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Grand Gulf 1 – Quarterly Performance Indicators

4Q/2017 Performance Indicators

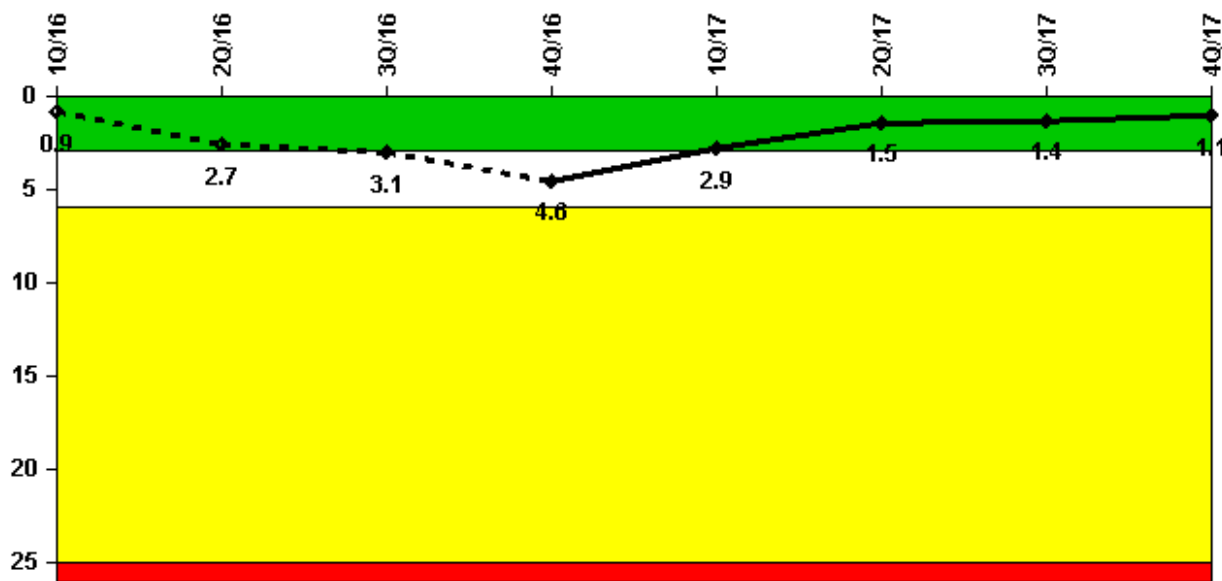
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

- [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 \(MS06\)](#)
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- [Reactor Coolant System Activity \(BI01\)](#)
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- [Drill/Exercise Performance \(EP01\)](#)
- [Emergency Response Organization Drill Participation \(EP02\)](#)
- [Alert and Notification System Reliability \(EP03\)](#)
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- [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

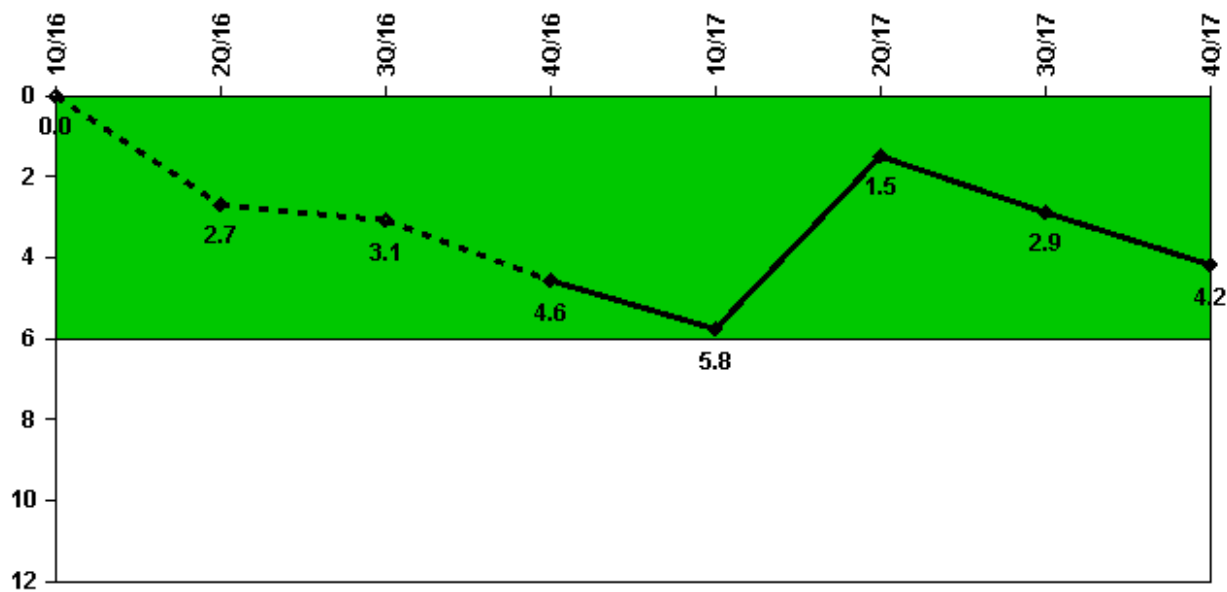
Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned scrams	1.0	2.0	0	0	0	1.0	0	0
Critical hours	1315.9	2010.2	1276.3	0	1516.3	1934.2	1447.3	1710.6
Indicator value	0.9	2.7	3.1	4.6	2.9	1.5	1.4	1.1

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Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

Notes

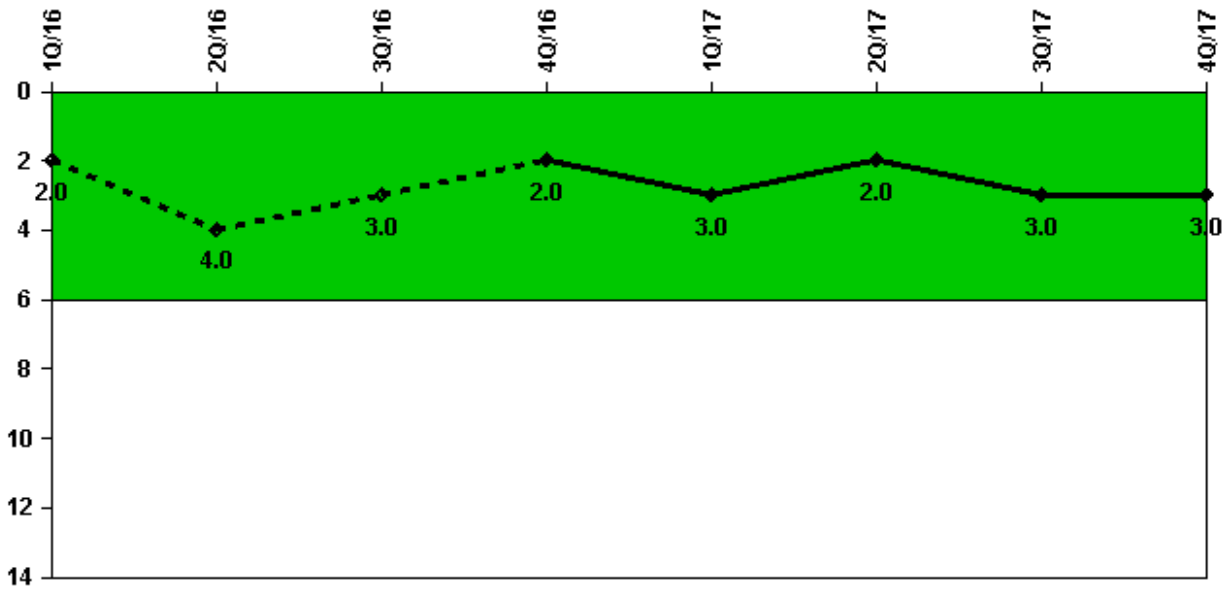
Unplanned Power Changes per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned power changes	0	3.0	0	0	1.0	0	1.0	2.0
Critical hours	1315.9	2010.2	1276.3	0	1516.3	1934.2	1447.3	1710.6
Indicator value	0	2.7	3.1	4.6	5.8	1.5	2.9	4.2

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Licensee Comments:

4Q/16: Entergy submitted an FAQ to document it's position on the June 17, 2016 power oscillation and SCRAM.
 3Q/16: Entergy will submit a FAQ to document it's position on the June 17, 2016 power oscillation and SCRAM.
 3Q/16: Entergy will submit a FAQ to document it's position on the June 17, 2016 power oscillation and SCRAM.
 2Q/16: Entered 3 power changes upon resolution of FAQ-17-02 for June 17, 2016 power oscillation event. Entered after FAQ resolution on 5/18/2017.

Safety System Functional Failures (BWR)



Thresholds: White > 6.0

Notes

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

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

Indicator value 2 4 3 2 3 2 3 3

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Licensee Comments:

3Q/17: LER 2016-009-01 removed SSFF for Jan 2017

2Q/17: LER 2017-002-00, submitted on 4/25/2017

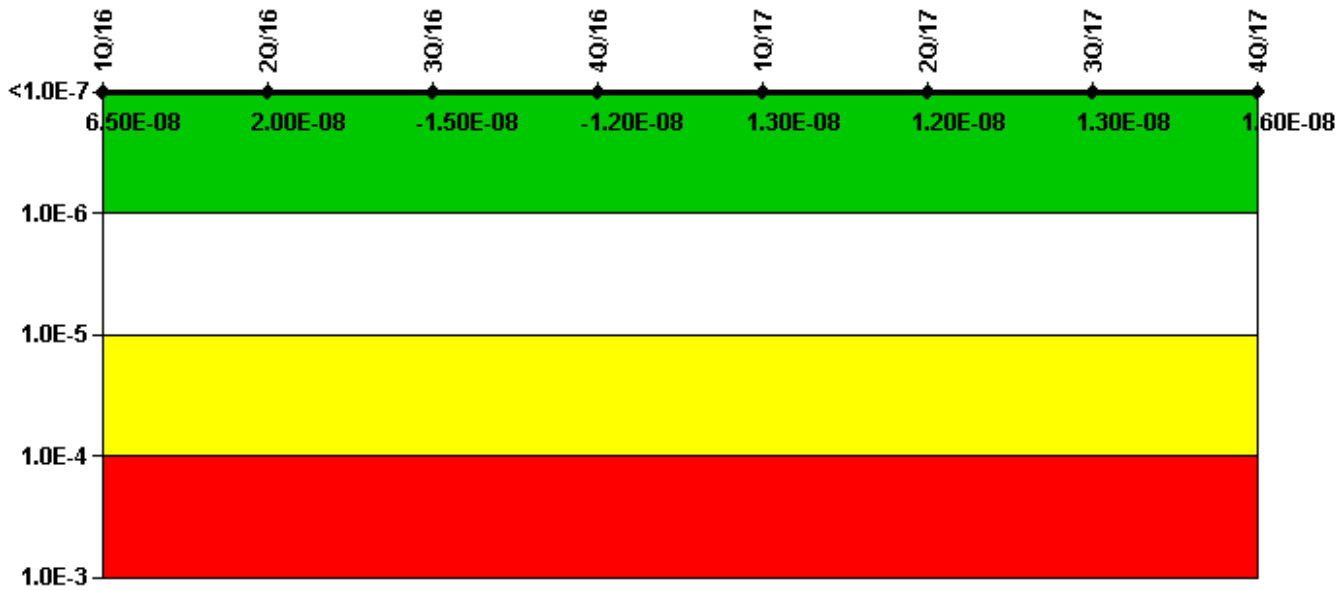
1Q/17: LER 2016-009-00, OPRM Upscale Settings incorrectly set

1Q/17: LER 2016-009-01, OPRM Upscale Settings incorrectly set removed SSFF

3Q/16: Changed comments in 4Q15 PI comments to correct typographical error

2Q/16: Reference LERs 2016-001-00 & 2016-003-00

Mitigating Systems Performance Index, Emergency AC Power System



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

Notes

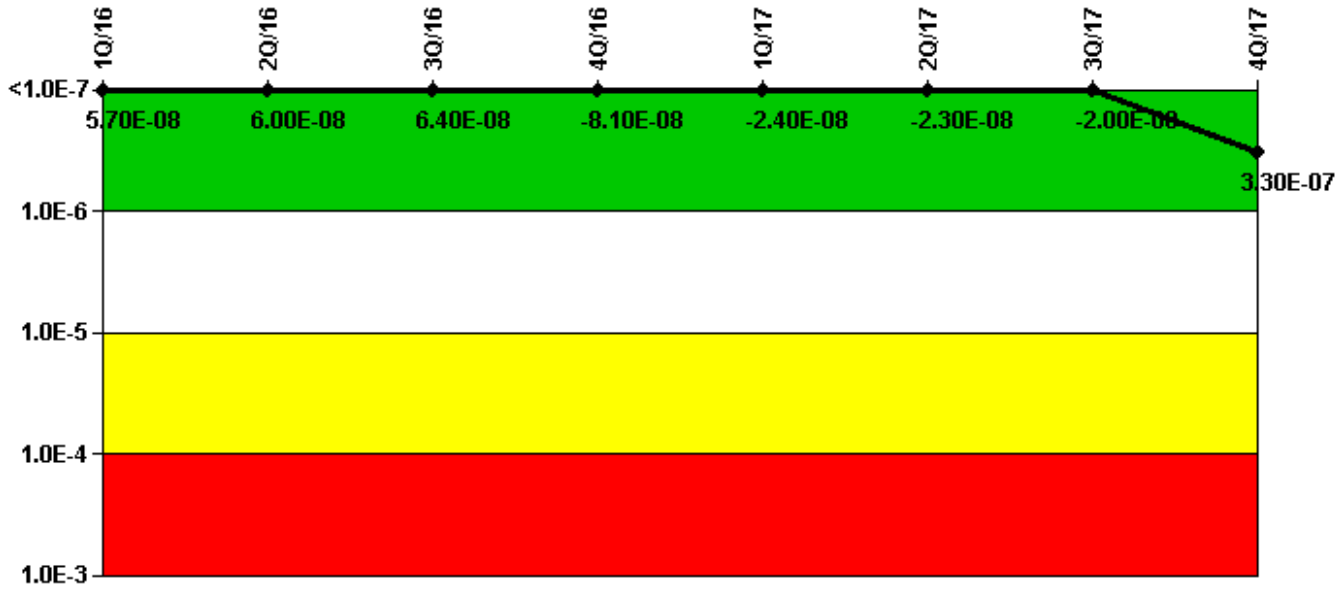
Mitigating Systems Performance Index, Emergency AC Power System

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	1.44E-08	1.57E-09	-4.28E-10	2.24E-09	2.55E-08	2.36E-08	2.54E-08	3.39E-08
URI (ΔCDF)	5.01E-08	1.87E-08	-1.42E-08	-1.39E-08	-1.21E-08	-1.20E-08	-1.28E-08	-1.82E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	6.50E-08	2.00E-08	-1.50E-08	-1.20E-08	1.30E-08	1.20E-08	1.30E-08	1.60E-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

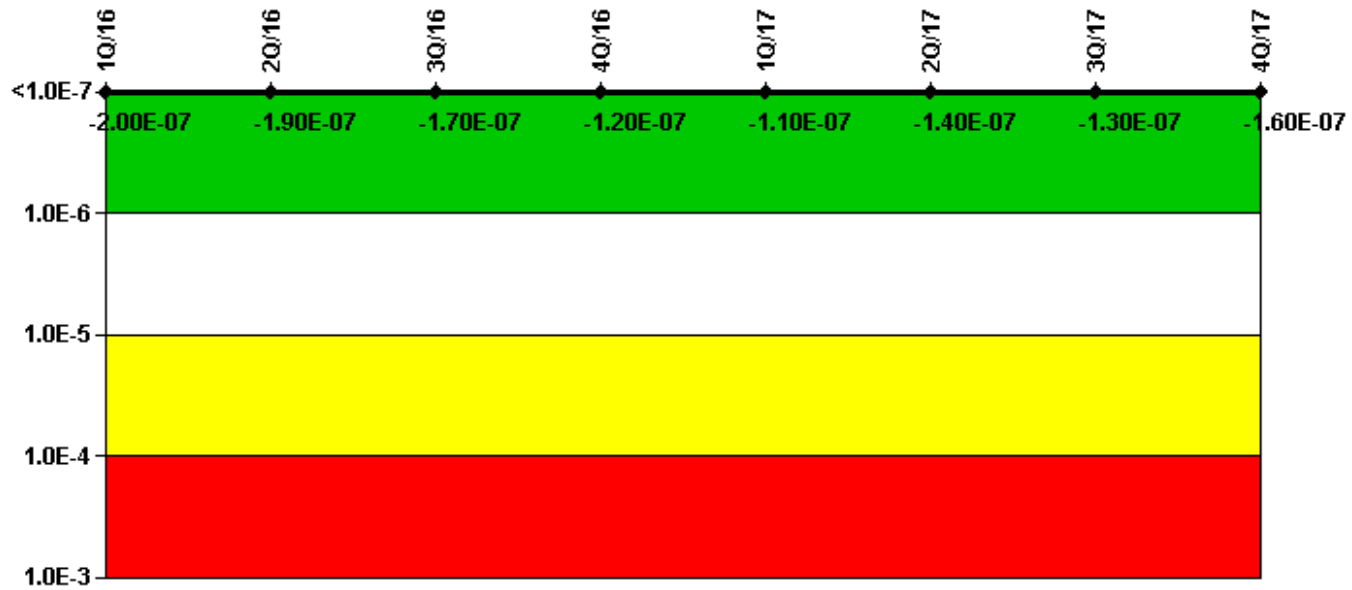
Mitigating Systems Performance Index, High Pressure Injection System

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	1.33E-07	1.36E-07	1.35E-07	-1.30E-08	4.63E-08	4.71E-08	4.96E-08	4.02E-07
URI (ΔCDF)	-7.69E-08	-7.59E-08	-7.04E-08	-6.83E-08	-7.04E-08	-6.97E-08	-6.98E-08	-7.08E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	5.70E-08	6.00E-08	6.40E-08	-8.10E-08	-2.40E-08	-2.30E-08	-2.00E-08	3.30E-07

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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

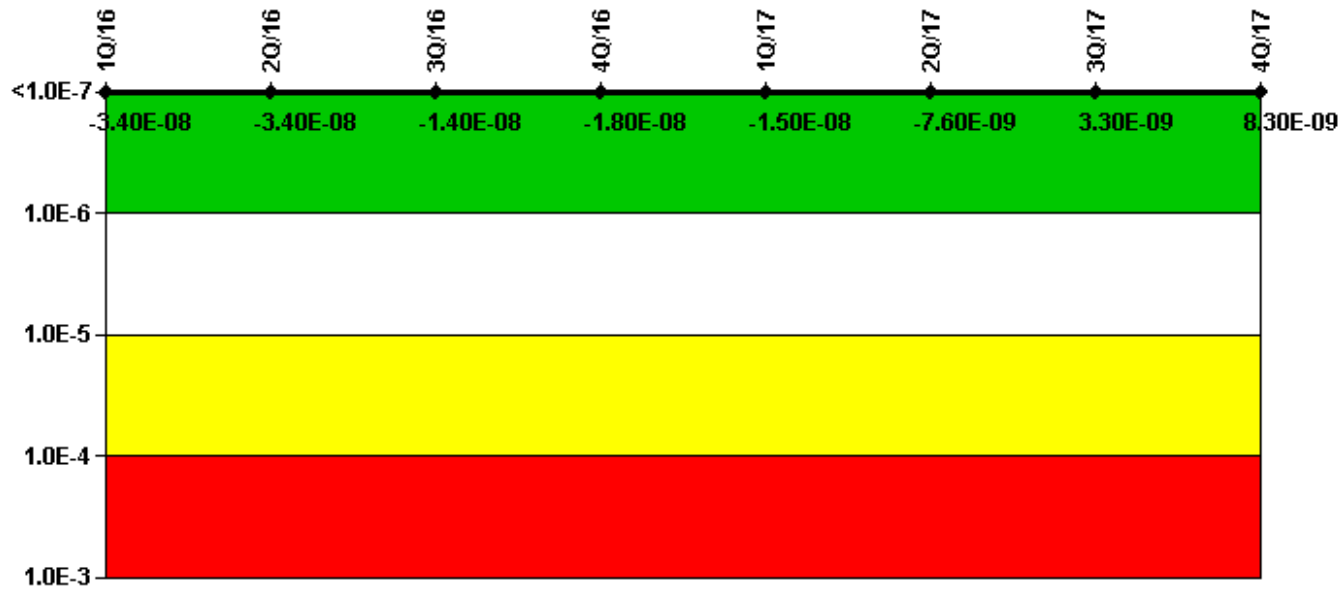
Mitigating Systems Performance Index, Heat Removal System

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (Δ CDF)	-1.47E-08	-8.76E-09	5.45E-10	3.07E-08	2.42E-08	4.39E-09	2.04E-08	-1.21E-08
URI (Δ CDF)	-1.85E-07	-1.79E-07	-1.69E-07	-1.55E-07	-1.30E-07	-1.47E-07	-1.47E-07	-1.46E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.00E-07	-1.90E-07	-1.70E-07	-1.20E-07	-1.10E-07	-1.40E-07	-1.30E-07	-1.60E-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

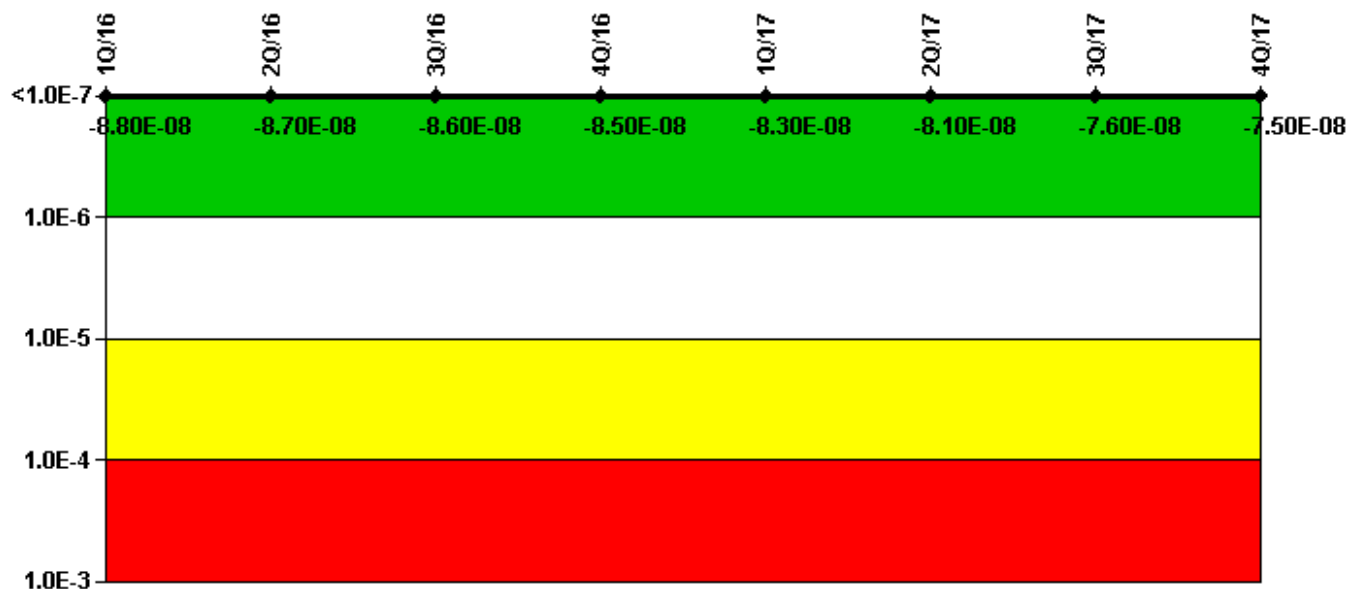
Mitigating Systems Performance Index, Residual Heat Removal System

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-8.56E-09	-8.56E-09	-8.56E-09	-8.56E-09	-8.56E-09	-2.02E-09	9.02E-09	1.40E-08
URI (ΔCDF)	-2.57E-08	-2.55E-08	-5.16E-09	-9.11E-09	-5.98E-09	-5.58E-09	-5.75E-09	-5.71E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.40E-08	-3.40E-08	-1.40E-08	-1.80E-08	-1.50E-08	-7.60E-09	3.30E-09	8.30E-09

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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

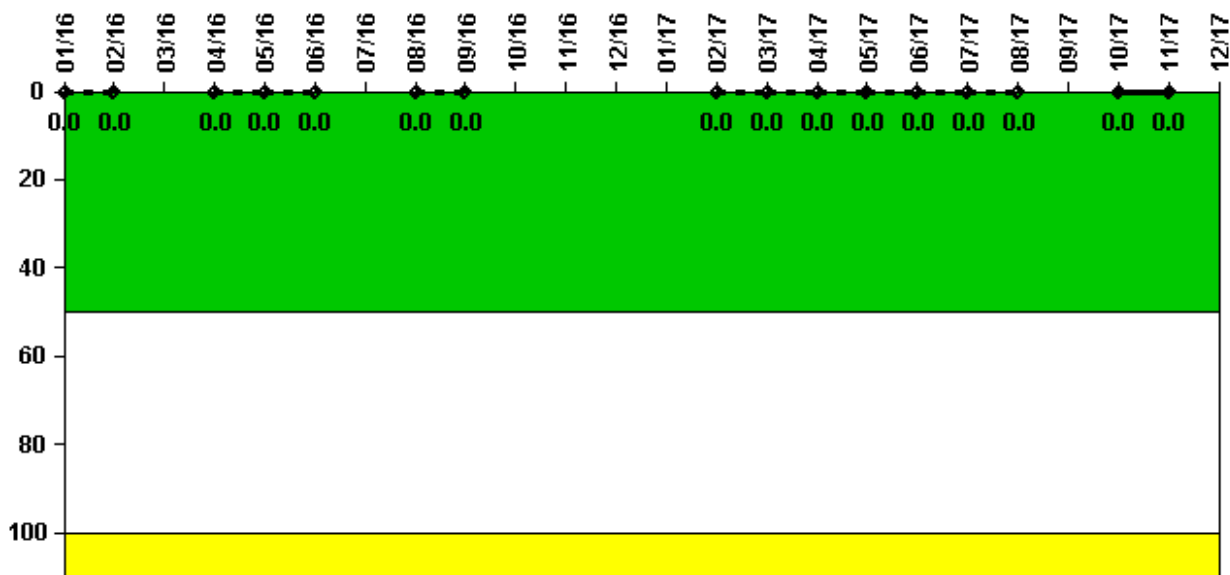
Mitigating Systems Performance Index, Cooling Water Systems

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (Δ CDF)	-1.71E-09	-1.71E-09	-1.71E-09	-1.71E-09	-1.71E-09	-1.71E-09	1.66E-09	2.35E-09
URI (Δ CDF)	-8.68E-08	-8.54E-08	-8.47E-08	-8.36E-08	-8.10E-08	-7.94E-08	-7.73E-08	-7.70E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-8.80E-08	-8.70E-08	-8.60E-08	-8.50E-08	-8.30E-08	-8.10E-08	-7.60E-08	-7.50E-08

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Licensee Comments: none

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	0.000069	0.000053	N/A	0.000013	0.000009	0.000005	N/A	0.000048	0.000020	N/A	N/A	N/A
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

	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	N/A	0.000052	0.000013	0.000015	0.000012	0.000052	0.000002	0.000021	N/A	0.000062	0.000057	N/A
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

	N/A	0	0	0	0	0	0	0	0	N/A	0	0	N/A
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Licensee Comments:

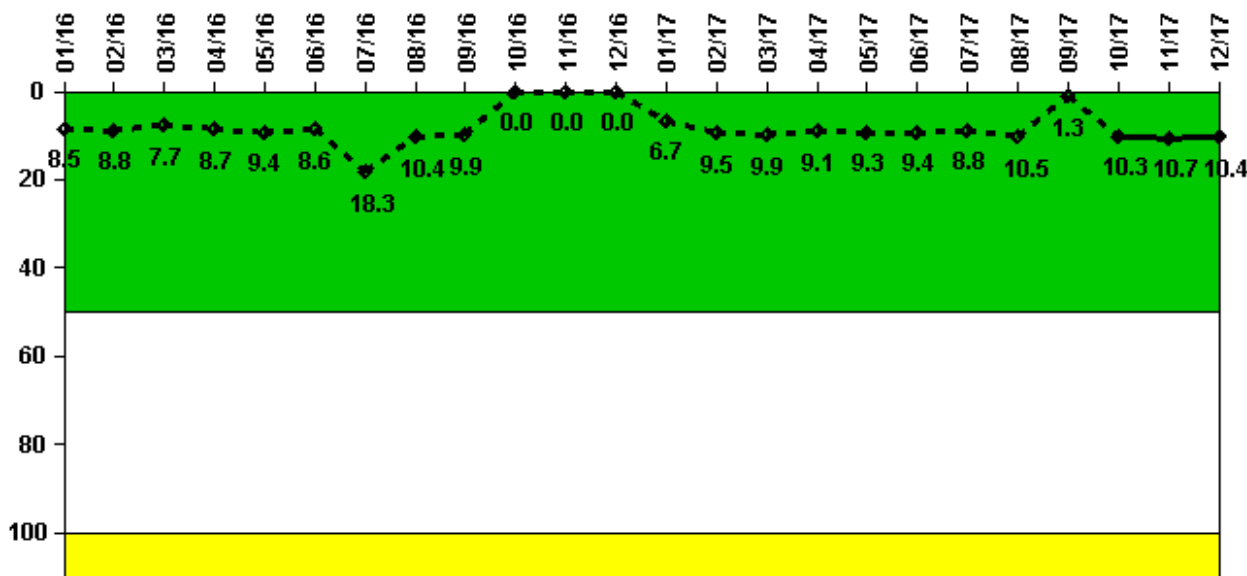
12/17: Max I-131 activity for 2017-12 changed to NA as unit was not at steady state for duration of period. PAS
 12/16: Corrected typographical error in May Data. Changed Maximum I-131 to 9.35E-6 from 9.35E-5. CR-GGN-2016-

09779.

6/16: Corrected typographical error in may data. Changed Maximum I-131 to 9.35E-6 from 9.35E-5. CR-GGN-2016-09779

3/16: For March 2016 the unit did not obtain a stable state power condition

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	2.540	2.630	2.300	2.600	2.810	2.580	5.500	3.120	2.980	0	0	0
Technical specification limit	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0

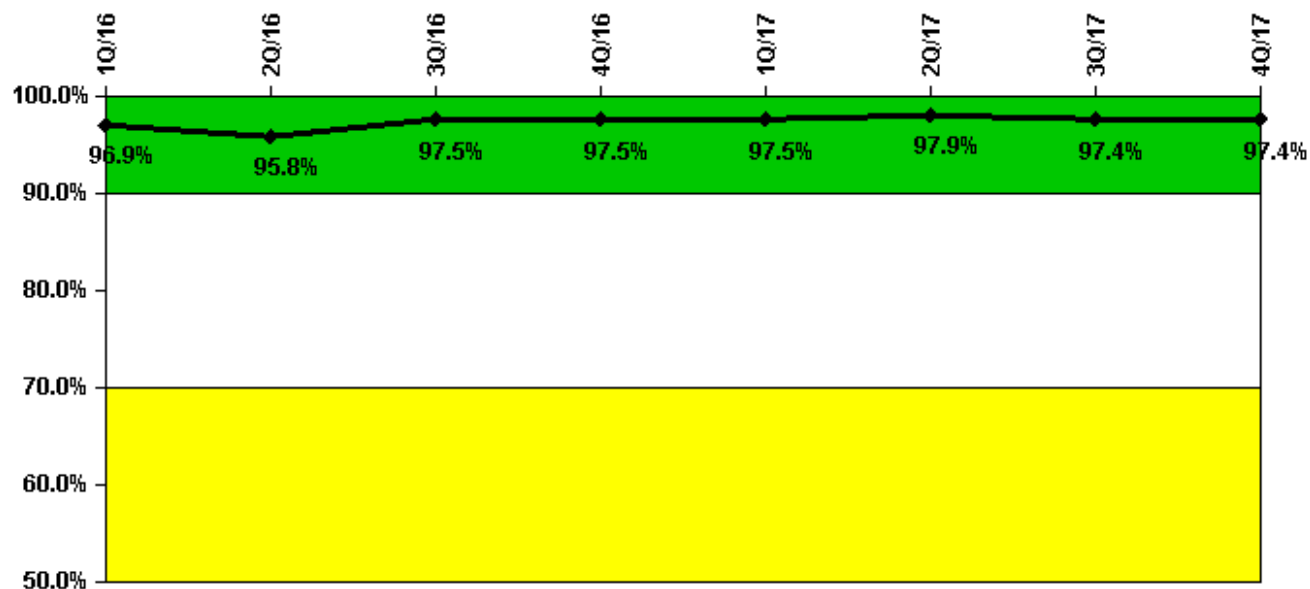
Reactor Coolant System Leakage	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17
Indicator value	8.5	8.8	7.7	8.7	9.4	8.6	18.3	10.4	9.9	0	0	0
Maximum leakage	2.020	2.860	2.970	2.720	2.780	2.810	2.650	3.140	0.400	3.100	3.220	3.120
Technical specification limit	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0

Indicator value	6.7	9.5	9.9	9.1	9.3	9.4	8.8	10.5	1.3	10.3	10.7	10.4
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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

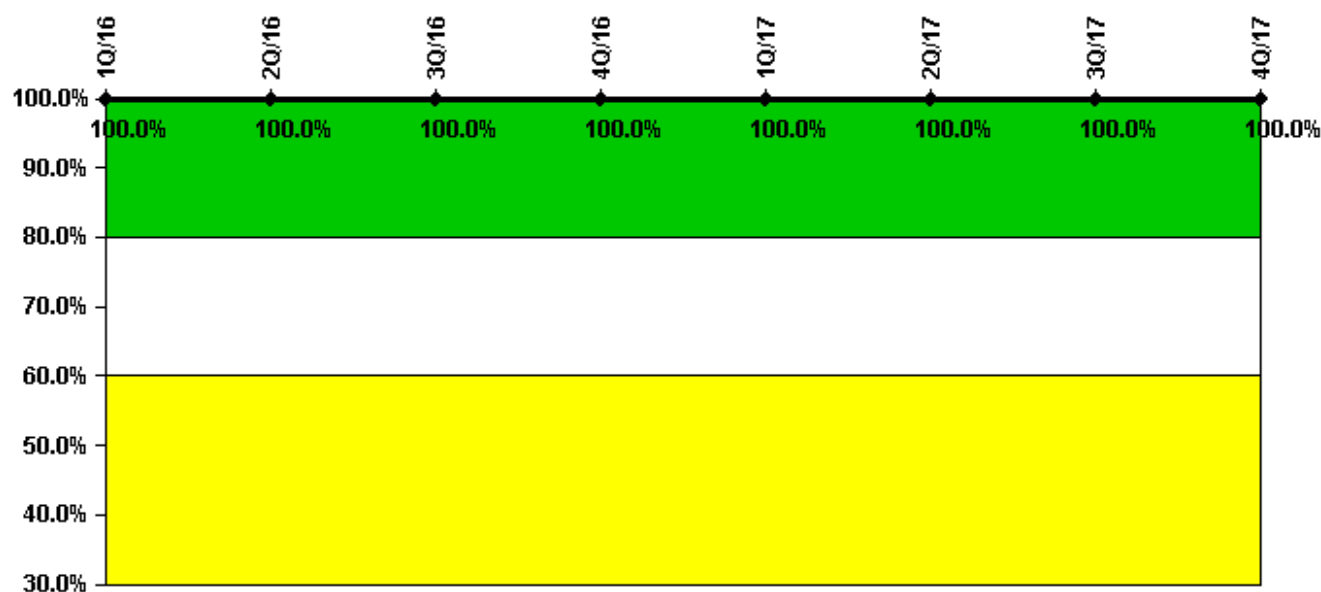
Drill/Exercise Performance	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful opportunities	0	29.0	143.0	62.0	13.0	12.0	25.0	19.0
Total opportunities	0	32.0	144.0	62.0	14.0	12.0	27.0	20.0

Indicator value 96.9% 95.8% 97.5% 97.5% 97.5% 97.9% 97.4% 97.4%

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

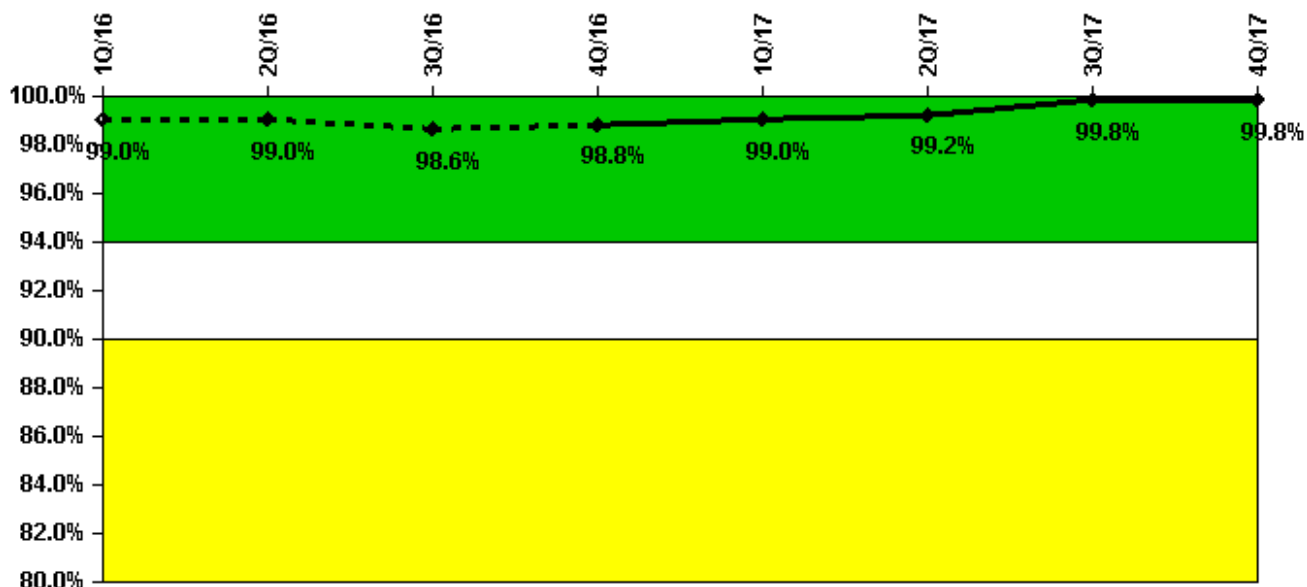
ERO Drill Participation	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Participating Key personnel	64.0	67.0	44.0	50.0	42.0	44.0	43.0	42.0
Total Key personnel	64.0	67.0	44.0	50.0	42.0	44.0	43.0	42.0

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	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful siren-tests	127	128	126	128	129	84	129	128
Total sirens-tests	128	129	129	129	129	84	129	129

Indicator value **99.0% 99.0% 98.6% 98.8% 99.0% 99.2% 99.8% 99.8%**

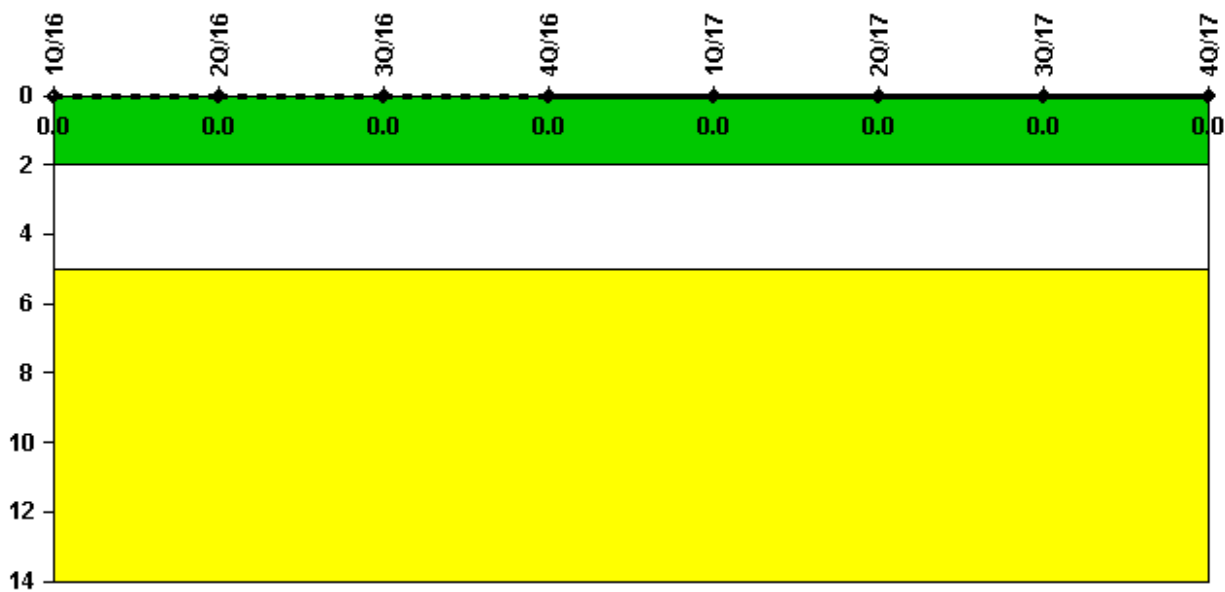
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Licensee Comments:

4Q/17: Siren MCD in CC failed to activate. Repairs made immediately, CR-GGN-2017-12113.

2Q/17: Sirens were not tested in May by direction of Tensas Parish and Clairborne County Emergency Management. Sirens MAD and LEB were removed from service by direction of Tensas Parish and Claiborne County Emergency Management

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

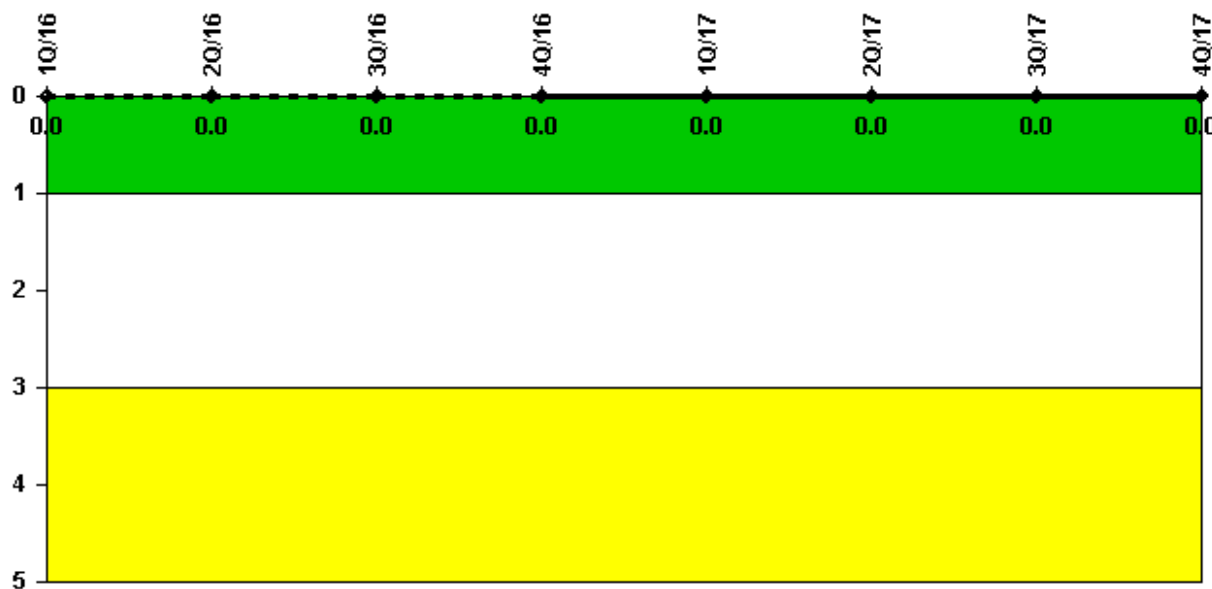
Notes

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