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Duane Arnold – Quarterly Performance Indicators

1Q/2017 Performance Indicators

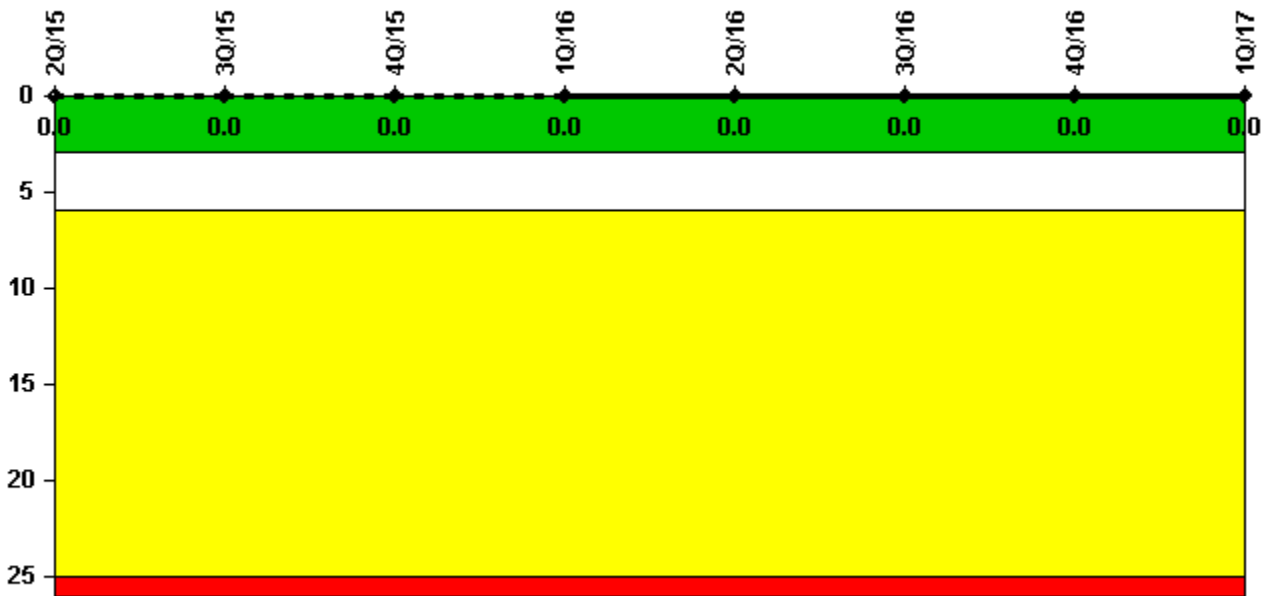
The solid trend line represents the current reporting period.

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)
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- Protected Area Equipment (PP01)

Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

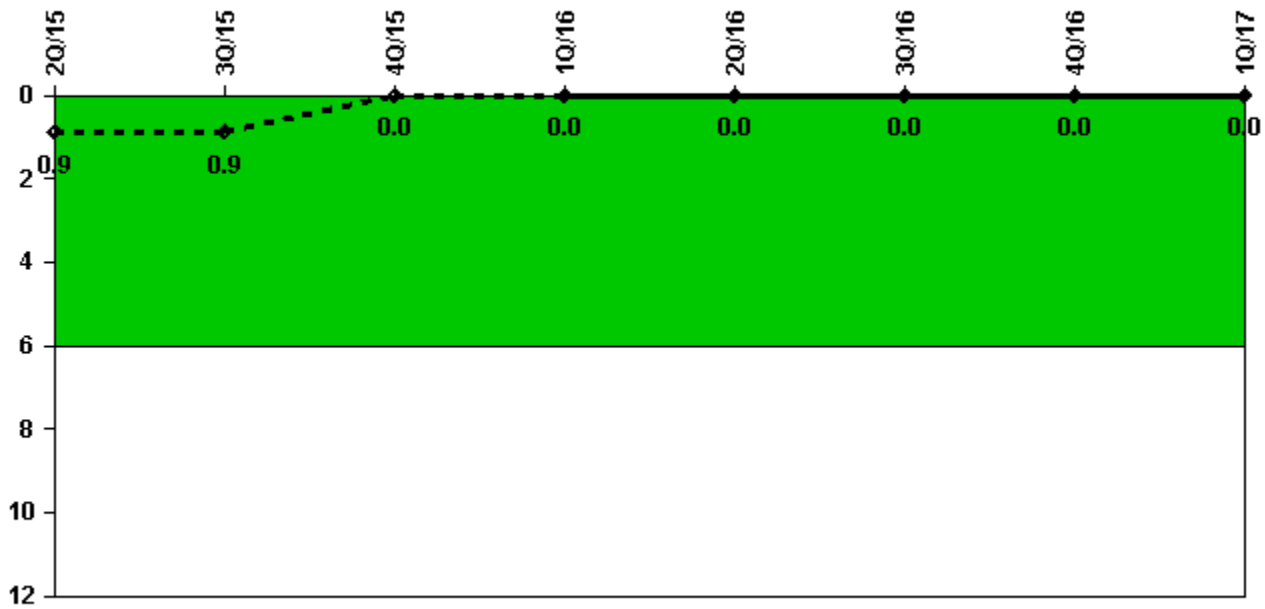
Notes

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	0	0	0	0	0	0
Critical hours	2184.0	2208.0	2209.0	2183.0	2184.0	2208.0	1551.5	2159.0
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

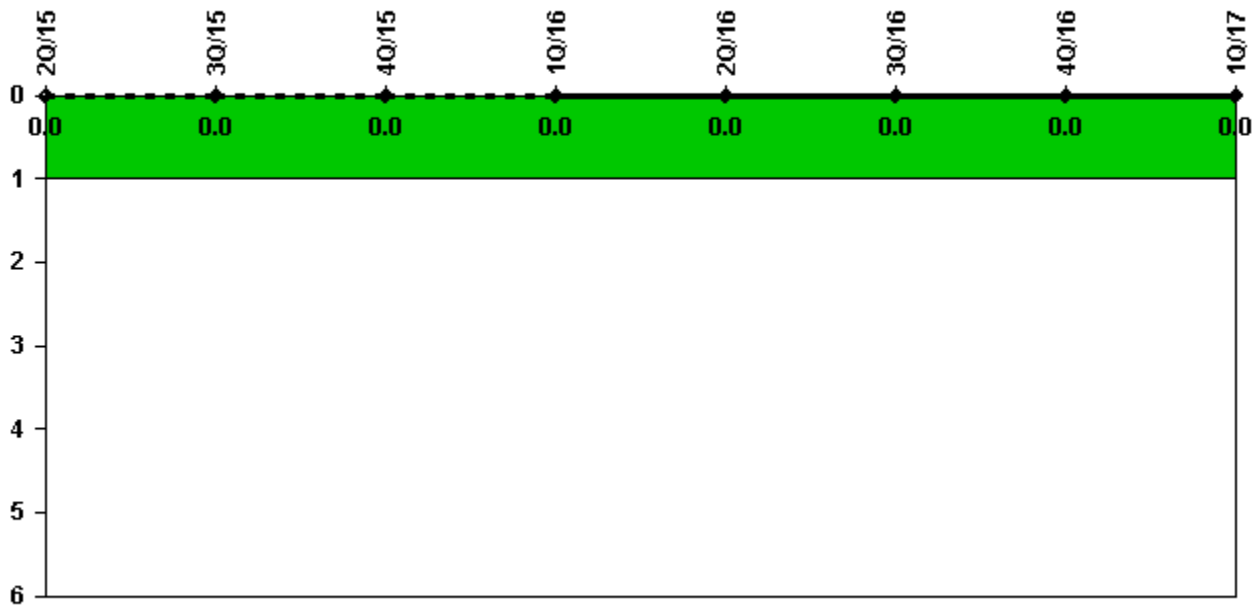
Notes

Unplanned Power Changes per 7000 Critical Hrs	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	0
Critical hours	2184.0	2208.0	2209.0	2183.0	2184.0	2208.0	1551.5	2159.0
Indicator value	0.9	0.9	0	0	0	0	0	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

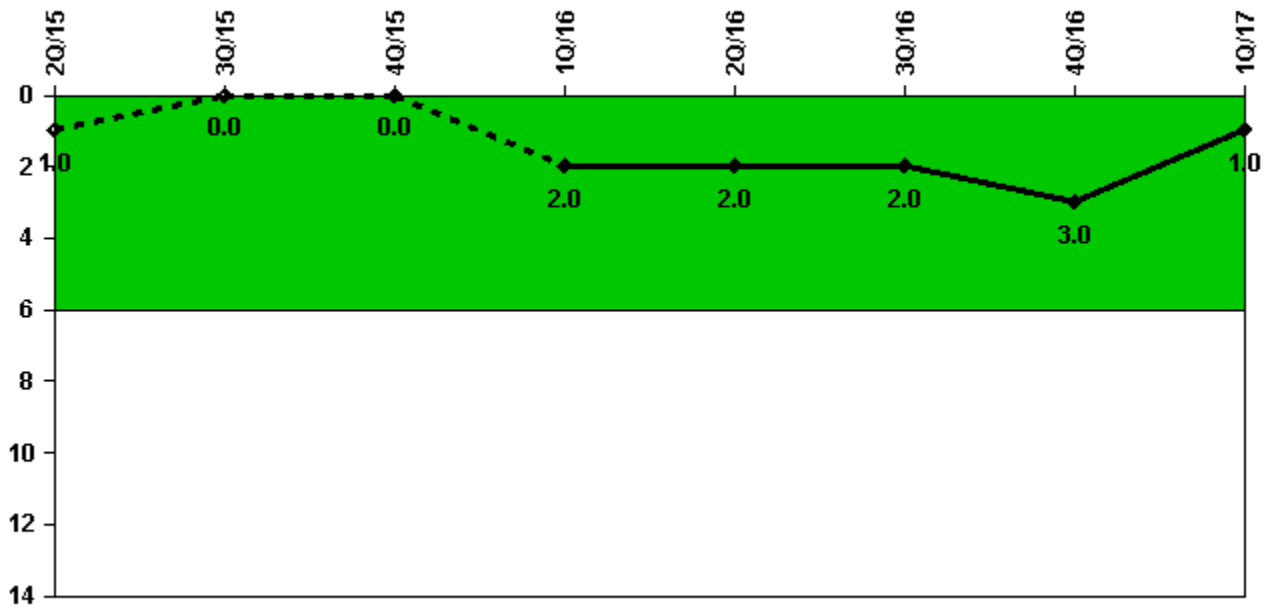
Scrams with complications 0 0 0 0 0 0 0 0

Indicator value 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

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Licensee Comments: none

Safety System Functional Failures (BWR)



Thresholds: White > 6.0

Notes

Safety System Functional Failures (BWR) 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 10/17

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

Indicator value 1 0 0 2 2 2 3 1

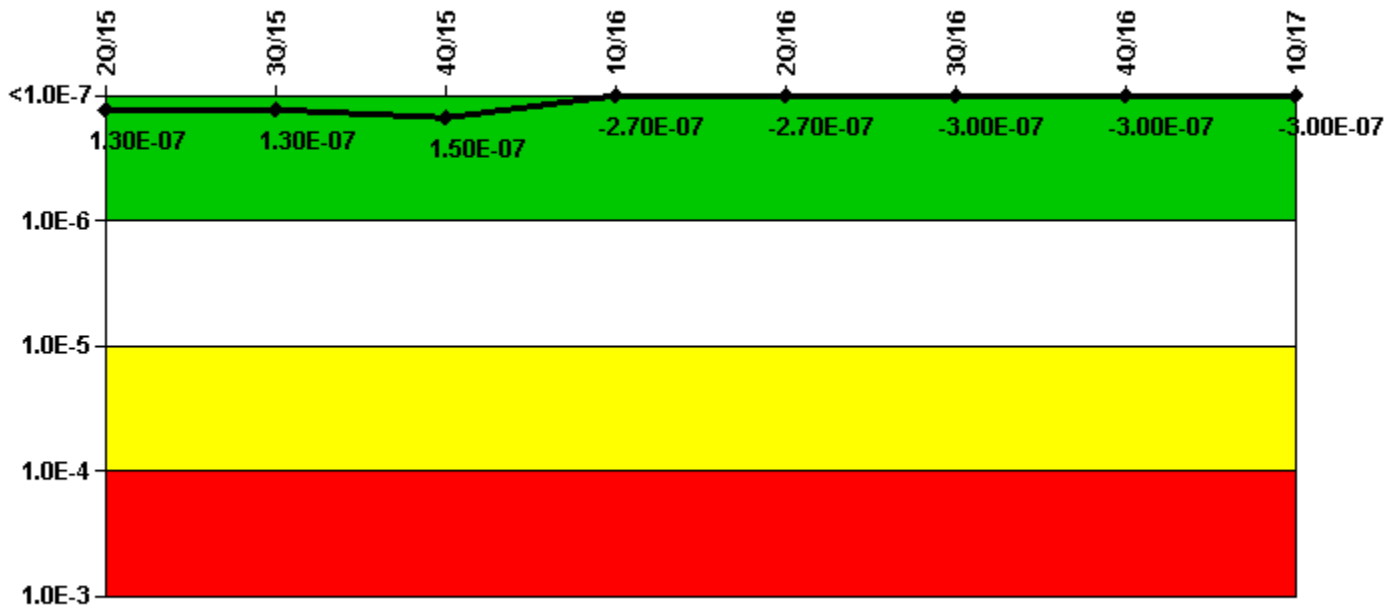
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Licensee Comments:

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

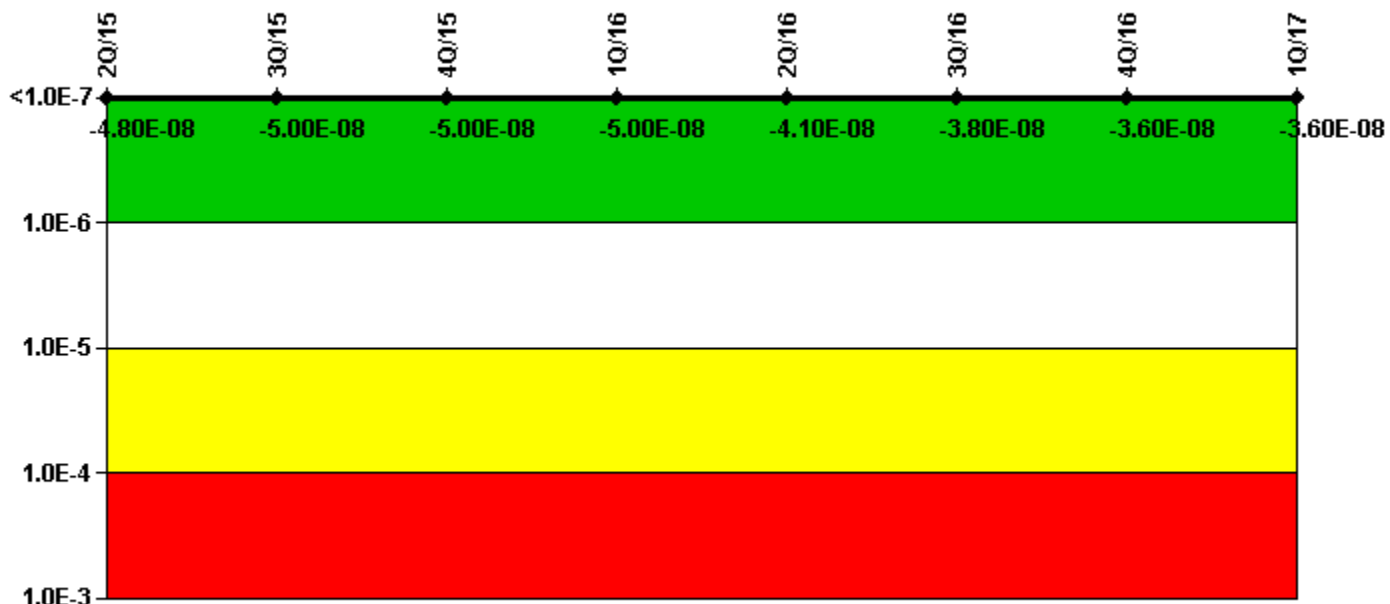
Mitigating Systems Performance

Mitigating Systems Performance Index, Emergency AC Power System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	2.41E-07	2.41E-07	2.61E-07	-2.11E-09	3.11E-09	-2.81E-08	-2.64E-08	-2.92E-08
URI (Δ CDF)	-1.10E-07	-1.10E-07	-1.10E-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	1.30E-07	1.30E-07	1.50E-07	-2.70E-07	-2.70E-07	-3.00E-07	-3.00E-07	-3.00E-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

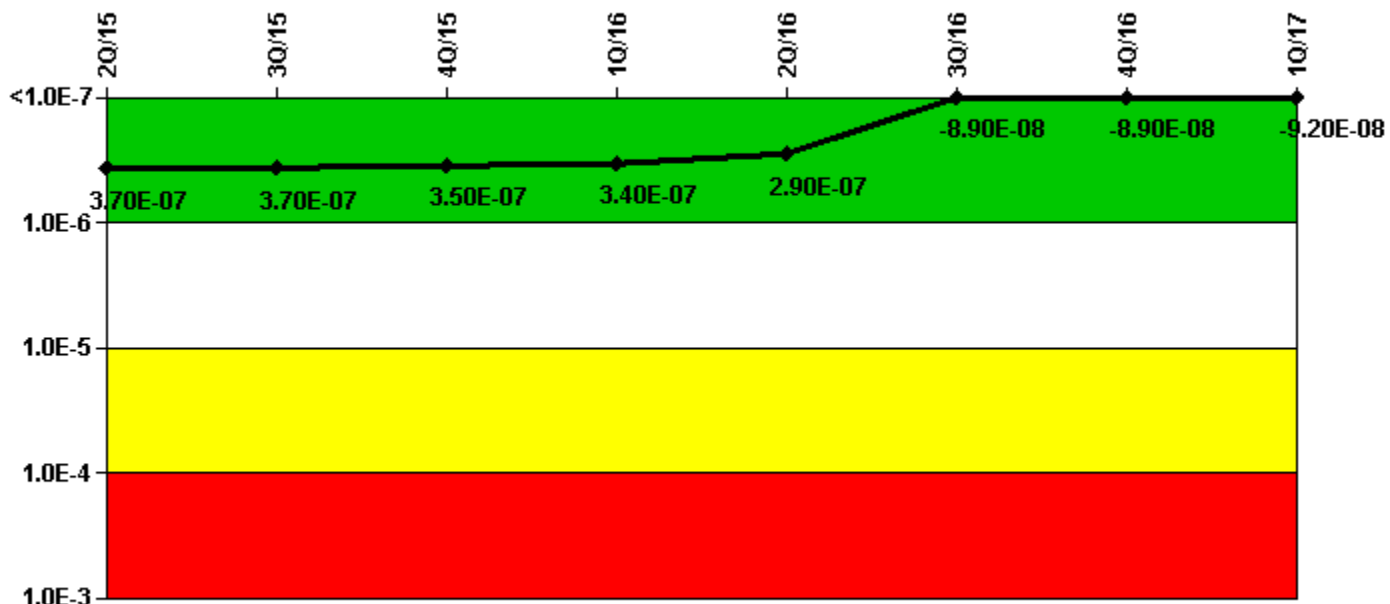
Mitigating Systems Performance

Mitigating Systems Performance Index, High Pressure Injection System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	-1.46E-08	-1.65E-08	-1.65E-08	-1.65E-08	-7.31E-09	-4.34E-09	-2.31E-09	-2.60E-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	-4.80E-08	-5.00E-08	-5.00E-08	-5.00E-08	-4.10E-08	-3.80E-08	-3.60E-08	-3.60E-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

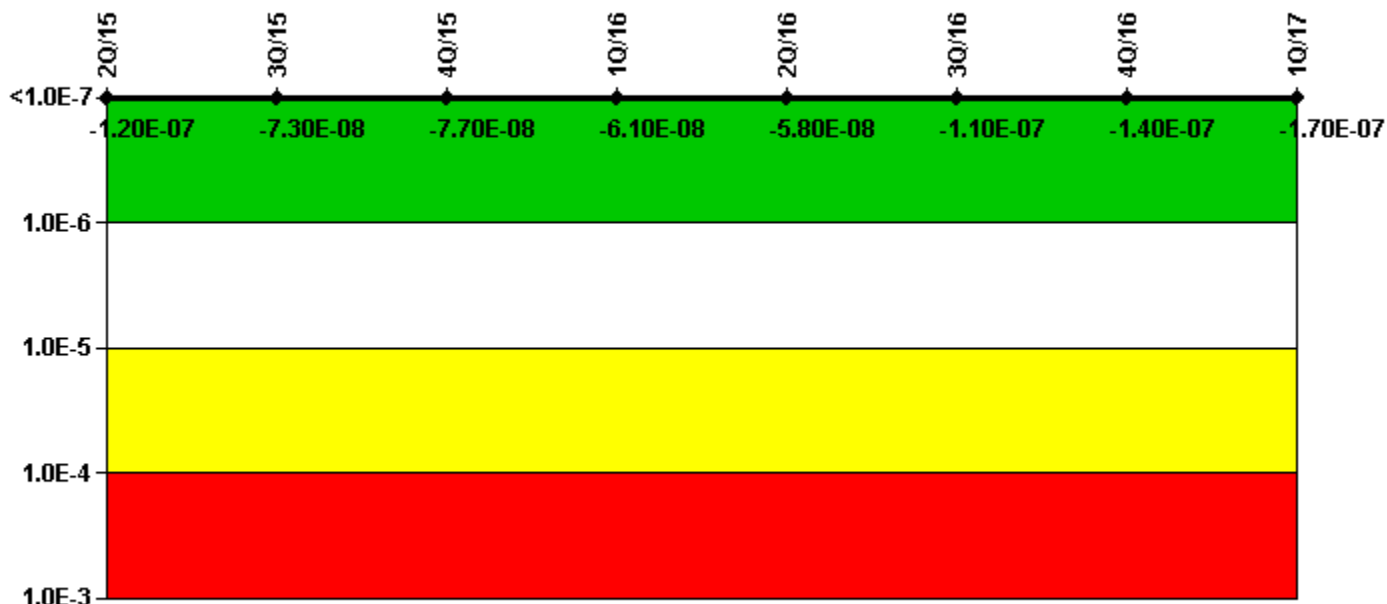
Mitigating Systems Performance Index, Heat Removal System

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	3.57E-07	3.57E-07	3.34E-07	3.30E-07	2.80E-07	-1.25E-08	-1.19E-08	-1.50E-08
URI (ΔCDF)	1.35E-08	1.35E-08	1.35E-08	1.35E-08	1.35E-08	-7.69E-08	-7.69E-08	-7.69E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.70E-07	3.70E-07	3.50E-07	3.40E-07	2.90E-07	-8.90E-08	-8.90E-08	-9.20E-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

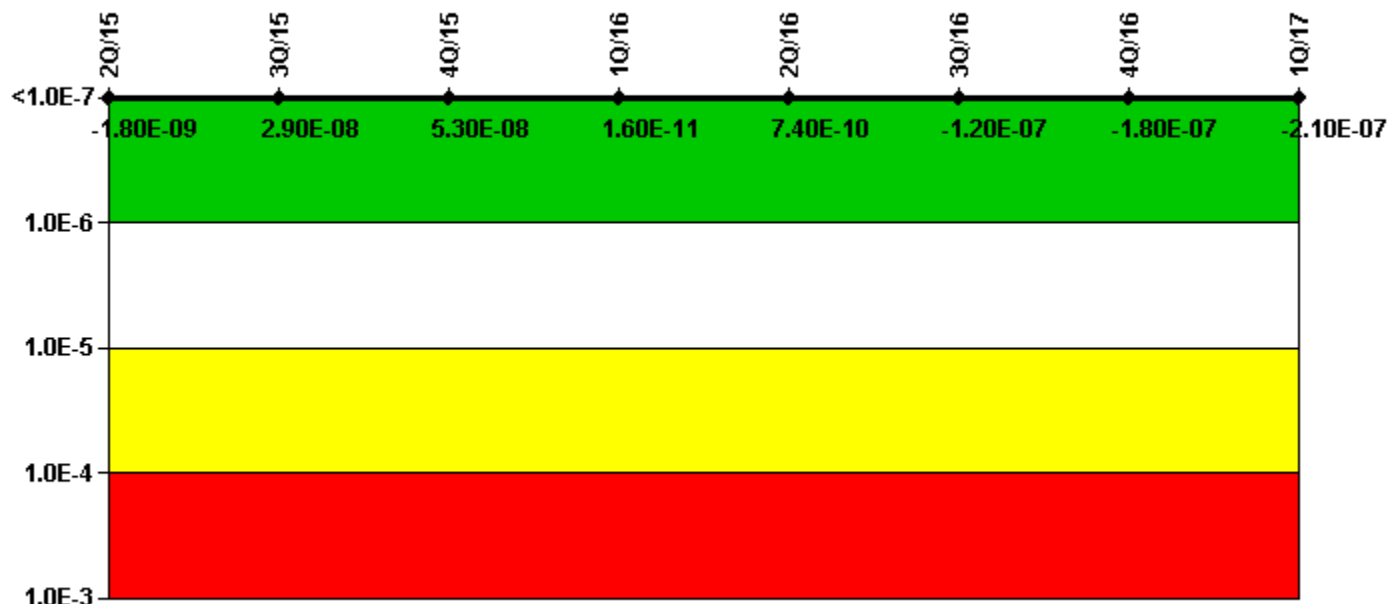
Mitigating Systems Performance Index, Residual Heat Removal System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	1.20E-07	1.64E-07	1.59E-07	1.75E-07	1.78E-07	1.23E-07	1.01E-07	6.42E-08
URI (ΔCDF)	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07	-2.36E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.20E-07	-7.30E-08	-7.70E-08	-6.10E-08	-5.80E-08	-1.10E-07	-1.40E-07	-1.70E-07

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Licensee Comments:

2Q/15: The A RHRSW changed from 10.75 to 0.00 hours. The hours were adjusted based on MSPI DBD 46/102 Rev 3 which includes the RHRSW A/B RHR heat exchanger discharge valves MO2046/MO1947 in the RHR System.

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

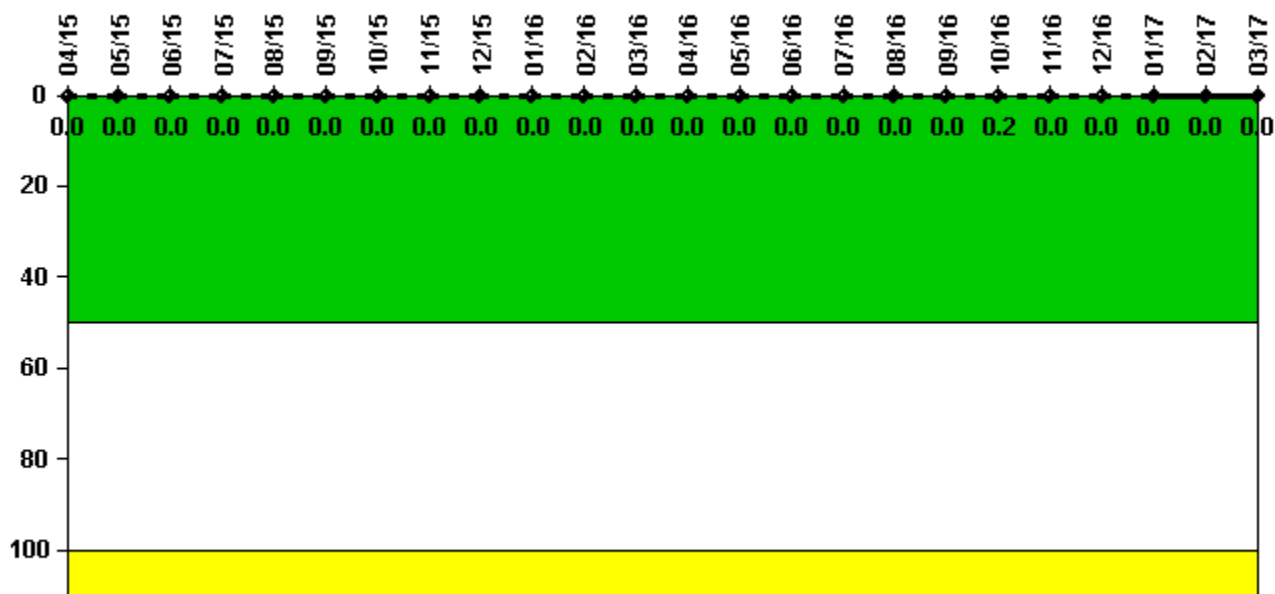
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	2.79E-07	3.10E-07	3.34E-07	2.81E-07	2.82E-07	1.63E-07	1.02E-07	7.34E-08
URI (Δ CDF)	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07	-2.81E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.80E-09	2.90E-08	5.30E-08	1.60E-11	7.40E-10	-1.20E-07	-1.80E-07	-2.10E-07

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Licensee Comments:

2Q/15: The B RHRSW changed from 16.5 hours to 5.7 hours. The hours were adjusted based on MSPI DBD 46/102 Rev 3 which includes the RHRSW A/B RHR heat exchanger discharge valves MO2046/MO1947 in the RHR System.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Activity 4/15/5/16/17/18/19/20/21/22/23/24

Maximum activity	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

Indicator value: 0 0 0 0 0 0 0 0 0 0 0 0 0

Reactor Coolant System Activity 4/25/26/27/28/29/30/31/10/11/12/13/14/15/16

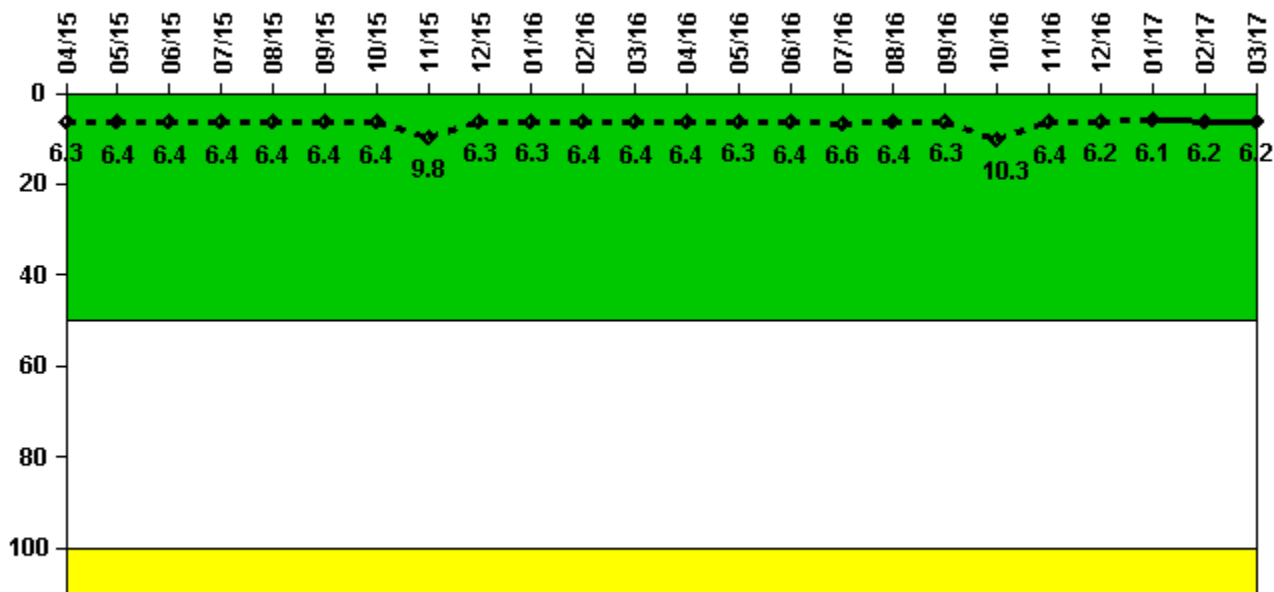
Maximum activity	0	0	0	0	0	0	0.000380	0	0	0	0	0
Technical specification limit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Indicator value: 0 0 0 0 0 0 0.2 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	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	1.570	1.600	1.600	1.600	1.610	1.610	1.600	2.460	1.580	1.580	1.590	1.590
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

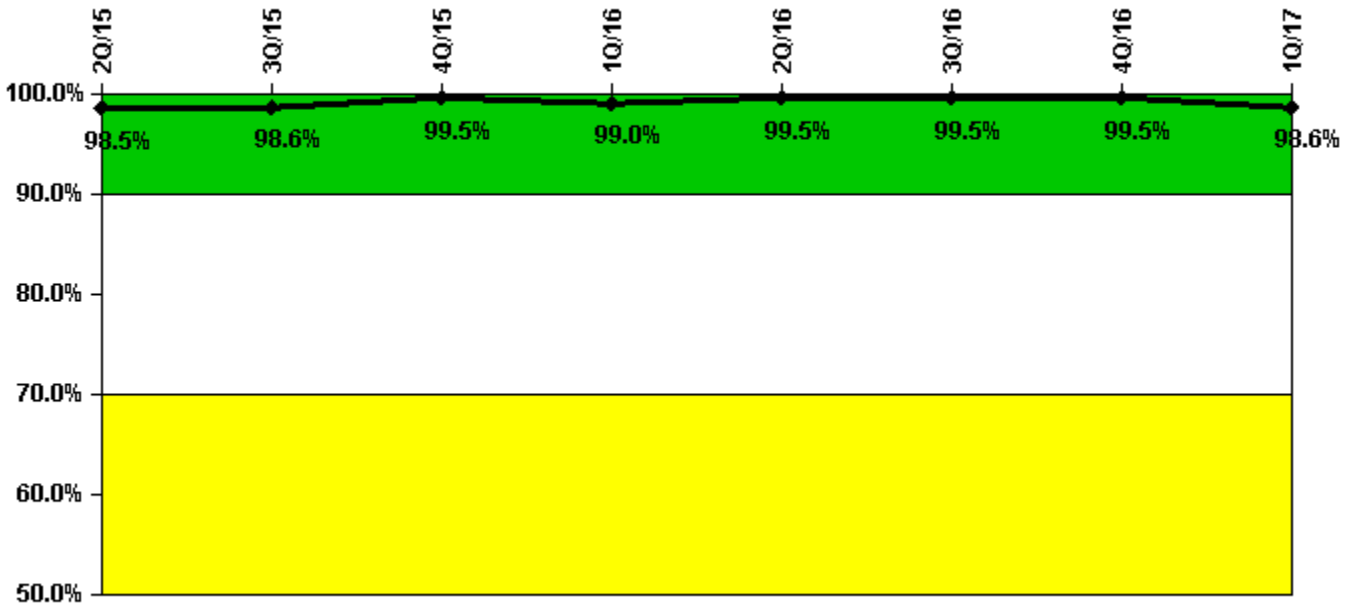
Indicator value	6.3	6.4	6.4	6.4	6.4	6.4	6.4	9.8	6.3	6.3	6.4	6.4
Reactor Coolant System Leakage	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum leakage	1.590	1.580	1.590	1.640	1.590	1.580	2.570	1.600	1.540	1.530	1.540	1.540
Technical specification limit	25.0	25.0	25.0	25.0	25.0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

Indicator value	6.4	6.3	6.4	6.6	6.4	6.3	10.3	6.4	6.2	6.1	6.2	6.2
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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

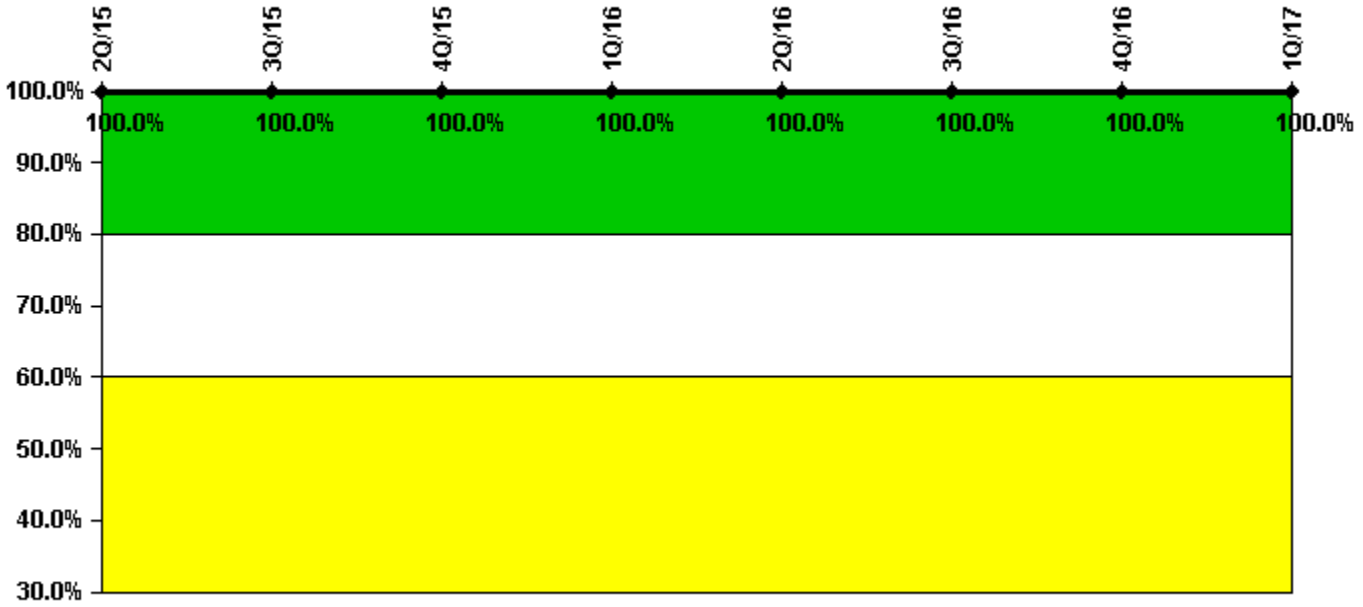
Drill/Exercise Performance	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful opportunities	35.0	26.0	18.0	39.0	39.0	11.0	20.0	20.0
Total opportunities	35.0	26.0	18.0	40.0	39.0	11.0	20.0	22.0

Indicator value 98.5% 98.6% 99.5% 99.0% 99.5% 99.5% 99.5% 98.6%

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

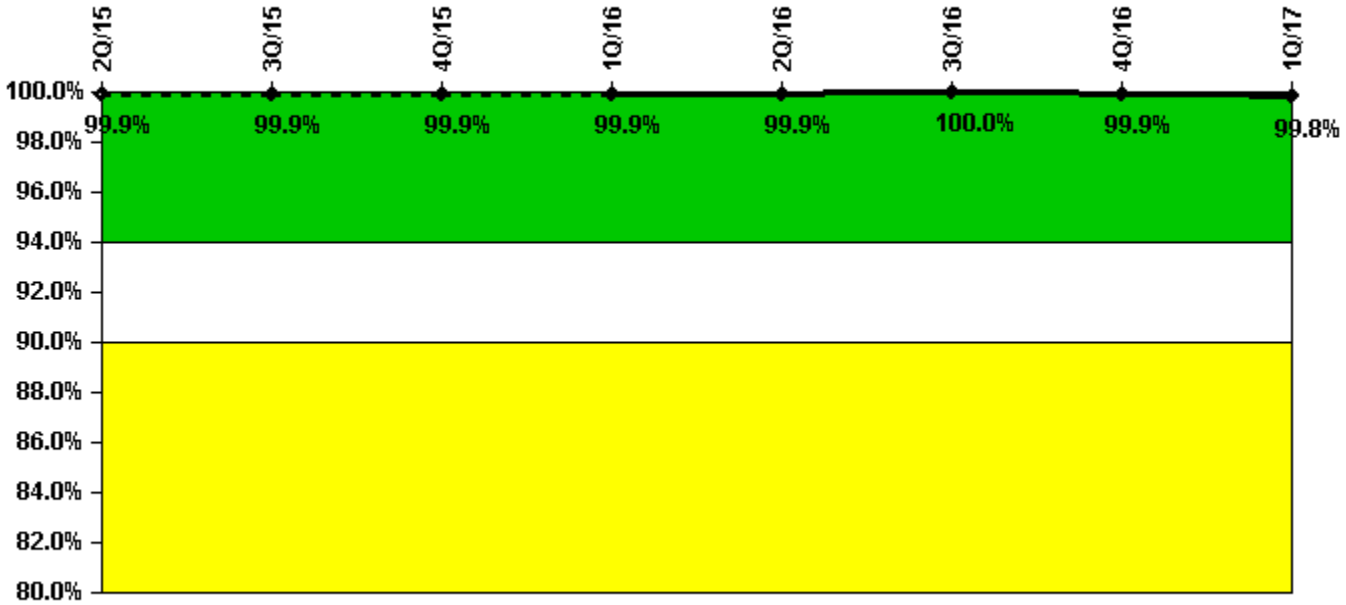
Notes

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

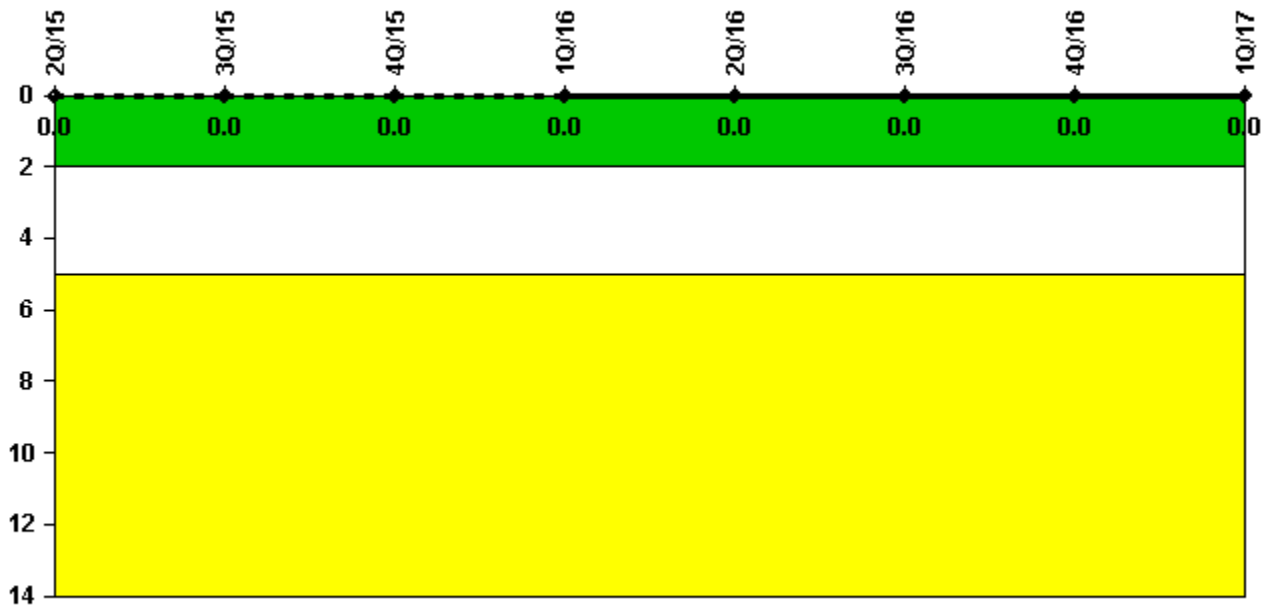
Alert & Notification System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful siren-tests	432	431	430	432	432	432	431	429
Total sirens-tests	432	432	430	432	432	432	432	432

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

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Licensee Comments: none

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

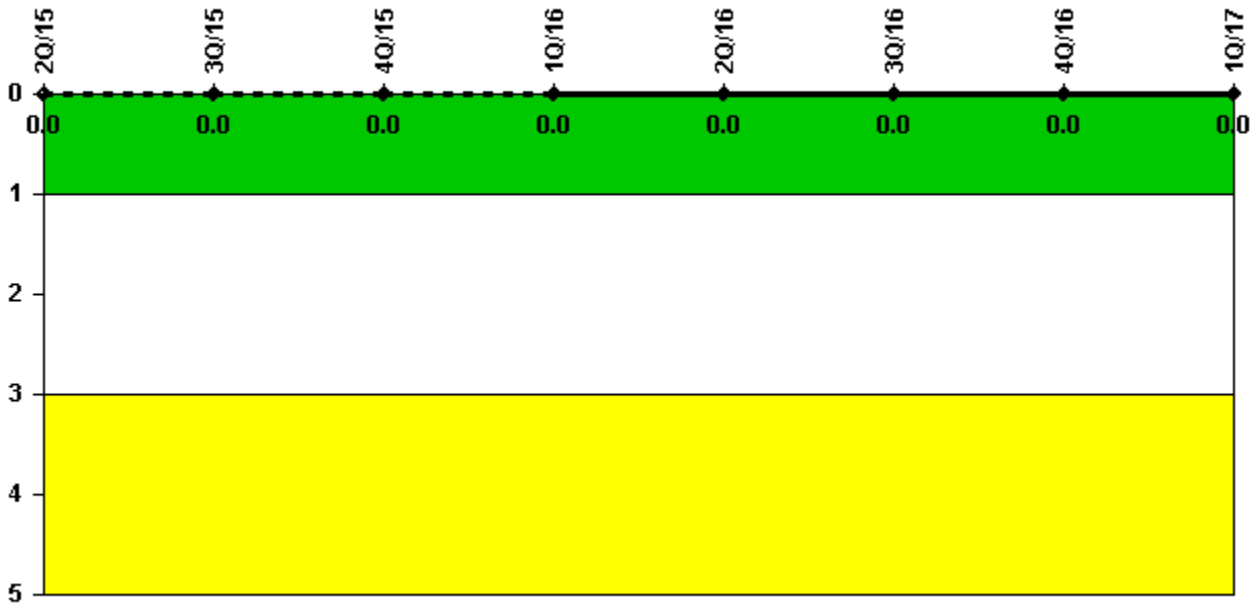
Notes

Occupational Exposure Control Effectiveness	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