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Saint Lucie 1 – Quarterly Performance Indicators

4Q/2017 Performance Indicators

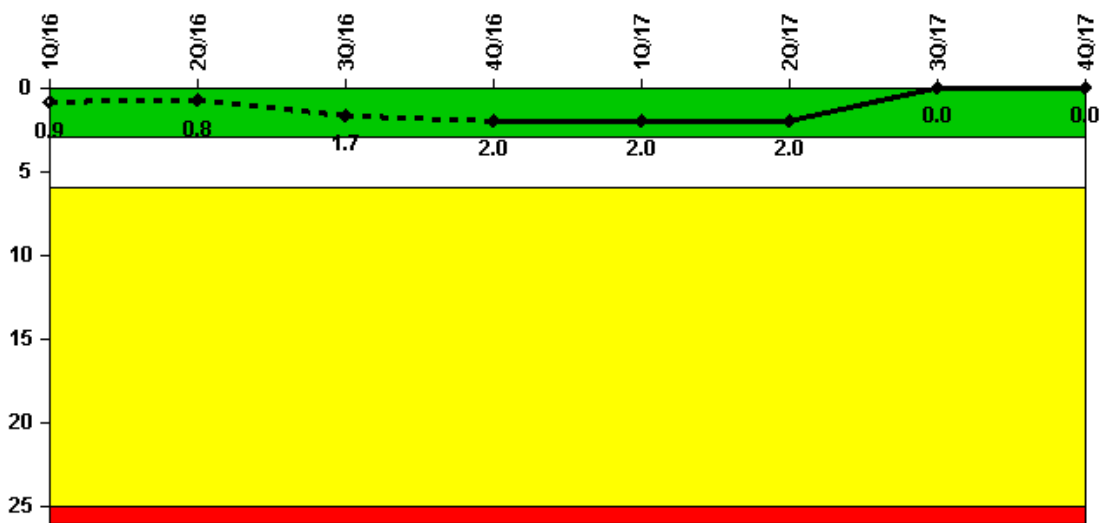
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

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- 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)
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- Reactor Coolant System Activity (BI01)
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- Drill/Exercise Performance (EP01)
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- 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

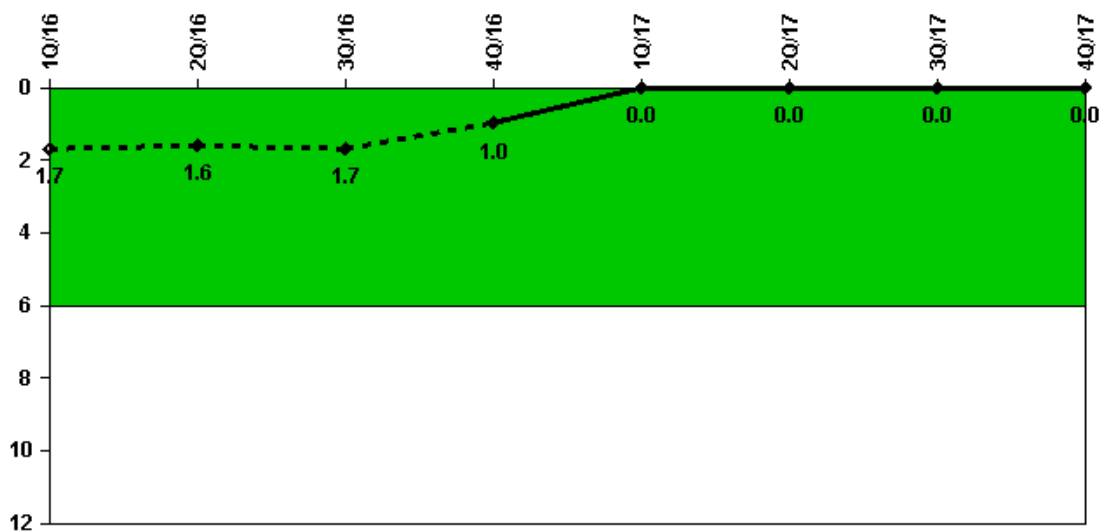
Unplanned Scrams per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned scrams	0	0	2.0	0	0	0	0	0
Critical hours	2183.0	2184.0	1511.8	1291.1	1989.9	2184.0	2181.0	2209.0

Indicator value	0.9	0.8	1.7	2.0	2.0	2.0	0	0
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Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

Notes

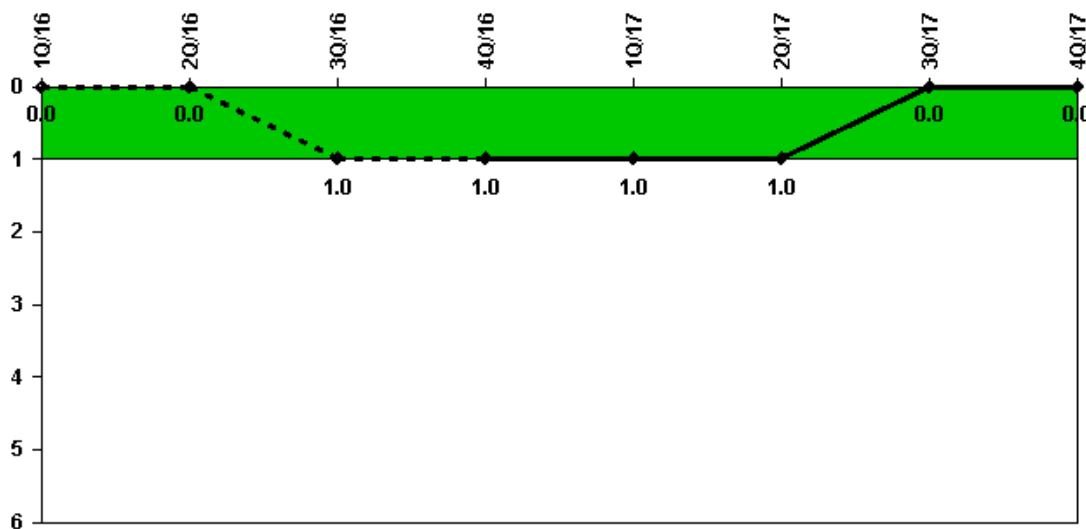
Unplanned Power Changes per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned power changes	1.0	0	0	0	0	0	0	0
Critical hours	2183.0	2184.0	1511.8	1291.1	1989.9	2184.0	2181.0	2209.0

Indicator value	1.7	1.6	1.7	1.0	0	0	0	0
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Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

Notes

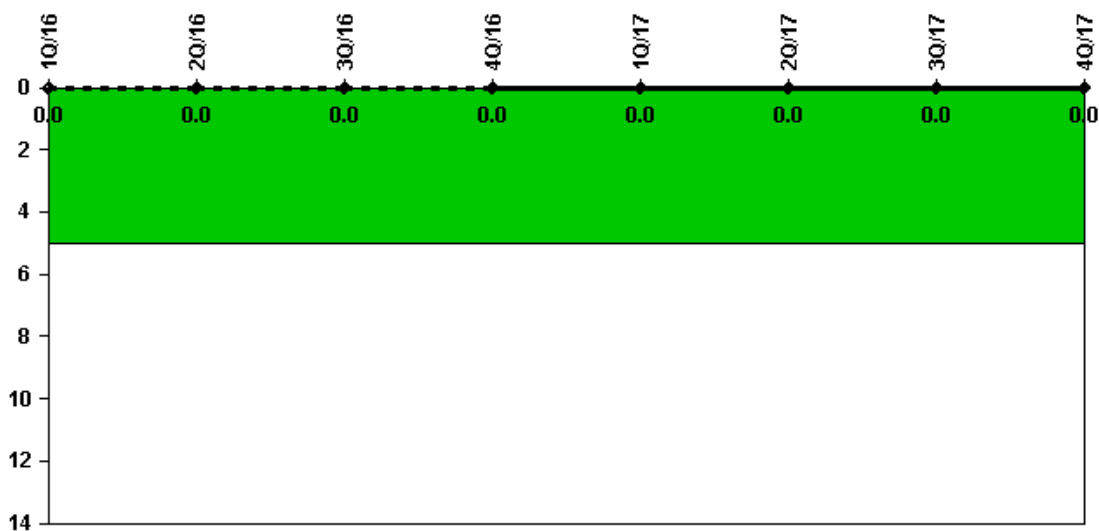
Unplanned Scrams with Complications	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Scrams with complications	0	0	1.0	0	0	0	0	0

Indicator value	0.0	0.0	1.0	1.0	1.0	1.0	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) 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

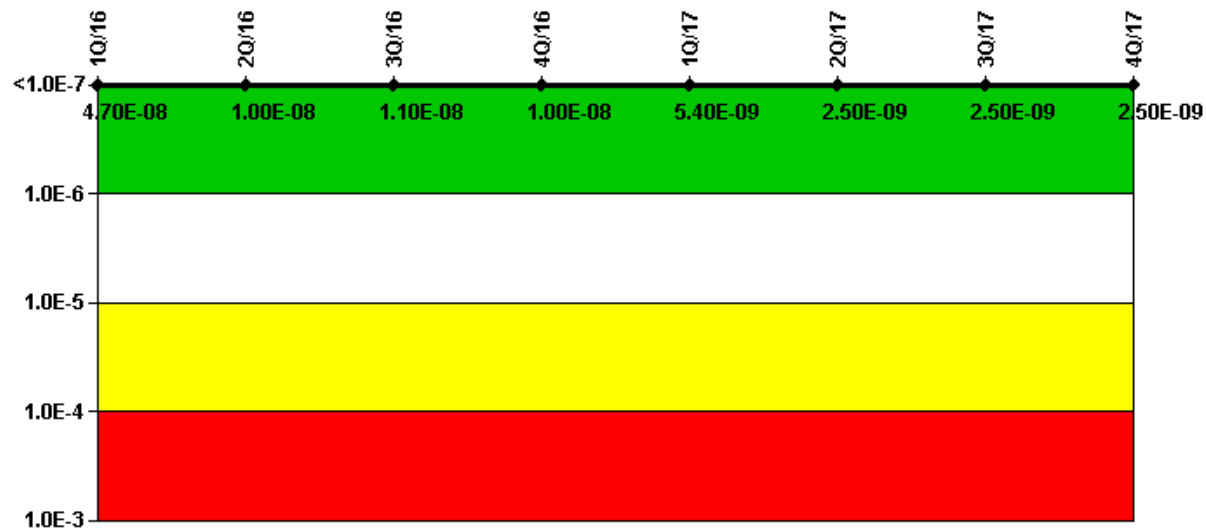
Safety System Functional Failures 0 0 0 0 0 0 0 0

Indicator value 0 0 0 0 0 0 0 0

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Licensee Comments: none

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)	5.86E-08	1.94E-08	1.99E-08	1.96E-08	1.45E-08	1.16E-08	1.15E-08	1.16E-08
URI (ΔCDF)	-1.19E-08	-8.88E-09	-9.17E-09	-9.07E-09	-9.07E-09	-9.07E-09	-9.07E-09	-9.07E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	4.70E-08	1.00E-08	1.10E-08	1.00E-08	5.40E-09	2.50E-09	2.50E-09	2.50E-09

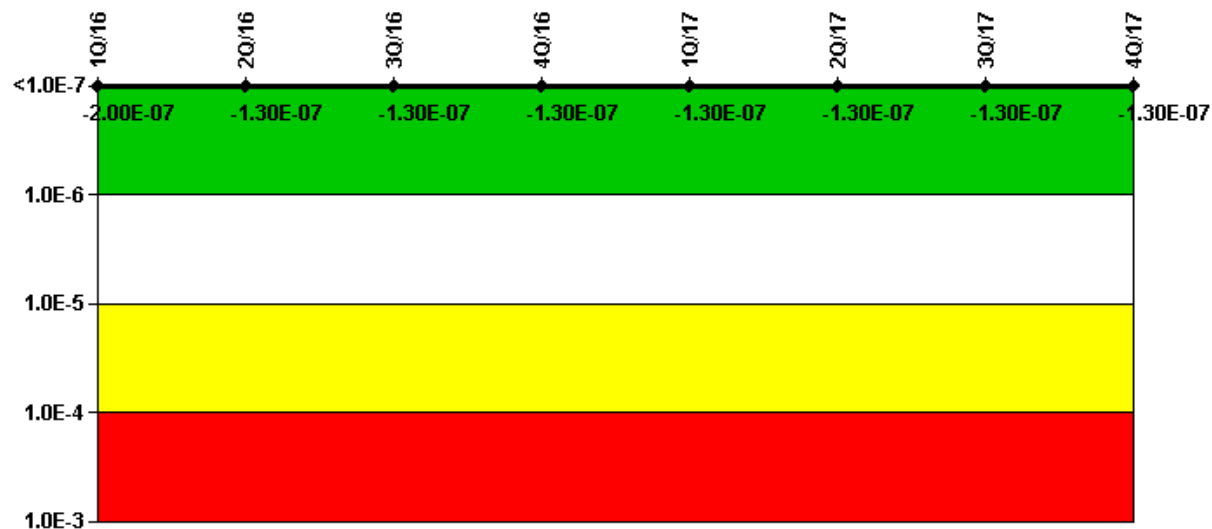
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Licensee Comments:

3Q/16: Changed PRA Parameter(s).

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

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)	-3.36E-08	-3.00E-08	-3.00E-08	-3.00E-08	-3.00E-08	-3.00E-08	-3.00E-08	-3.00E-08
URI (ΔCDF)	-1.63E-07	-9.53E-08	-9.53E-08	-9.53E-08	-9.53E-08	-9.53E-08	-9.53E-08	-9.53E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.00E-07	-1.30E-07	-1.30E-07	-1.30E-07	-1.30E-07	-1.30E-07	-1.30E-07	-1.30E-07

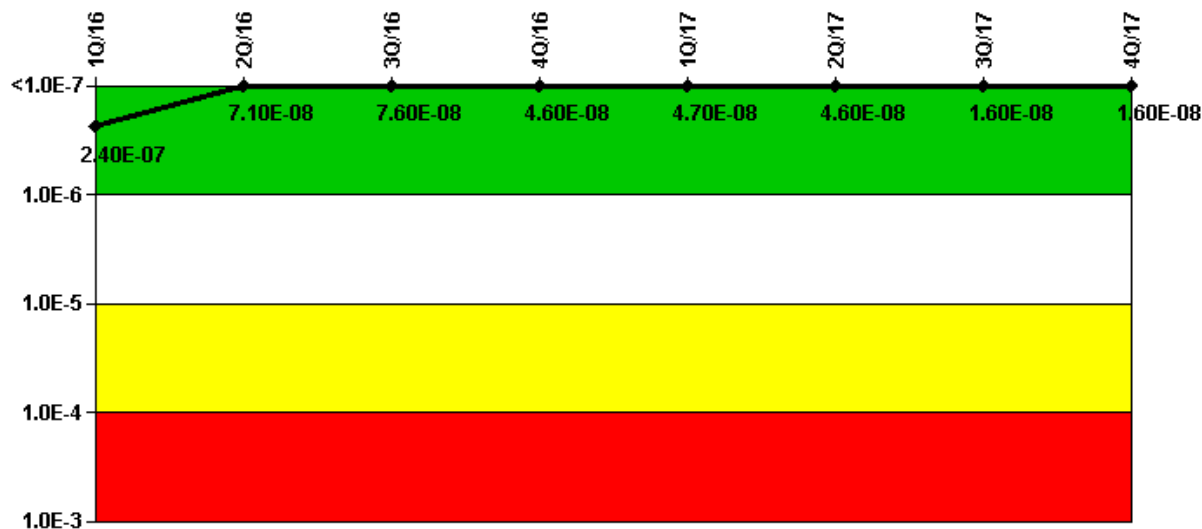
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Licensee Comments:

3Q/16: Changed PRA Parameter(s).

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

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)	1.13E-08	1.56E-08	2.16E-08	1.58E-08	1.74E-08	1.77E-08	1.05E-08	1.03E-08
URI (ΔCDF)	2.25E-07	5.56E-08	5.39E-08	3.00E-08	2.91E-08	2.83E-08	5.84E-09	5.36E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.40E-07	7.10E-08	7.60E-08	4.60E-08	4.70E-08	4.60E-08	1.60E-08	1.60E-08

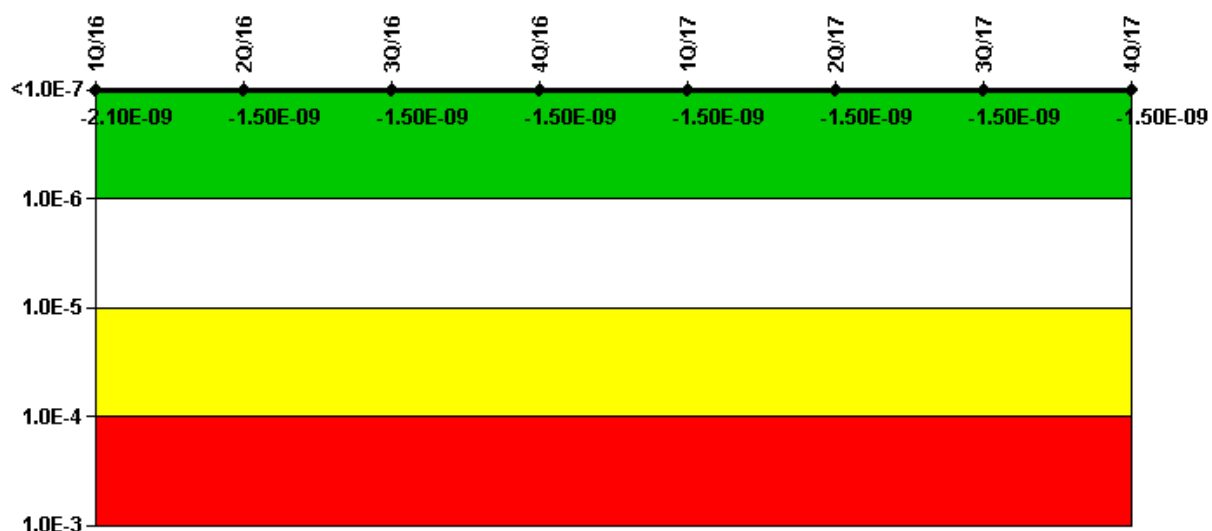
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Licensee Comments:

3Q/16: Changed PRA Parameter(s).

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

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 (Δ CDF)	-1.41E-10	-8.27E-11	-6.63E-11	-6.64E-11	-6.63E-11	-6.63E-11	-6.49E-11	-6.49E-11
URI (Δ CDF)	-1.96E-09	-1.40E-09	-1.40E-09	-1.40E-09	-1.40E-09	-1.40E-09	-1.40E-09	-1.40E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.10E-09	-1.50E-09	-1.50E-09	-1.50E-09	-1.50E-09	-1.50E-09	-1.50E-09	-1.50E-09

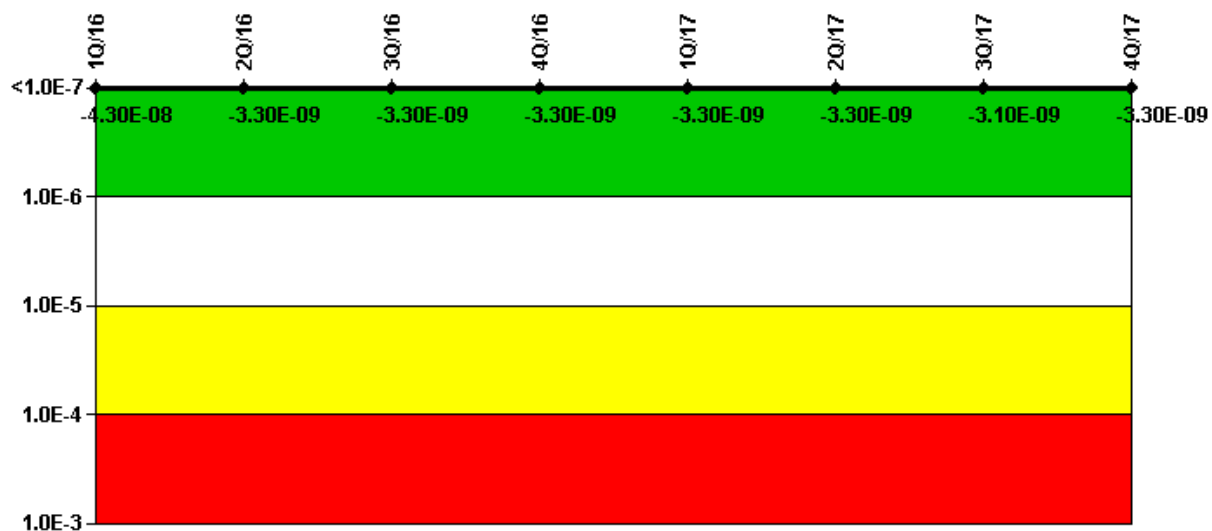
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Licensee Comments:

3Q/16: Changed PRA Parameter(s).

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

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)	-3.11E-08	-2.93E-09	-2.92E-09	-2.92E-09	-2.92E-09	-2.92E-09	-2.74E-09	-3.00E-09
URI (Δ CDF)	-1.20E-08	-3.38E-10	-3.38E-10	-3.38E-10	-3.38E-10	-3.38E-10	-3.38E-10	-3.38E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-4.30E-08	-3.30E-09	-3.30E-09	-3.30E-09	-3.30E-09	-3.30E-09	-3.10E-09	-3.30E-09

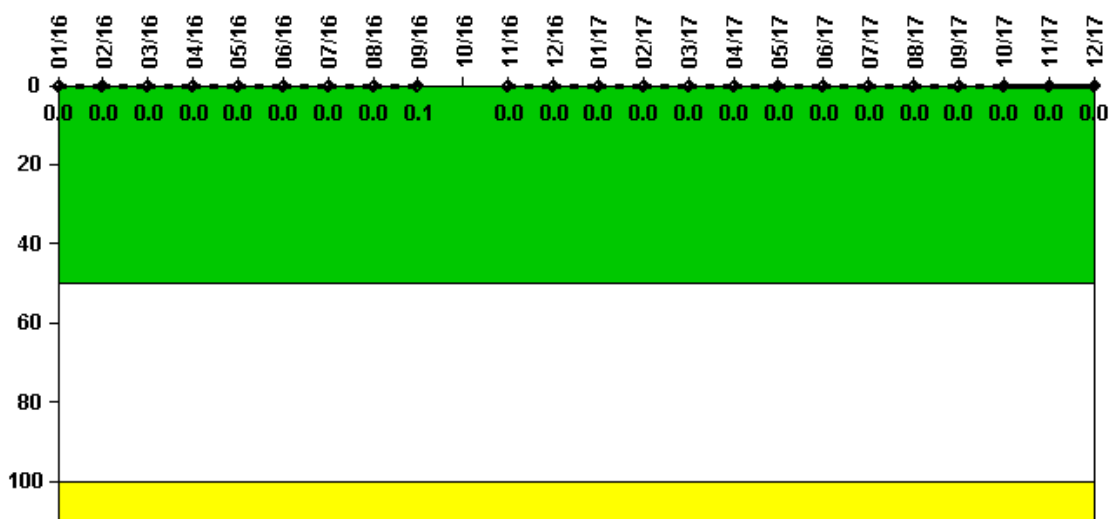
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Licensee Comments:

3Q/16: Changed PRA Parameter(s).

2Q/16: Changed PRA Parameter(s). PRA coefficients and CDF were changed due to updated PRA model

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	0.000357	0.000360	0.000373	0.000364	0.000390	0.000381	0.000420	0.000357	0.000529	N/A	0.000214	0.000228
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

	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	0.000248	0.000258	0.000258	0.000277	0.000374	0.000291	0.000287	0.000283	0.000305	0.000328	0.000321	0.000353
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

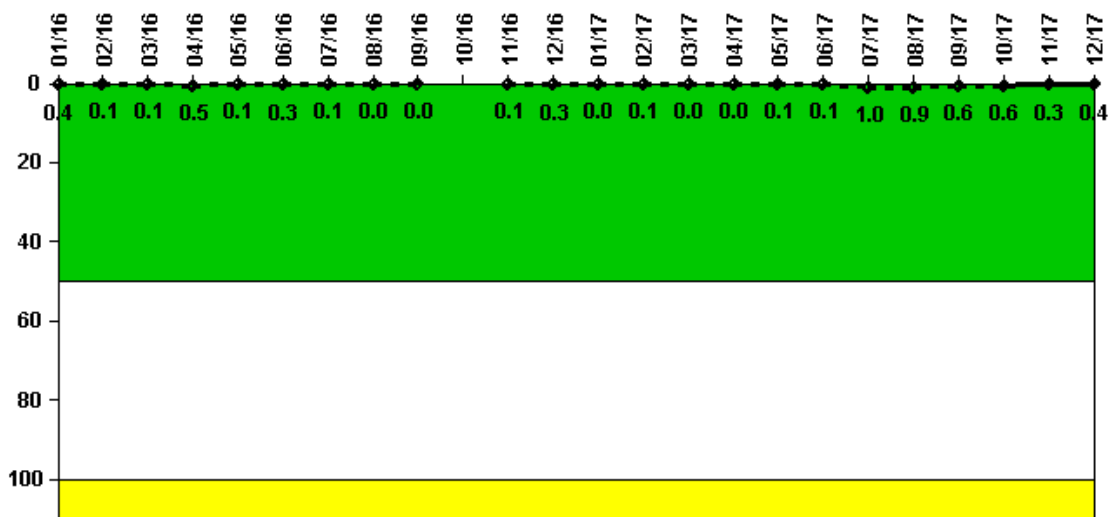
	0	0	0	0	0	0	0	0	0	0	0	0
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Licensee Comments:

6/16: U1 April 2016 data corrected.

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	0.036	0.013	0.011	0.050	0.009	0.029	0.011	0.001	0.002	N/A	0.005	0.027
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

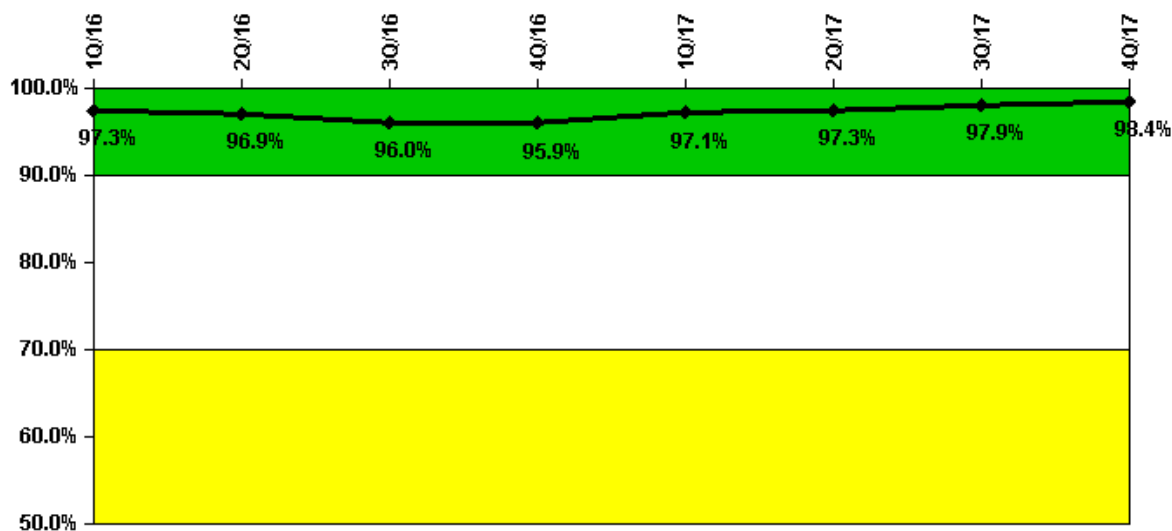
Indicator value	0.4	0.1	0.1	0.5	0.1	0.3	0.1	0	0	N/A	0.1	0.3
Reactor Coolant System Leakage	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17
Maximum leakage	0.004	0.005	0.002	0	0.005	0.005	0.095	0.086	0.063	0.063	0.028	0.038
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	0	0.1	0	0	0.1	0.1	1.0	0.9	0.6	0.6	0.3	0.4
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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	17.0	17.0	25.0	24.0	44.0	46.0	36.0	33.0
Total opportunities	18.0	17.0	27.0	24.0	44.0	46.0	37.0	33.0

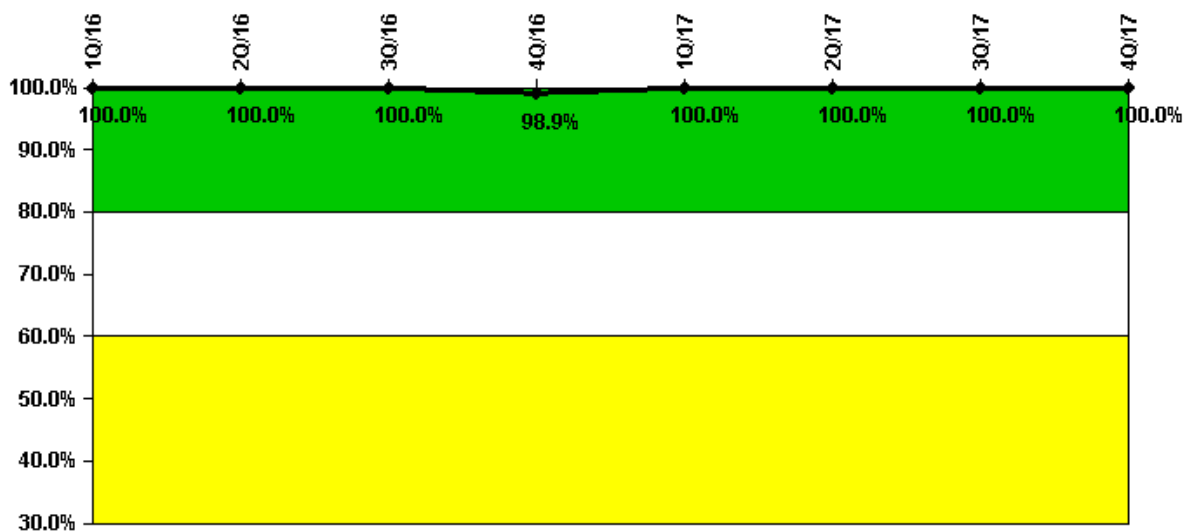
Indicator value **97.3% 96.9% 96.0% 95.9% 97.1% 97.3% 97.9% 98.4%**

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Licensee Comments:

3Q/16: One drill/exercise opportunity currently under evaluation but conservatively reported as a failed opportunity. Pending final resolution this PI may change.

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

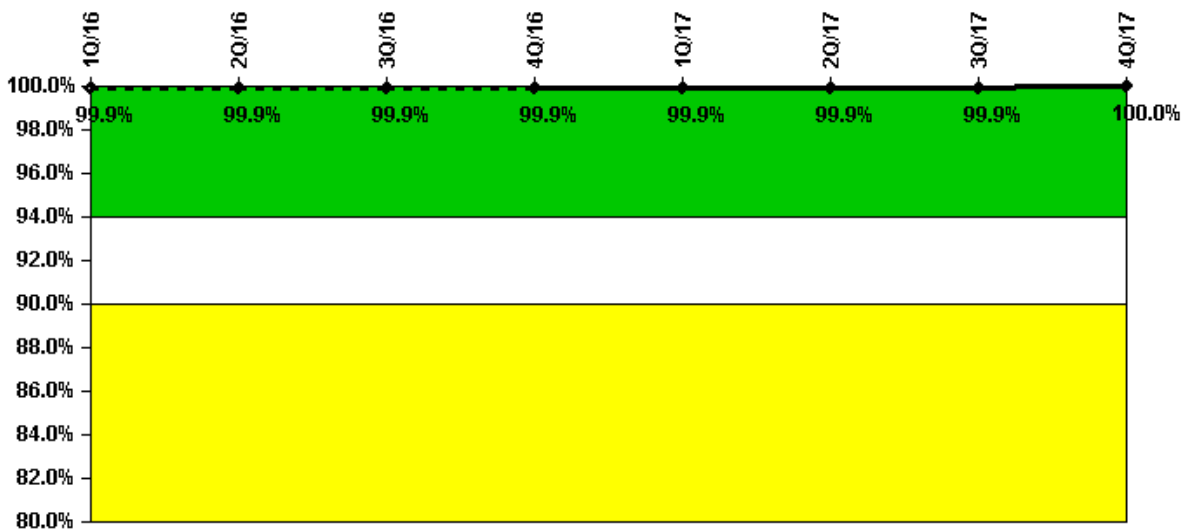
ERO Drill Participation	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Participating Key personnel	83.0	83.0	79.0	86.0	86.0	84.0	76.0	76.0
Total Key personnel	83.0	83.0	79.0	87.0	86.0	84.0	76.0	76.0

Indicator value **100.0% 100.0% 100.0% 98.9% 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

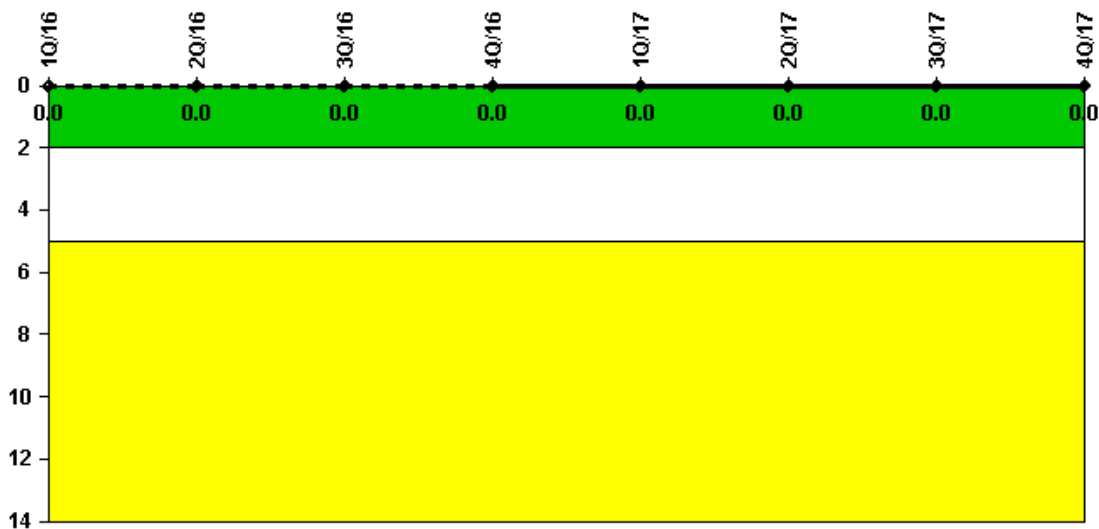
Alert & Notification System	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful siren-tests	630	629	720	629	629	720	540	720
Total sirens-tests	630	630	720	630	630	720	540	720

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

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Licensee Comments: none

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

Notes

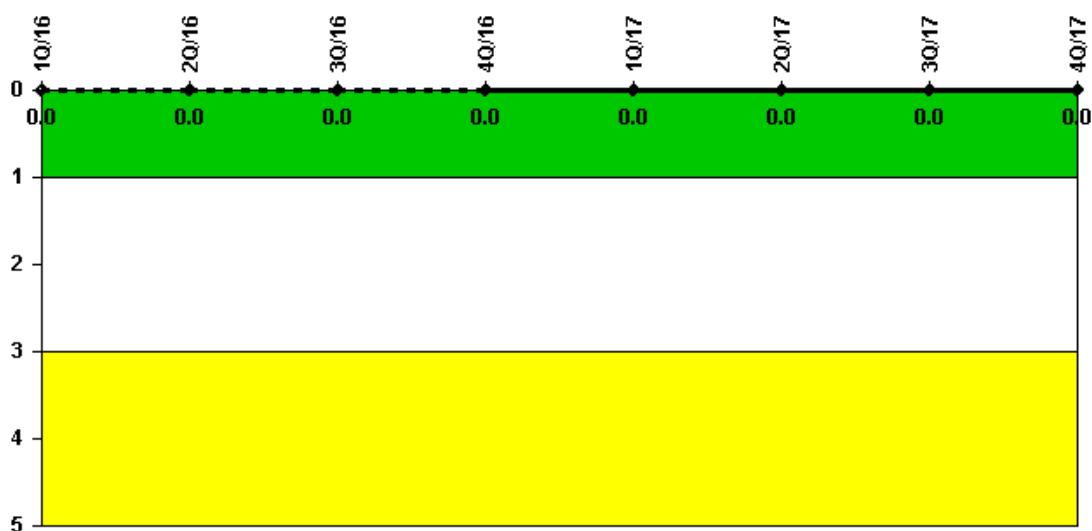
Occupational Exposure Control Effectiveness 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

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 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