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Millstone 2 – Quarterly Performance Indicators

1Q/2017 Performance Indicators

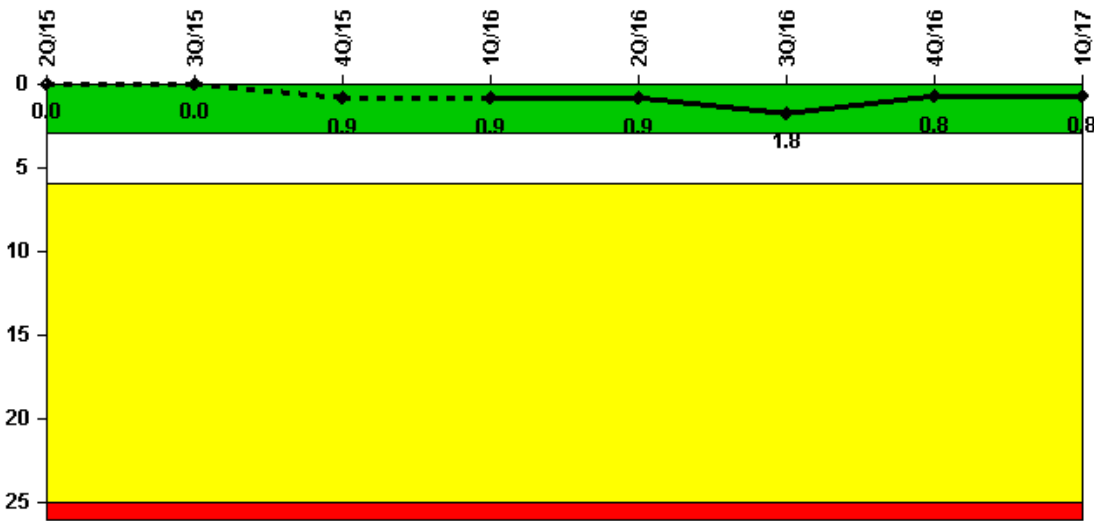
The solid trend line represents the current reporting period.

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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- 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

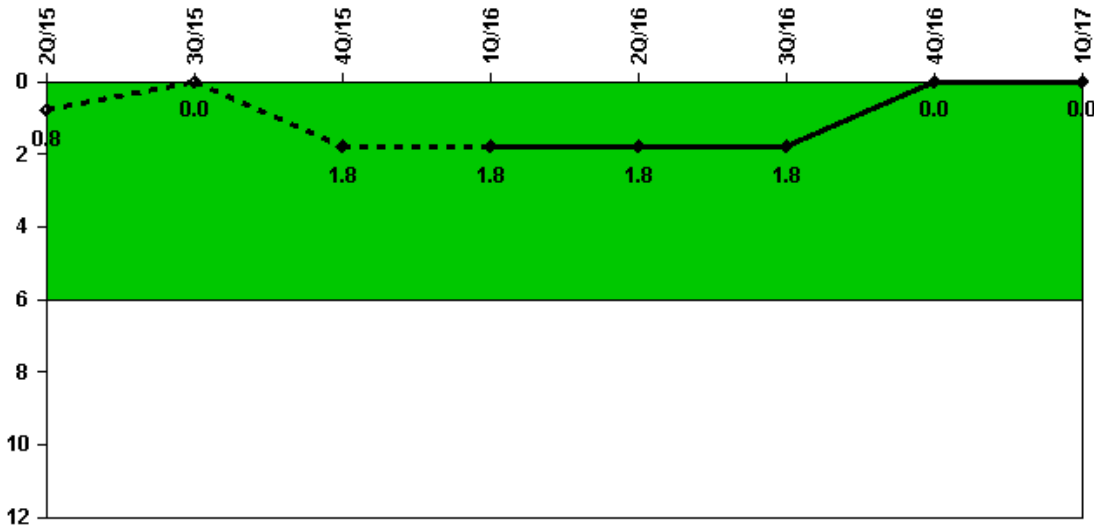
Unplanned Scrams per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned scrams	0	0	1.0	0	0	1.0	0	0
Critical hours	2184.0	2208.0	1334.0	2183.0	2184.0	2168.2	2209.0	2159.0

Indicator value	0	0	0.9	0.9	0.9	1.8	0.8	0.8
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Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

NRC: Millstone 2 – Quarterly Quarterly Performance Indicators

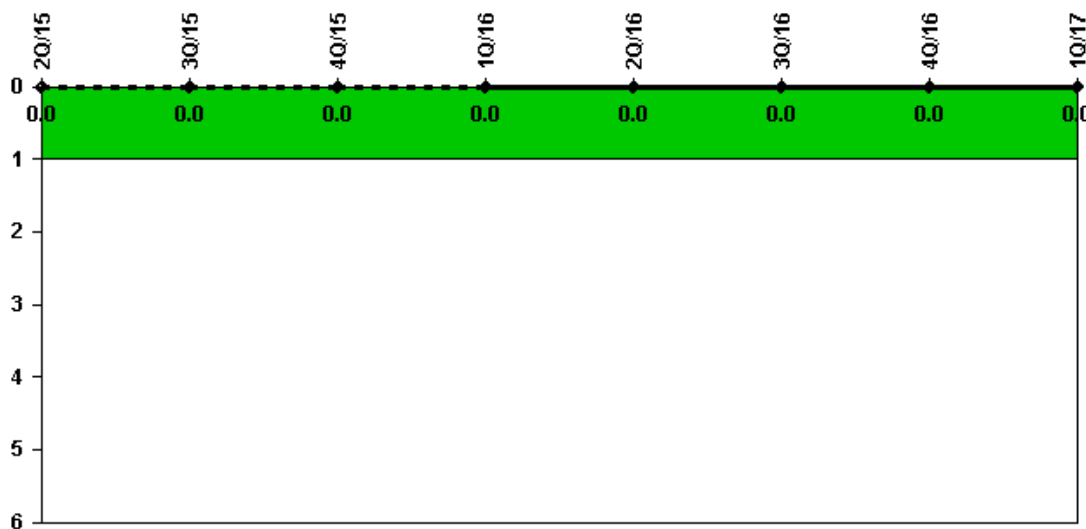
Notes

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	2.0	0	0	0	0	0
Critical hours	2184.0	2208.0	1334.0	2183.0	2184.0	2168.2	2209.0	2159.0
Indicator value	0.8	0	1.8	1.8	1.8	1.8	0	0

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Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

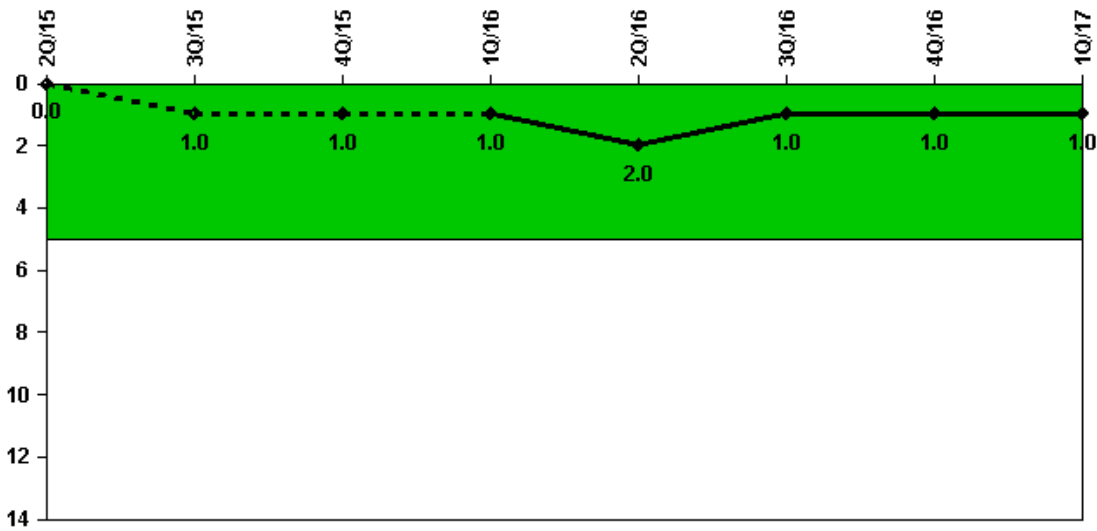
Notes

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 (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 1 0 0 1 0 0 0

Indicator value 0 1 1 1 2 1 1 1

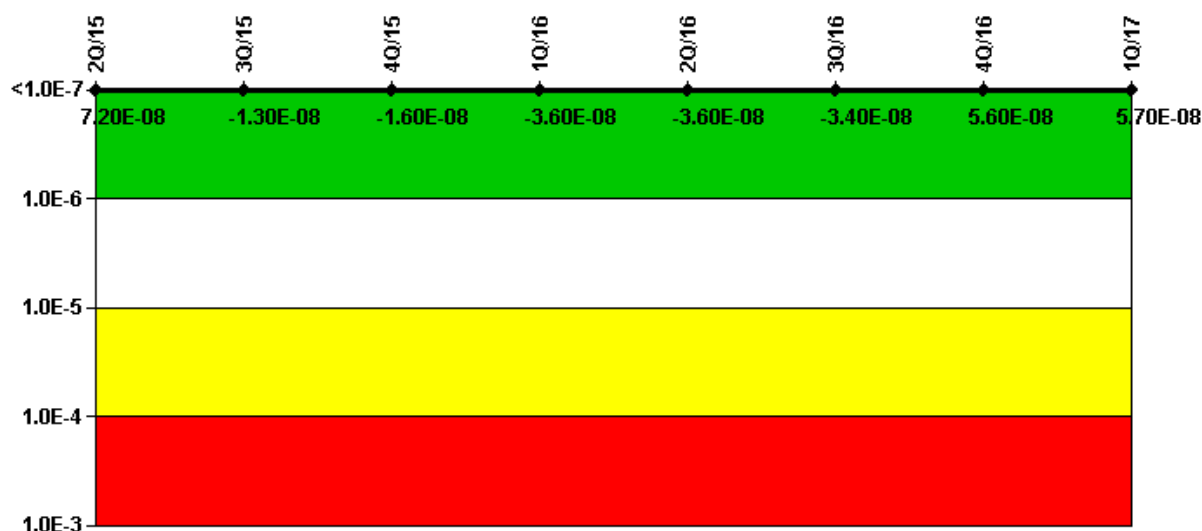
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Licensee Comments:

2Q/16: LER 2016-001-00, Turbine Driven Auxiliary Feedwater Pump Room HELB Door Left Open

3Q/15: LER 2015-002-00, Degraded Emergency Core Cooling System Check Valve

Mitigating Systems Performance Index, Emergency AC Power System



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

Notes

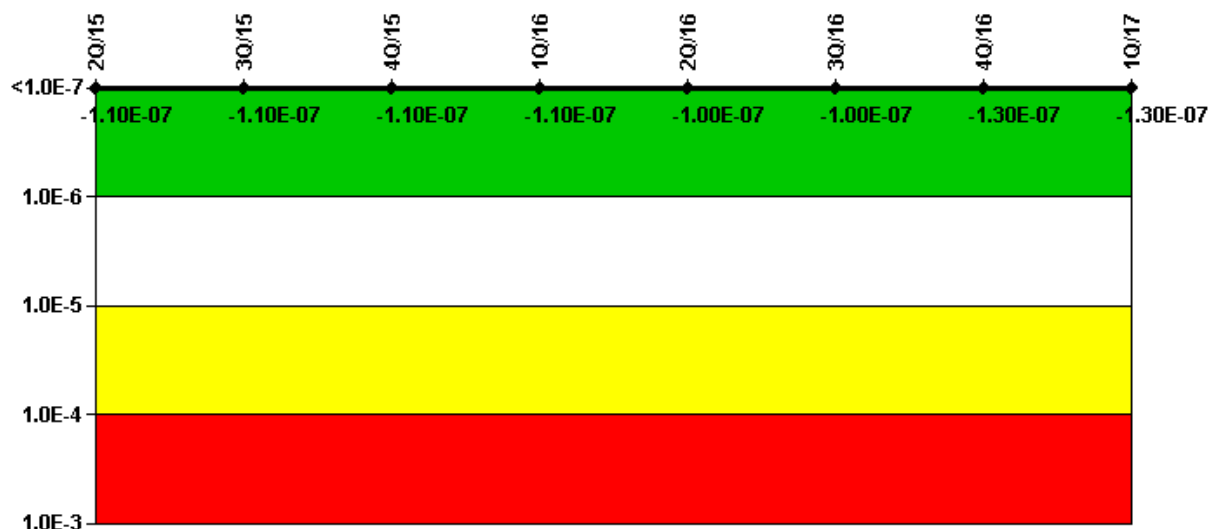
Mitigating Systems Performance Index, Emergency AC Power System

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	2.46E-08	1.14E-08	7.91E-09	-1.14E-08	-1.14E-08	-1.14E-08	1.85E-09	1.82E-09
URI (ΔCDF)	4.72E-08	-2.49E-08	-2.44E-08	-2.49E-08	-2.44E-08	-2.27E-08	5.41E-08	5.52E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	7.20E-08	-1.30E-08	-1.60E-08	-3.60E-08	-3.60E-08	-3.40E-08	5.60E-08	5.70E-08

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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 (ΔCDF)	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08	-6.40E-08
URI (ΔCDF)	-4.15E-08	-4.12E-08	-4.18E-08	-4.12E-08	-4.06E-08	-4.09E-08	-6.35E-08	-6.40E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07	-1.00E-07	-1.00E-07	-1.30E-07	-1.30E-07

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Licensee Comments:

1Q/17: Changed PRA Parameter(s).

4Q/16: Changed PRA Parameter(s). The generic common cause factor for the HPSI pumps was corrected in the fourth quarter. The error did not result in the indicator value crossing the green white threshold.

Mitigating Systems Performance Index, Heat Removal System



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

Notes

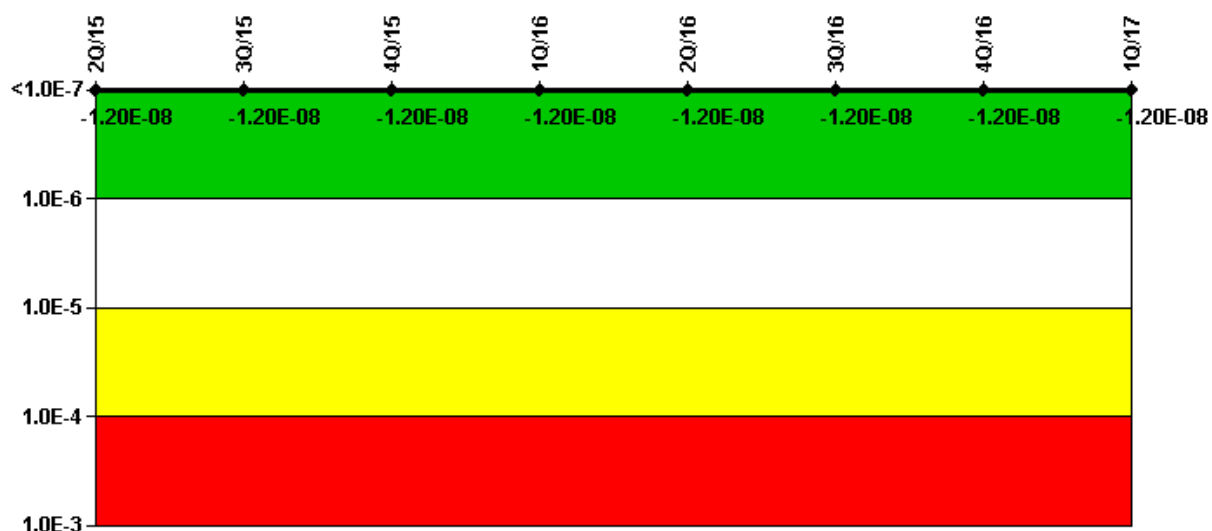
Mitigating Systems Performance Index, Heat Removal System

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (Δ CDF)	-8.56E-08	-8.61E-08	-8.60E-08	-8.75E-08	-8.77E-08	-5.28E-08	-2.18E-08	-2.22E-08
URI (Δ CDF)	-1.51E-07	-1.47E-07	-1.47E-07	-1.48E-07	-1.48E-07	-1.48E-07	-1.48E-07	-1.49E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.40E-07	-2.30E-07	-2.30E-07	-2.40E-07	-2.40E-07	-2.00E-07	-1.70E-07	-1.70E-07

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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

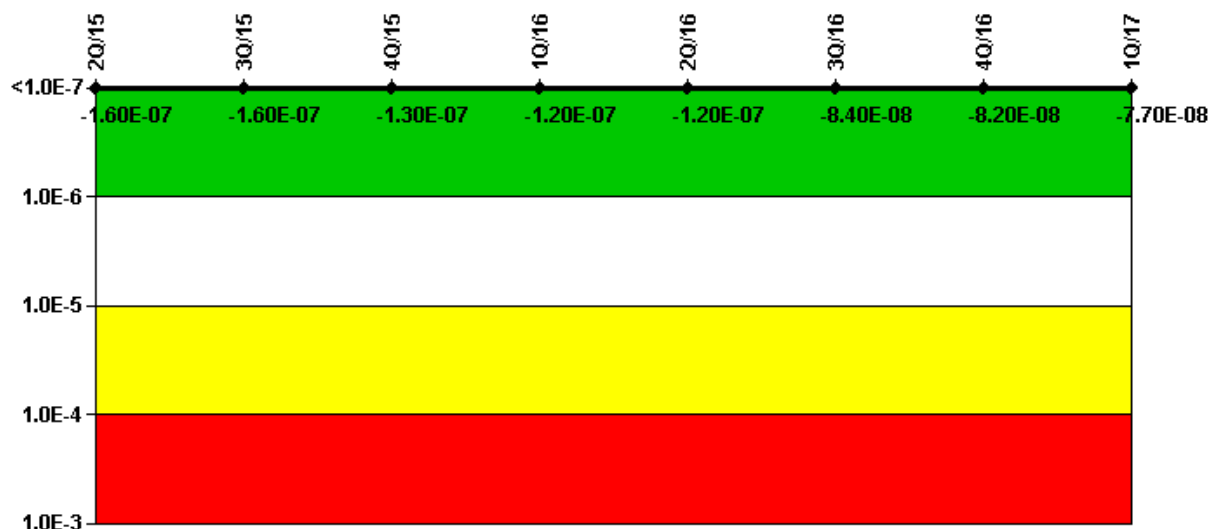
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	2.05E-11	1.61E-11	1.33E-11	1.33E-10	-1.28E-10	-5.34E-11	-5.55E-11	1.85E-11
URI (ΔCDF)	-1.20E-08	-1.23E-08	-1.25E-08	-1.23E-08	-1.23E-08	-1.23E-08	-1.23E-08	-1.25E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08

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Licensee Comments:

3Q/16: The first quarter 2015 demand data was corrected to include an additional valve demand. This did not result in a change to the calculated MSPI. It did not result in the indicator value crossing the GREEN/WHITE threshold.

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)	-2.96E-09	-2.69E-09	2.54E-08	3.39E-08	3.46E-08	7.12E-08	7.10E-08	7.60E-08
URI (Δ CDF)	-1.55E-07	-1.55E-07	-1.55E-07	-1.55E-07	-1.55E-07	-1.55E-07	-1.53E-07	-1.53E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.60E-07	-1.60E-07	-1.30E-07	-1.20E-07	-1.20E-07	-8.40E-08	-8.20E-08	-7.70E-08

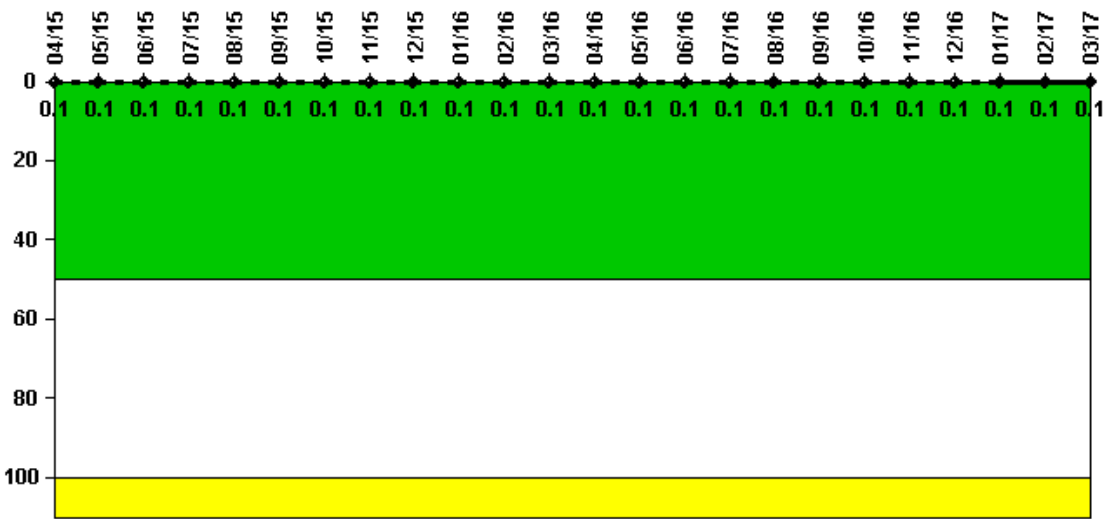
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Licensee Comments:

1Q/17: Changed PRA Parameter(s).

4Q/16: Changed PRA Parameter(s). The generic common cause factor for the reactor building cooling water pumps was corrected in the fourth quarter. The error did not result in the indicator value crossing the green white threshold.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

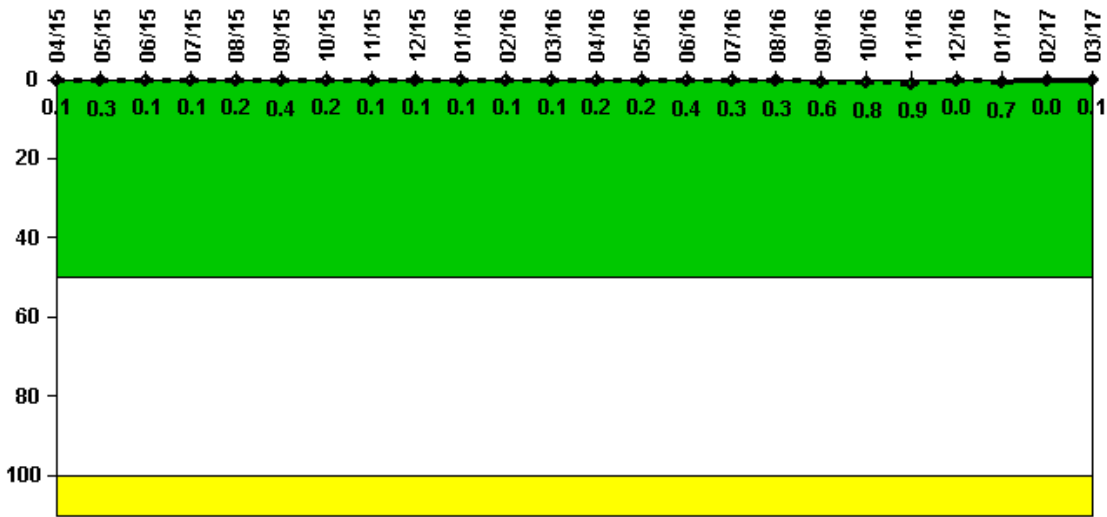
Notes

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	0.001140	0.001210	0.001190	0.001270	0.001430	0.001390	0.001260	0.000768	0.000832	0.000913	0.000882	0.000979
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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
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	0.000971	0.001020	0.001030	0.001050	0.001190	0.001110	0.001120	0.001180	0.001200	0.001250	0.001330	0.001300
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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

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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	0.009	0.033	0.005	0.008	0.021	0.038	0.023	0.010	0.007	0.006	0.008	0.009
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

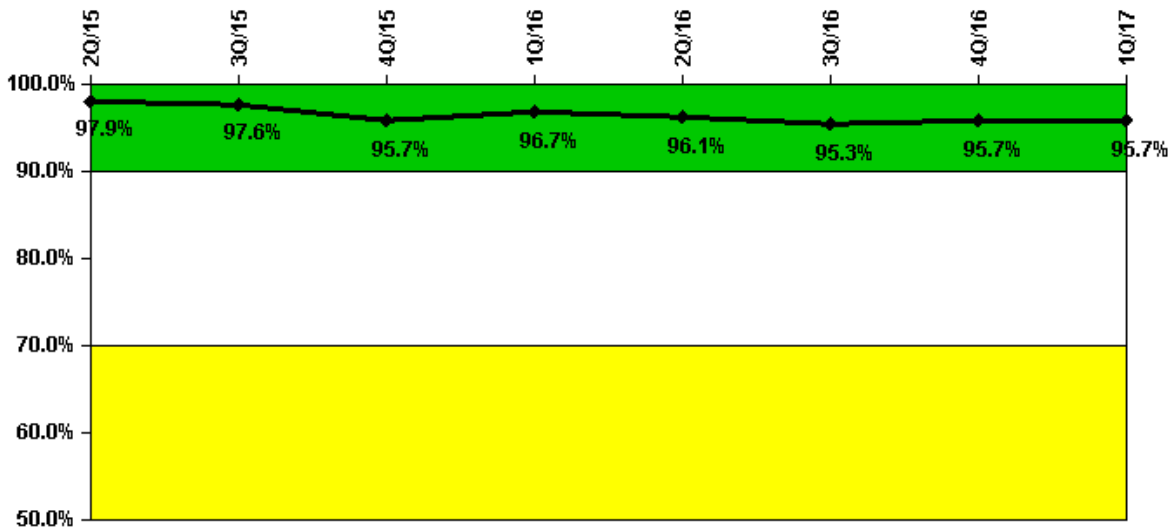
Indicator value	0.1	0.3	0.1	0.1	0.2	0.4	0.2	0.1	0.1	0.1	0.1	0.1
Reactor Coolant System Leakage	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum leakage	0.015	0.018	0.038	0.025	0.034	0.055	0.077	0.089	0.003	0.070	0.002	0.005
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	0.2	0.2	0.4	0.3	0.3	0.6	0.8	0.9	0	0.7	0	0.1
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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

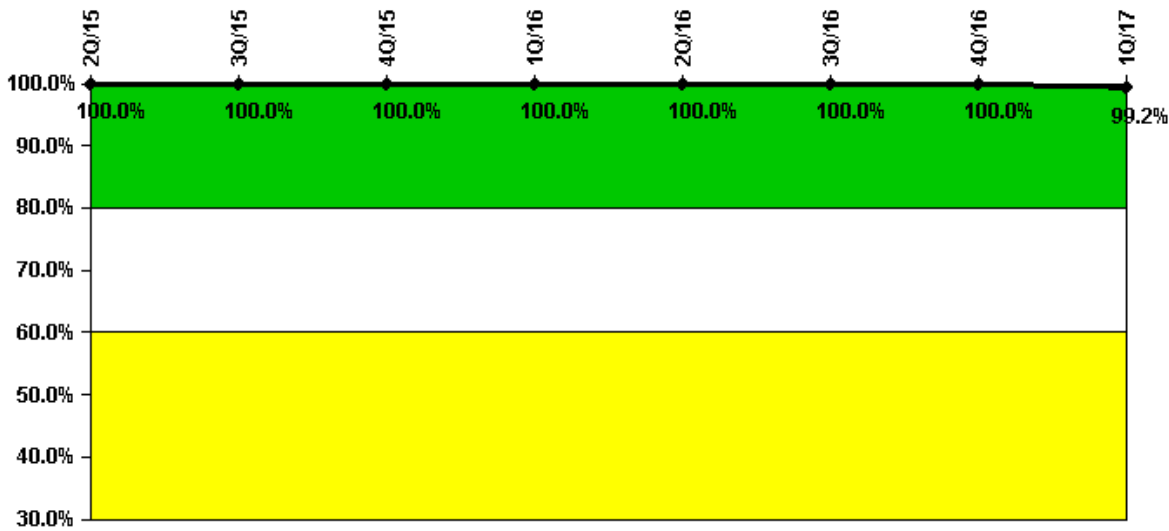
Drill/Exercise Performance	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful opportunities	36.0	30.0	24.0	36.0	16.0	31.0	25.0	22.0
Total opportunities	36.0	32.0	28.0	37.0	17.0	33.0	25.0	22.0

Indicator value 97.9% 97.6% 95.7% 96.7% 96.1% 95.3% 95.7% 95.7%

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

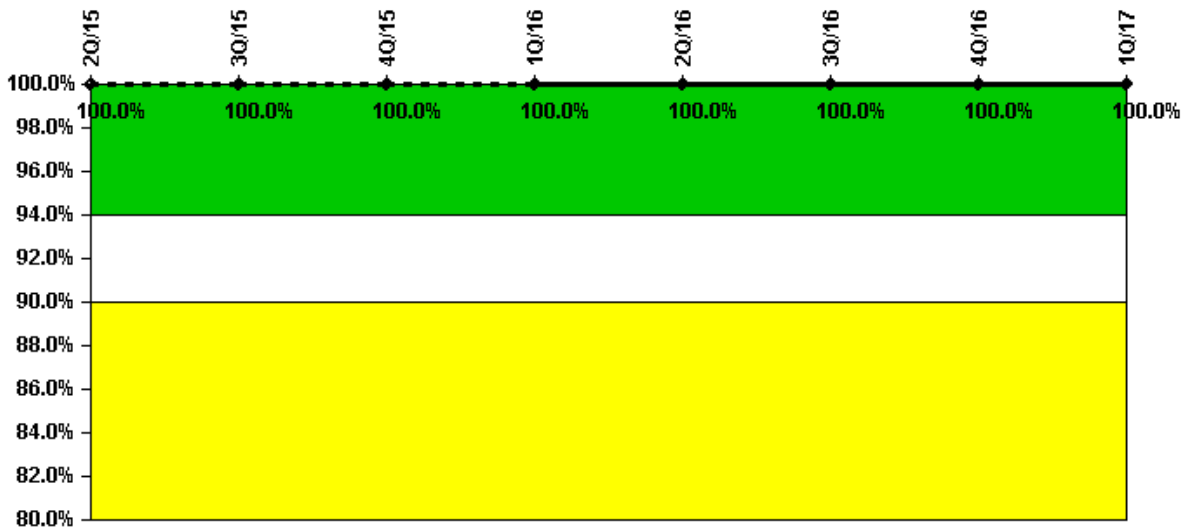
ERO Drill Participation	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Participating Key personnel	123.0	120.0	120.0	120.0	114.0	118.0	118.0	118.0
Total Key personnel	123.0	120.0	120.0	120.0	114.0	118.0	118.0	119.0

Indicator value **100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.2%**

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Licensee Comments: none

Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

Notes

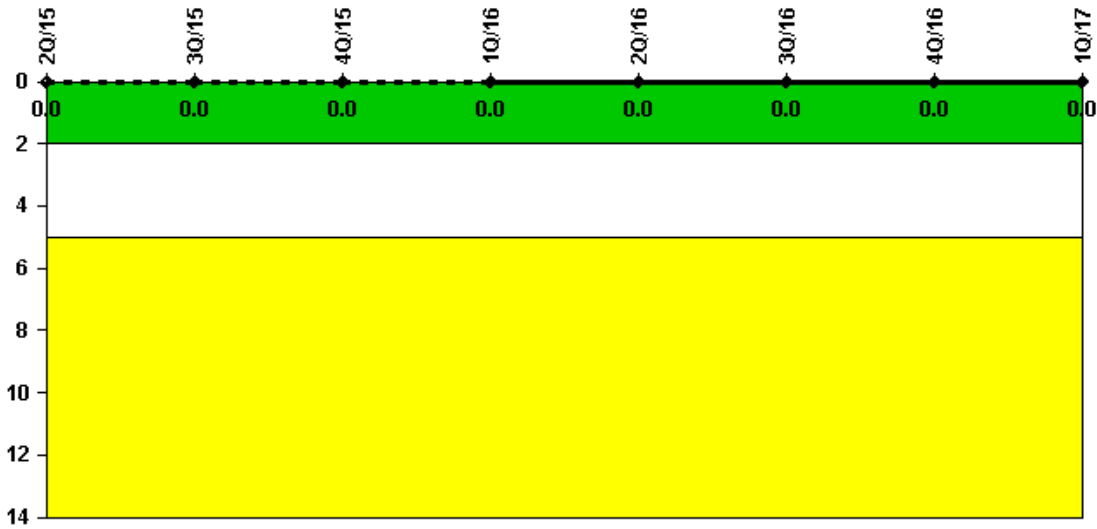
Alert & Notification System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful siren-tests	553	528	499	553	474	553	474	553
Total sirens-tests	553	528	499	553	474	553	474	553

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

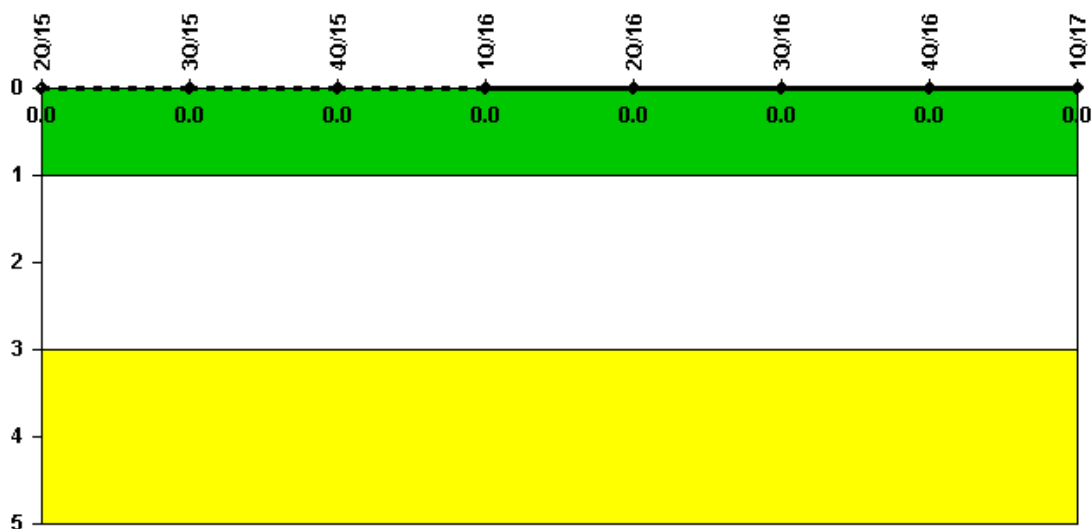
Occupational Exposure Control Effectiveness 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17

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