDF)	-6.64E-08	-6.86E-08	-6.81E-08	-6.89E-08	-6.91E-08	-6.65E-08	-6.63E-08	-6.57E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO

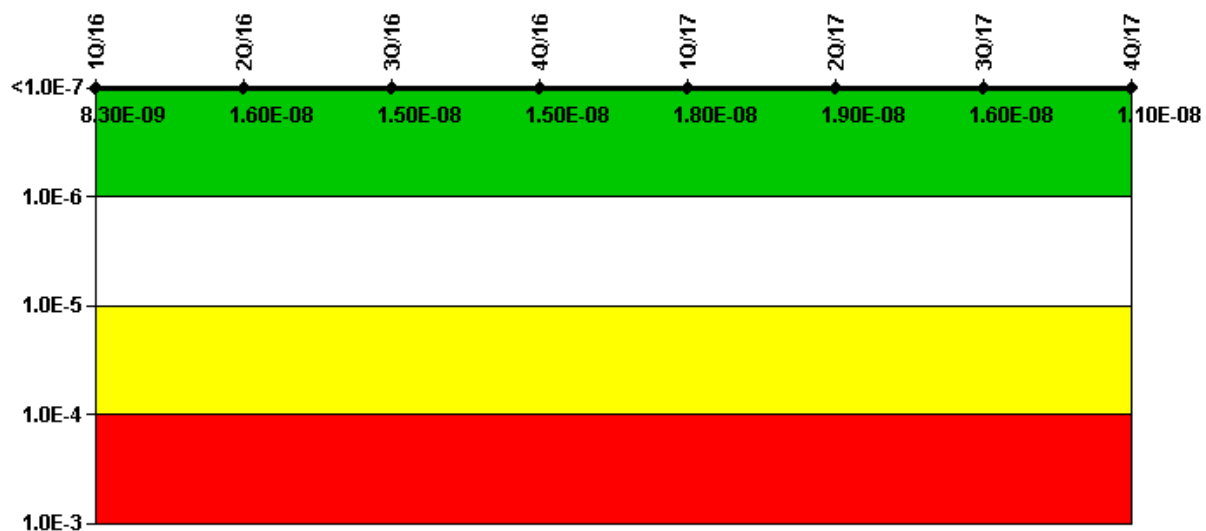
Indicator value	1.10E-09	3.80E-09	9.50E-09	7.10E-09	2.30E-10	1.20E-08	2.90E-08	4.10E-08
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Licensee Comments:

3Q/16: Planel Unavailable Hours 1/2 -6601 Planned maintenance windows on the Unit 1 and Unit 1/2 EDGs and supporting systems. Speed Switch replacement on Unit 1/2.

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

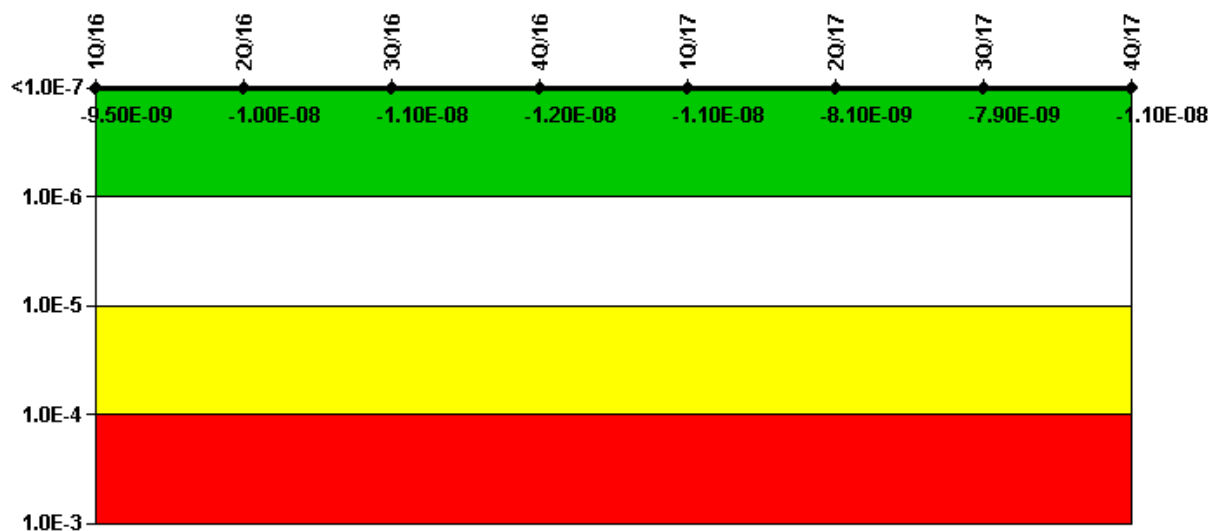
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	2.46E-08	3.51E-08	3.34E-08	3.39E-08	3.71E-08	3.74E-08	3.38E-08	2.92E-08
URI (ΔCDF)	-1.63E-08	-1.86E-08	-1.86E-08	-1.86E-08	-1.86E-08	-1.79E-08	-1.79E-08	-1.79E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	8.30E-09	1.60E-08	1.50E-08	1.50E-08	1.80E-08	1.90E-08	1.60E-08	1.10E-08

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Licensee Comments:

3Q/16: 2-2302 Planned Unavailable Hours QCIS 0200-86, QCIS 0200-87 and U-2 HPCI Work Window

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

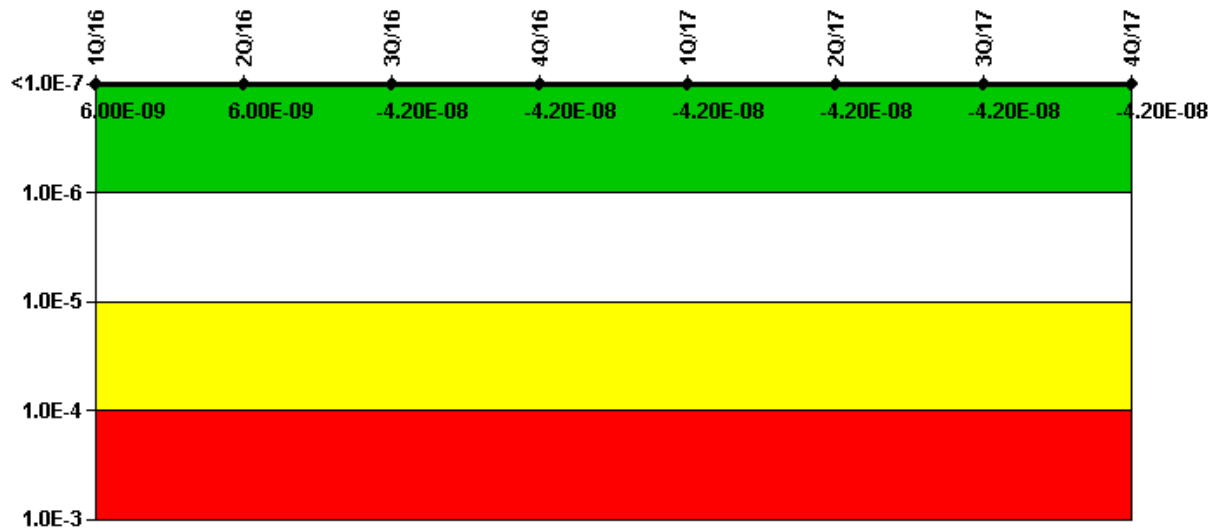
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	3.51E-09	3.90E-09	2.98E-09	2.14E-09	3.63E-09	4.46E-09	4.60E-09	1.98E-09
URI (ΔCDF)	-1.30E-08	-1.44E-08	-1.44E-08	-1.44E-08	-1.44E-08	-1.25E-08	-1.25E-08	-1.25E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-9.50E-09	-1.00E-08	-1.10E-08	-1.20E-08	-1.10E-08	-8.10E-09	-7.90E-09	-1.10E-08

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Licensee Comments:

3Q/16: Planned Unavailable Hours 2-1302 QCIS 0200-86, QCIS 0200-87 and U-2 RCIC Work Window.

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

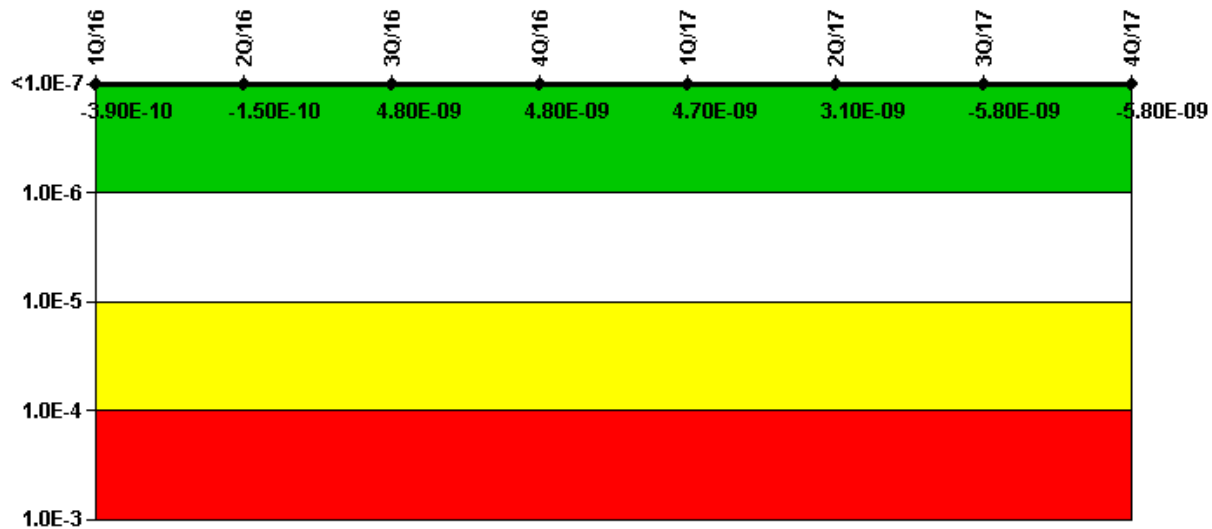
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-1.01E-08	-1.01E-08	-1.35E-08	-1.35E-08	-1.35E-08	-1.35E-08	-1.35E-08	-1.35E-08
URI (ΔCDF)	1.61E-08	1.61E-08	-2.89E-08	-2.89E-08	-2.89E-08	-2.89E-08	-2.89E-08	-2.89E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	6.00E-09	6.00E-09	-4.20E-08	-4.20E-08	-4.20E-08	-4.20E-08	-4.20E-08	-4.20E-08

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Licensee Comments:

3Q/16: 2B RHR Planned Unavailable Hours 9/20/16 from 8:58 to 19:20 for work on 2-1001-34B. 9/22/16 from 8:25 to 9/23/16 from 3:30 for QCOS 1000-44 B Loop logic test.

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

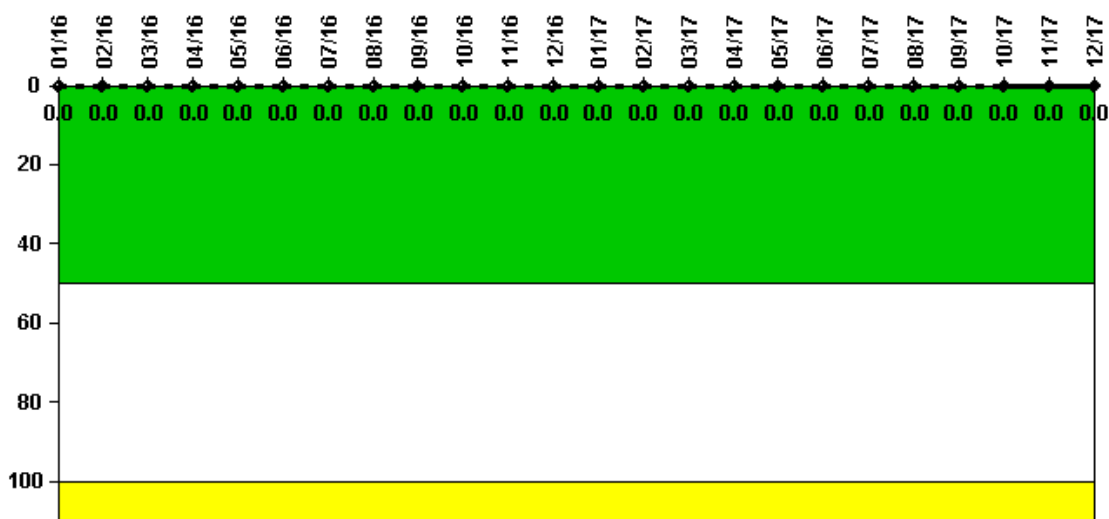
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (Δ CDF)	-2.44E-10	-5.83E-10	4.89E-09	4.89E-09	4.89E-09	3.29E-09	-5.63E-09	-5.63E-09
URI (Δ CDF)	-1.44E-10	-1.44E-10	-1.44E-10	-1.44E-10	-1.44E-10	-1.44E-10	-1.44E-10	-1.44E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.90E-10	-1.50E-10	4.80E-09	4.80E-09	4.70E-09	3.10E-09	-5.80E-09	-5.80E-09

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Licensee Comments:

3Q/16: 2B RHRSW 9/22/16 from 8:25 to 9/23/16 from 3:30 for QCOS 1000-44 B Loop logic test.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

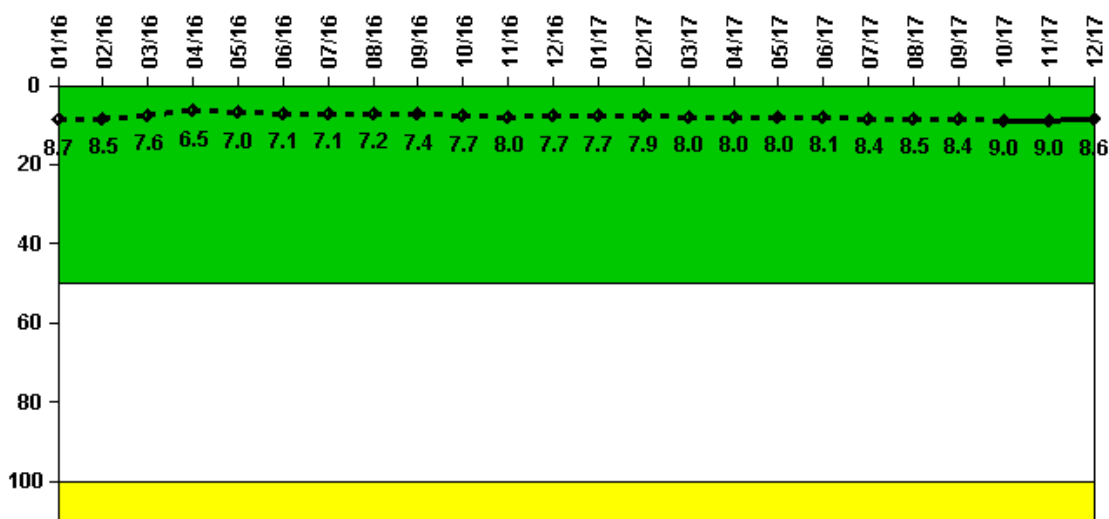
Notes

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	0.000010	0.000012	0.000011	0.000008	0.000007	0.000006	0.000006	0.000018	0.000020	0.000010	0.000010	0.000009
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
Reactor Coolant System Activity	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17
Maximum activity	0.000012	0.000010	0.000009	0.000009	0.000010	0.000010	0.000010	0.000009	0.000010	0.000011	0.000011	0.000010
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	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	2.165	2.119	1.897	1.615	1.751	1.765	1.768	1.806	1.851	1.913	1.992	1.913
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

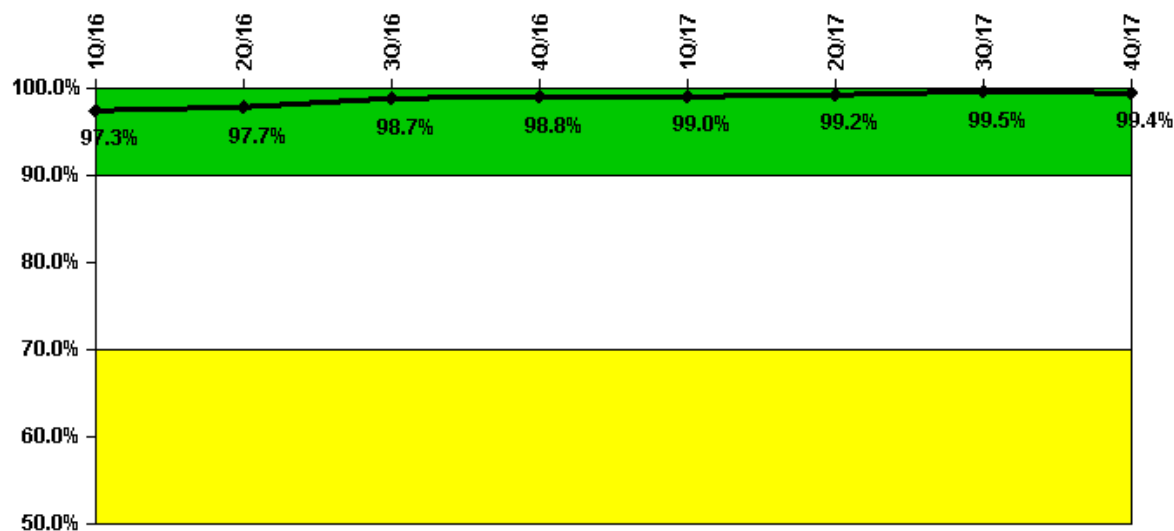
Indicator value	8.7	8.5	7.6	6.5	7.0	7.1	7.1	7.2	7.4	7.7	8.0	7.7
Reactor Coolant System Leakage	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17
Maximum leakage	1.922	1.979	2.001	1.999	2.006	2.037	2.095	2.121	2.111	2.248	2.249	2.144
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0

Indicator value	7.7	7.9	8.0	8.0	8.0	8.1	8.4	8.5	8.4	9.0	9.0	8.6
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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

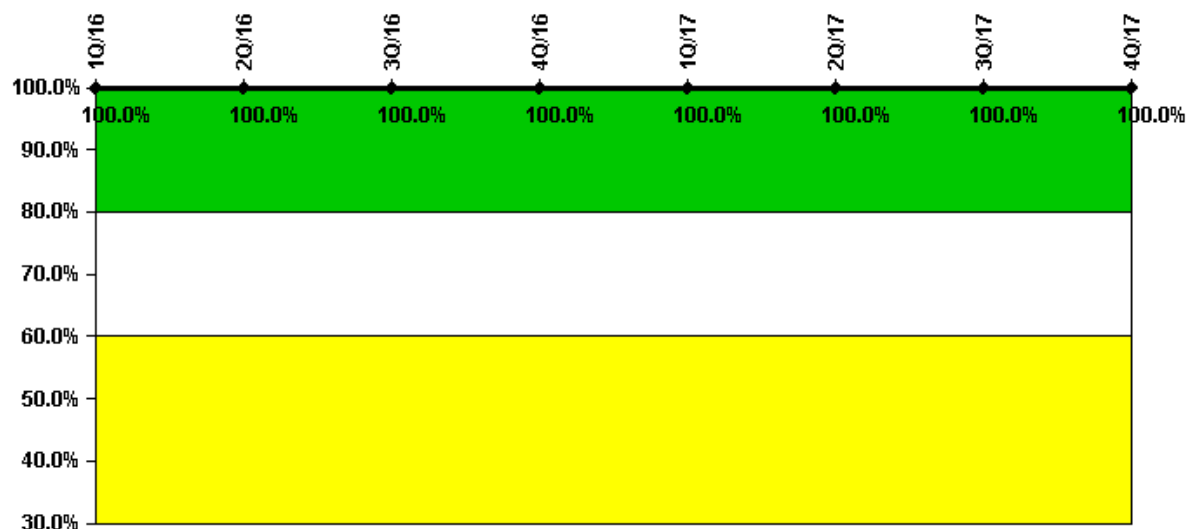
Drill/Exercise Performance	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful opportunities	35.0	70.0	34.0	42.0	92.0	37.0	23.0	22.0
Total opportunities	35.0	70.0	36.0	42.0	92.0	37.0	23.0	22.0

Indicator value 97.3% 97.7% 98.7% 98.8% 99.0% 99.2% 99.5% 99.4%

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

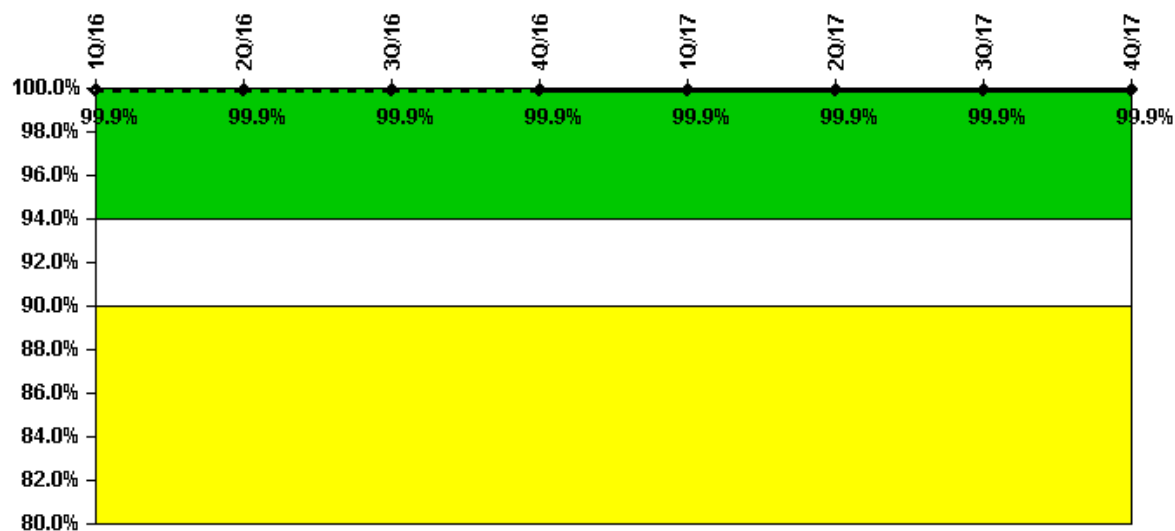
ERO Drill Participation	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Participating Key personnel	74.0	76.0	85.0	86.0	87.0	85.0	81.0	83.0
Total Key personnel	74.0	76.0	85.0	86.0	87.0	85.0	81.0	83.0

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

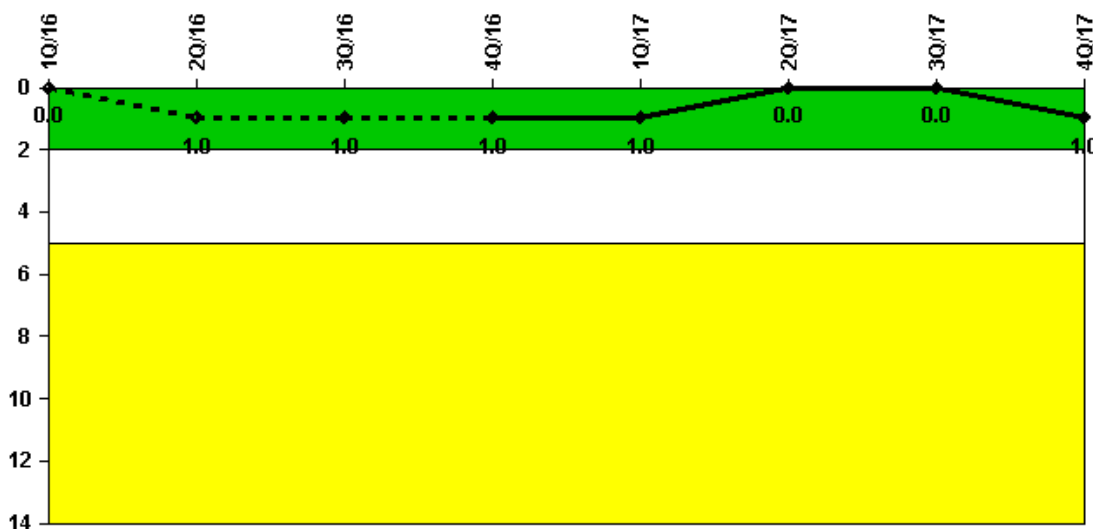
Alert & Notification System	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful siren-tests	2687	2687	2682	2604	2729	2686	2641	2644
Total sirens-tests	2688	2688	2688	2604	2730	2688	2646	2646

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

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Licensee Comments: none

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

Notes

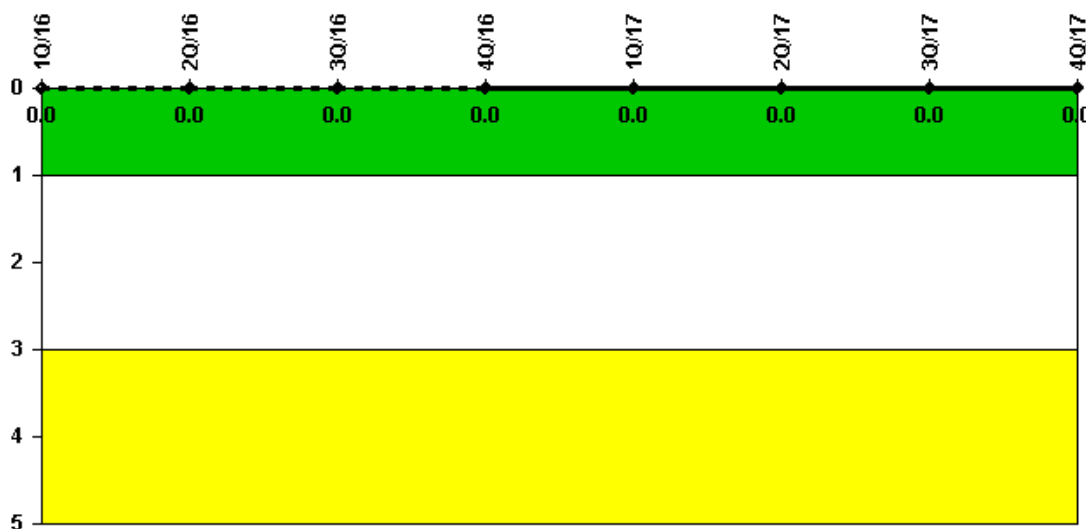
Occupational Exposure Control Effectiveness 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

High radiation area occurrences	0	1	0	0	0	0	0	1
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	1	1	1	1	0	0	1

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Licensee Comments: none

RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

Notes

RETS/ODCM Radiological Effluent 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/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: February 1, 2018

Page Last Reviewed/Updated Monday, November 06, 2017