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Arkansas Nuclear 1 – Quarterly Performance Indicators

1Q/2017 Performance Indicators

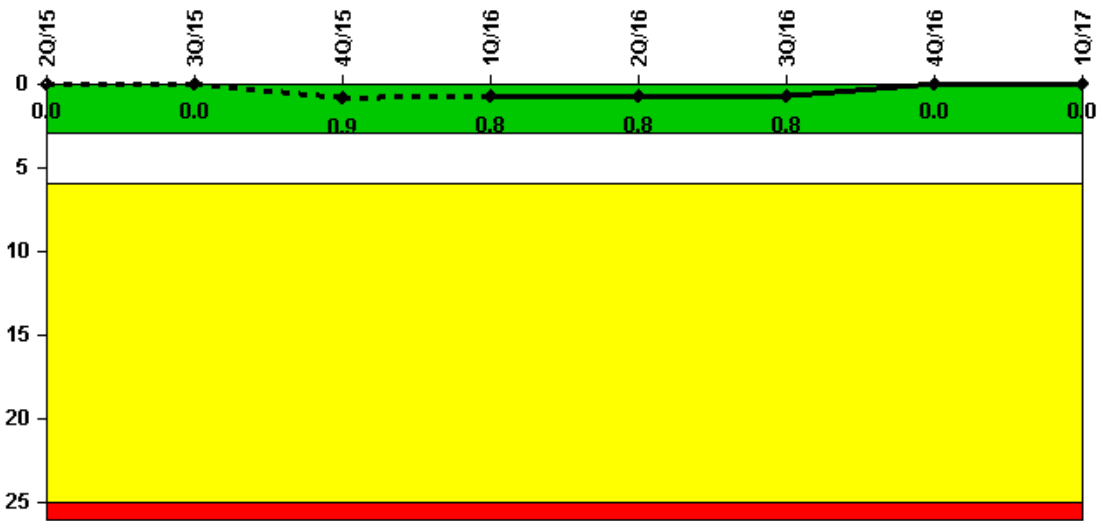
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

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

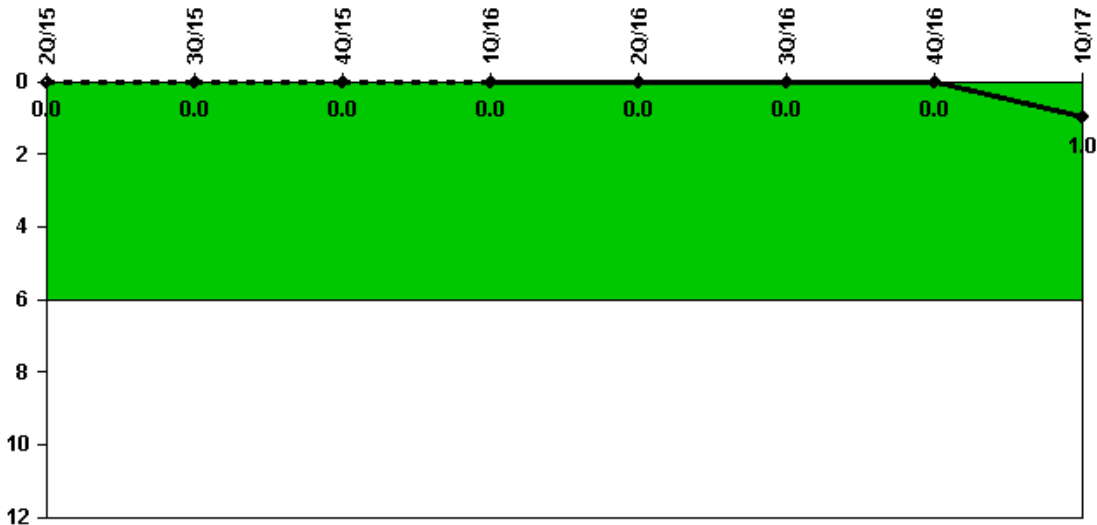
Unplanned Scrams per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned scrams	0	0	1.0	0	0	0	0	0
Critical hours	2184.0	2208.0	2141.3	2183.0	2184.0	2040.1	464.1	2159.0

Indicator value: 0 0 0.9 0.8 0.8 0.8 0 0

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Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

Notes

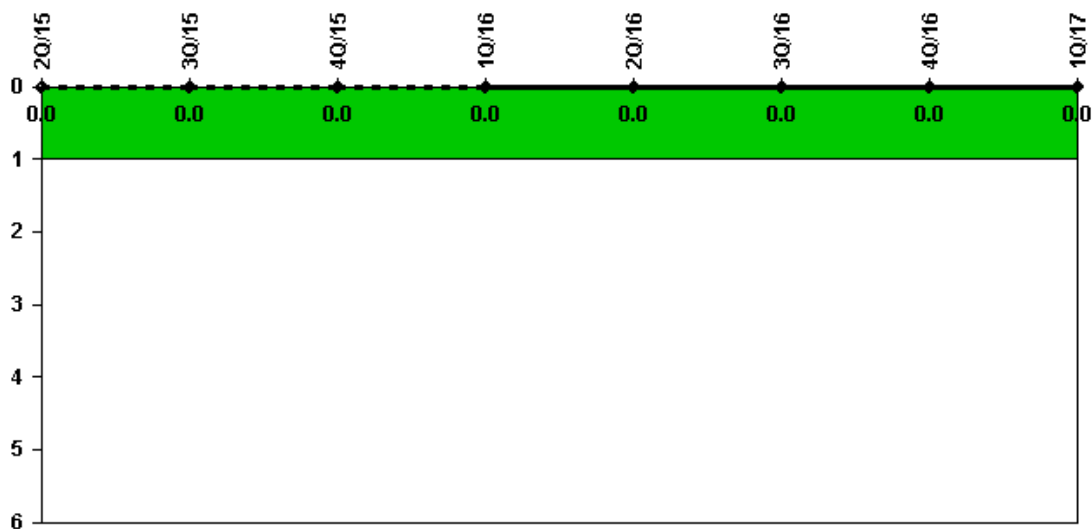
Unplanned Power Changes per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned power changes	0	0	0	0	0	0	0	1.0
Critical hours	2184.0	2208.0	2141.3	2183.0	2184.0	2040.1	464.1	2159.0

Indicator value 0 0 0 0 0 0 0 0 1.0

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Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

Notes

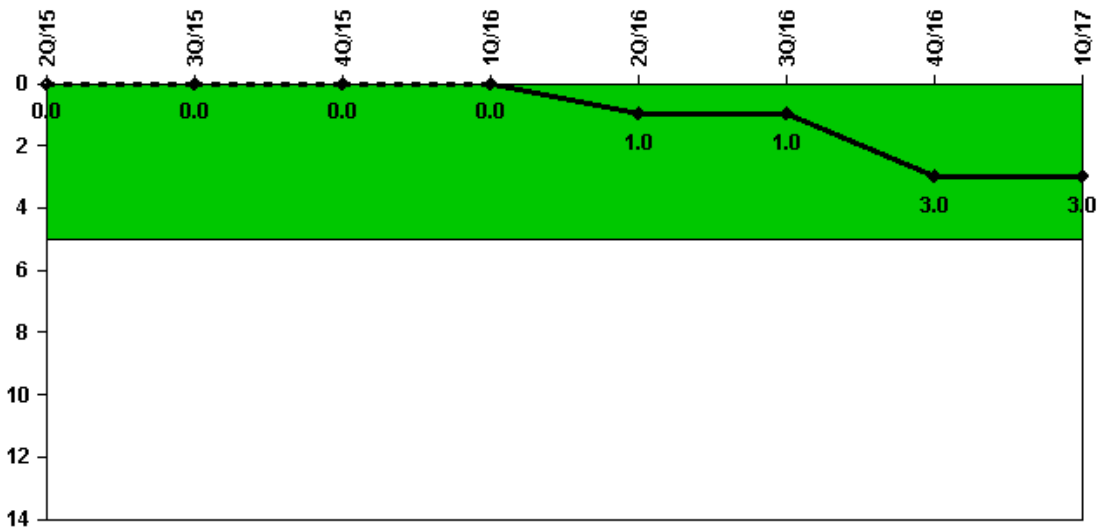
Unplanned Scrams with Complications	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Scrams with complications	0	0	0	0	0	0	0	0

Indicator value 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 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 2 0

Indicator value 0 0 0 0 1 1 3 3

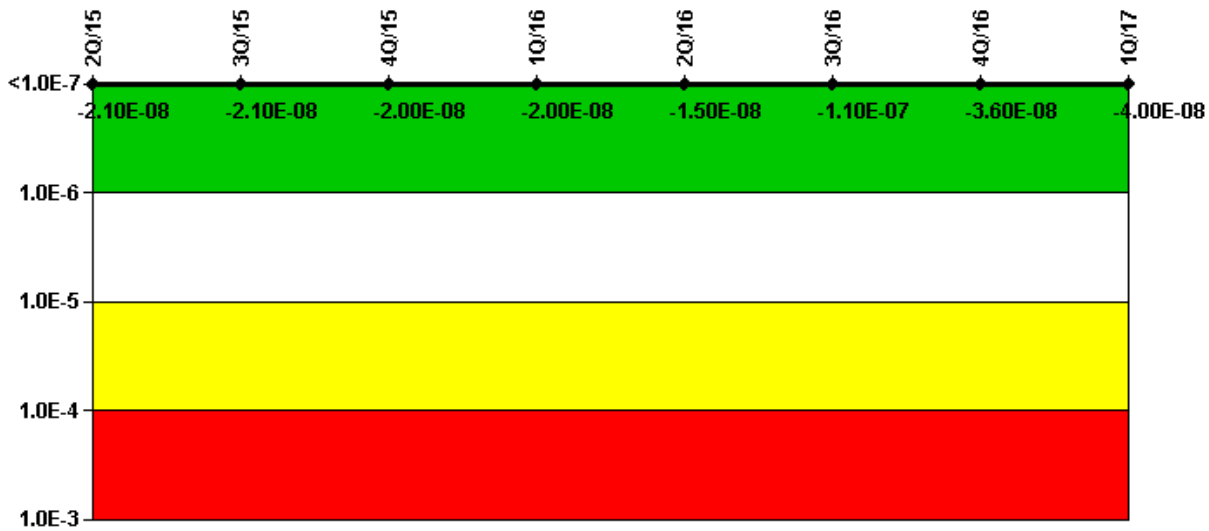
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Licensee Comments:

4Q/16: October: Licensing Event Report 50-313 2016-003-00, November: Licensing Event Report 50-313 2016-004-00

2Q/16: LER 50-313/2016-001-00

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

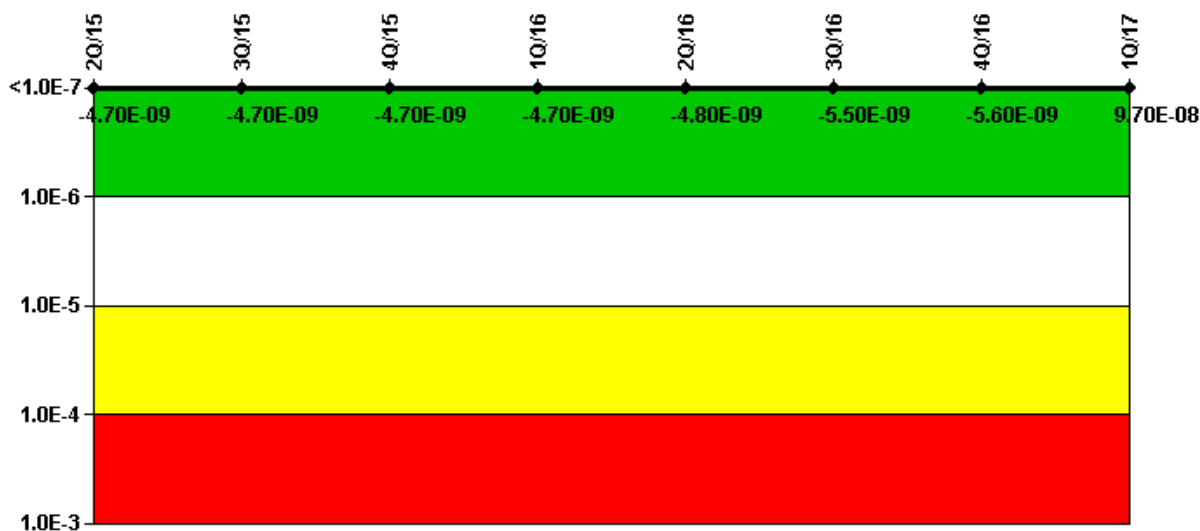
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-9.63E-10	-7.00E-10	5.40E-10	5.36E-10	-4.95E-10	-6.70E-09	5.62E-09	-4.77E-09
URI (ΔCDF)	-2.05E-08	-2.04E-08	-2.05E-08	-2.02E-08	-1.46E-08	-1.01E-07	-4.20E-08	-3.50E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.10E-08	-2.10E-08	-2.00E-08	-2.00E-08	-1.50E-08	-1.10E-07	-3.60E-08	-4.00E-08

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Licensee Comments:

3Q/16: Changed PRA Parameter(s). Revision to Unit CDF, Unavailability FV/UA values and Unreliability FV/UA values.

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

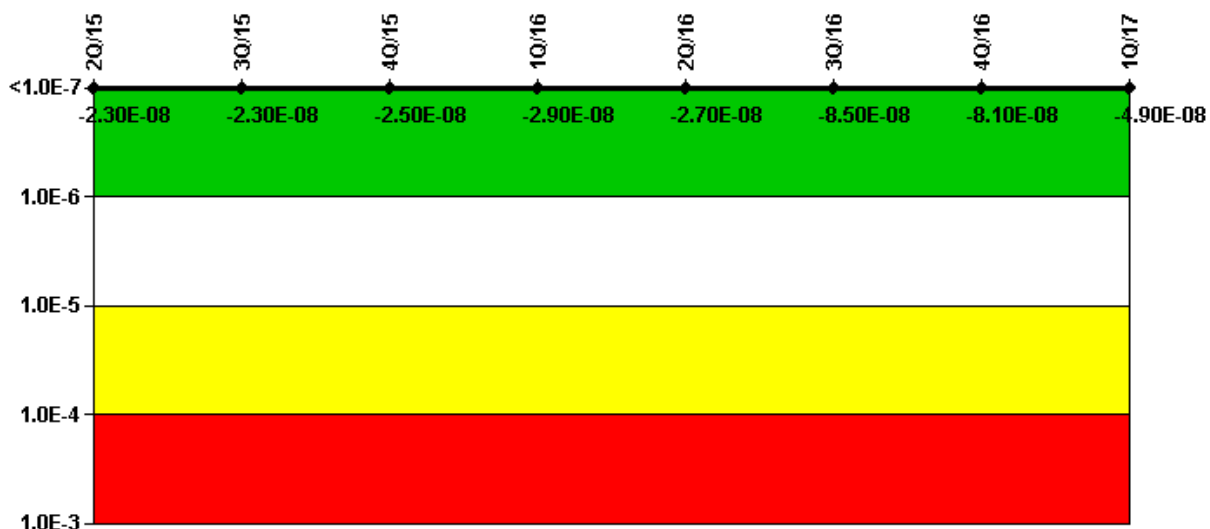
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	-8.24E-12	-8.24E-12	-8.23E-12	-8.26E-12	-8.49E-12	-3.43E-12	-3.34E-12	1.53E-12
URI (Δ CDF)	-4.67E-09	-4.65E-09	-4.66E-09	-4.69E-09	-4.76E-09	-5.46E-09	-5.60E-09	9.69E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-4.70E-09	-4.70E-09	-4.70E-09	-4.70E-09	-4.80E-09	-5.50E-09	-5.60E-09	9.70E-08

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Licensee Comments:

3Q/16: Changed PRA Parameter(s). Revision to Unit CDF, Unavailability FV/UA values, Unreliability FV/UA values and Estimated Reliability values.

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

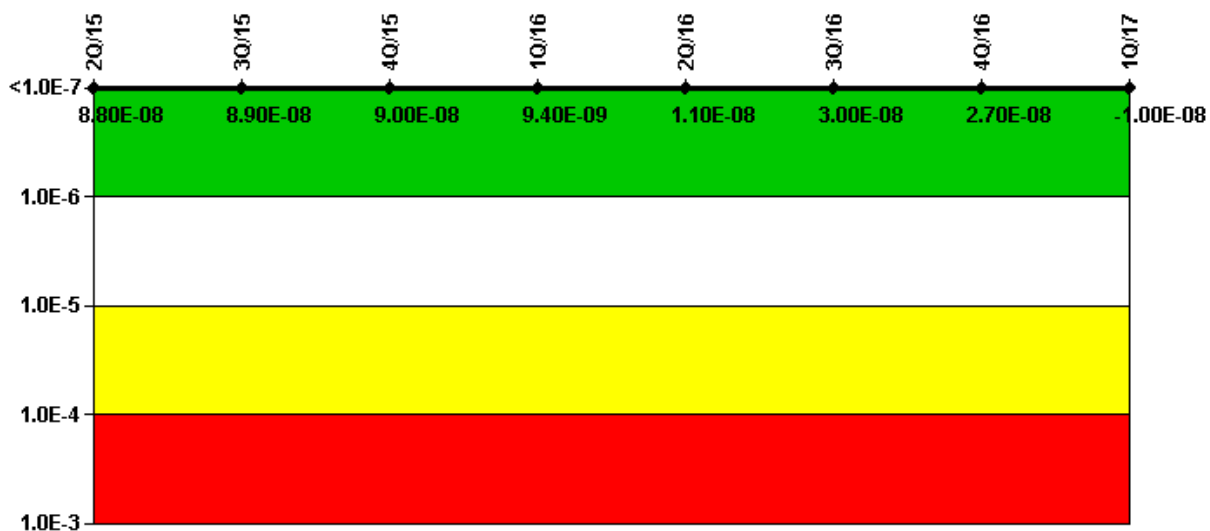
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	-1.14E-09	-1.14E-09	-3.57E-09	-6.33E-09	-3.95E-09	-3.64E-08	-2.69E-08	5.27E-09
URI (Δ CDF)	-2.22E-08	-2.14E-08	-2.19E-08	-2.22E-08	-2.29E-08	-4.88E-08	-5.41E-08	-5.45E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.30E-08	-2.30E-08	-2.50E-08	-2.90E-08	-2.70E-08	-8.50E-08	-8.10E-08	-4.90E-08

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Licensee Comments:

3Q/16: Changed PRA Parameter(s). Revision to Unit CDF, Unavailability FV/UA values, Unreliability FV/UA values, and Devices in-scope.

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

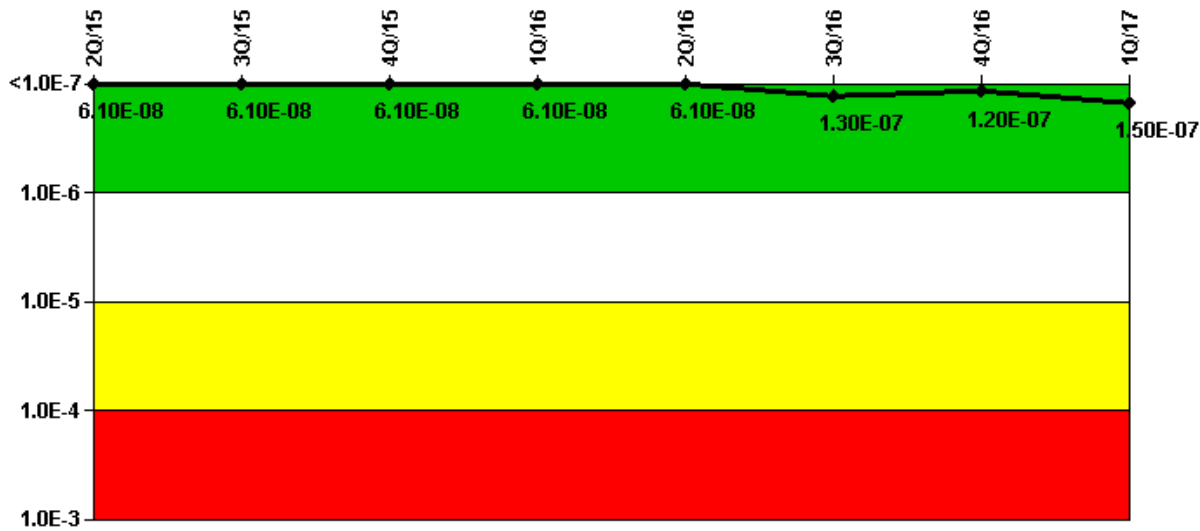
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	5.09E-08	5.06E-08	4.80E-08	5.48E-08	4.88E-08	6.14E-08	6.73E-08	3.06E-08
URI (Δ CDF)	3.66E-08	3.86E-08	4.25E-08	-4.54E-08	-3.77E-08	-3.16E-08	-4.08E-08	-4.09E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	8.80E-08	8.90E-08	9.00E-08	9.40E-09	1.10E-08	3.00E-08	2.70E-08	-1.00E-08

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Licensee Comments:

3Q/16: Changed PRA Parameter(s). Revision to Unit CDF, Unavailability FV/UA values, Unreliability FV/UA values, Common Cause Failure values and Devices in-scope.

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

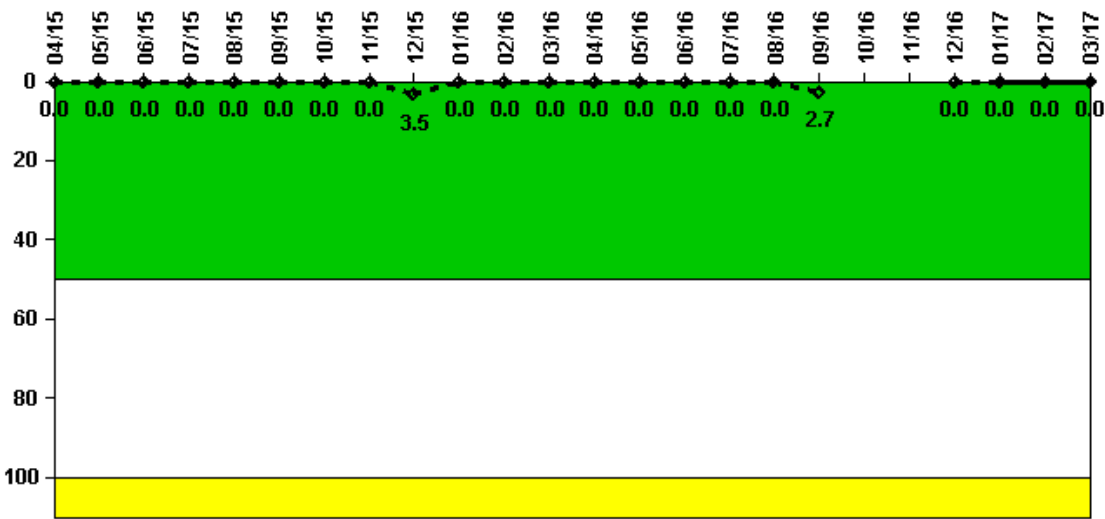
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-3.39E-09	-3.39E-09	-3.39E-09	-3.39E-09	-3.40E-09	-1.11E-07	-1.11E-07	-8.13E-08
URI (ΔCDF)	6.47E-08	6.47E-08	6.47E-08	6.47E-08	6.48E-08	2.38E-07	2.34E-07	2.30E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	6.10E-08	6.10E-08	6.10E-08	6.10E-08	6.10E-08	1.30E-07	1.20E-07	1.50E-07

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Licensee Comments:

3Q/16: Changed PRA Parameter(s). Revision to Unit CDF, Unavailability FV/UA values, Unreliability FV/UA values, Common Cause Failure values, Devices in-scope and Function revised for three segments vs. two trains.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

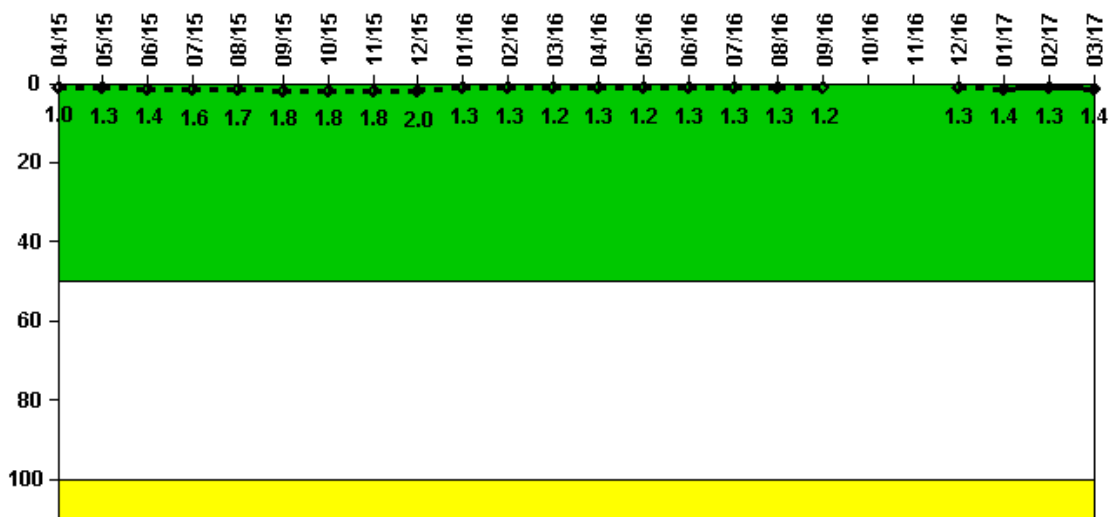
Notes

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	0.000053	0.000058	0.000216	0.000220	0.000208	0.000143	0.000140	0.000194	0.034700	0.000122	0.000153	0.000173
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	3.5	0	0	0
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	0.000166	0.000214	0.000207	0.000222	0.000290	0.026800	N/A	N/A	0.000049	0.000052	0.000057	0.000059
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	2.7	N/A	N/A	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	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	0.100	0.125	0.137	0.163	0.168	0.177	0.175	0.182	0.198	0.132	0.128	0.116
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

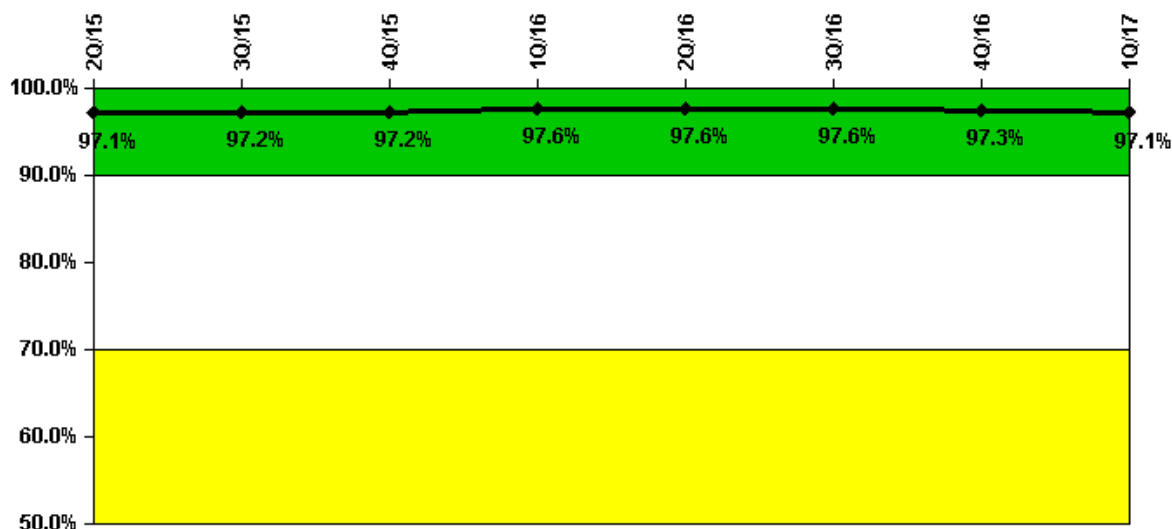
Indicator value	1.0	1.3	1.4	1.6	1.7	1.8	1.8	1.8	2.0	1.3	1.3	1.2
Reactor Coolant System Leakage	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum leakage	0.125	0.121	0.125	0.134	0.131	0.117	N/A	N/A	0.132	0.135	0.131	0.135
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	1.3	1.2	1.3	1.3	1.3	1.2	N/A	N/A	1.3	1.4	1.3	1.4
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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	93.0	65.0	19.0	31.0	98.0	63.0	5.0	60.0
Total opportunities	98.0	67.0	19.0	32.0	99.0	65.0	5.0	62.0

Indicator value 97.1% 97.2% 97.2% 97.6% 97.6% 97.6% 97.3% 97.1%

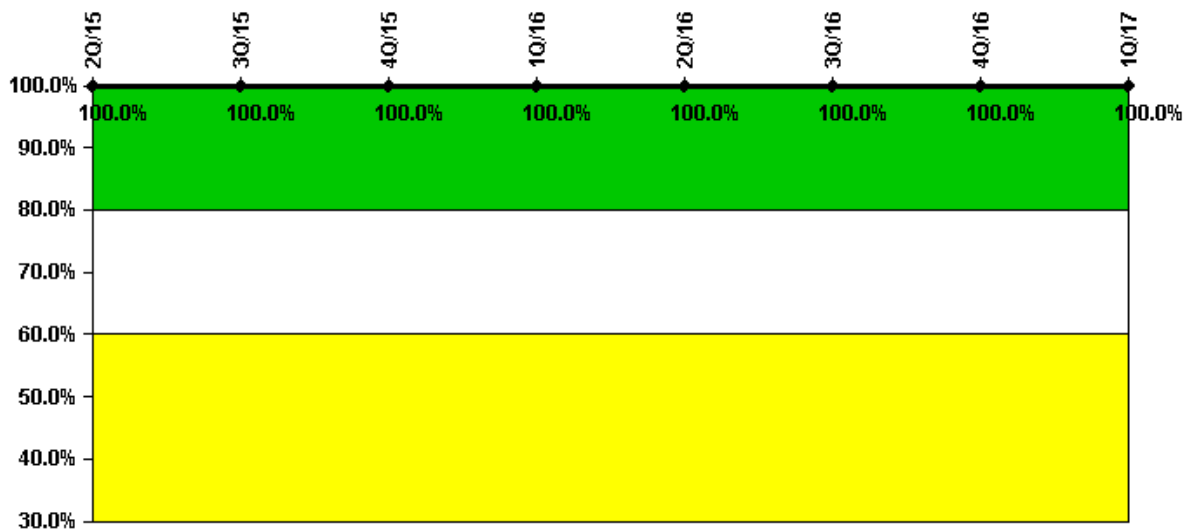
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Licensee Comments:

2Q/16: The 2nd Quarter 2016 June Drill/Exercise Performance is being revised to include five additional opportunities. This change does not affect the color of the Drill/Exercise Performance indicator.

2Q/15: The June Drill/Exercise Performance is being revised to include two Shift Manager requalification exams. This change does not affect the color of the Drill/Exercise Performance indicator.

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

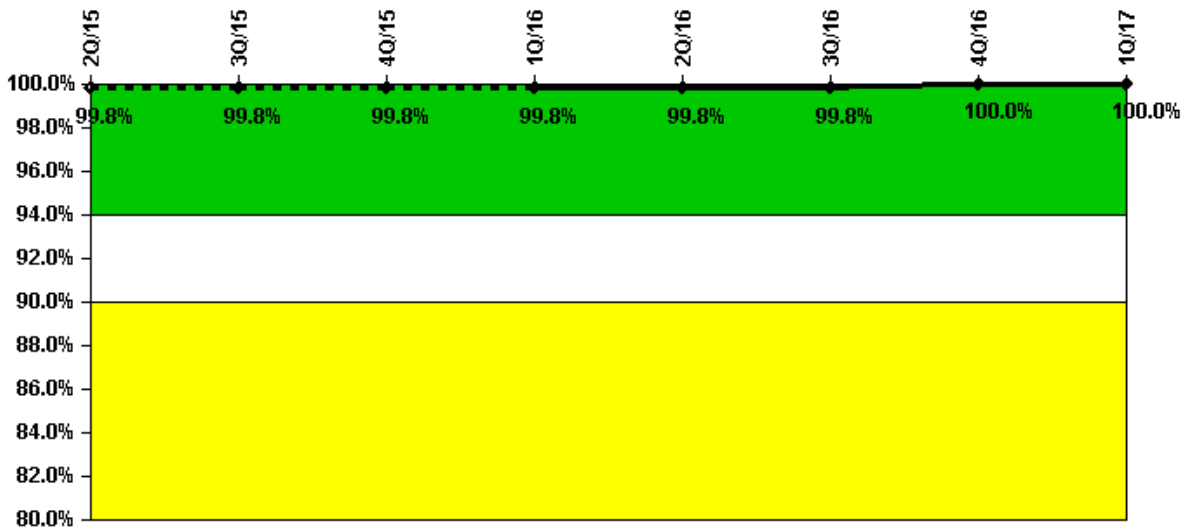
ERO Drill Participation	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Participating Key personnel	109.0	106.0	103.0	103.0	108.0	107.0	111.0	107.0
Total Key personnel	109.0	106.0	103.0	103.0	108.0	107.0	111.0	107.0

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

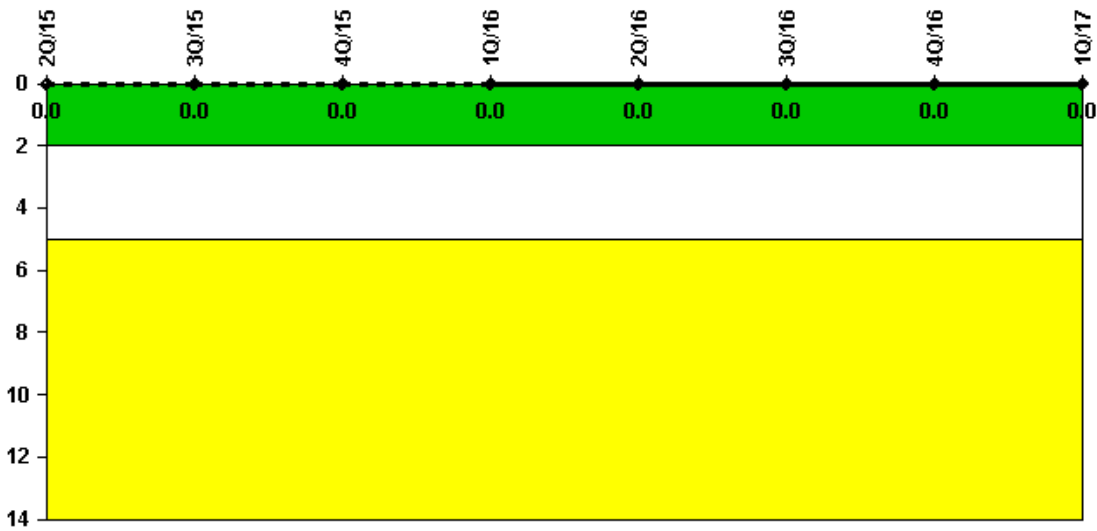
Alert & Notification System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful siren-tests	147	147	146	147	147	147	147	147
Total sirens-tests	147	147	147	147	147	147	147	147

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

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Licensee Comments: none

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

Notes

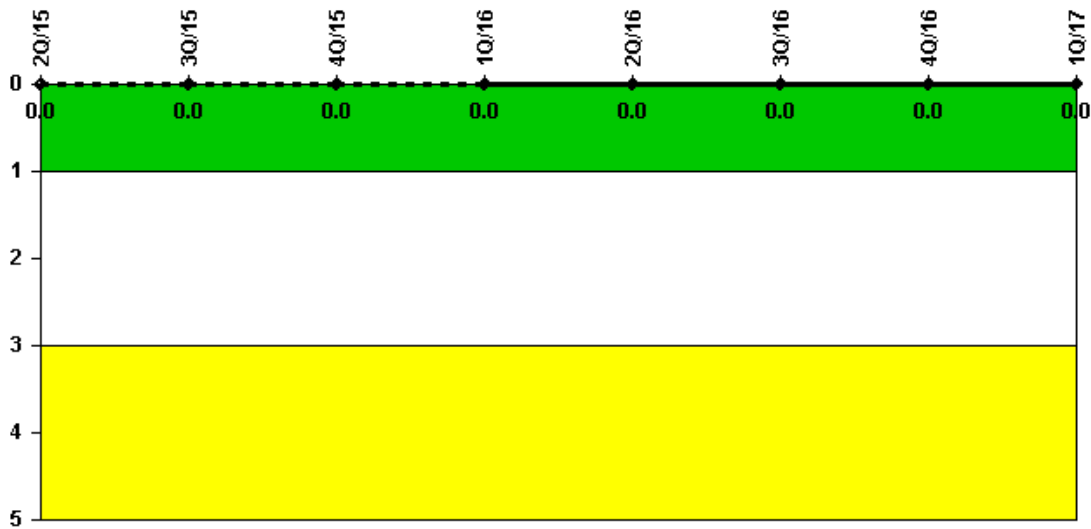
Occupational Exposure Control Effectiveness 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17

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