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## Salem 1 – Quarterly Performance Indicators

### 2Q/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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- Emergency AC Power Systems (MS06)
- High Pressure Injection Systems (MS07)
- Heat Removal Systems (MS08)
- Residual Heat Removal Systems (MS09)
- 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

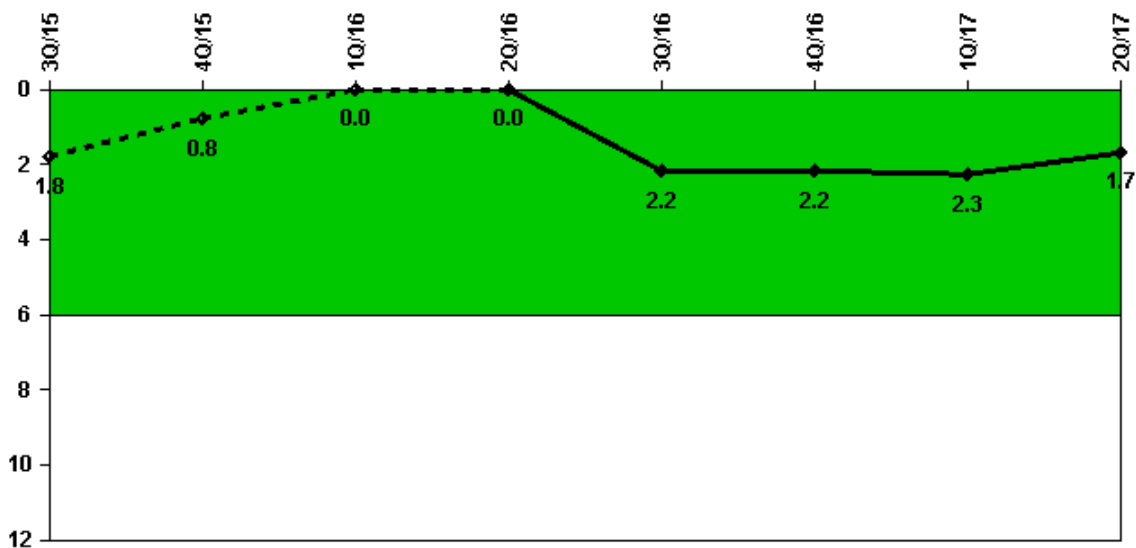
#### Notes

Unplanned Scrams per 7000 Critical Hrs	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2208.0	2209.0	2183.0	332.0	1531.6	2209.0	2115.4	2184.0
<b>Indicator value</b>	<b>0.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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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	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Unplanned power changes	0	0	0	0	2.0	0	0	0
Critical hours	2208.0	2209.0	2183.0	332.0	1531.6	2209.0	2115.4	2184.0

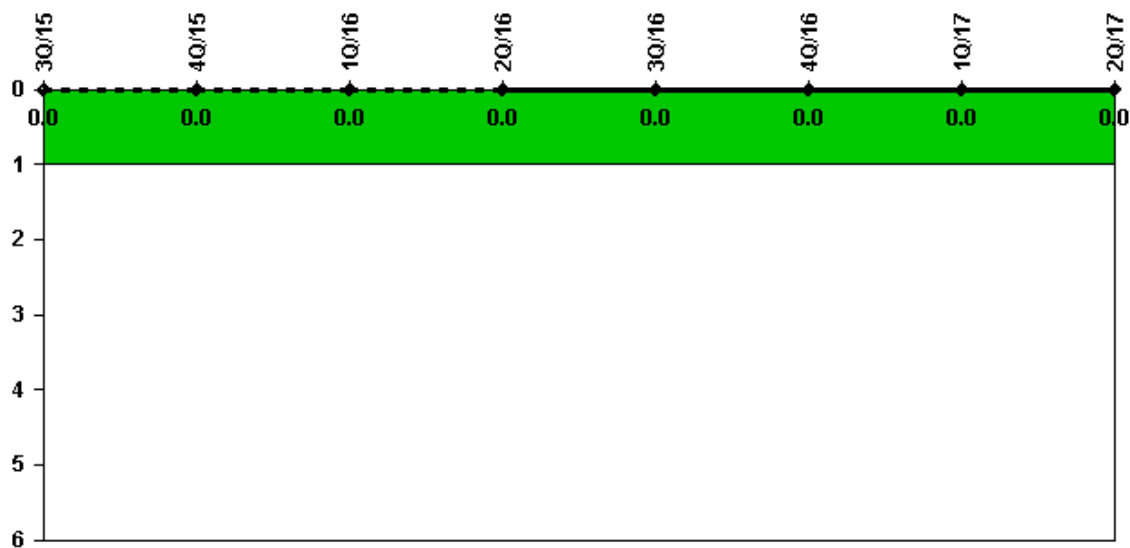
Indicator value	1.8	0.8	0	0	2.2	2.2	2.3	1.7
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#### Licensee Comments:

3Q/15: On 9/4/15, NRC issued Emergency License Amendment Request (LAR) No. 310, which removed the pressurizer power operated relief valve position indication from the accident monitoring instrumentation tech specs. Issuance of this emergency LAR eliminated the need to perform a tech spec required shutdown due to a PART 21 issue associated with position indication limit switches.

### Unplanned Scrams with Complications



Thresholds: White > 1.0

#### Notes

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

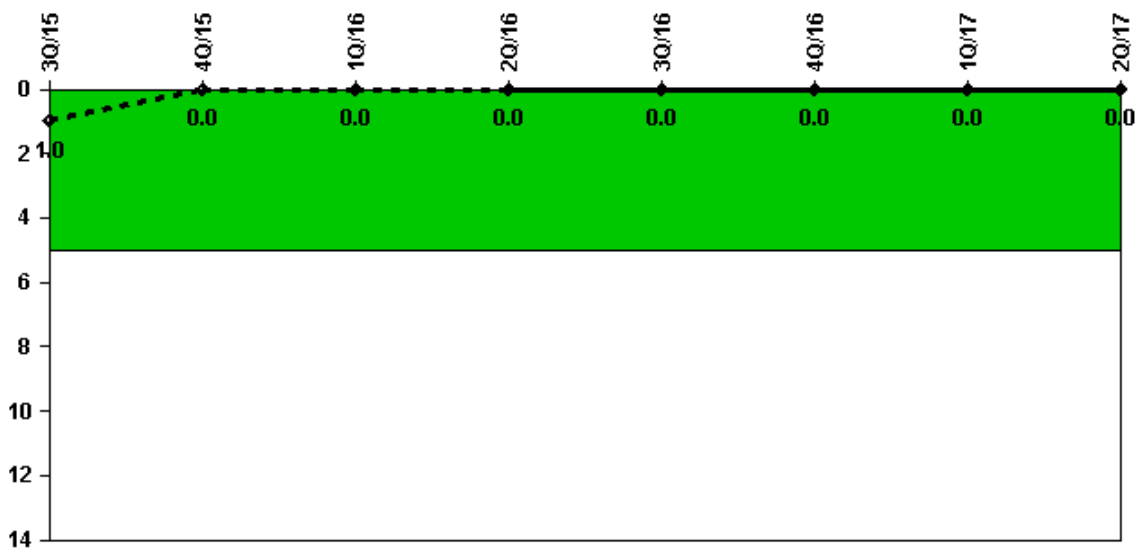
Scrams with complications 0 0 0 0 0 0 0 0

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

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

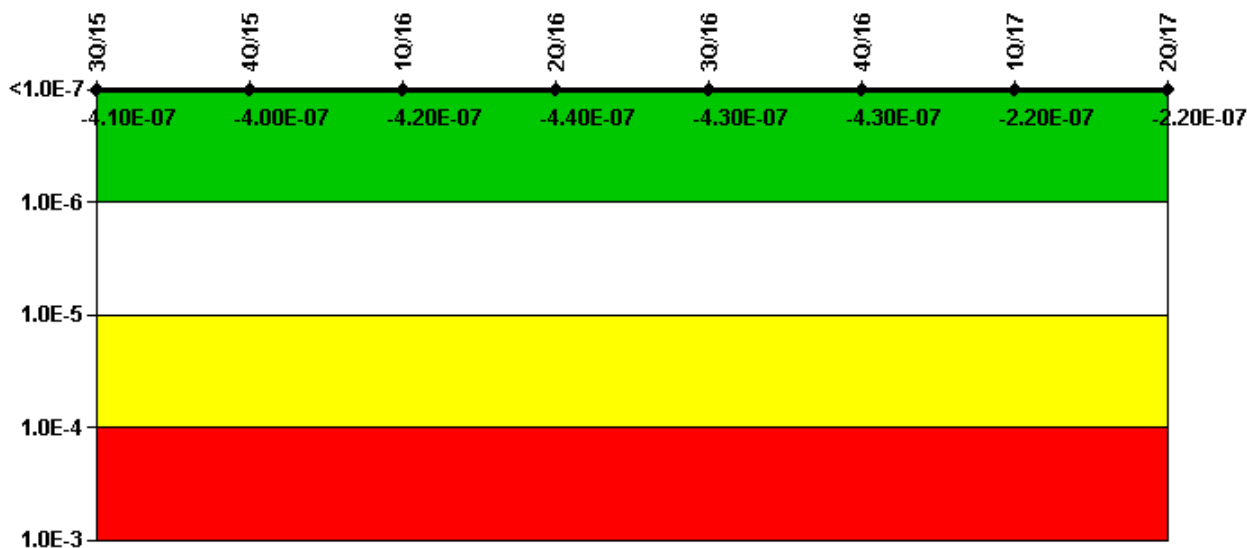
Indicator value 1 0 0 0 0 0 0 0

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#### Licensee Comments:

3Q/15: LER 272/2015-001-002 - Evaluation determined that a SSFF did not occur, therefore PSEG is removing the 10 CFR 50.73(a)(2)(v)(C) reporting criterion from the LER, and has removed the 1Q15 SSFF from the MS05 Performance Indicator. This change does not cause a change in PI color, which remains green.

### 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

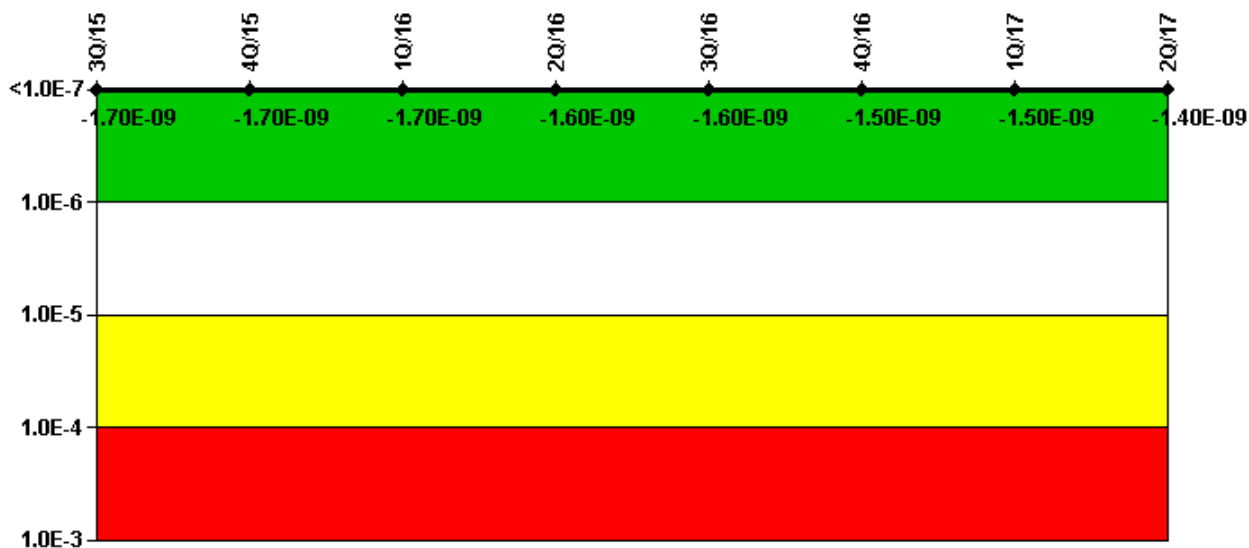
	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (ΔCDF)	-1.42E-07	-1.42E-07	-1.42E-07	-1.41E-07	-1.40E-07	-1.40E-07	-7.62E-08	-7.63E-08
URI (ΔCDF)	-2.65E-07	-2.63E-07	-2.76E-07	-2.96E-07	-2.93E-07	-2.94E-07	-1.45E-07	-1.44E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-4.10E-07	-4.00E-07	-4.20E-07	-4.40E-07	-4.30E-07	-4.30E-07	-2.20E-07	-2.20E-07

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#### Licensee Comments:

- 1Q/17: Changed PRA Parameter(s).
- 4Q/16: Risk Cap Invoked.
- 3Q/16: Risk Cap Invoked.
- 2Q/16: Risk Cap Invoked.
- 1Q/16: Risk Cap Invoked.
- 4Q/15: Risk Cap Invoked.
- 3Q/15: Risk Cap Invoked.

### 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

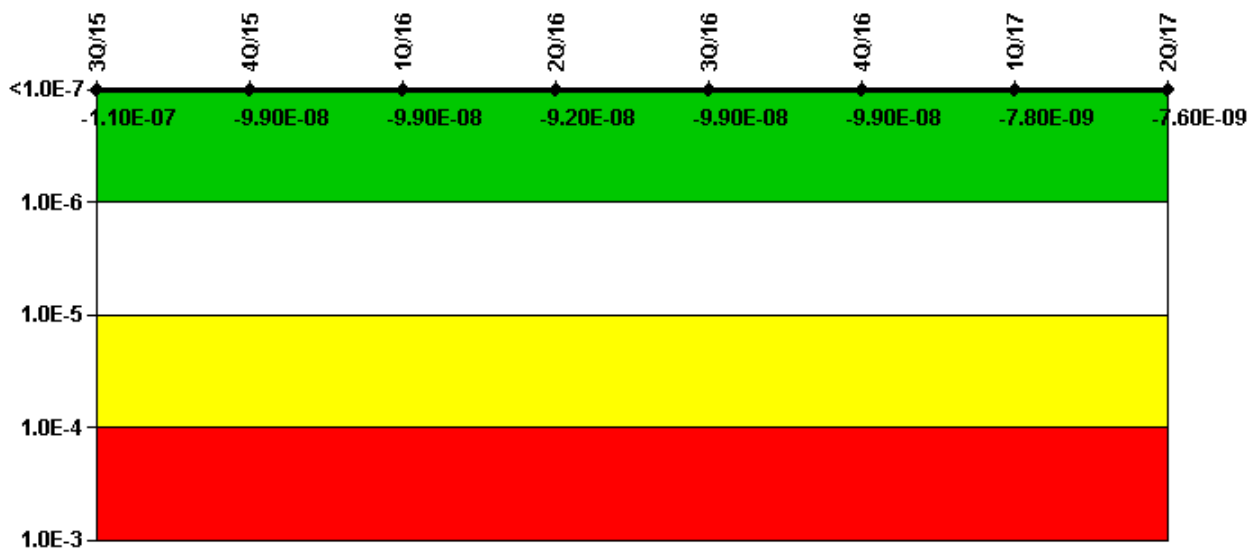
	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI ( $\Delta$ CDF)	-4.19E-10	-4.20E-10	-4.30E-10	-4.14E-10	-4.03E-10	-3.56E-10	-7.76E-10	-7.80E-10
URI ( $\Delta$ CDF)	-1.29E-09	-1.28E-09	-1.25E-09	-1.22E-09	-1.19E-09	-1.14E-09	-7.37E-10	-6.66E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.70E-09	-1.70E-09	-1.70E-09	-1.60E-09	-1.60E-09	-1.50E-09	-1.50E-09	-1.40E-09

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Licensee Comments:

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

### 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

	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI ( $\Delta$ CDF)	-1.72E-08	-1.72E-08	-1.72E-08	-1.72E-08	-1.72E-08	-1.72E-08	-1.40E-09	-1.40E-09
URI ( $\Delta$ CDF)	-8.85E-08	-8.18E-08	-8.18E-08	-7.46E-08	-8.19E-08	-8.19E-08	-6.41E-09	-6.23E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.10E-07</b>	<b>-9.90E-08</b>	<b>-9.90E-08</b>	<b>-9.20E-08</b>	<b>-9.90E-08</b>	<b>-9.90E-08</b>	<b>-7.80E-09</b>	<b>-7.60E-09</b>

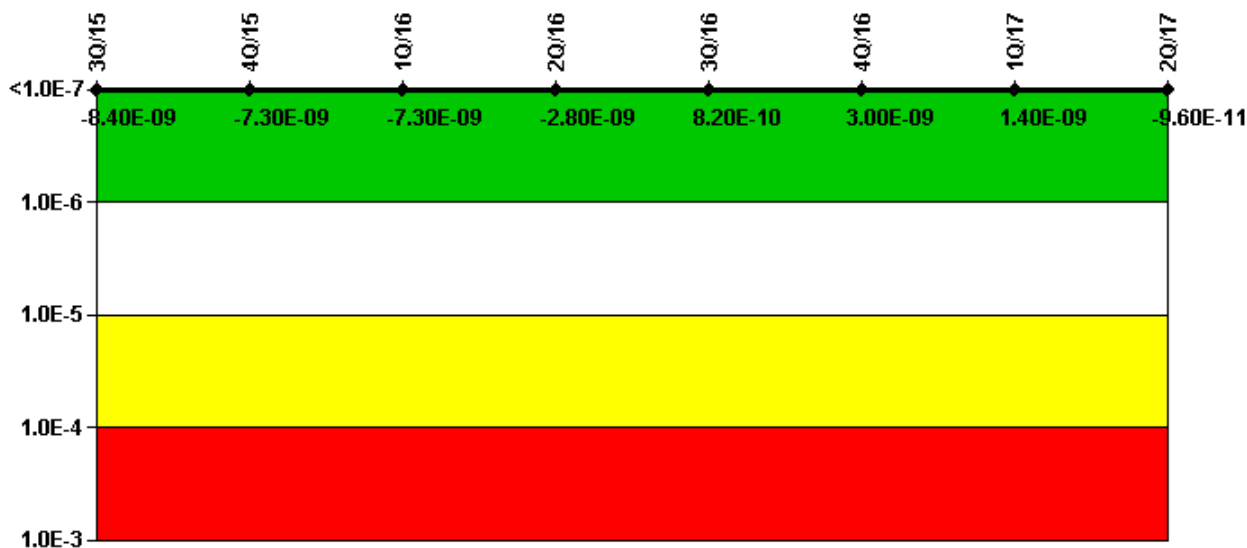
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Licensee Comments:

1Q/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**

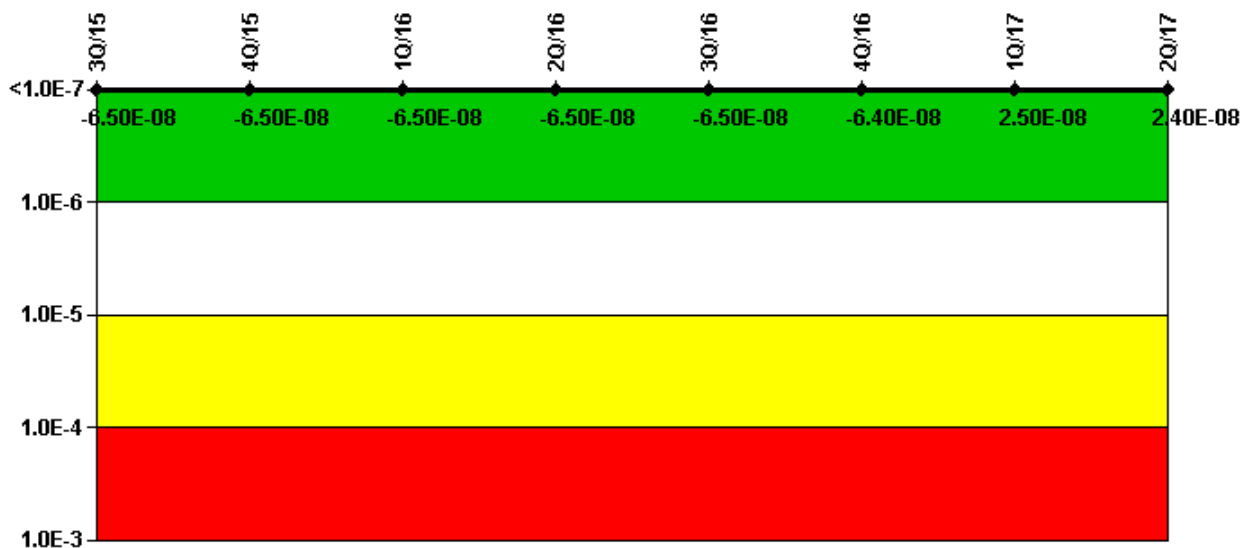
	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (ΔCDF)	9.12E-09	1.03E-08	1.02E-08	1.39E-08	1.88E-08	2.11E-08	1.41E-08	1.26E-08
URI (ΔCDF)	-1.76E-08	-1.76E-08	-1.76E-08	-1.67E-08	-1.80E-08	-1.81E-08	-1.27E-08	-1.27E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-8.40E-09</b>	<b>-7.30E-09</b>	<b>-7.30E-09</b>	<b>-2.80E-09</b>	<b>8.20E-10</b>	<b>3.00E-09</b>	<b>1.40E-09</b>	<b>-9.60E-11</b>

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Licensee Comments:

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

### 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

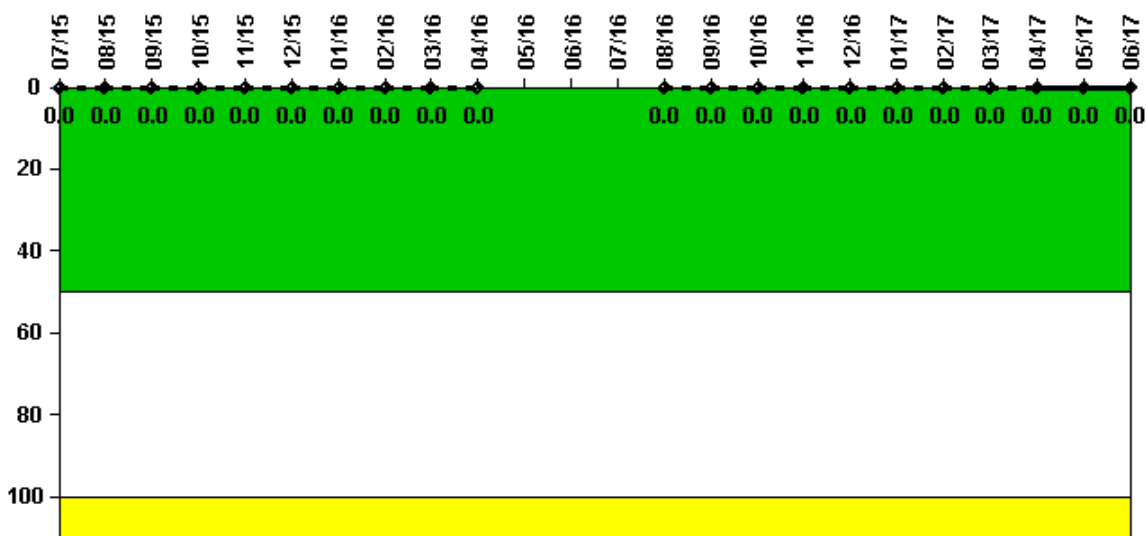
	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI ( $\Delta$ CDF)	-2.81E-08	-2.81E-08	-2.81E-08	-2.81E-08	-2.81E-08	-2.78E-08	6.15E-08	6.08E-08
URI ( $\Delta$ CDF)	-3.66E-08	-3.66E-08	-3.66E-08	-3.66E-08	-3.66E-08	-3.66E-08	-3.67E-08	-3.67E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-6.50E-08</b>	<b>-6.50E-08</b>	<b>-6.50E-08</b>	<b>-6.50E-08</b>	<b>-6.50E-08</b>	<b>-6.40E-08</b>	<b>2.50E-08</b>	<b>2.40E-08</b>

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Licensee Comments:

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

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

#### Notes

#### Reactor Coolant System Activity

	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16
Maximum activity	0.000216	0.000077	0.000084	0.000101	0.000148	0.000102	0.000187	0.000142	0.000097	0.000183	N/A	N/A
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 N/A N/A

#### Reactor Coolant System Activity

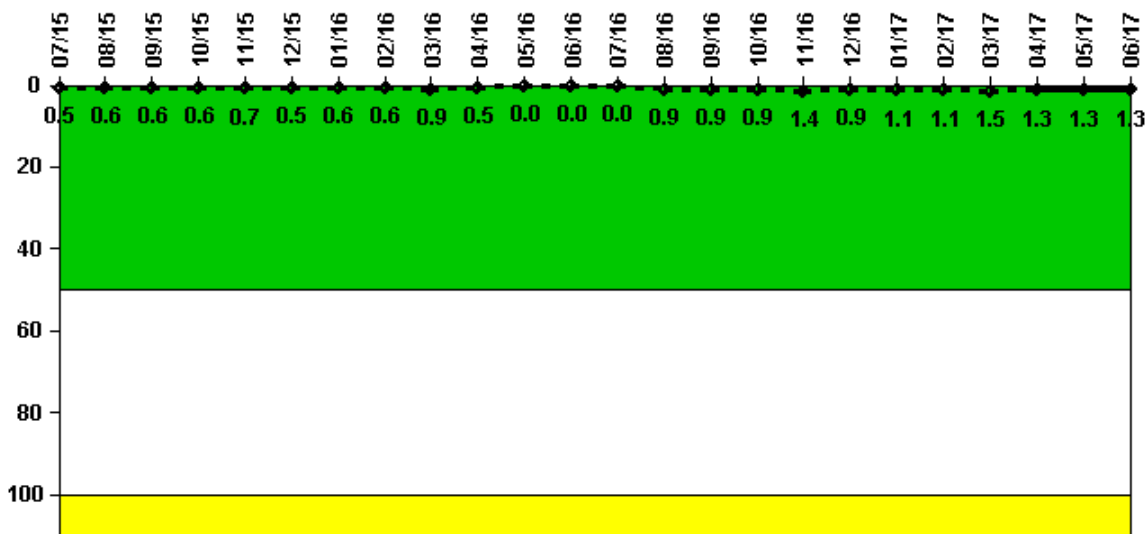
	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17
Maximum activity	N/A	0.000050	0.000100	0.000046	0.000048	0.000049	0.000054	0.000052	0.000055	0.000059	0.000065	0.000061
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Indicator value N/A 0 0 0 0 0 0 0 0 0 0 0 0

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Licensee Comments: none

### Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

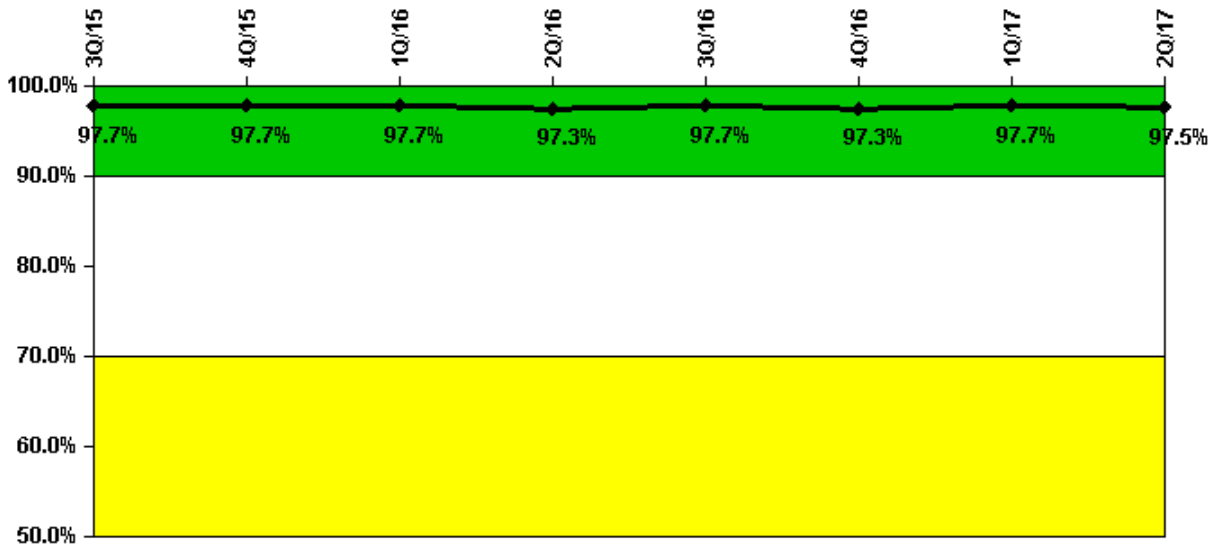
#### Notes

Reactor Coolant System Leakage	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16
Maximum leakage	0.050	0.057	0.055	0.058	0.071	0.052	0.058	0.055	0.090	0.051	0	0
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
<b>Indicator value</b>	<b>0.5</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.7</b>	<b>0.5</b>	<b>0.6</b>	<b>0.6</b>	<b>0.9</b>	<b>0.5</b>	<b>0</b>	<b>0</b>
Reactor Coolant System Leakage	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17
Maximum leakage	0	0.088	0.085	0.088	0.144	0.087	0.114	0.107	0.151	0.129	0.127	0.131
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
<b>Indicator value</b>	<b>0</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>1.4</b>	<b>0.9</b>	<b>1.1</b>	<b>1.1</b>	<b>1.5</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>

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Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

Drill/Exercise Performance	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Successful opportunities	41.0	31.0	38.0	34.0	66.0	19.0	42.0	38.0
Total opportunities	41.0	32.0	39.0	36.0	66.0	20.0	43.0	40.0

**Indicator value**                    97.7% 97.7% 97.7% 97.3% 97.7% 97.3% 97.7% 97.5%

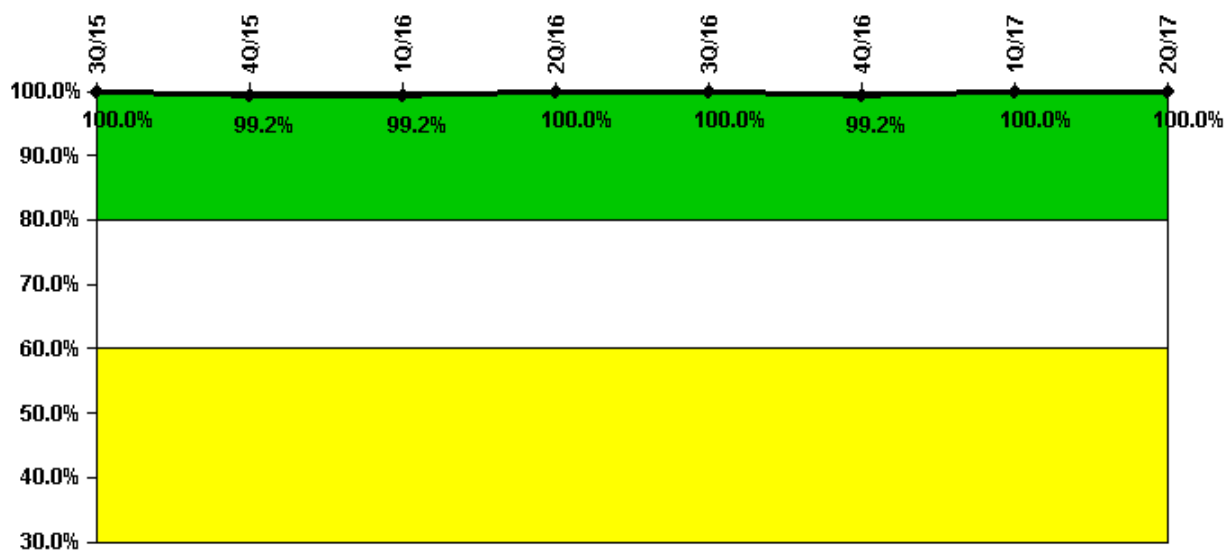
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#### Licensee Comments:

4Q/16: Reported opportunities differ from documented opportunities due to Licensed Operator Requalification Training Exam Security process. No failures related to the opportunities. No color change.

3Q/16: Reported opportunities differ from documented opportunities due to Licensed Operator Requalification Training Exam Security process. No failures related to the opportunities. No color change.

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

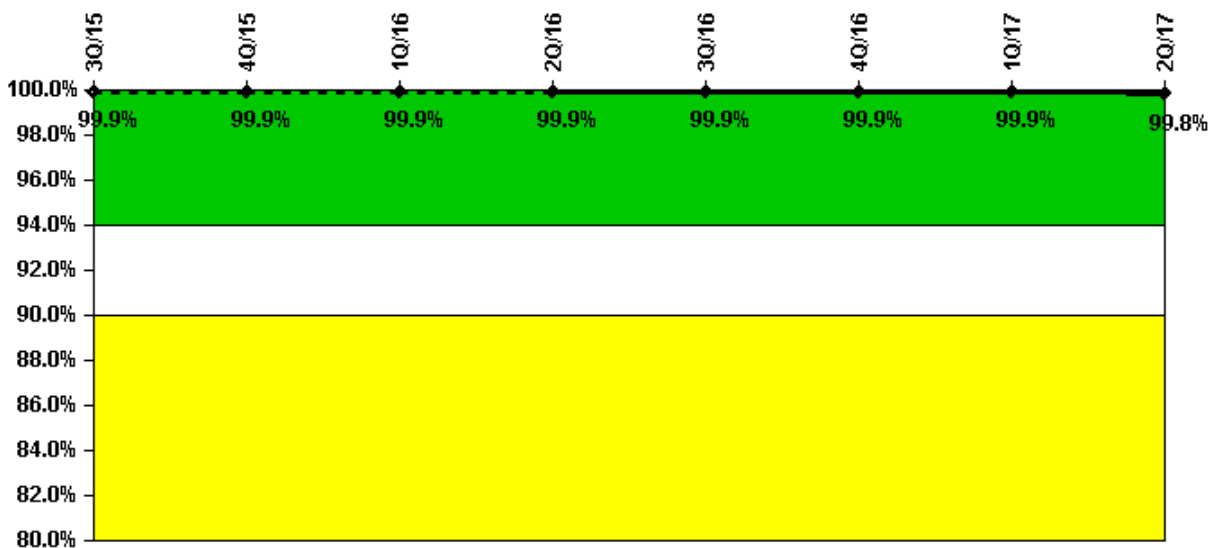
ERO Drill Participation	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Participating Key personnel	125.0	119.0	119.0	118.0	126.0	129.0	124.0	124.0
Total Key personnel	125.0	120.0	120.0	118.0	126.0	130.0	124.0	124.0

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

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Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

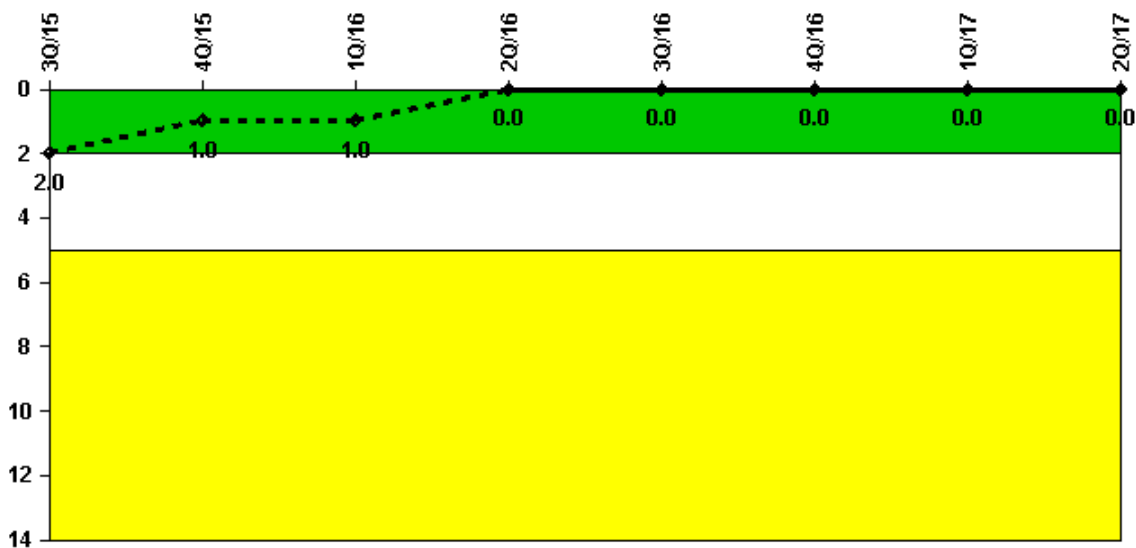
Alert & Notification System	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Successful siren-tests	496	496	497	497	496	497	497	495
Total sirens-tests	497	497	497	497	497	497	497	497

**Indicator value**                    **99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.8%**

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Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

#### Notes

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

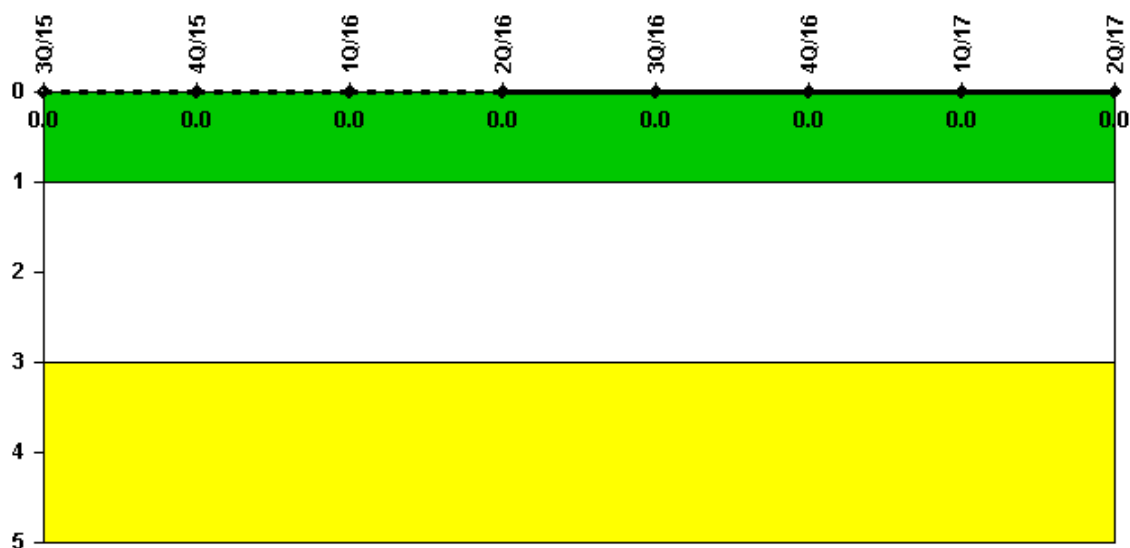
High radiation area occurrences	0	0	0	0	0	0	0	0
Very high radiation area occurrences	0	0	0	0	0	0	0	0
Unintended exposure occurrences	0	0	0	0	0	0	0	0
<b>Indicator value</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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Licensee Comments: none



### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

#### Notes

RETS/ODCM Radiological Effluent 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/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: July 26, 2017

Page Last Reviewed/Updated Wednesday, June 07, 2017