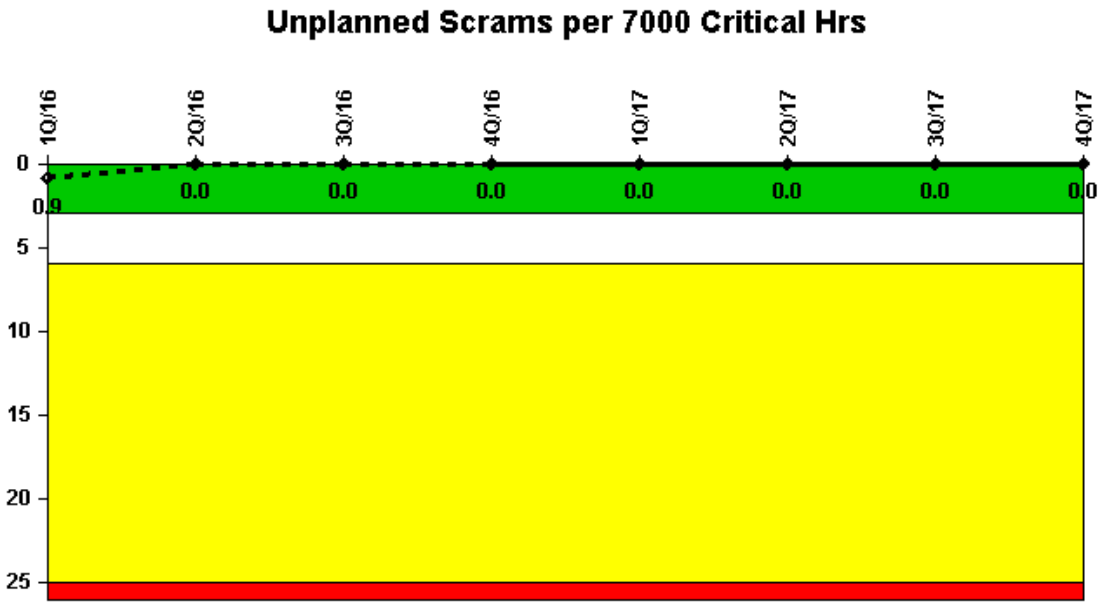
Wolf Creek – Quarterly Performance Indicators

4Q/2017 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:



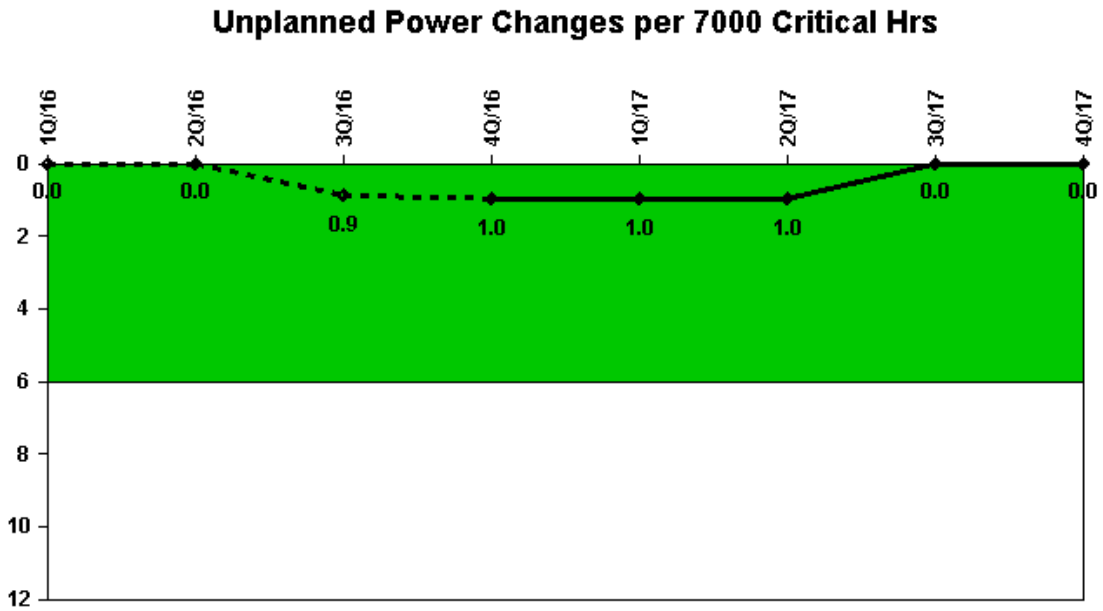
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

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	0	0	0	0	0	0
Critical hours	2183.0	2184.0	1524.0	1003.3	2159.0	2184.0	2208.0	2209.0
Indicator value	**0.9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TOP

Licensee Comments: none



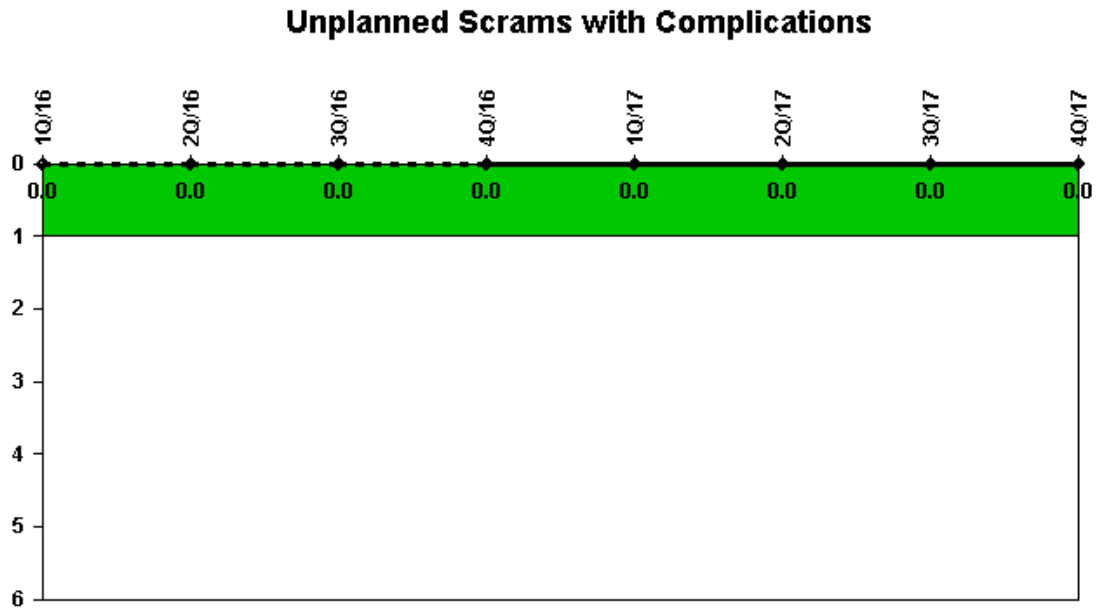
Thresholds: White > 6.0

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	0	1.0	0	0	0	0	0
Critical hours	2183.0	2184.0	1524.0	1003.3	2159.0	2184.0	2208.0	2209.0
Indicator value	**0**	**0**	**0.9**	**1.0**	**1.0**	**1.0**	**0**	**0**

TOP

Licensee Comments:
3Q/17: On September 7, 2017, all MSSVs and ARVs were declared inoperable due to Wolf Creek not having a retrievable analysis proving that a single tornado driven design basis missile is not capable of affecting more than 2 ARVs. Entered TS 3.7.1 Condition C and TS 3.7.4 Condition C. Enforcement Guidance Memorandum (EGM) 15-002 has been implemented with a 60 day requirement to have more robust compensatory measures in place, along with the initial compensatory measures allowed by the guidance.
2Q/17: On April 5, 2017, both EDGs were identified as having unanalyzed conditions regarding the fuel oil truck connections outside the diesel building for tornado missile hazards. The 'A' and 'B' EDGs were declared inoperable due to Tornado-Generated Missile Protection Non-Compliance. Entered Technical Specification (TS) 3.8.1 Condition B and F. Enforcement Guidance Memorandum (EGM) 15-002 has been implemented with a 60 day requirement to have more robust compensatory measures in place, along with the initial compensatory measures allowed by the guidance.
3Q/16: Unit shutdown due to unidentified RCS leakage. The source of the leak was identified on Core Exit Thermocouple Nozzle Assembly (CETNA) penetration #77.



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	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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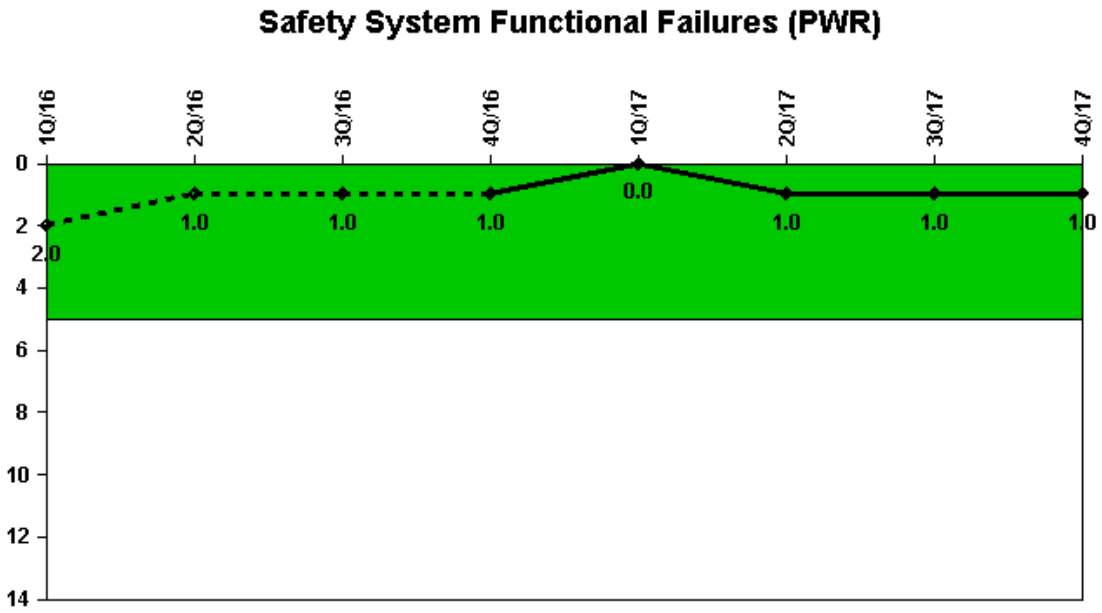
Licensee Comments: none



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	1	0	0	0	0	1	0	0
Indicator value	**2**	**1**	**1**	**1**	**0**	**1**	**1**	**1**

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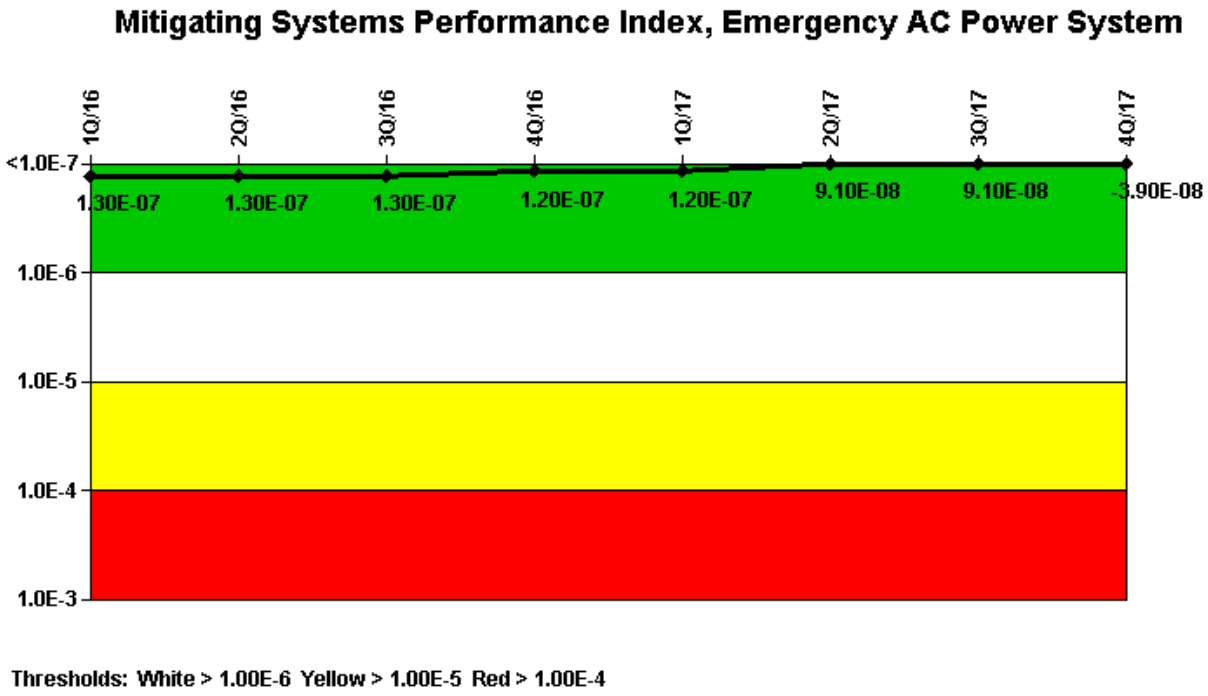
Licensee Comments:
1Q/16: LER 2016-001



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)	3.26E-09	2.76E-09	2.83E-09	3.11E-09	2.94E-09	-5.80E-12	-5.80E-12	-3.86E-09
URI (ΔCDF)	1.28E-07	1.28E-07	1.29E-07	1.14E-07	1.14E-07	9.14E-08	9.09E-08	-3.51E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**1.30E-07**	**1.30E-07**	**1.30E-07**	**1.20E-07**	**1.20E-07**	**9.10E-08**	**9.10E-08**	**-3.90E-08**

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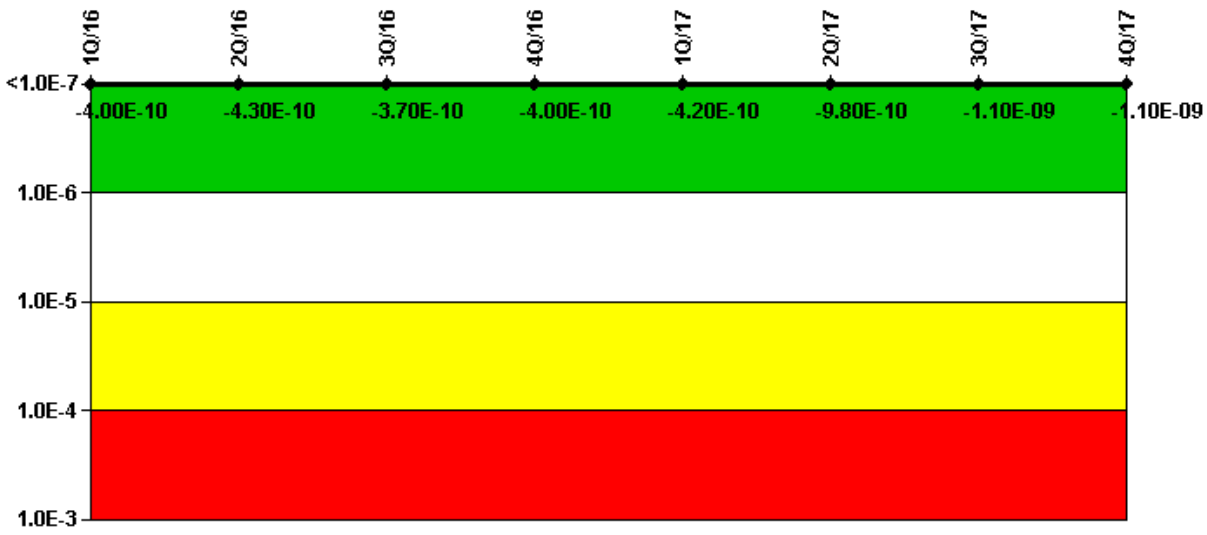
Licensee Comments:
2Q/17: Changed PRA Parameter(s).

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)	-1.63E-12	-6.82E-11	-2.38E-12	1.03E-11	-2.07E-11	2.53E-11	-1.29E-10	-1.26E-10
URI (ΔCDF)	-3.96E-10	-3.63E-10	-3.73E-10	-4.13E-10	-3.97E-10	-1.01E-09	-9.98E-10	-9.87E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-4.00E-10**	**-4.30E-10**	**-3.70E-10**	**-4.00E-10**	**-4.20E-10**	**-9.80E-10**	**-1.10E-09**	**-1.10E-09**

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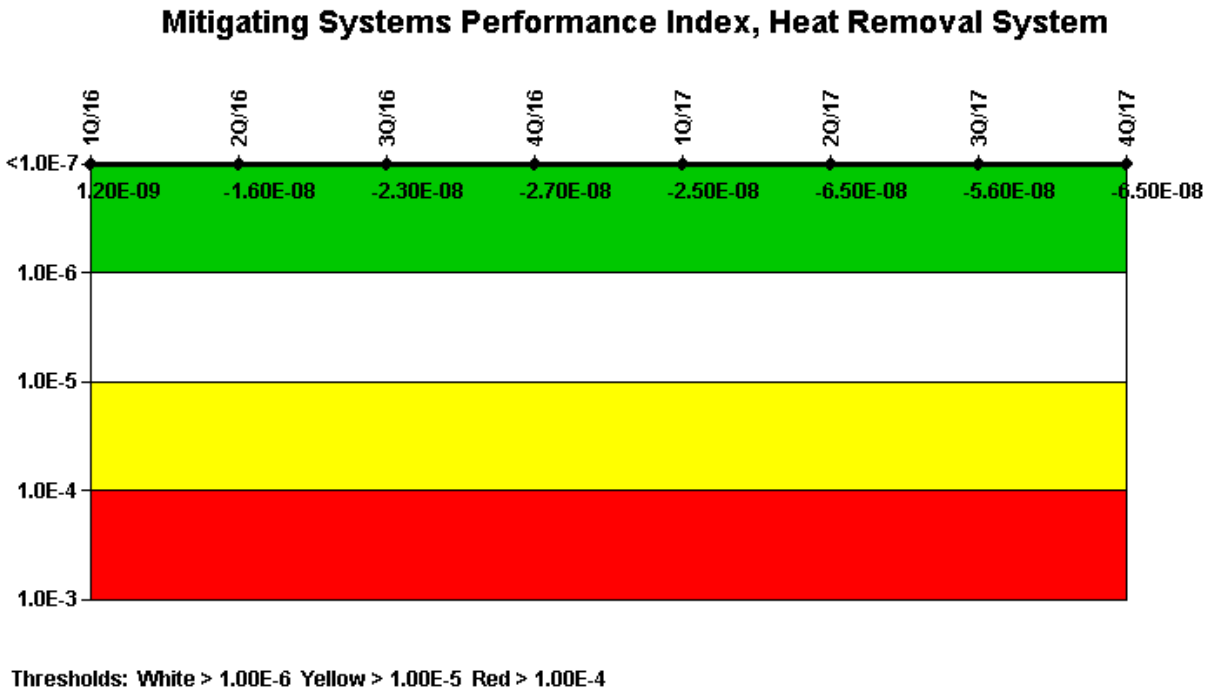
Licensee Comments:
2Q/17: Changed PRA Parameter(s).



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)	6.56E-08	4.12E-08	3.25E-08	3.04E-08	3.20E-08	8.08E-08	8.99E-08	8.04E-08
URI (ΔCDF)	-6.44E-08	-5.71E-08	-5.58E-08	-5.71E-08	-5.66E-08	-1.46E-07	-1.46E-07	-1.45E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**1.20E-09**	**-1.60E-08**	**-2.30E-08**	**-2.70E-08**	**-2.50E-08**	**-6.50E-08**	**-5.60E-08**	**-6.50E-08**

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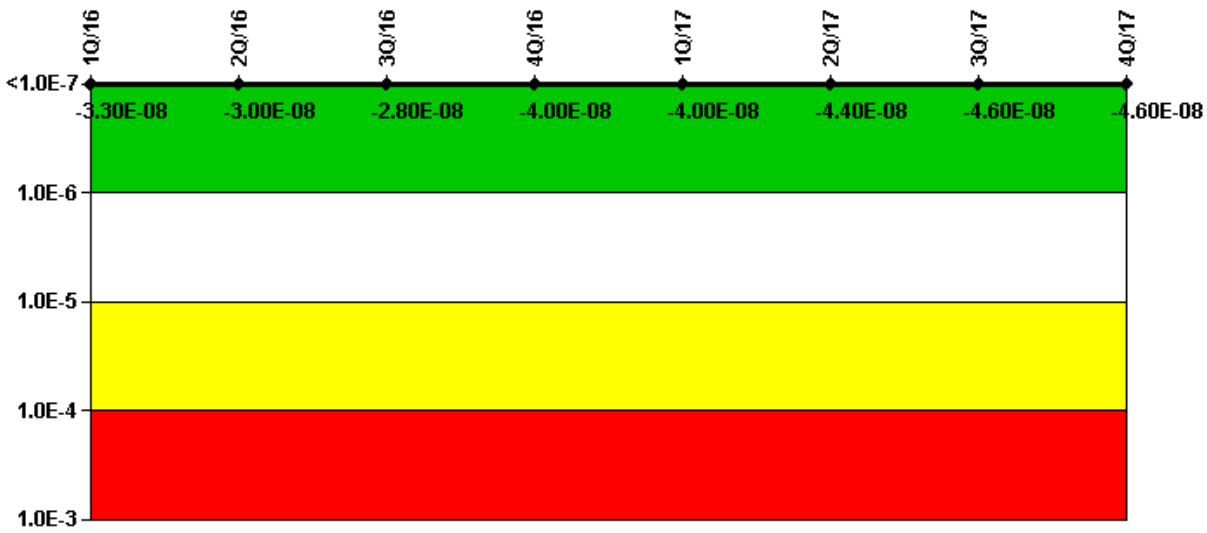
Licensee Comments:
2Q/17: Changed PRA Parameter(s).

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)	4.70E-09	5.13E-09	9.25E-09	3.50E-09	8.11E-10	-2.00E-10	-2.52E-09	-2.42E-09
URI (ΔCDF)	-3.76E-08	-3.52E-08	-3.75E-08	-4.38E-08	-4.10E-08	-4.38E-08	-4.37E-08	-4.38E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**-3.30E-08**	**-3.00E-08**	**-2.80E-08**	**-4.00E-08**	**-4.00E-08**	**-4.40E-08**	**-4.60E-08**	**-4.60E-08**

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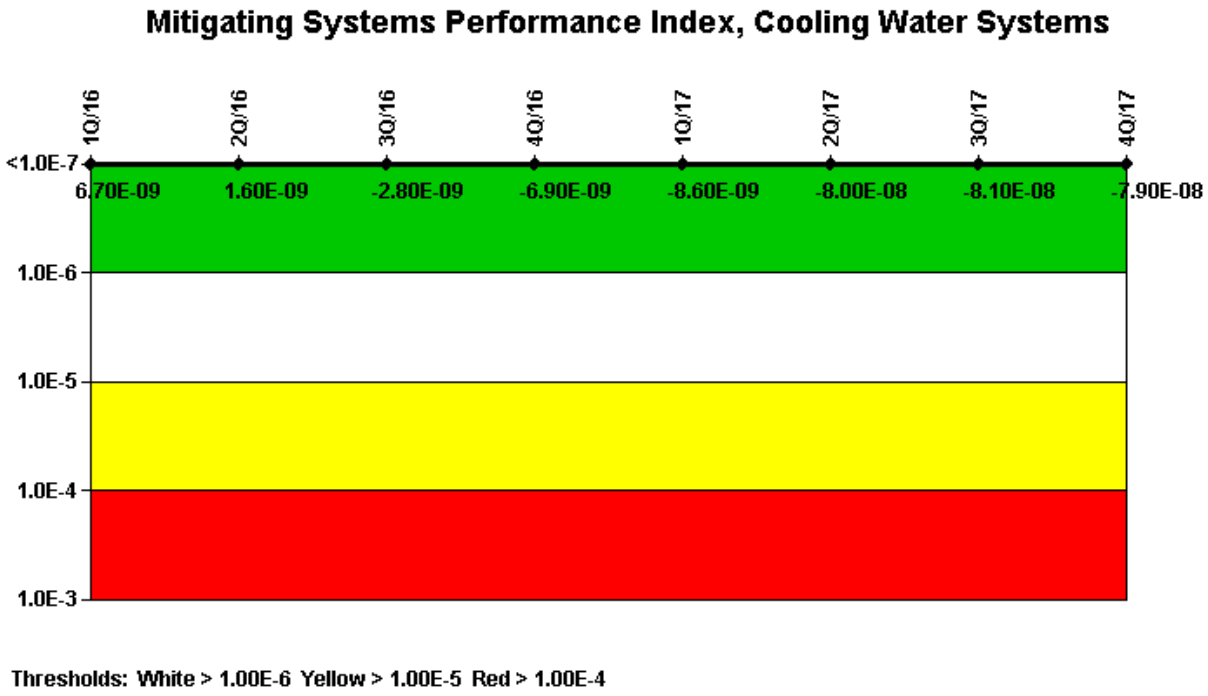
Licensee Comments:
2Q/17: Changed PRA Parameter(s).



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 (ΔCDF)	2.80E-08	2.23E-08	1.92E-08	1.58E-08	1.39E-08	-1.29E-09	-1.16E-10	2.16E-09
URI (ΔCDF)	-2.12E-08	-2.07E-08	-2.19E-08	-2.27E-08	-2.25E-08	-7.92E-08	-8.07E-08	-8.15E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	**6.70E-09**	**1.60E-09**	**-2.80E-09**	**-6.90E-09**	**-8.60E-09**	**-8.00E-08**	**-8.10E-08**	**-7.90E-08**

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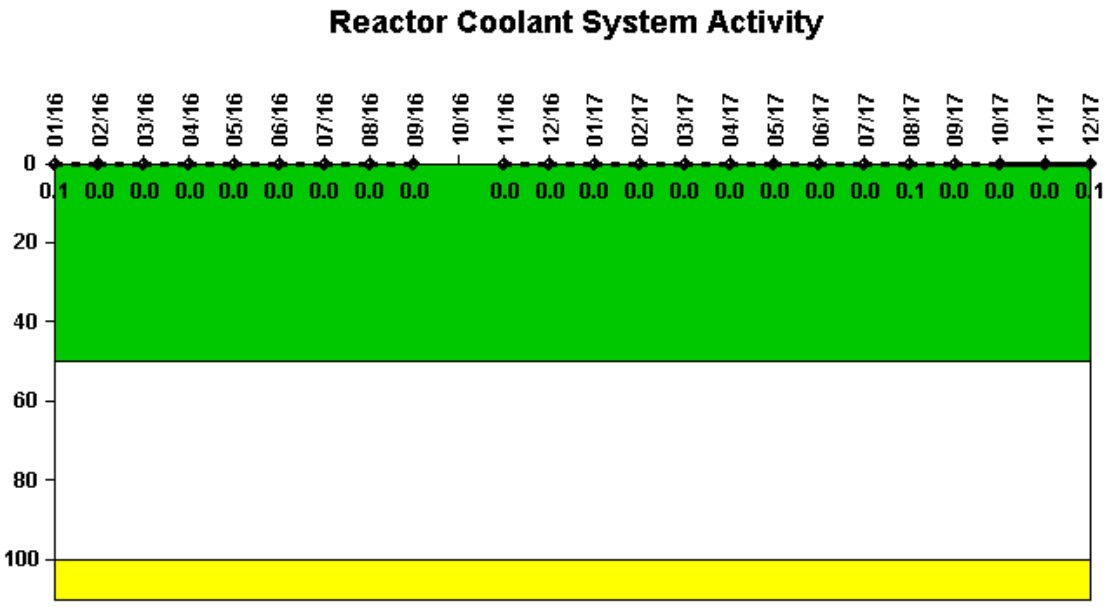
Licensee Comments:
2Q/17: Changed PRA Parameter(s).



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	0.000700	0.000200	0.000300	0.000300	0.000300	0.000300	0.000300	0.000300	0.000300	N/A	0.000200	0.000200
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**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**N/A**	**0**	**0**

Reactor Coolant System Activity	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	0.000200	0.000300	0.000300	0.000300	0.000300	0.000300	0.000300	0.001000	0.000300	0.000300	0.000400	0.000500
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**	**0.1**	**0**	**0**	**0**	**0.1**

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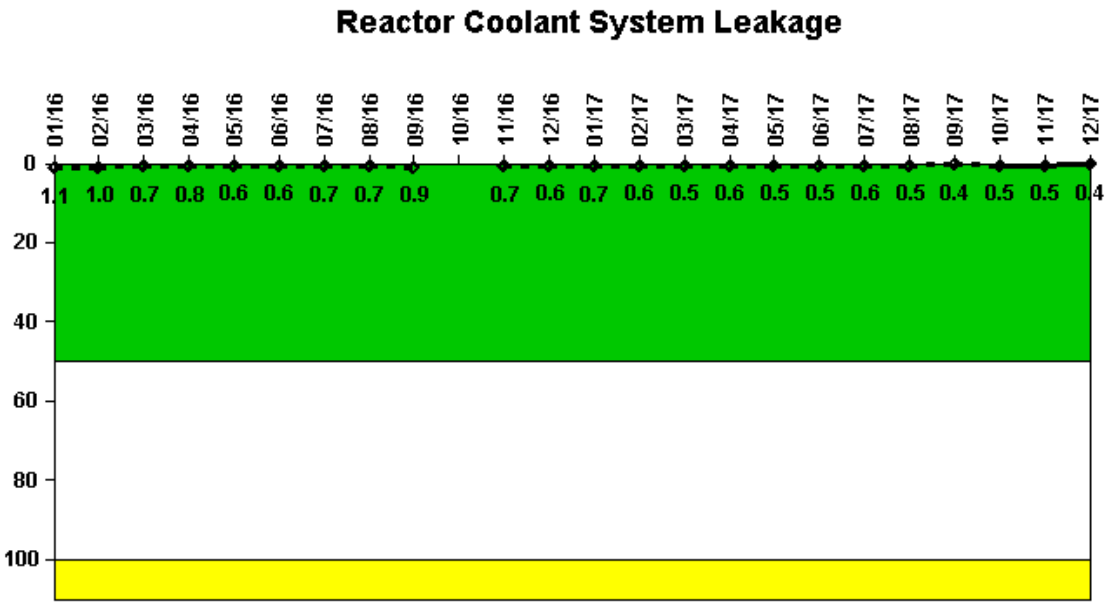
Licensee Comments:
3/17: Indication of fuel defect present.



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	0.105	0.095	0.065	0.075	0.055	0.055	0.065	0.065	0.085	N/A	0.069	0.059
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	**1.1**	**1.0**	**0.7**	**0.8**	**0.6**	**0.6**	**0.7**	**0.7**	**0.9**	**N/A**	**0.7**	**0.6**
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	0.069	0.059	0.049	0.059	0.049	0.049	0.059	0.049	0.039	0.048	0.046	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	**0.7**	**0.6**	**0.5**	**0.6**	**0.5**	**0.5**	**0.6**	**0.5**	**0.4**	**0.5**	**0.5**	**0.4**

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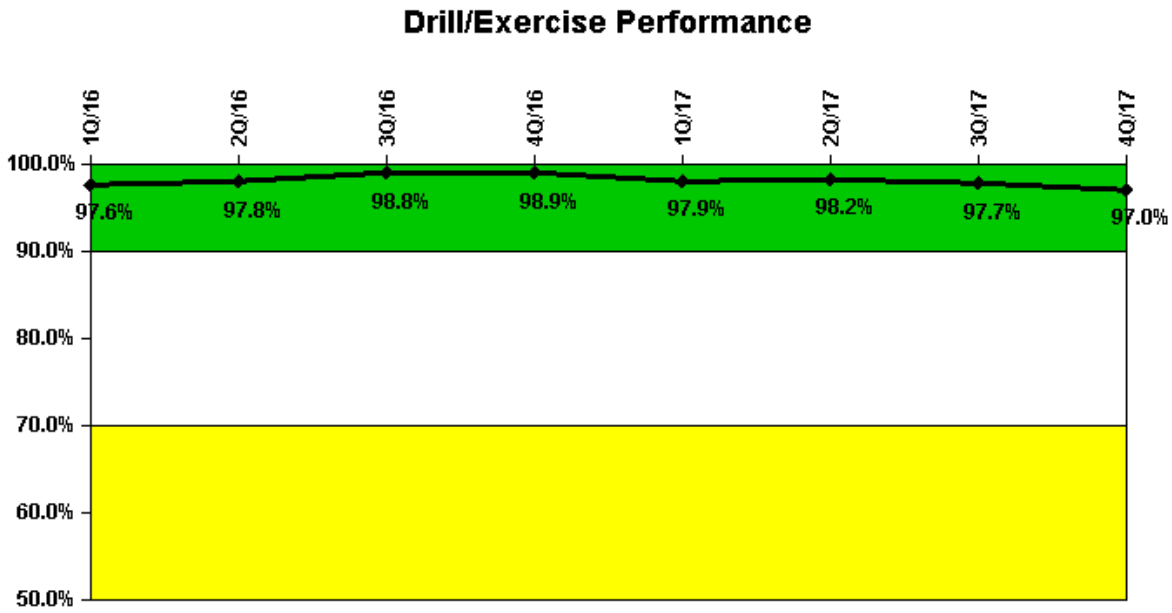
Licensee Comments: none



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	36.0	27.0	8.0	14.0	43.0	49.0	22.0	28.0
Total opportunities	37.0	27.0	8.0	14.0	44.0	50.0	24.0	30.0
Indicator value	**97.6%**	**97.8%**	**98.8%**	**98.9%**	**97.9%**	**98.2%**	**97.7%**	**97.0%**

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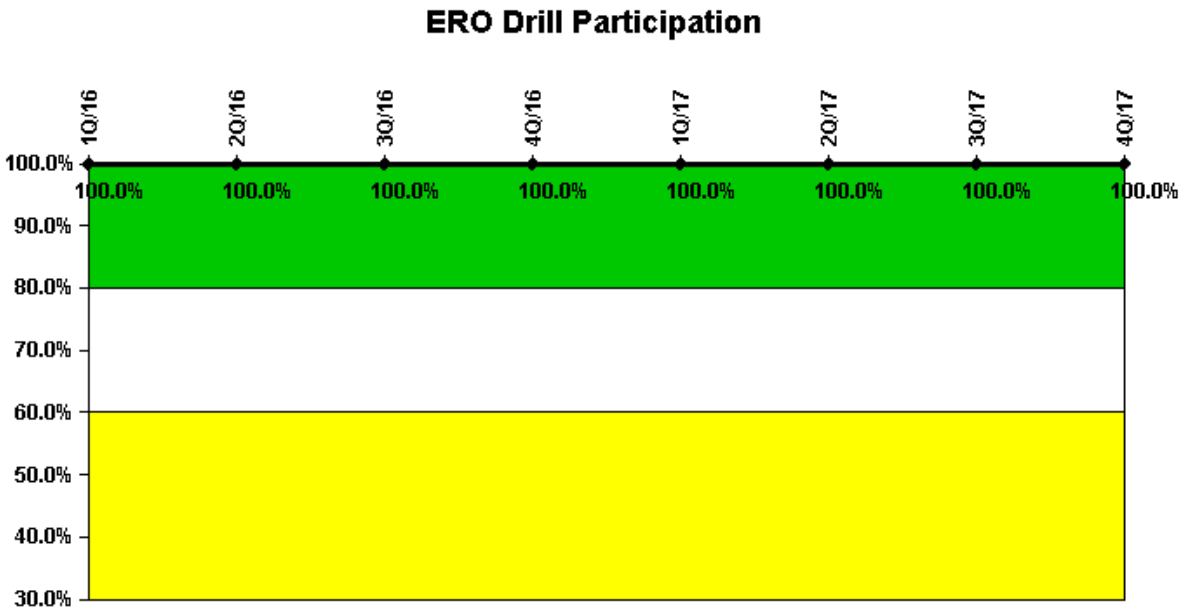
Licensee Comments: none



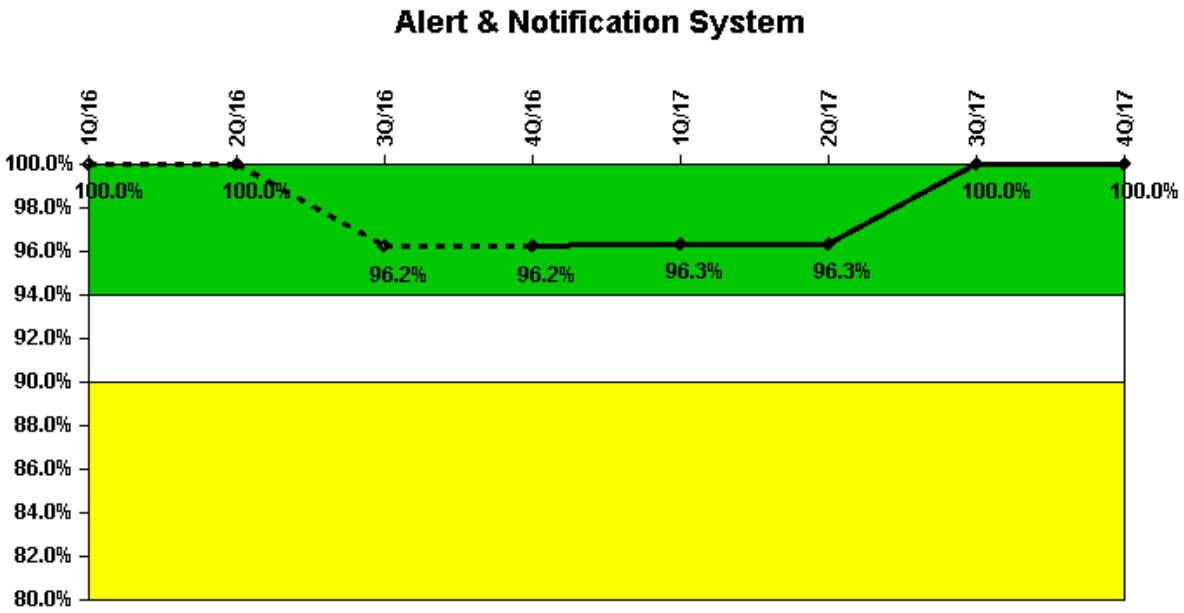
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Participating Key personnel	75.0	76.0	82.0	83.0	77.0	80.0	82.0	84.0
Total Key personnel	75.0	76.0	82.0	83.0	77.0	80.0	82.0	84.0
Indicator value	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

TOP

Licensee Comments: none



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	77	66	66	66	88	66	77	66
Total sirens-tests	77	66	77	66	88	66	77	66
Indicator value	**100.0%**	**100.0%**	**96.2%**	**96.2%**	**96.3%**	**96.3%**	**100.0%**	**100.0%**

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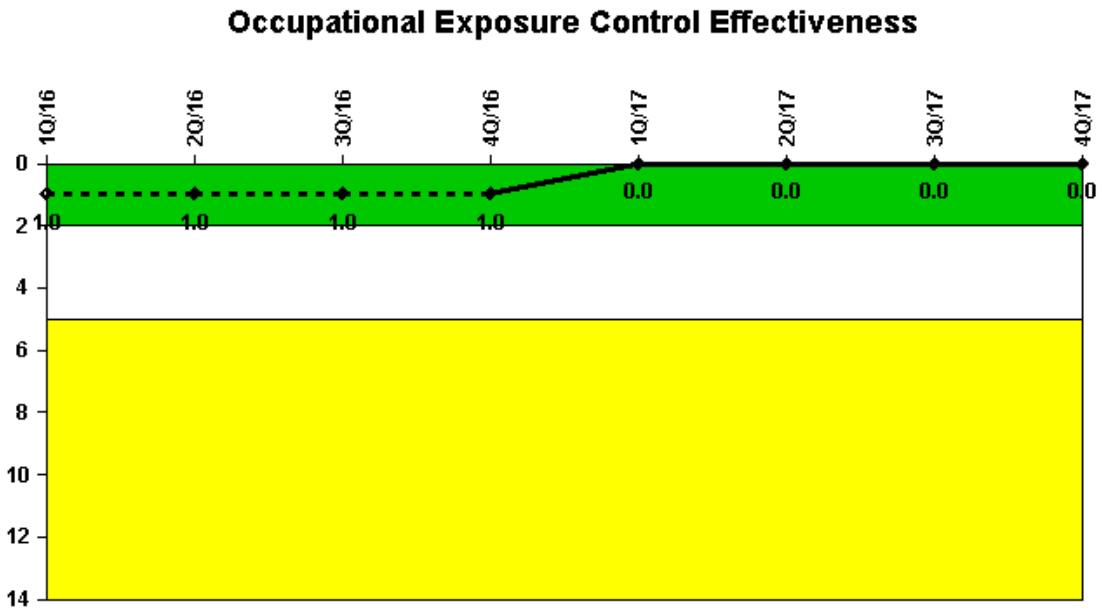
Licensee Comments:
3Q/16: August 2016 E-Plan siren failure due to county console failure.



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	1	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	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**

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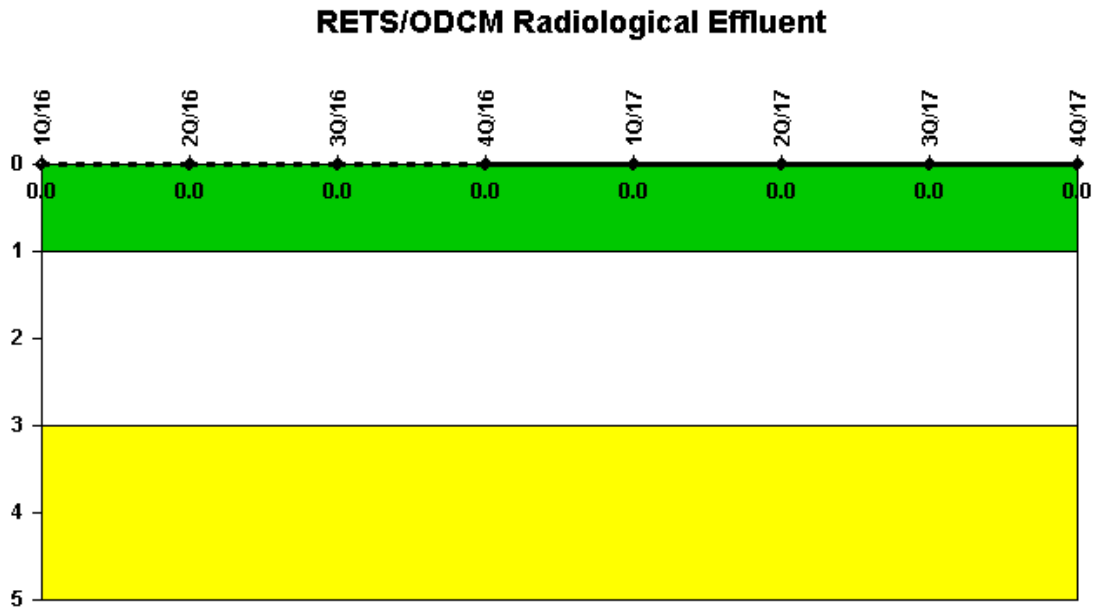
Licensee Comments: none



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