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Indian Point 2 – Quarterly Performance Indicators

3Q/2017 Performance Indicators

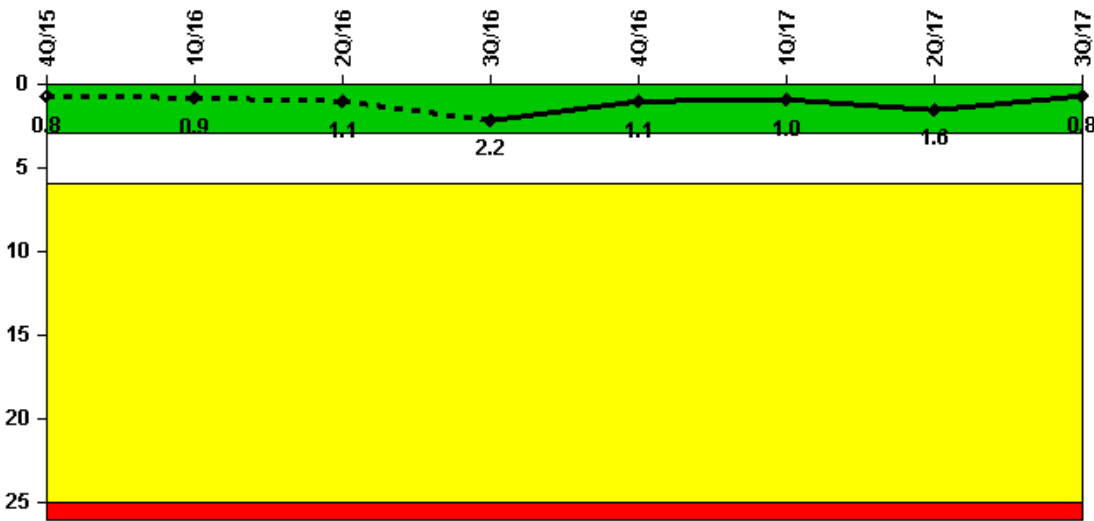
The solid trend line represents the current reporting period.

Licensee's General Comments: none

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



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned scrams	1.0	0	0	1.0	0	0	1.0	0
Critical hours	2154.3	1584.0	319.8	2189.0	2209.0	2159.0	2128.9	2171.0
Indicator value	0.8	0.9	1.1	2.2	1.1	1.0	1.6	0.8

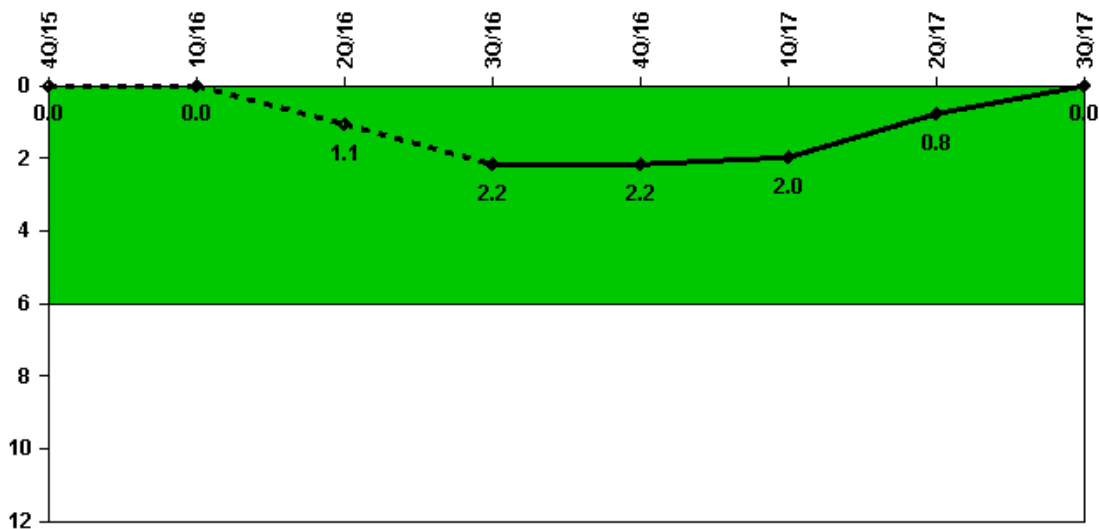
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Licensee Comments:

3Q/16: On July 6, 2016, an automatic reactor trip was initiated during preparations for testing the reactor protection system logic train B actuation logic. LER-2016-009 reported this event on September 6, 2016.

4Q/15: On December 5, 2015, a manual reactor trip was initiated due to indications of multiple dropped control rods. Initiating event was a fault of Motor Control Center (MCC) 24-2H that caused the upstream supply breaker to open to clear the fault resulting in a loss of power to the operating backup power supply in Rod Control Cabinet 2BD with a degraded primary power supply. The loss of power to the Control Rod System caused the Control Rod stationary grippers to de-energize and rods inserted into the reactor core.

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

Notes

Unplanned Power Changes per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned power changes	0	0	1.0	1.0	0	0	0	0
Critical hours	2154.3	1584.0	319.8	2189.0	2209.0	2159.0	2128.9	2171.0

Indicator value	0	0	1.1	2.2	2.2	2.0	0.8	0
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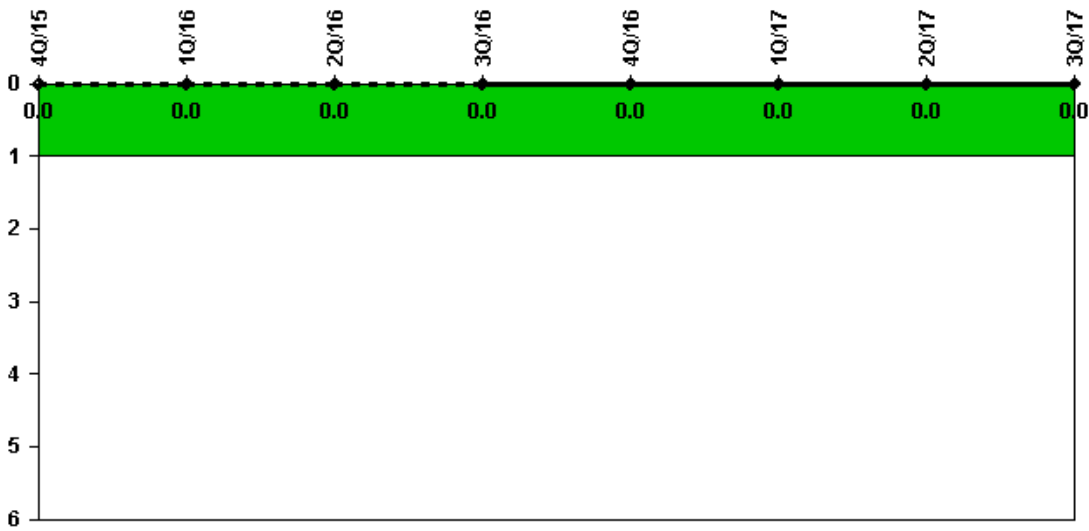
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Licensee Comments:

3Q/16: On August 6, 2016, Heater Drain Tank (HDT) level controller failed causing both HDT discharge level control valves to fail open. HDT level lowered and both HDT pumps tripped at the low level setpoint. Operators rapidly reduced load to match steam flow and feedwater flow. During the rapid downpower, the RCS was borated and control rods were inserted. Critical parameters were maintained within limits. Power was stabilized at 78%.

2Q/16: On June 24, 2016, actions were initiated to commence reactor shutdown to comply the Technical Specification LCO 3.7.7 in order to repair a leaking weld on the 20 inch Service Water pipe to nozzle weld on the 21 Component Cooling Water Heat Exchanger. Entered Mode 3 at 07:59 hours, after normal plant shutdown and reactor trip per normal shutdown procedure 2-POP-3.1 (Plant Shutdown From 45% Power).

Unplanned Scrams with Complications



Thresholds: White > 1.0

Notes

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

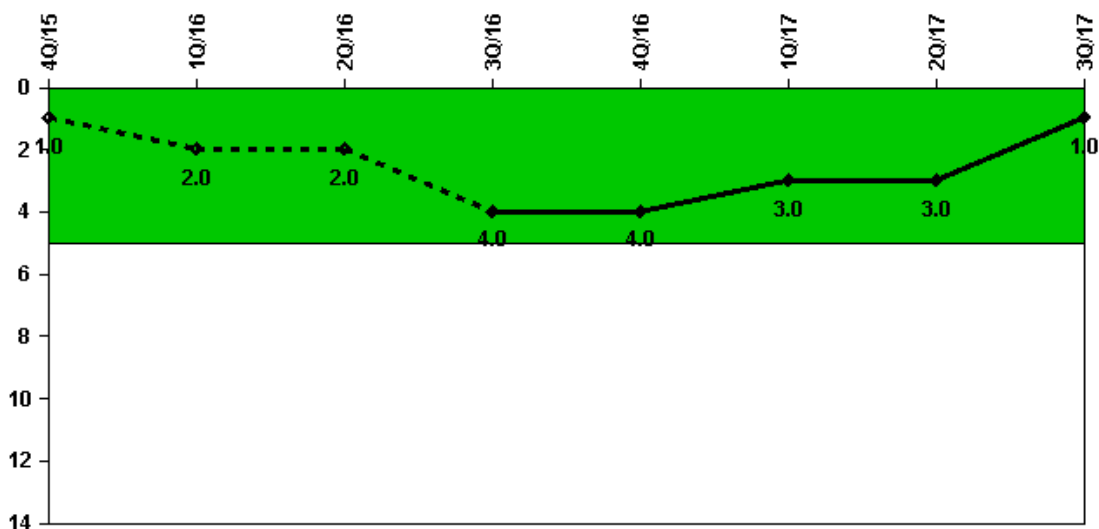
Scrams with complications 0 0 0 0 0 0 0 0

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) 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

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

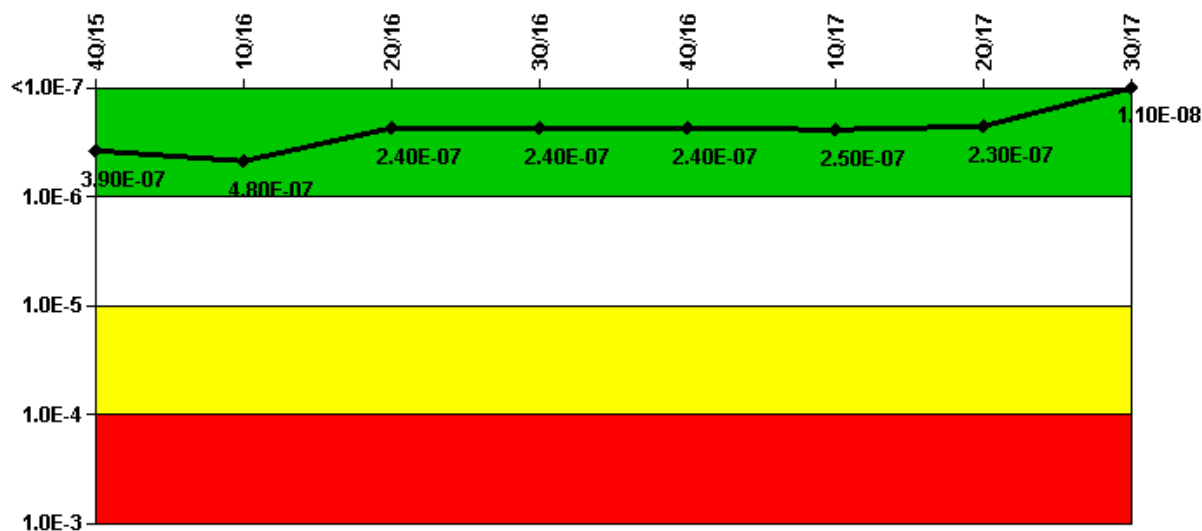
Indicator value 1 2 2 4 4 3 3 1

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Licensee Comments:

- 4Q/16: LER-2016-010 reported on December 21, 2016, a SSFF due to an inoperable containment caused by a through wall defect in a service water supply pipe elbow to the 24 fan cooler unit.
- 3Q/16: LER-2016-007 reported on August 9, 2016, a safety system functional failure after discovering in Mode 4 two open ECCS sump barrier gates. The condition could have prevented adequate post accident core cooling due to DBA debris blockage of the containment recirculation sump and/or the containment sump. TS requires the ECCS to be operable in Modes 1-4. The licensing and design basis of the ECCS credits flow channeling barriers installed in response to GL-2004-02. On September 29, 2016, a revision of LER-2015-001 was submitted reporting a SSFF in addition to the initial reporting as a TS prohibited condition. Additional Entergy reporting guidance determined that this event was also reportable as a SSFF.
- 1Q/16: LER-2015-004 reported on February 18, 2016, a SSFF due to an inoperable containment caused by a flawed SW pipe elbow on the 21 FCU motor cooler return pipe.
- 4Q/15: LER-2015-002 reported a SSFF on October 19, 2015, due to fuses for the Residual Heat Removal Heat Exchanger outlet valves that would not remain operable under degraded voltage conditions.

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

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	8.64E-08	1.02E-07	8.06E-08	7.31E-08	7.10E-08	6.43E-08	3.17E-08	3.65E-08
URI (ΔCDF)	3.02E-07	3.82E-07	1.59E-07	1.62E-07	1.67E-07	1.86E-07	1.98E-07	-2.57E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.90E-07	4.80E-07	2.40E-07	2.40E-07	2.40E-07	2.50E-07	2.30E-07	1.10E-08

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Licensee Comments:

3Q/17: Changes to 2nd Quarter 2017 Planned Unavailable Hours, Demands, and Run Hours as described in CR-IP2-2017-03203. No effect on color of performance indicator.

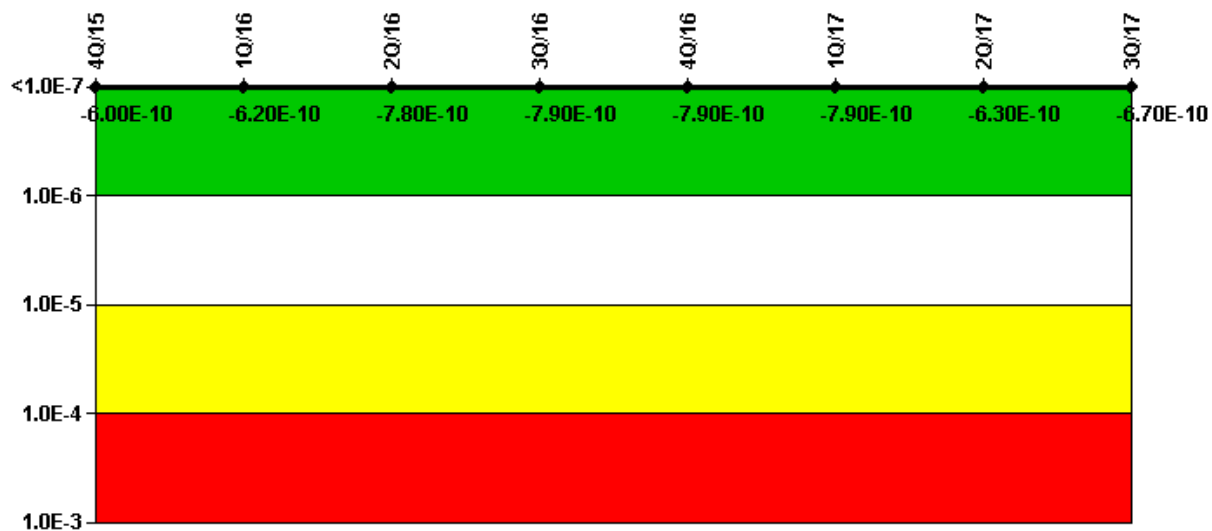
2Q/17: A periodic update of the Unit 2 Probabilistic Safety Assessment (PSA) was performed per the requirements of Entergy fleet procedure EN-DC-151 (PSA Maintenance and Update), which requires a periodic model update be performed nominally once every four years, up to a maximum of six years. This update includes plant design and procedure changes and general modeling enhancements identified since issuance of the previous IP2 PSA model of record. This revision of the PSA model includes resolution of all Level A & B findings (F&Os) from the Regulatory Guide 1.200 peer review, as well as incorporation of significant self-identified Model Change Requests (MCRs).

2Q/17: A periodic update of the Unit 2 Probabilistic Safety Assessment (PSA) was performed per the requirements of Entergy fleet procedure EN-DC-151 (PSA Maintenance and Update), which requires a periodic model update be performed nominally once every four years, up to a maximum of six years. This update includes plant design and procedure changes and general modeling enhancements identified since issuance of the previous IP2 PSA model of record. This revision of the PSA model includes resolution of all Level A & B findings (F&Os) from the Regulatory Guide 1.200 peer review, as well as incorporation of significant self-identified Model Change Requests (MCRs). Changes to 2nd Quarter 2017 Planned Unavailable Hours, Demands, and Run Hours as described in CR-IP2-2017-03203. No effect on color of performance indicator.

1Q/16: Load failure of 23 EDG recorded on 3/7/16 report # 321856 due to a degraded automatic voltage regulator.

1Q/16: Load failure of 23 EDG recorded on 3/7/16 report # 321856 due to a degraded automatic voltage regulator.

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

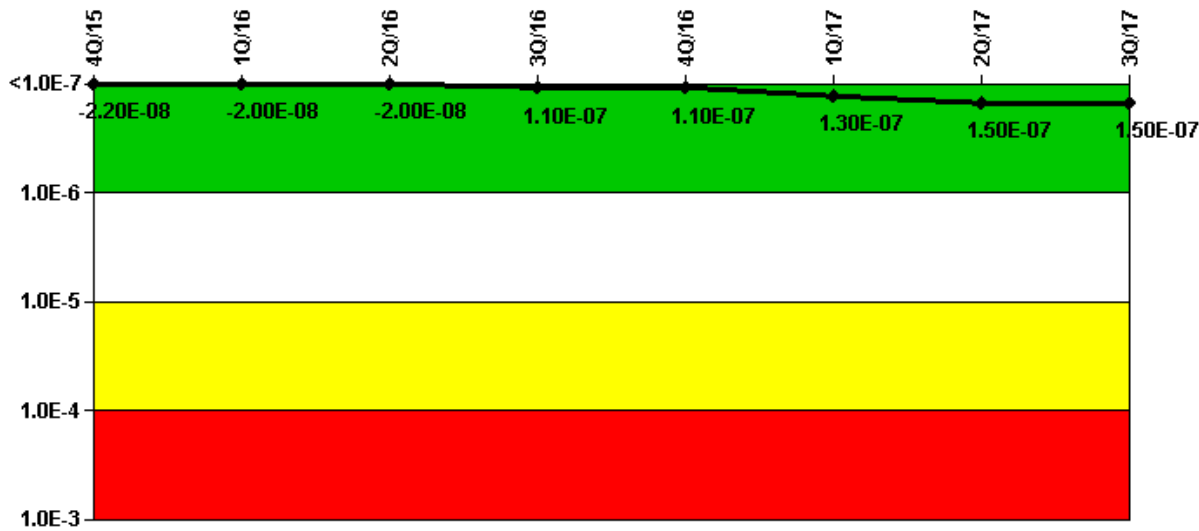
	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	-1.51E-10	-1.46E-10	-3.14E-10	-3.27E-10	-3.27E-10	-3.29E-10	-2.53E-10	-2.81E-10
	10	10	10	10	10	10	10	10
URI (ΔCDF)	-4.53E-10	-4.75E-10	-4.69E-10	-4.60E-10	-4.60E-10	-4.62E-10	-3.77E-10	-3.89E-10
	10	10	10	10	10	10	10	10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-6.00E-10	-6.20E-10	-7.80E-10	-7.90E-10	-7.90E-10	-7.90E-10	-6.30E-10	-6.70E-10

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Licensee Comments:

2Q/17: A periodic update of the Unit 2 Probabilistic Safety Assessment (PSA) was performed per the requirements of Entergy fleet procedure EN-DC-151 (PSA Maintenance and Update), which requires a periodic model update be performed nominally once every four years, up to a maximum of six years. This update includes plant design and procedure changes and general modeling enhancements identified since issuance of the previous IP2 PSA model of record. This revision of the PSA model includes resolution of all Level A & B findings (F&Os) from the Regulatory Guide 1.200 peer review, as well as incorporation of significant self-identified Model Change Requests (MCRs).

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

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	6.84E-09	1.05E-08	1.24E-08	1.56E-08	1.79E-08	2.52E-08	2.78E-08	2.63E-08
URI (ΔCDF)	-2.84E-08	-3.07E-08	-3.22E-08	9.18E-08	9.20E-08	1.07E-07	1.19E-07	1.27E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.20E-08	-2.00E-08	-2.00E-08	1.10E-07	1.10E-07	1.30E-07	1.50E-07	1.50E-07

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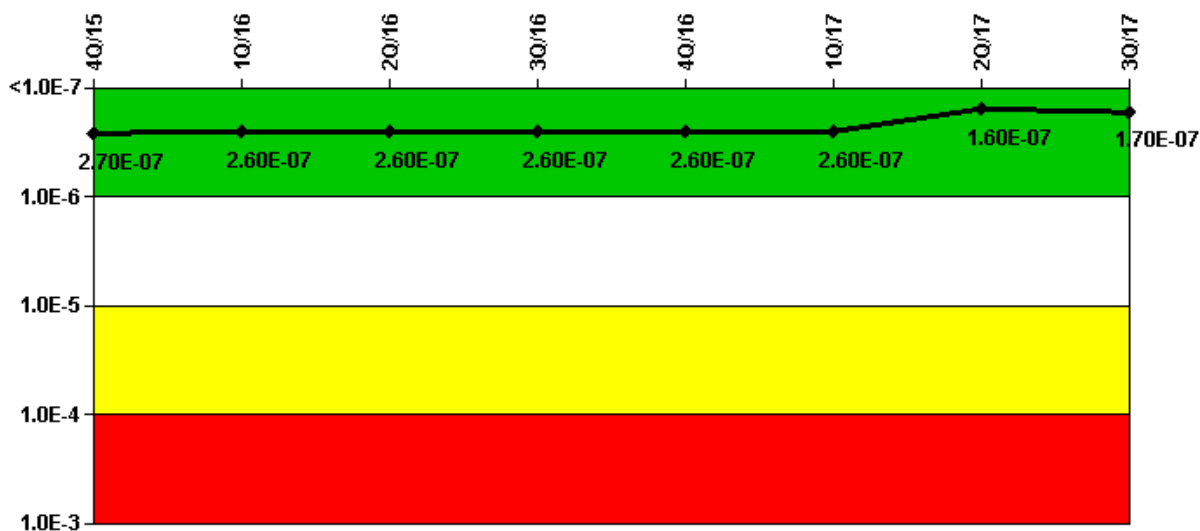
Licensee Comments:

3Q/17: Change to 2nd Quarter 2017 Planned Unavailable Hours as described in CR-IP2-2017-03169. No effect on color of performance indicator.

2Q/17: A periodic update of the Unit 2 Probabilistic Safety Assessment (PSA) was performed per the requirements of Entergy fleet procedure EN-DC-151 (PSA Maintenance and Update), which requires a periodic model update be performed nominally once every four years, up to a maximum of six years. This update includes plant design and procedure changes and general modeling enhancements identified since issuance of the previous IP2 PSA model of record. This revision of the PSA model includes resolution of all Level A & B findings (F&Os) from the Regulatory Guide 1.200 peer review, as well as incorporation of significant self-identified Model Change Requests (MCRs). Change to 2nd Quarter 2017 Planned Unavailable Hours as described in CR-IP2-2017-03169. No effect on color of performance indicator.

2Q/17: A periodic update of the Unit 2 Probabilistic Safety Assessment (PSA) was performed per the requirements of Entergy fleet procedure EN-DC-151 (PSA Maintenance and Update), which requires a periodic model update be performed nominally once every four years, up to a maximum of six years. This update includes plant design and procedure changes and general modeling enhancements identified since issuance of the previous IP2 PSA model of record. This revision of the PSA model includes resolution of all Level A & B findings (F&Os) from the Regulatory Guide 1.200 peer review, as well as incorporation of significant self-identified Model Change Requests (MCRs).

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

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	-4.26E-09	-4.13E-09	-8.89E-09	-8.26E-09	-9.38E-09	-9.30E-09	-5.66E-09	-6.04E-09
URI (ΔCDF)	2.70E-07	2.67E-07	2.65E-07	2.65E-07	2.65E-07	2.69E-07	1.62E-07	1.73E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.70E-07	2.60E-07	2.60E-07	2.60E-07	2.60E-07	2.60E-07	1.60E-07	1.70E-07

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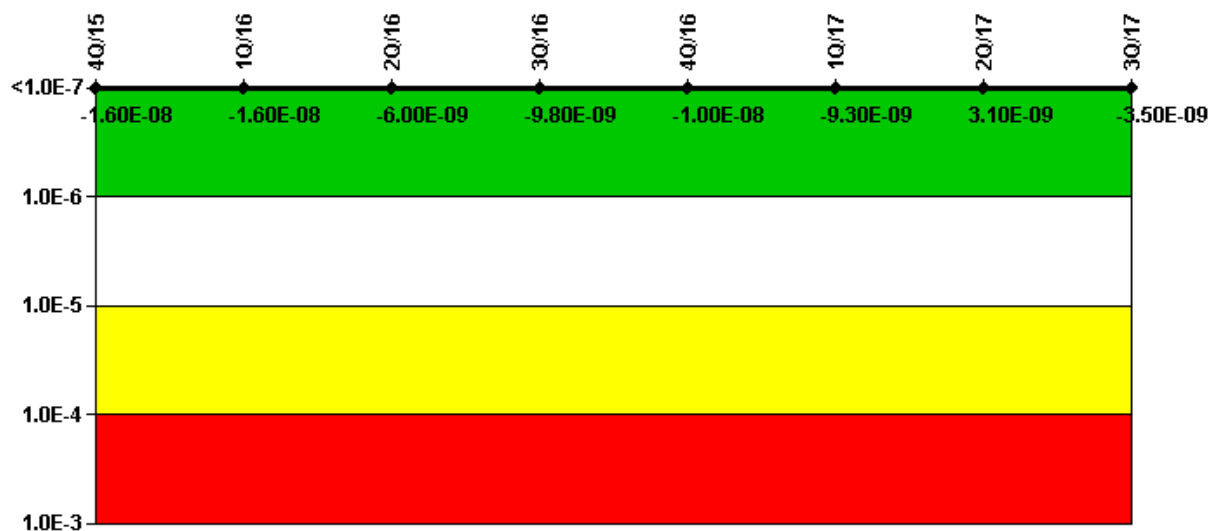
Licensee Comments:

3Q/17: Change to 2nd Quarter 2017 Planned Unavailable Hours as described in CR-IP2-2017-03196. No effect on color of performance indicator.

2Q/17: A periodic update of the Unit 2 Probabilistic Safety Assessment (PSA) was performed per the requirements of Entergy fleet procedure EN-DC-151 (PSA Maintenance and Update), which requires a periodic model update be performed nominally once every four years, up to a maximum of six years. This update includes plant design and procedure changes and general modeling enhancements identified since issuance of the previous IP2 PSA model of record. This revision of the PSA model includes resolution of all Level A & B findings (F&Os) from the Regulatory Guide 1.200 peer review, as well as incorporation of significant self-identified Model Change Requests (MCRs). Change to 2nd Quarter 2017 Planned Unavailable Hours as described in CR-IP2-2017-03196. No effect on color of performance indicator.

2Q/17: A periodic update of the Unit 2 Probabilistic Safety Assessment (PSA) was performed per the requirements of Entergy fleet procedure EN-DC-151 (PSA Maintenance and Update), which requires a periodic model update be performed nominally once every four years, up to a maximum of six years. This update includes plant design and procedure changes and general modeling enhancements identified since issuance of the previous IP2 PSA model of record. This revision of the PSA model includes resolution of all Level A & B findings (F&Os) from the Regulatory Guide 1.200 peer review, as well as incorporation of significant self-identified Model Change Requests (MCRs).

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

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	3.50E-09	3.67E-09	1.43E-08	1.07E-08	1.08E-08	1.12E-08	1.22E-08	6.15E-09
URI (ΔCDF)	-1.95E-08	-2.02E-08	-2.03E-08	-2.06E-08	-2.10E-08	-2.04E-08	-9.10E-09	-9.68E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.60E-08	-1.60E-08	-6.00E-09	-9.80E-09	-1.00E-08	-9.30E-09	3.10E-09	-3.50E-09

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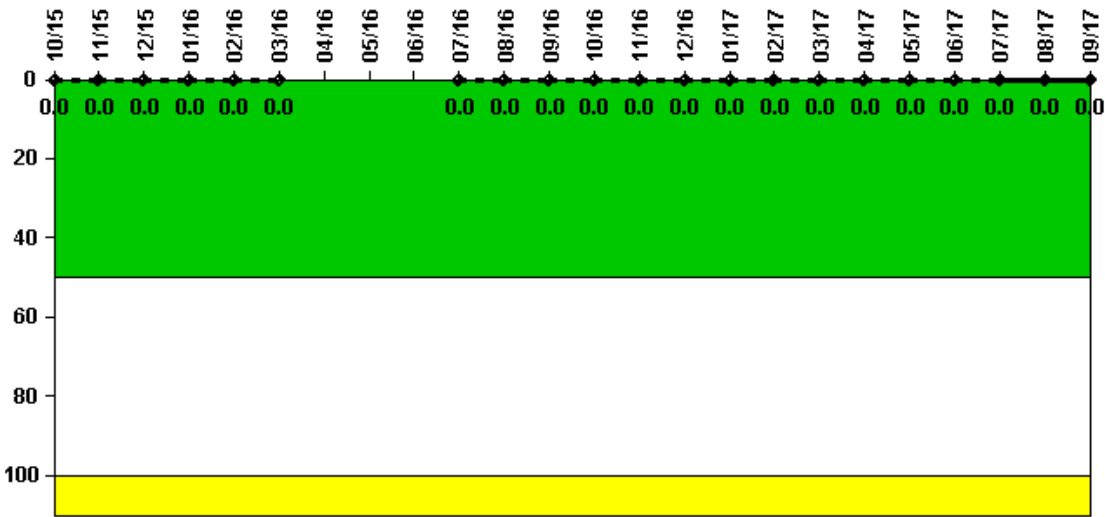
Licensee Comments:

3Q/17: Changes to 2nd Quarter 2017 Demands and Run Hours as described in CR-IP2-2017-03196. No effect on color of performance indicator.

2Q/17: A periodic update of the Unit 2 Probabilistic Safety Assessment (PSA) was performed per the requirements of Entergy fleet procedure EN-DC-151 (PSA Maintenance and Update), which requires a periodic model update be performed nominally once every four years, up to a maximum of six years. This update includes plant design and procedure changes and general modeling enhancements identified since issuance of the previous IP2 PSA model of record. This revision of the PSA model includes resolution of all Level A & B findings (F&Os) from the Regulatory Guide 1.200 peer review, as well as incorporation of significant self-identified Model Change Requests (MCRs). Changes to 2nd Quarter 2017 Demands and Run Hours as described in CR-IP2-2017-03196. No effect on color of performance indicator.

2Q/17: A periodic update of the Unit 2 Probabilistic Safety Assessment (PSA) was performed per the requirements of Entergy fleet procedure EN-DC-151 (PSA Maintenance and Update), which requires a periodic model update be performed nominally once every four years, up to a maximum of six years. This update includes plant design and procedure changes and general modeling enhancements identified since issuance of the previous IP2 PSA model of record. This revision of the PSA model includes resolution of all Level A & B findings (F&Os) from the Regulatory Guide 1.200 peer review, as well as incorporation of significant self-identified Model Change Requests (MCRs).

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System

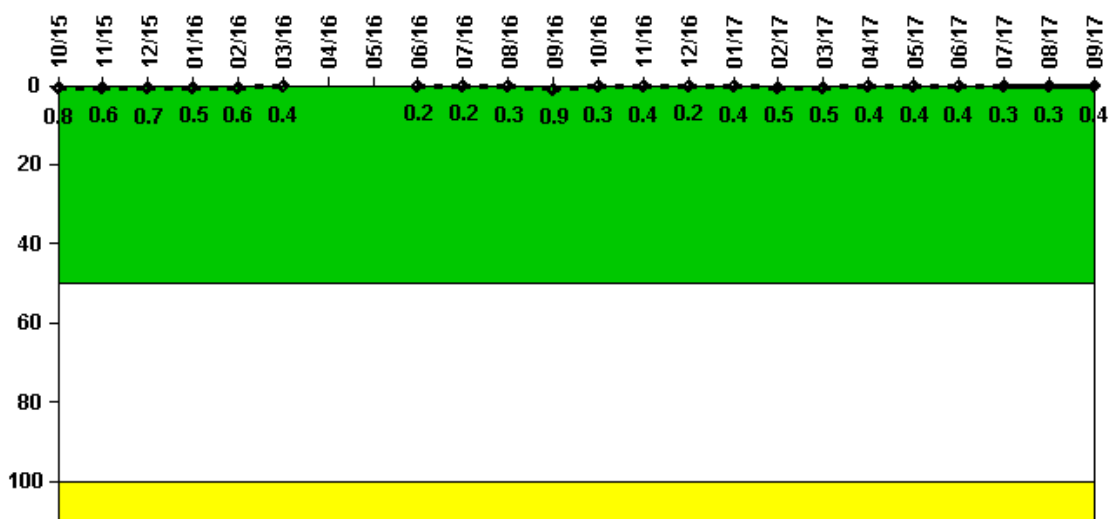
Activity	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum activity	0.000216	0.000260	0.000223	0.000271	0.000245	0.000150	N/A	N/A	N/A	0.000134	0.000131	0.000150
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0	0	0	0	0	0	0	N/A	N/A	N/A	0	0

Reactor Coolant System Activity	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum activity	0.000126	0.000145	0.000139	0.000150	0.000150	0.000168	0.000144	0.000146	0.000186	0.000168	0.000184	0.000170
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: Plant started refueling outage 3/7/16. No RCS coolant activity calculated.

Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Leakage	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum leakage	0.080	0.060	0.070	0.050	0.060	0.040	N/A	N/A	0.020	0.024	0.030	0.090
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	0.8	0.6	0.7	0.5	0.6	0.4	N/A	N/A	0.2	0.2	0.3	0.9
Reactor Coolant System Leakage	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum leakage	0.030	0.040	0.020	0.040	0.050	0.050	0.040	0.040	0.040	0.030	0.030	0.040
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

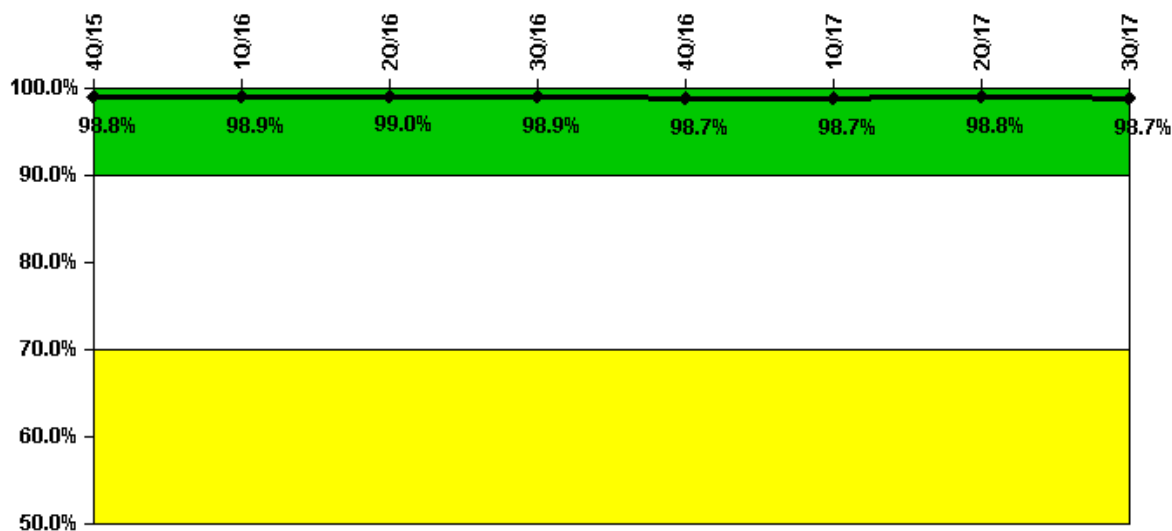
Indicator value	0.3	0.4	0.2	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.4
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Licensee Comments:

6/16: Plant started refueling outage which was extended due to degraded RV baffle-former bolts. Unit startup was 6/16/16. No RCS Leak Rate was determined during outage due to plant in outage.

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

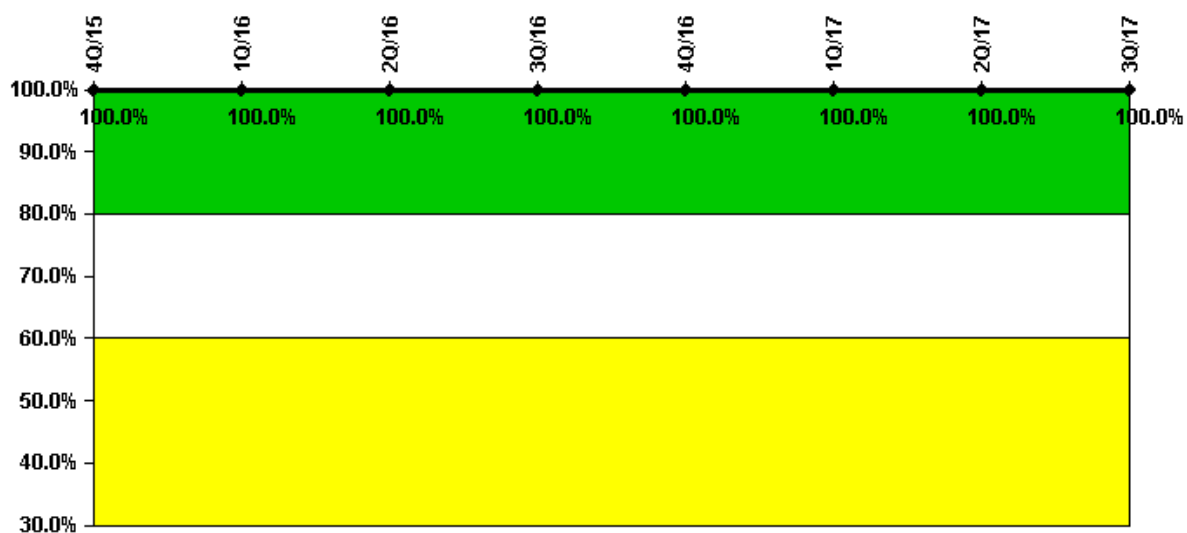
Drill/Exercise Performance	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful opportunities	28.0	26.0	62.0	103.0	93.0	23.0	18.0	98.0
Total opportunities	28.0	26.0	63.0	105.0	94.0	24.0	18.0	99.0

Indicator value **98.8% 98.9% 99.0% 98.9% 98.7% 98.7% 98.8% 98.7%**

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

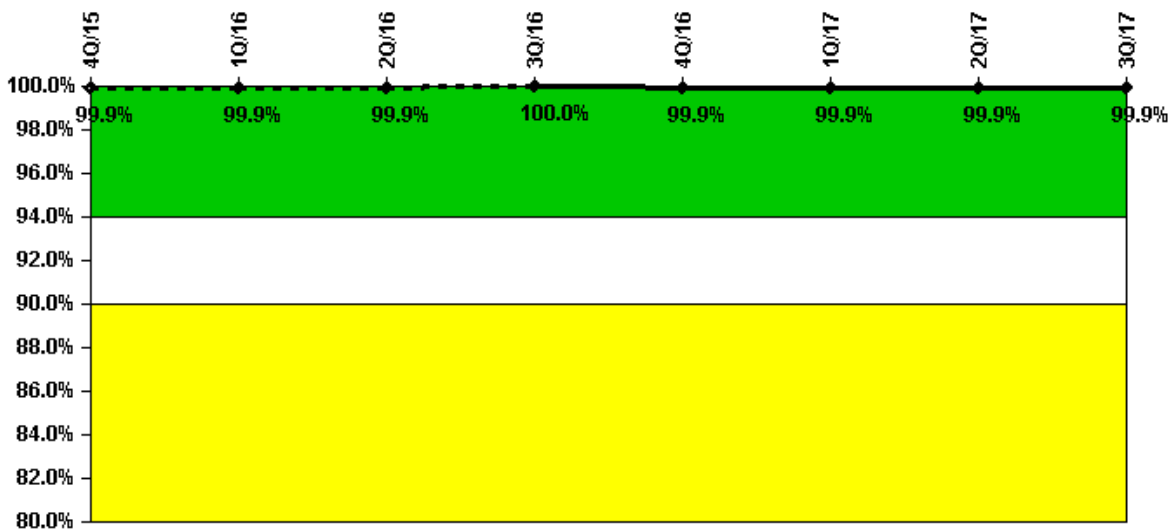
ERO Drill Participation	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Participating Key personnel	103.0	103.0	101.0	100.0	104.0	108.0	105.0	103.0
Total Key personnel	103.0	103.0	101.0	100.0	104.0	108.0	105.0	103.0

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

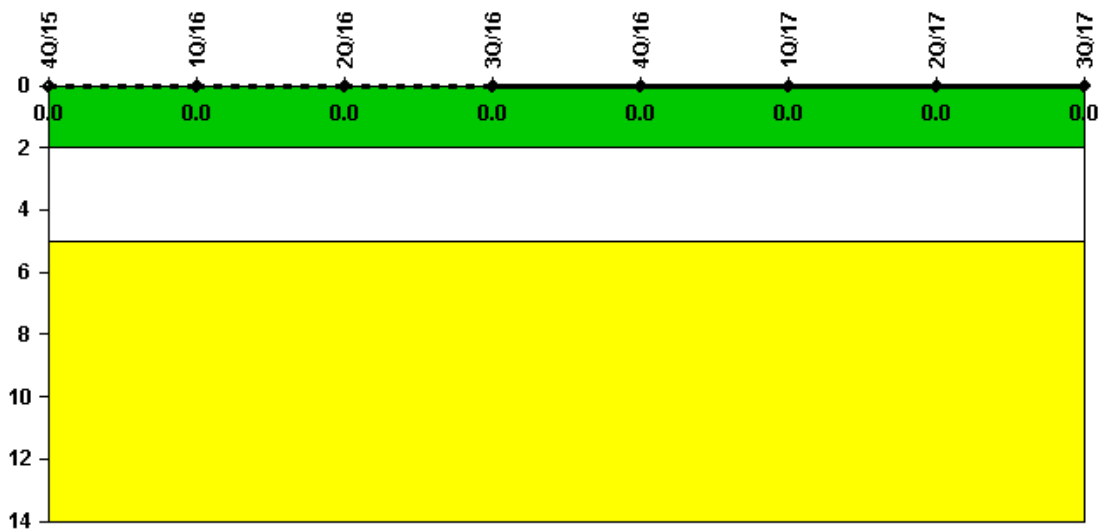
Alert & Notification System	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful siren-tests	1046	1188	1050	1081	1201	1203	1203	1203
Total sirens-tests	1046	1188	1050	1081	1204	1204	1204	1204

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

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Licensee Comments: none

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

Notes

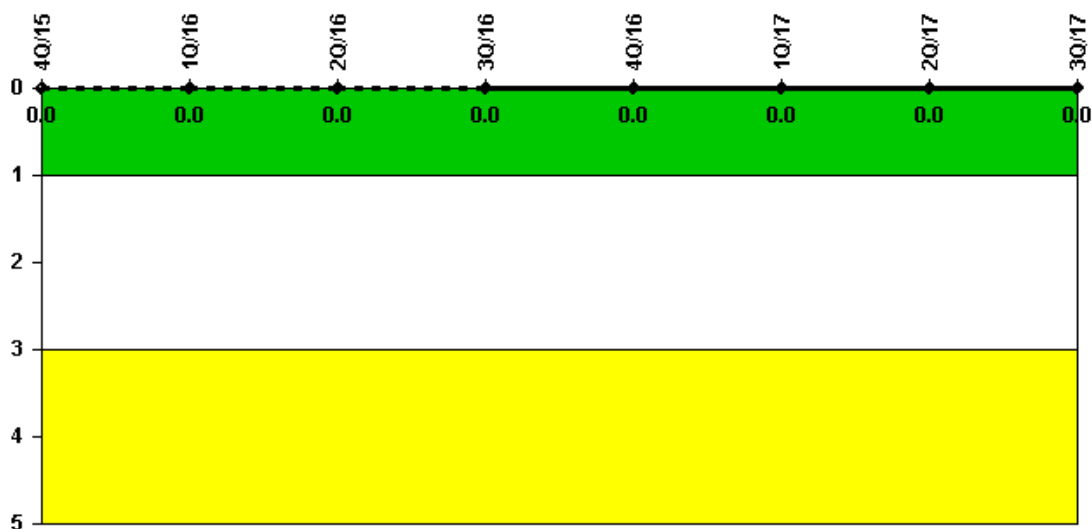
Occupational Exposure Control Effectiveness 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

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

TOP

Licensee Comments: none

RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

Notes

RETS/ODCM Radiological Effluent 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/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: October 31, 2017

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