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Turkey Point 4 – Quarterly Performance Indicators

1Q/2017 Performance Indicators

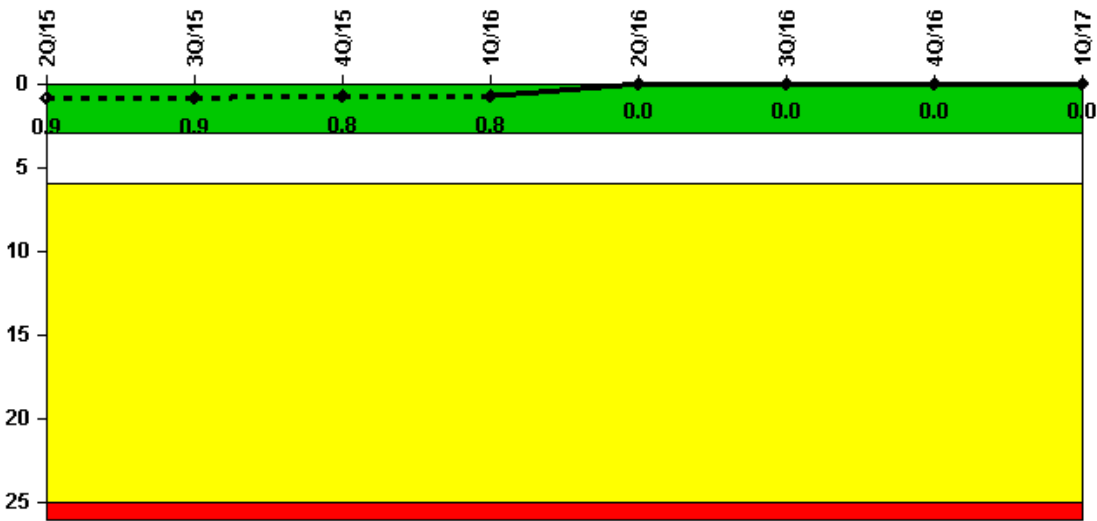
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

- Unplanned Scrams (IE01)
- Unplanned Power Changes per 7000 Critical Hours (IE03)
- Unplanned Scrams with Complications (IE04)
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- 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

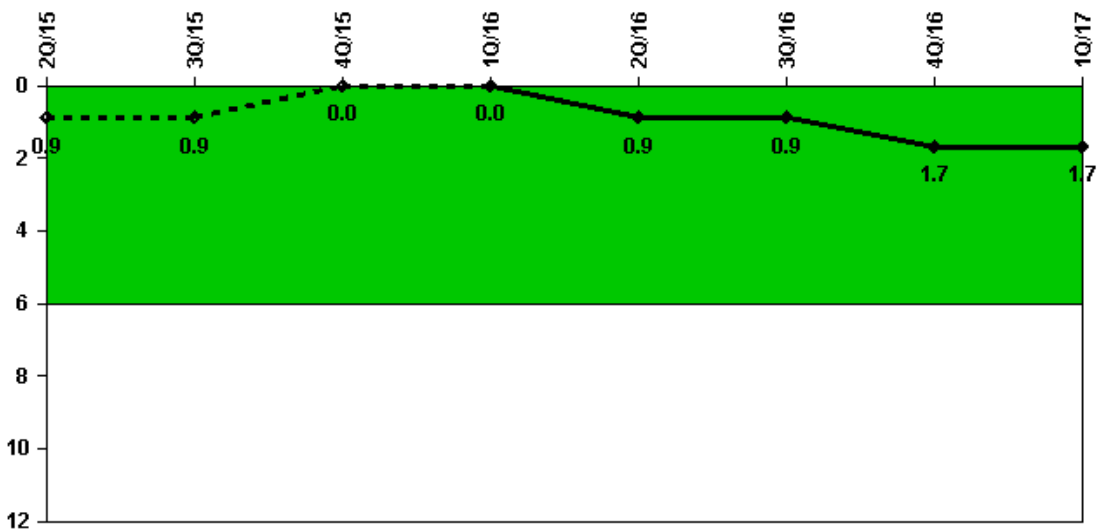
Unplanned Scrams per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned scrams	1.0	0	0	0	0	0	0	0
Critical hours	2073.8	2208.0	2209.0	2112.4	1538.1	2208.0	2209.0	2159.0

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

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

Notes

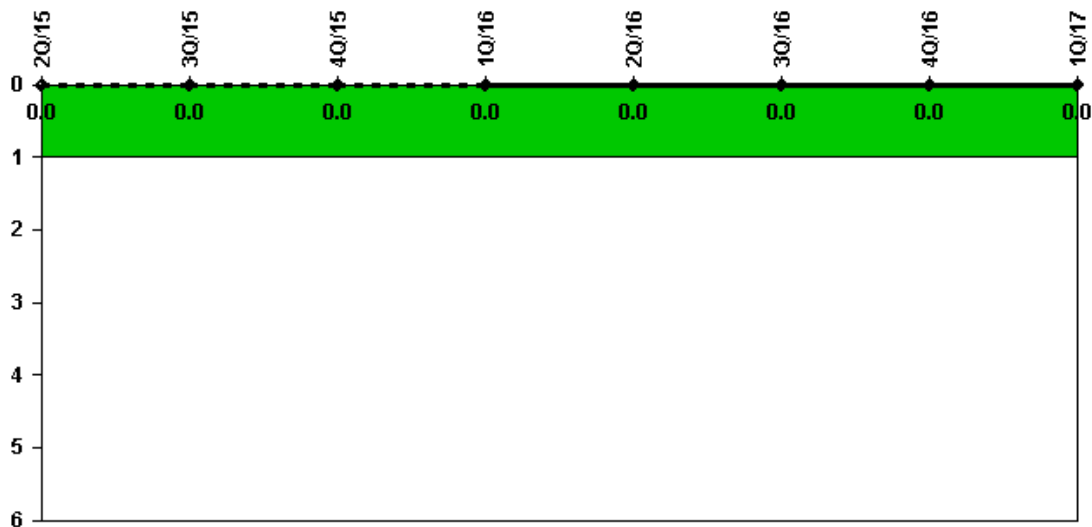
Unplanned Power Changes per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned power changes	0	0	0	0	1.0	0	1.0	0
Critical hours	2073.8	2208.0	2209.0	2112.4	1538.1	2208.0	2209.0	2159.0
Indicator value	0.9	0.9	0	0	0.9	0.9	1.7	1.7

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Licensee Comments:

2Q/16: Turkey Point Unit 4 performed an unplanned downpower on 5/19/2016 due to a EHC leak on the 4C MSR. Unit 4 returned to full power on 5/20/2016

Unplanned Scrams with Complications



Thresholds: White > 1.0

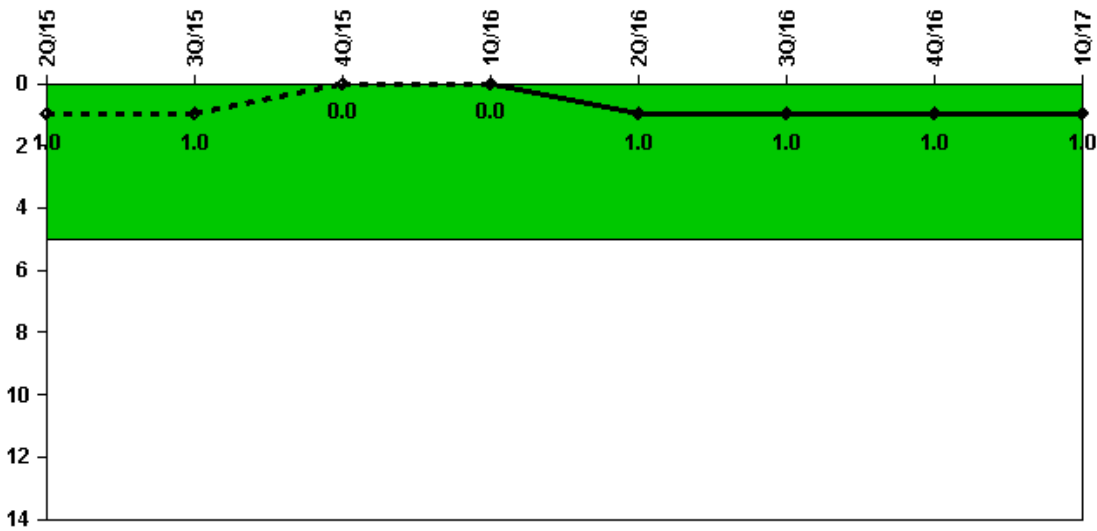
Notes

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

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

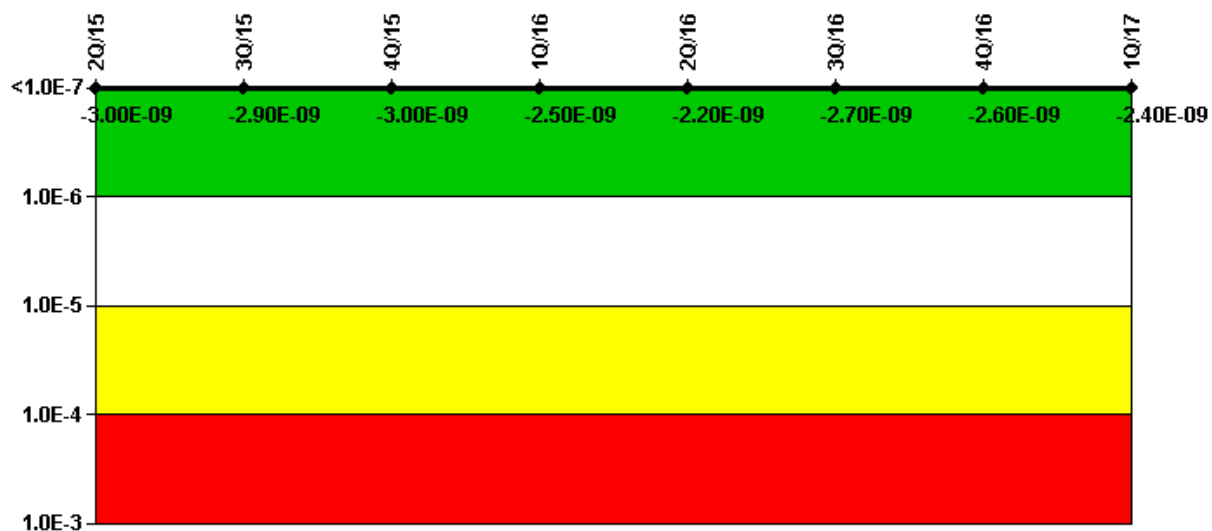
Indicator value 1 1 0 0 1 1 1 1

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Licensee Comments:

2Q/16: Licensee Event Report, LER 2016-01-00, reports that Turkey Point Unit 4 during the five day period that the reactor protection system OTDT/OPDT Channel III was inoperable, the single failure criteria was not met, and as such, the specified safety function was lost, when more than one channel was inoperable (for approximately 4 hours).

Mitigating Systems Performance Index, Emergency AC Power System



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

Notes

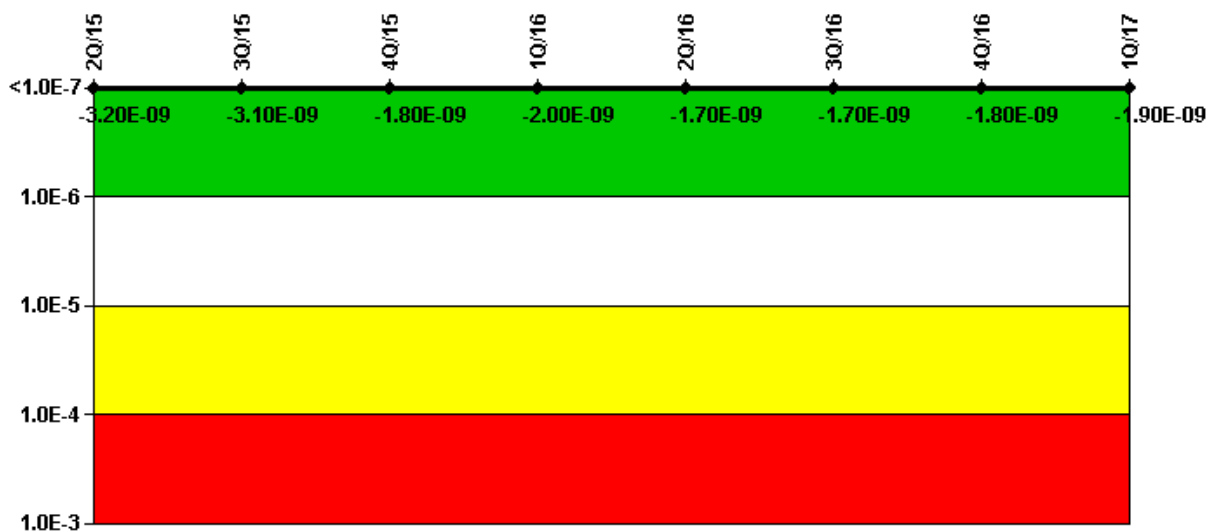
Mitigating Systems Performance Index, Emergency AC Power System

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	2.04E-09	2.09E-09	1.96E-09	2.08E-09	2.10E-09	1.84E-09	1.95E-09	2.16E-09
URI (Δ CDF)	-5.02E-09	-5.04E-09	-4.93E-09	-4.57E-09	-4.26E-09	-4.56E-09	-4.55E-09	-4.57E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.00E-09	-2.90E-09	-3.00E-09	-2.50E-09	-2.20E-09	-2.70E-09	-2.60E-09	-2.40E-09

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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

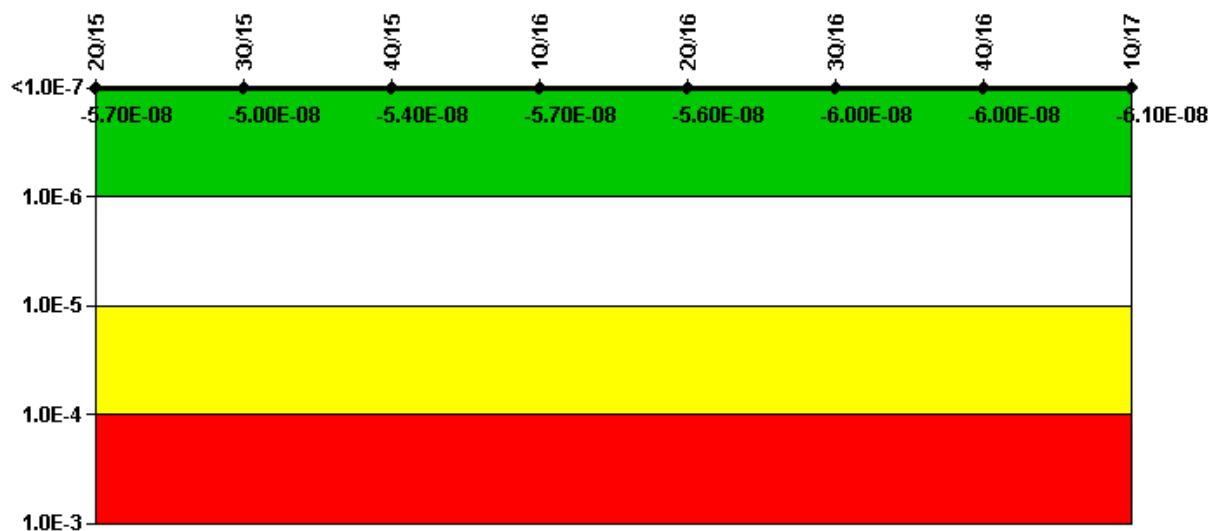
Mitigating Systems Performance Index, High Pressure Injection System

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	-1.46E-09	-1.33E-09	-6.88E-11	-2.72E-10	3.82E-11	2.02E-11	-5.05E-11	-2.28E-10
URI (Δ CDF)	-1.76E-09	-1.76E-09	-1.76E-09	-1.76E-09	-1.76E-09	-1.76E-09	-1.72E-09	-1.72E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.20E-09	-3.10E-09	-1.80E-09	-2.00E-09	-1.70E-09	-1.70E-09	-1.80E-09	-1.90E-09

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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

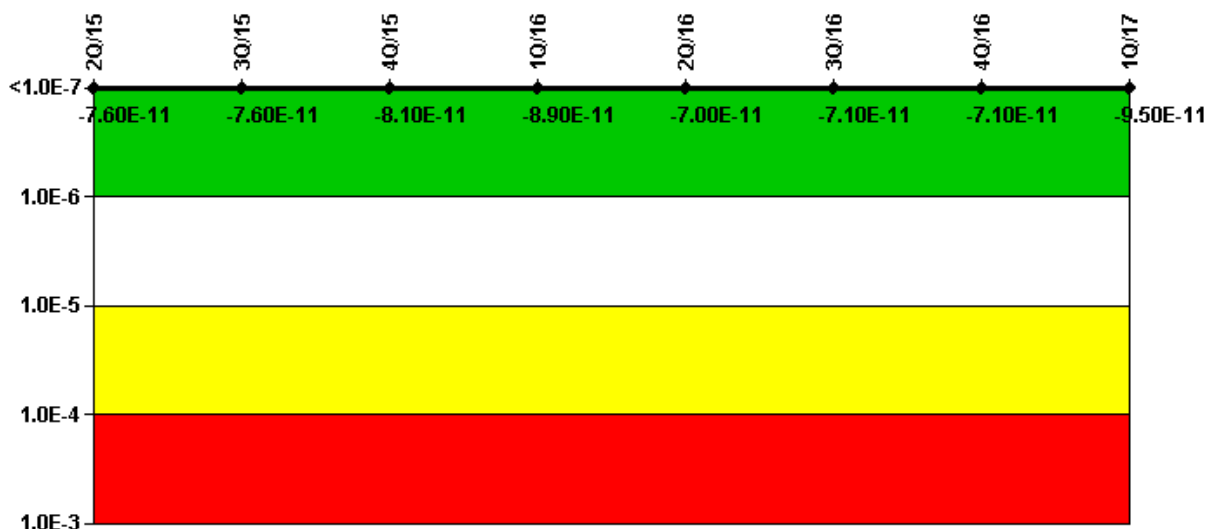
Mitigating Systems Performance Index, Heat Removal System

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	1.21E-08	1.88E-08	1.48E-08	1.19E-08	1.22E-08	8.26E-09	8.13E-09	7.18E-09
URI (Δ CDF)	-6.90E-08	-6.90E-08	-6.90E-08	-6.85E-08	-6.84E-08	-6.84E-08	-6.84E-08	-6.84E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-5.70E-08	-5.00E-08	-5.40E-08	-5.70E-08	-5.60E-08	-6.00E-08	-6.00E-08	-6.10E-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

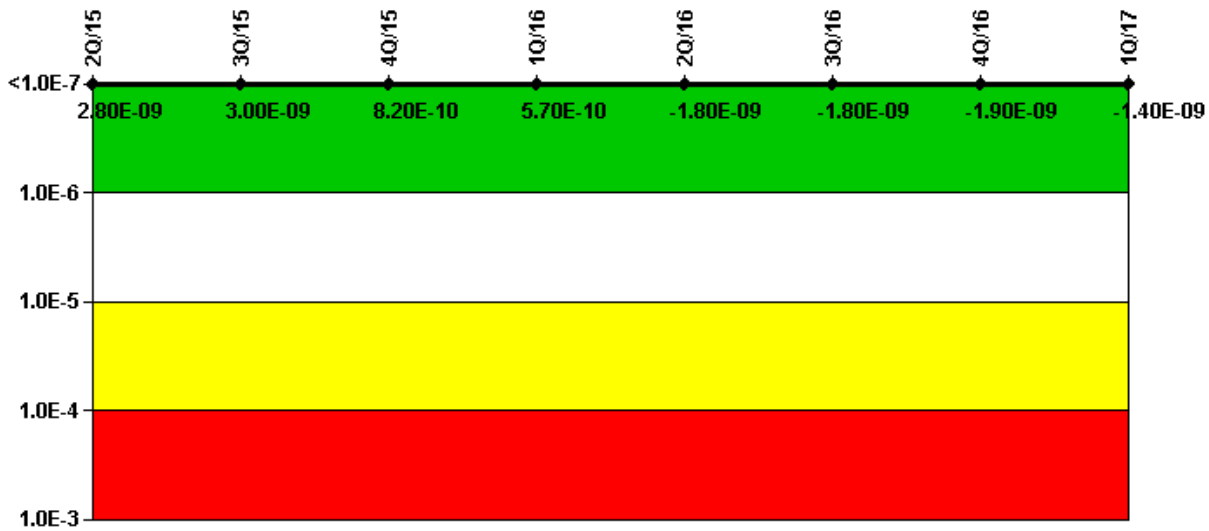
Mitigating Systems Performance Index, Residual Heat Removal System

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-1.36E-12	-1.10E-12	-5.85E-12	-1.39E-11	4.33E-12	3.55E-12	3.35E-12	-2.06E-11
URI (ΔCDF)	-7.47E-11	-7.47E-11	-7.47E-11	-7.47E-11	-7.47E-11	-7.47E-11	-7.47E-11	-7.47E-11
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.60E-11	-7.60E-11	-8.10E-11	-8.90E-11	-7.00E-11	-7.10E-11	-7.10E-11	-9.50E-11

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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

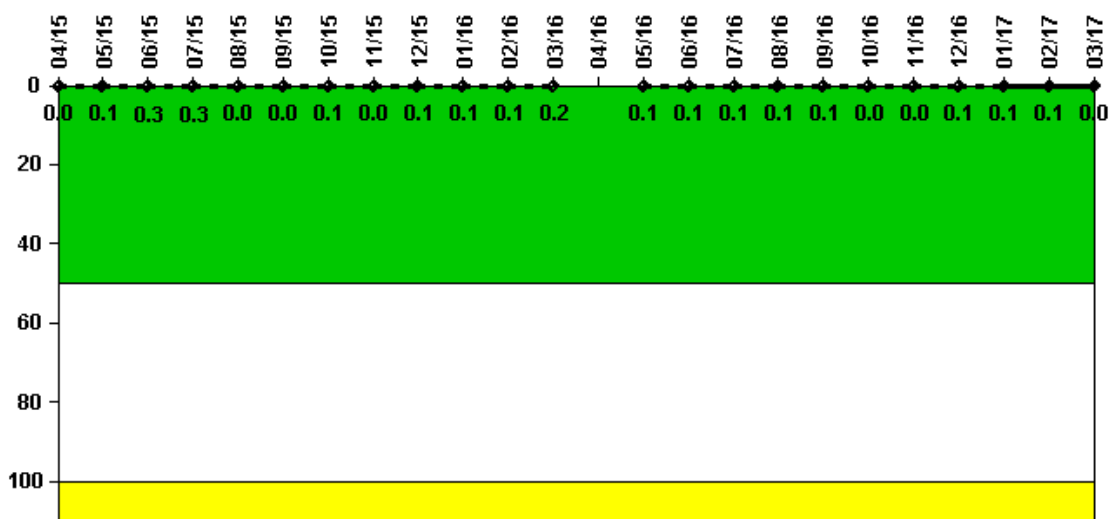
Mitigating Systems Performance Index, Cooling Water Systems

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	7.33E-09	7.52E-09	5.34E-09	5.09E-09	2.74E-09	2.72E-09	2.67E-09	3.14E-09
URI (ΔCDF)	-4.52E-09	-4.52E-09	-4.52E-09	-4.52E-09	-4.52E-09	-4.52E-09	-4.52E-09	-4.52E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.80E-09	3.00E-09	8.20E-10	5.70E-10	-1.80E-09	-1.80E-09	-1.90E-09	-1.40E-09

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Licensee Comments: none

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

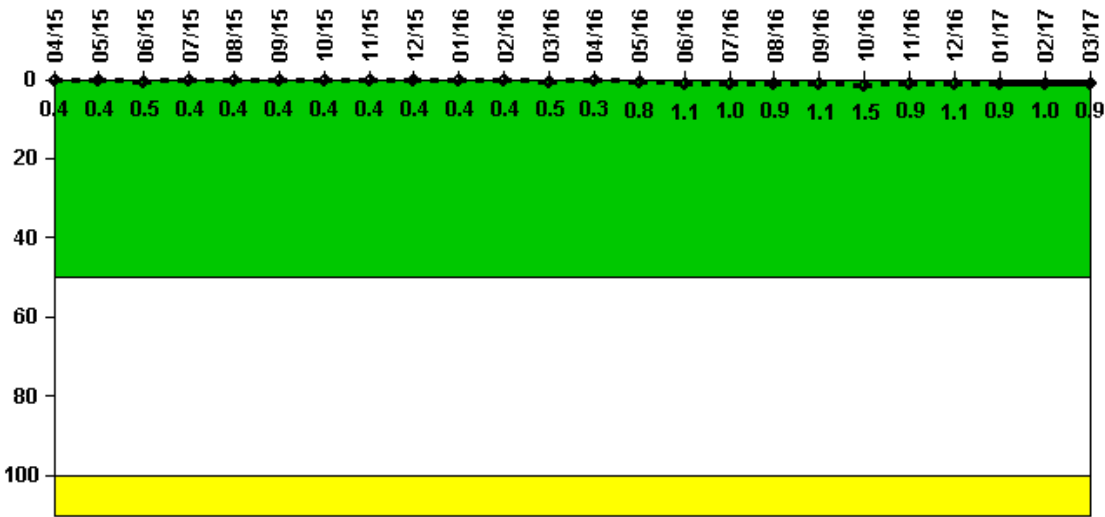
Notes

Reactor Coolant System Activity	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16
Maximum activity	0.000110	0.000240	0.000640	0.000850	0.000120	0.000120	0.000290	0.000100	0.000240	0.000180	0.000140	0.000610
Technical specification limit	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Indicator value	0	0.1	0.3	0.3	0	0	0.1	0	0.1	0.1	0.1	0.2
Reactor Coolant System Activity	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum activity	N/A	0.000320	0.000130	0.000130	0.000150	0.000150	0.000100	0.000100	0.000190	0.000200	0.000220	0.000120
Technical specification limit	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Indicator value	N/A	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0

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Licensee Comments: none

Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Leakage	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16
Maximum leakage	0.040	0.040	0.050	0.040	0.042	0.040	0.040	0.040	0.040	0.040	0.040	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

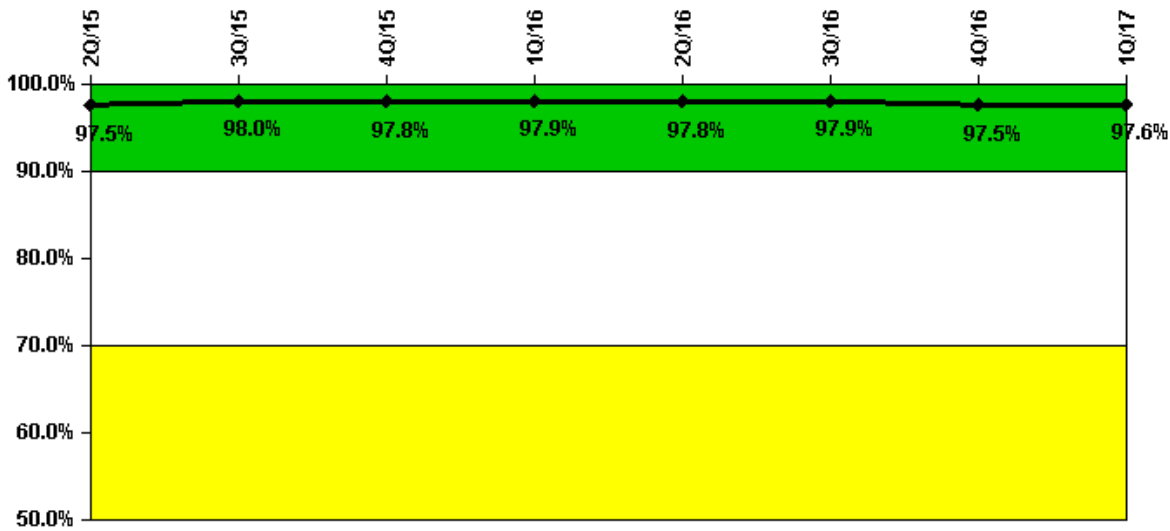
Indicator value	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Reactor Coolant System Leakage	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum leakage	0.030	0.080	0.110	0.100	0.090	0.110	0.150	0.090	0.110	0.090	0.100	0.090
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	0.3	0.8	1.1	1.0	0.9	1.1	1.5	0.9	1.1	0.9	1.0	0.9
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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

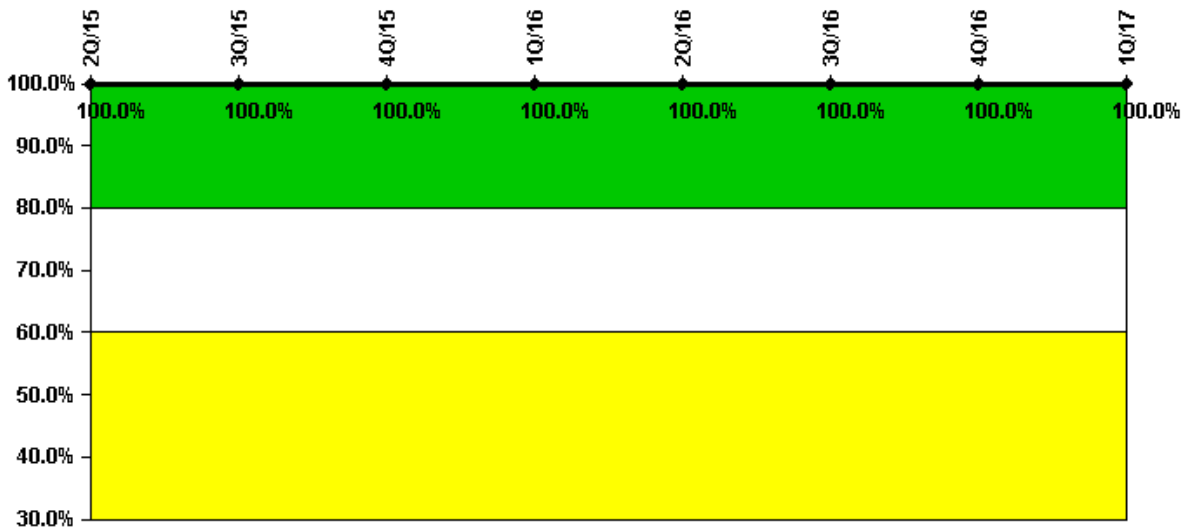
Drill/Exercise Performance	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful opportunities	33.0	40.0	14.0	46.0	4.0	26.0	40.0	36.0
Total opportunities	33.0	41.0	14.0	47.0	4.0	26.0	41.0	39.0

Indicator value 97.5% 98.0% 97.8% 97.9% 97.8% 97.9% 97.5% 97.6%

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

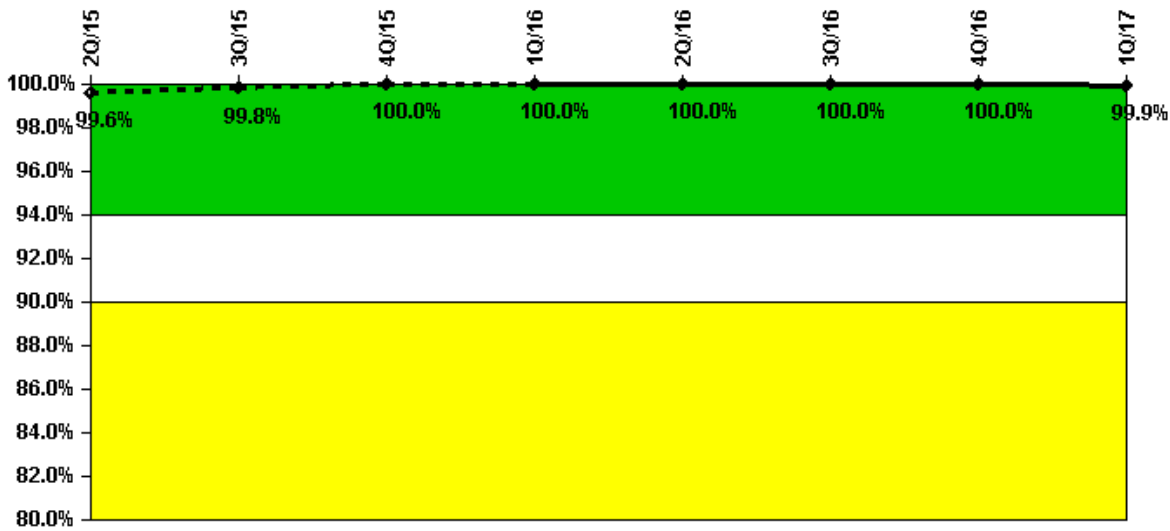
ERO Drill Participation	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Participating Key personnel	106.0	106.0	107.0	102.0	100.0	100.0	103.0	102.0
Total Key personnel	106.0	106.0	107.0	102.0	100.0	100.0	103.0	102.0

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

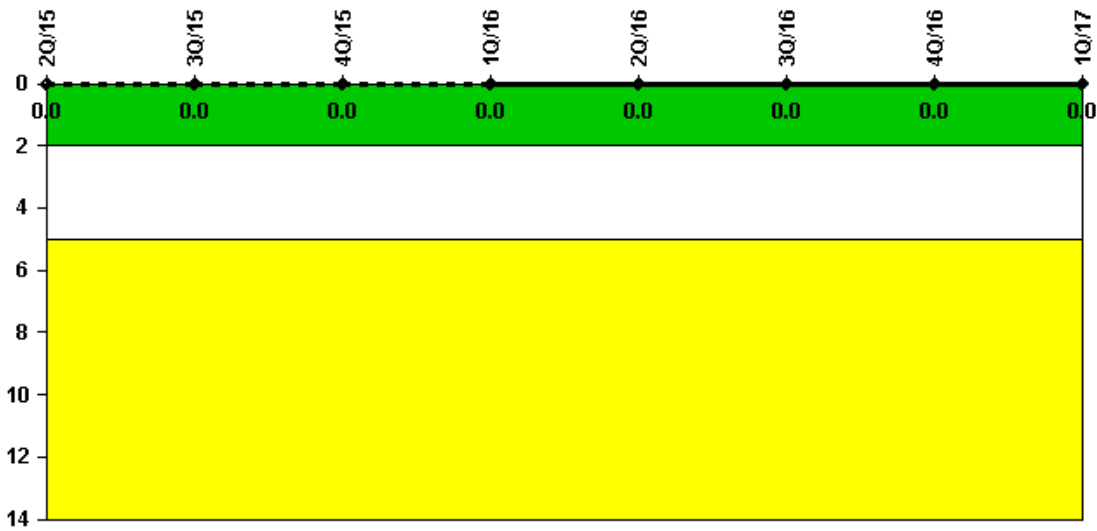
Alert & Notification System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful siren-tests	329	376	376	336	384	336	384	335
Total sirens-tests	329	376	376	336	384	336	384	336

Indicator value 99.6% 99.8% 100.0% 100.0% 100.0% 100.0% 100.0% 99.9%

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Licensee Comments: none

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

Notes

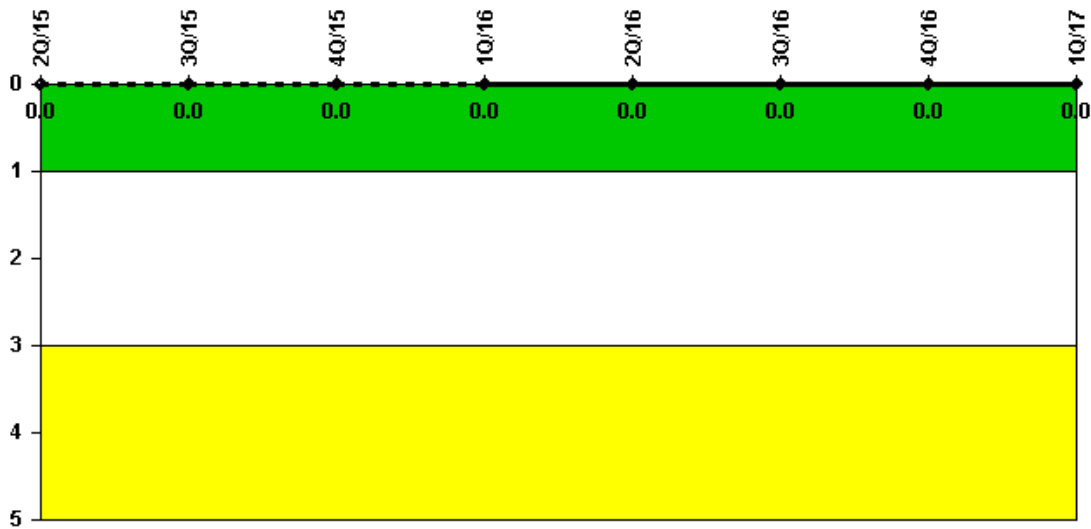
Occupational Exposure Control Effectiveness 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17

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 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/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: May 5, 2017

Page Last Reviewed/Updated Wednesday, June 07, 2017