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## Fermi 2 – Quarterly Performance Indicators

### 3Q/2017 Performance Indicators

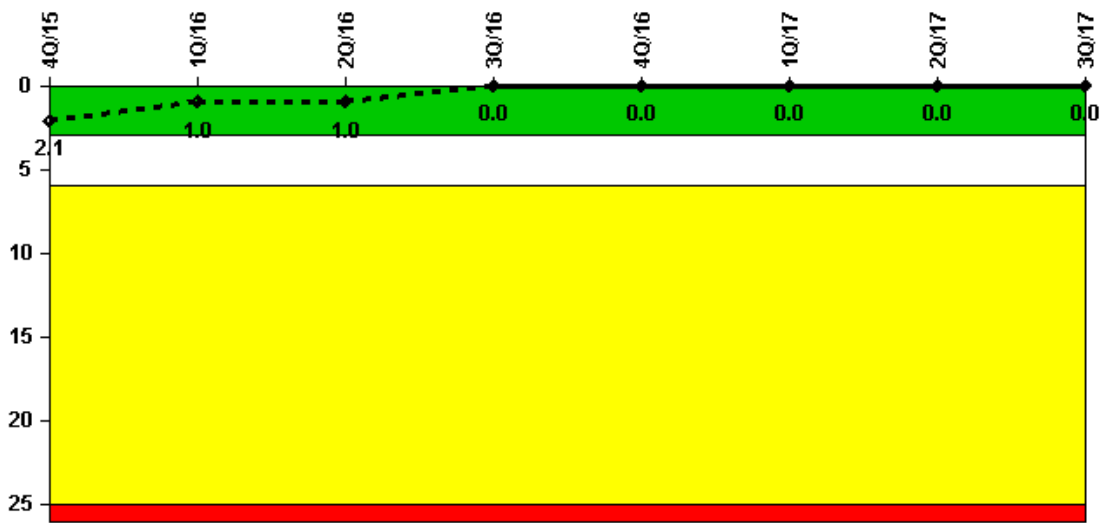
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

- Unplanned Scrams (IE01)
- Unplanned Power Changes per 7000 Critical Hours (IE03)
- Unplanned Scrams with Complications (IE04)
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- Emergency AC Power Systems (MS06)
- High Pressure Injection Systems (MS07)
- Heat Removal Systems (MS08)
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- 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

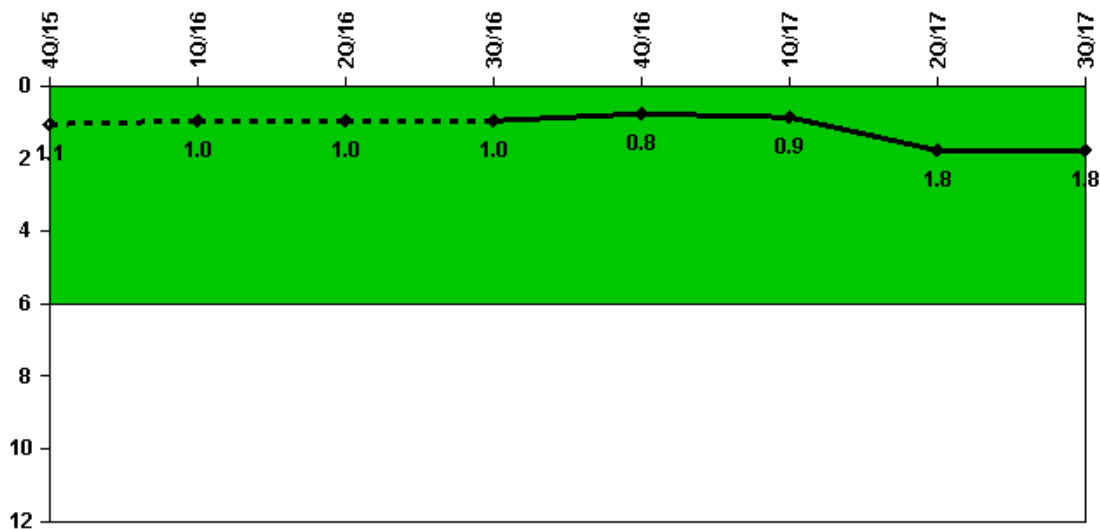
Unplanned Scrams per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	867.1	2183.0	1969.9	2208.0	2088.3	1826.0	1748.4	2208.0

Indicator value	2.1	1.0	1.0	0	0	0	0	0
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Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

**Notes**

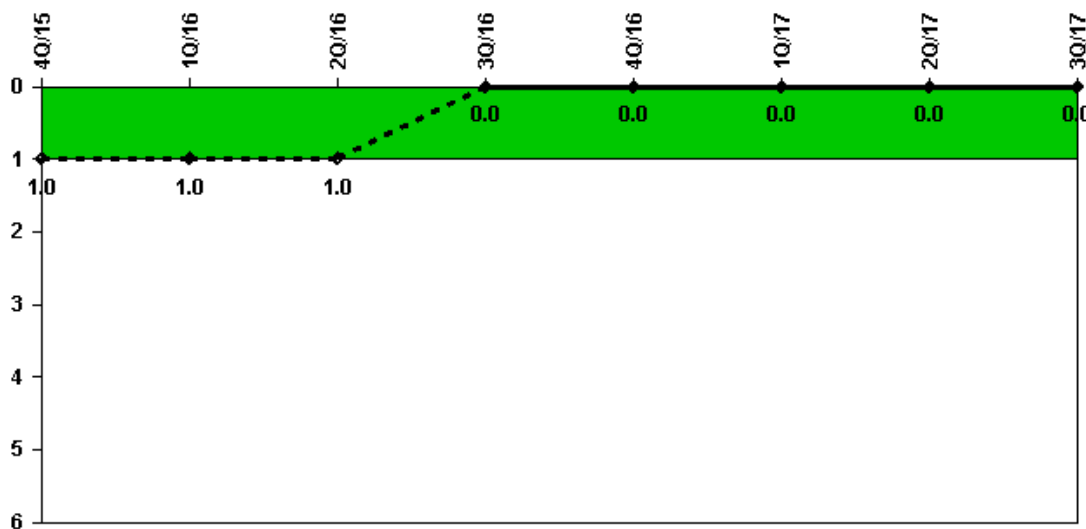
Unplanned Power Changes per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned power changes	0	1.0	0	0	0	1.0	1.0	0
Critical hours	867.1	2183.0	1969.9	2208.0	2088.3	1826.0	1748.4	2208.0

Indicator value	1.1	1.0	1.0	1.0	0.8	0.9	1.8	1.8
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Licensee Comments: none

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

**Notes**

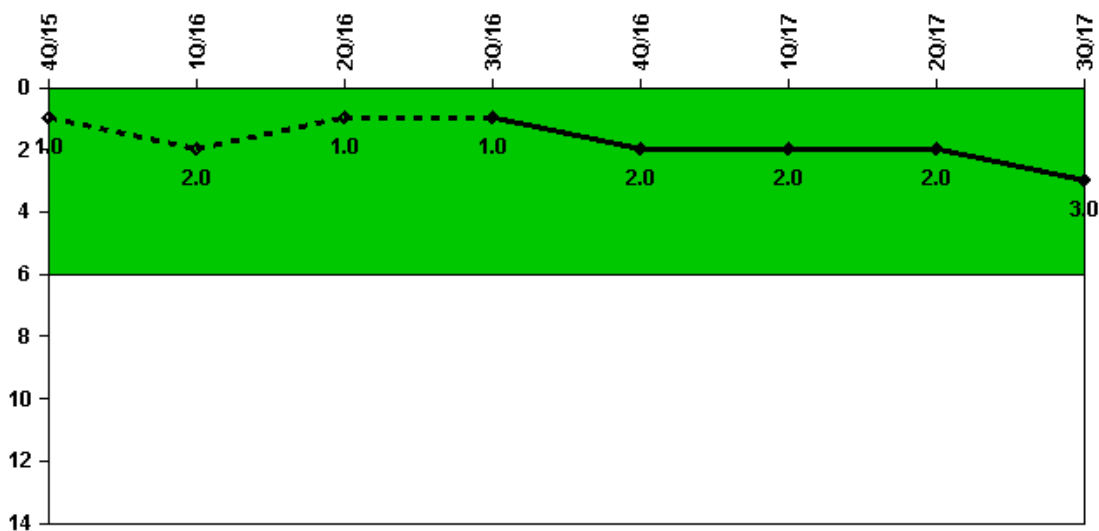
Unplanned Scrams with Complications	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Scrams with complications	0	0	0	0	0	0	0	0

Indicator value	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
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Licensee Comments: none

### Safety System Functional Failures (BWR)



Thresholds: White > 6.0

**Notes**

**Safety System Functional Failures (BWR)** 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

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

**Indicator value** 1 2 1 1 2 2 2 3

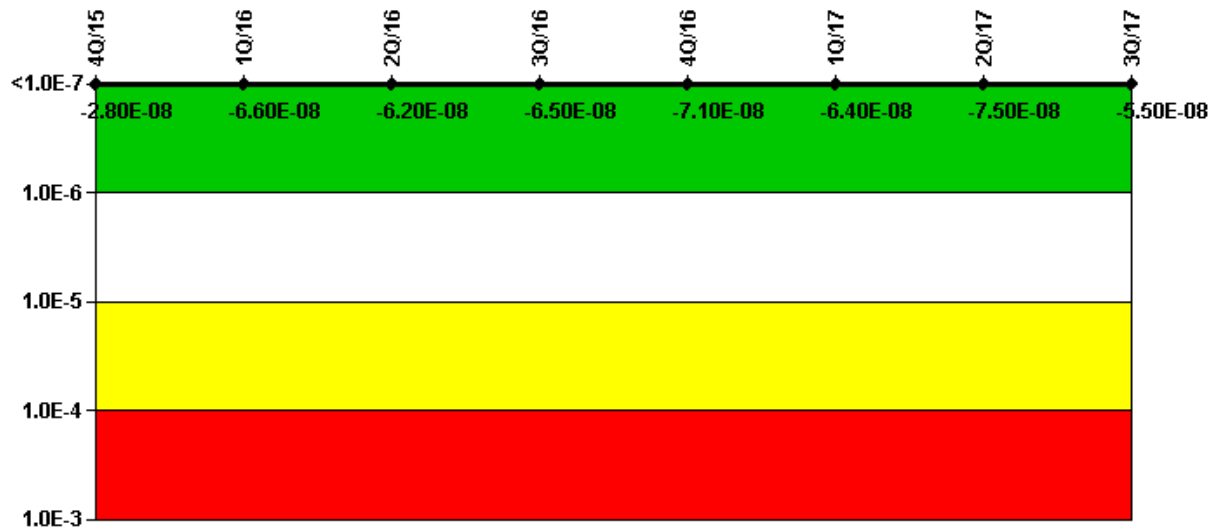
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Licensee Comments:

3Q/17: LER 2017-003, Division 2 Residual Heat Removal Service Water System (RHRSW) Inoperable Due to an Inoperable RHRSW Flow Control Valve

1Q/17: LER 2017-001

### Mitigating Systems Performance Index, Emergency AC Power System



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

**Notes**

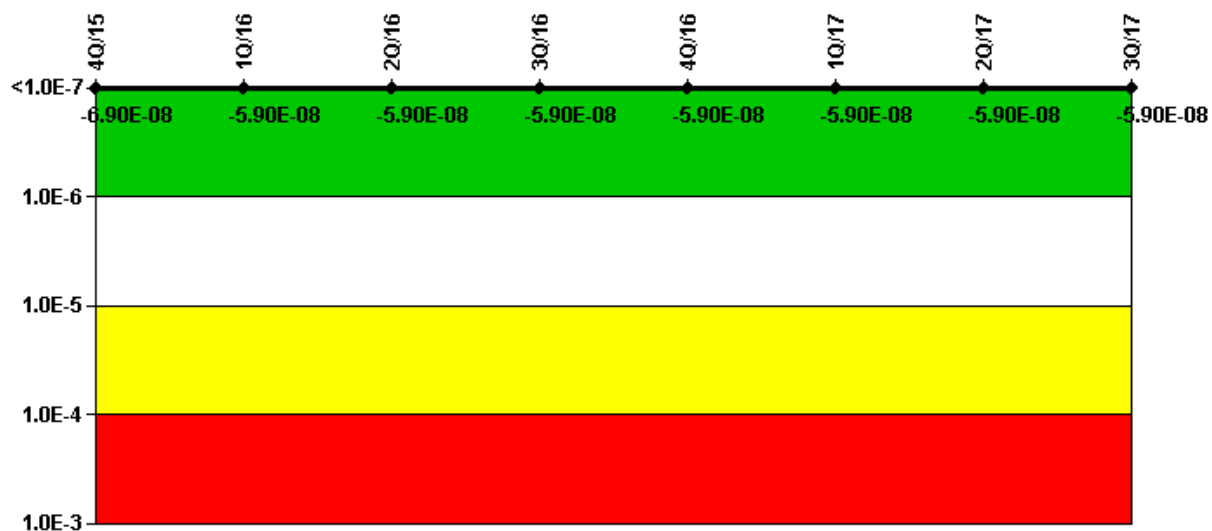
**Mitigating Systems Performance Index, Emergency AC Power System**

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	5.96E-09	1.15E-08	1.52E-08	1.22E-08	6.48E-09	1.31E-08	2.67E-09	4.76E-09
URI (ΔCDF)	-3.37E-08	-7.74E-08	-7.74E-08	-7.74E-08	-7.74E-08	-7.74E-08	-7.74E-08	-5.99E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-2.80E-08</b>	<b>-6.60E-08</b>	<b>-6.20E-08</b>	<b>-6.50E-08</b>	<b>-7.10E-08</b>	<b>-6.40E-08</b>	<b>-7.50E-08</b>	<b>-5.50E-08</b>

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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**

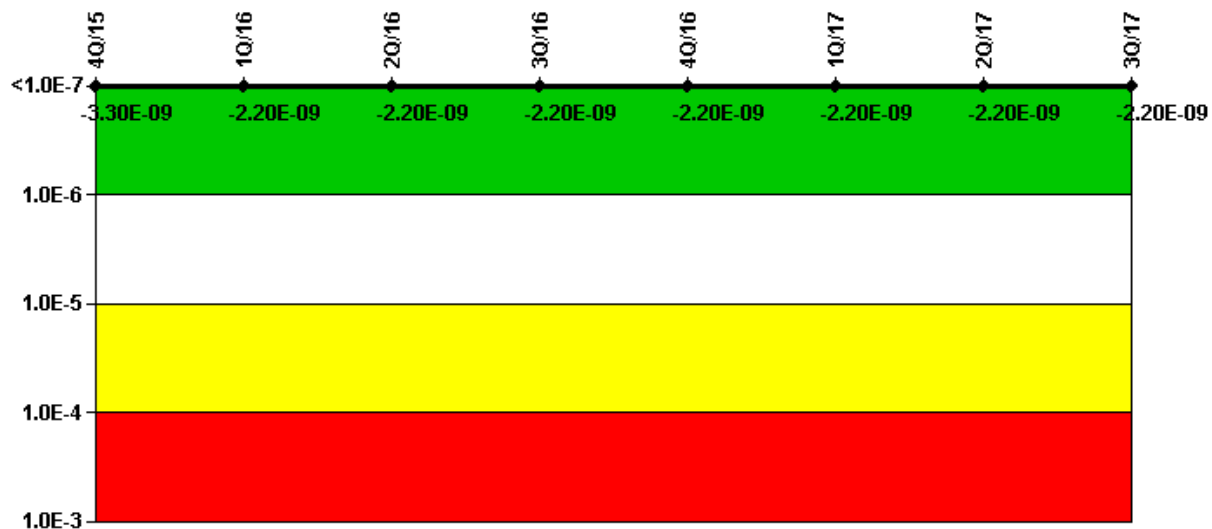
**Mitigating Systems Performance Index, High Pressure Injection System**

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	-2.63E-08	-2.15E-08	-2.15E-08	-2.15E-08	-2.15E-08	-2.15E-08	-2.15E-08	-2.15E-08
URI (ΔCDF)	-4.30E-08	-3.71E-08	-3.71E-08	-3.71E-08	-3.71E-08	-3.71E-08	-3.71E-08	-3.71E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-6.90E-08</b>	<b>-5.90E-08</b>	<b>-5.90E-08</b>	<b>-5.90E-08</b>	<b>-5.90E-08</b>	<b>-5.90E-08</b>	<b>-5.90E-08</b>	<b>-5.90E-08</b>

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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**

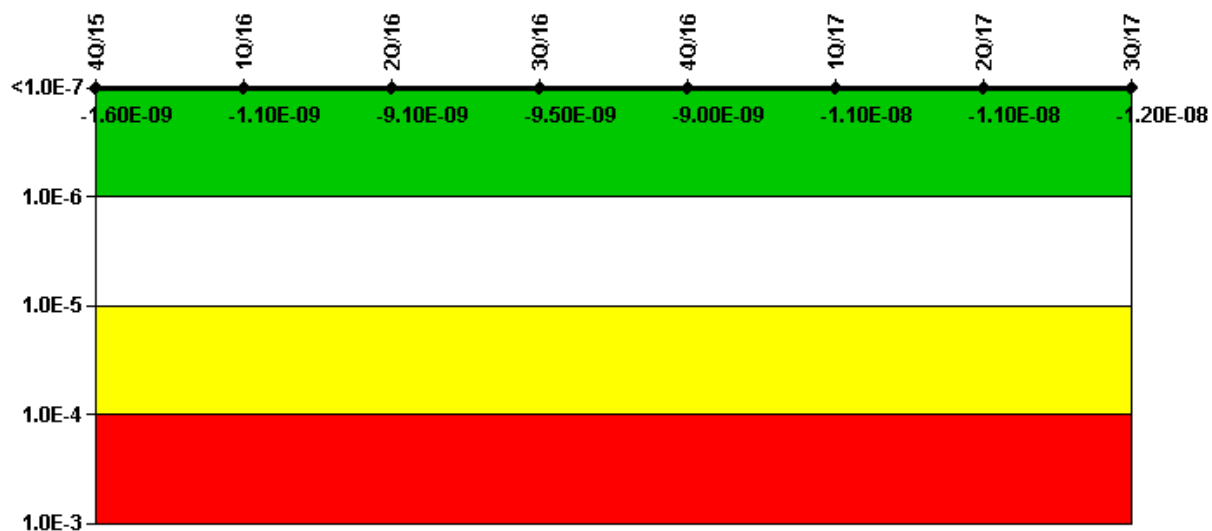
	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI ( $\Delta$ CDF)	-9.25E-10	-6.68E-10	-6.68E-10	-6.68E-10	-6.68E-10	-6.68E-10	-6.68E-10	-6.68E-10
URI ( $\Delta$ CDF)	-2.33E-09	-1.54E-09	-1.55E-09	-1.55E-09	-1.55E-09	-1.55E-09	-1.55E-09	-1.55E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-3.30E-09</b>	<b>-2.20E-09</b>	<b>-2.20E-09</b>	<b>-2.20E-09</b>	<b>-2.20E-09</b>	<b>-2.20E-09</b>	<b>-2.20E-09</b>	<b>-2.20E-09</b>

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Licensee Comments:

2Q/16: 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**

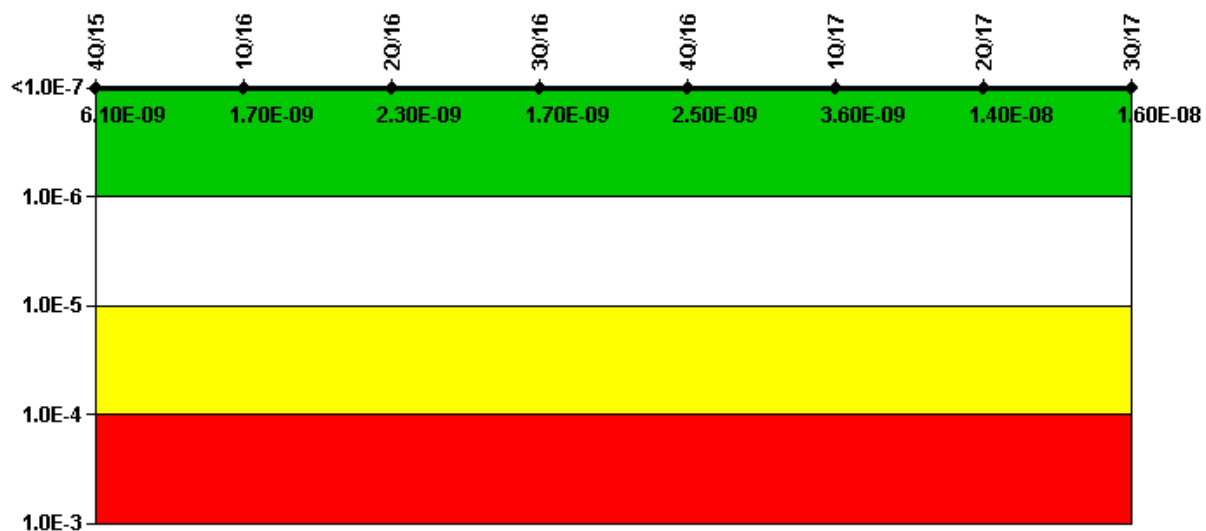
	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI (ΔCDF)	2.72E-09	9.64E-09	1.70E-09	1.28E-09	1.76E-09	-4.05E-10	-3.59E-10	-1.20E-09
URI (ΔCDF)	-4.30E-09	-1.08E-08	-1.08E-08	-1.08E-08	-1.08E-08	-1.08E-08	-1.08E-08	-1.08E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.60E-09</b>	<b>-1.10E-09</b>	<b>-9.10E-09</b>	<b>-9.50E-09</b>	<b>-9.00E-09</b>	<b>-1.10E-08</b>	<b>-1.10E-08</b>	<b>-1.20E-08</b>

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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**

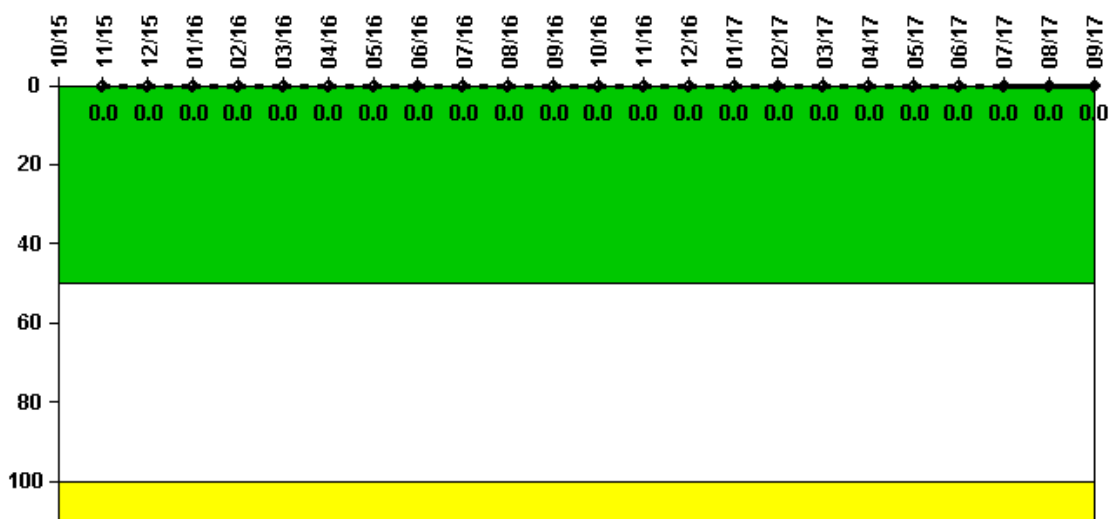
**Mitigating Systems Performance Index, Cooling Water Systems**

	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
UAI ( $\Delta$ CDF)	6.35E-09	2.33E-09	2.92E-09	2.25E-09	3.09E-09	4.15E-09	1.26E-08	1.53E-08
URI ( $\Delta$ CDF)	-2.59E-10	-5.89E-10	-5.89E-10	-5.89E-10	-5.89E-10	-5.89E-10	9.47E-10	9.47E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>6.10E-09</b>	<b>1.70E-09</b>	<b>2.30E-09</b>	<b>1.70E-09</b>	<b>2.50E-09</b>	<b>3.60E-09</b>	<b>1.40E-08</b>	<b>1.60E-08</b>

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Licensee Comments: none

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

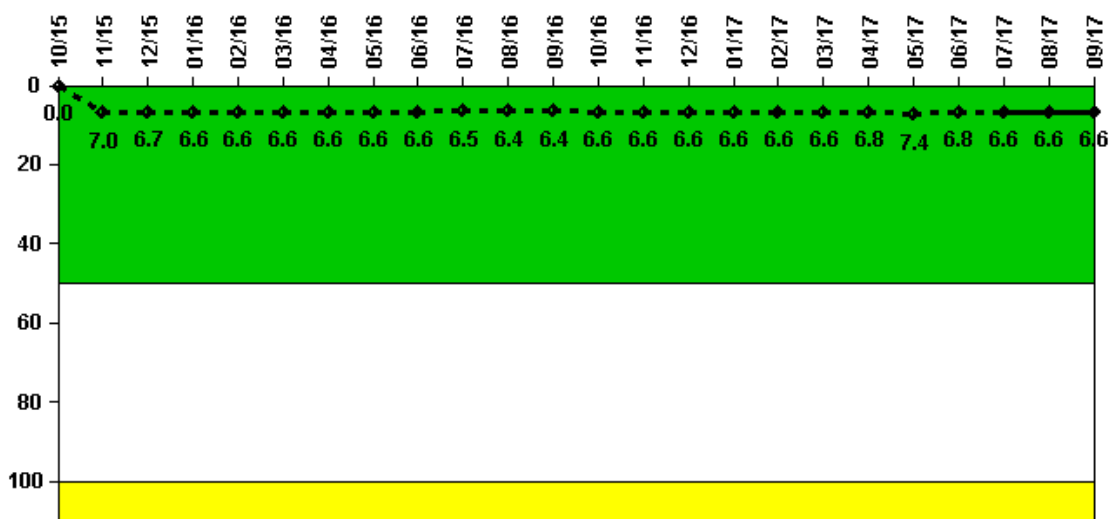
**Notes**

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	N/A	0.000006	0.000006	0.000007	0.000008	0.000008	0.000011	0.000009	0.000008	0.000014	0.000011	0.000008
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	0	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	0.000015	0.000005	0.000016	0.000011	0.000019	0.000018	0.000008	0.000010	0.000009	0.000010	0.000009	0.000011
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	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	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	1.750	1.680	1.650	1.640	1.640	1.640	1.650	1.650	1.630	1.610	1.610
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0

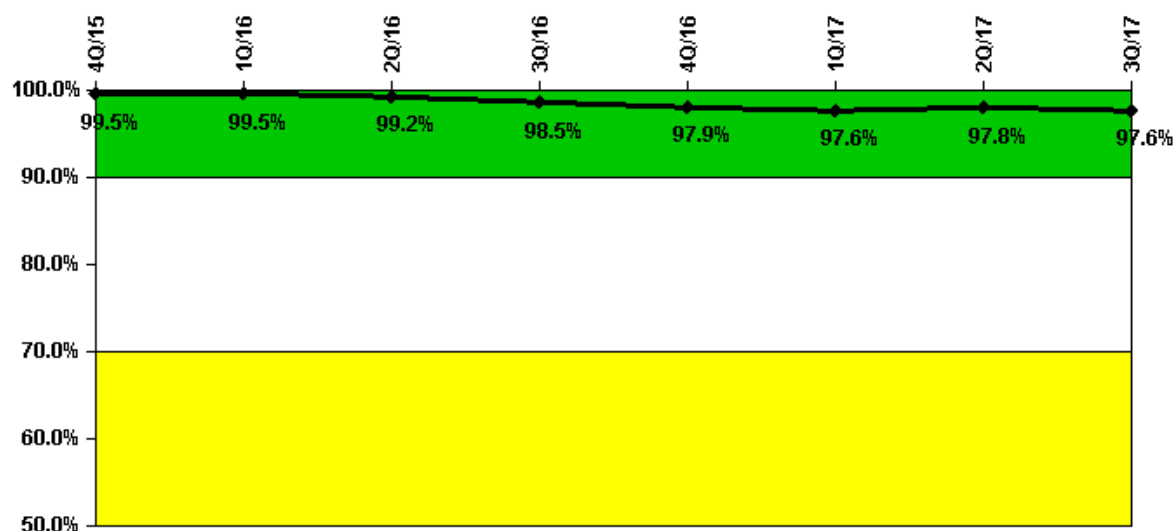
Indicator value	0	7.0	6.7	6.6	6.6	6.6	6.6	6.6	6.6	6.5	6.4	6.4
Reactor Coolant System Leakage	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum leakage	1.650	1.660	1.660	1.650	1.650	1.660	1.700	1.840	1.710	1.640	1.640	1.640
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0

Indicator value	6.6	6.6	6.6	6.6	6.6	6.6	6.8	7.4	6.8	6.6	6.6	6.6
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Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

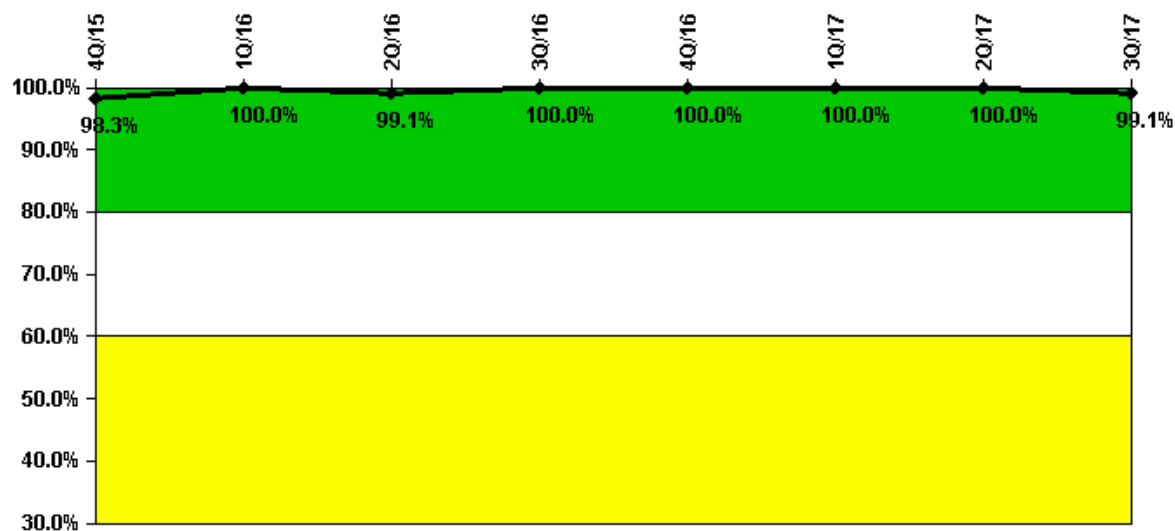
Drill/Exercise Performance	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful opportunities	22.0	24.0	46.0	41.0	56.0	18.0	100.0	12.0
Total opportunities	22.0	24.0	48.0	43.0	58.0	19.0	101.0	12.0

Indicator value                    99.5% 99.5% 99.2% 98.5% 97.9% 97.6% 97.8% 97.6%

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Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

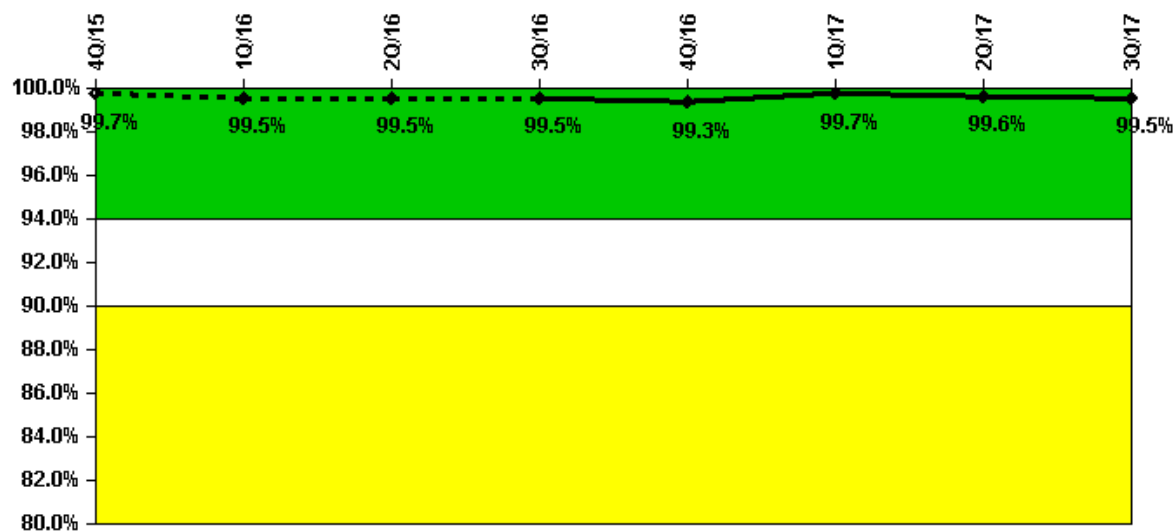
ERO Drill Participation	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Participating Key personnel	113.0	110.0	108.0	109.0	114.0	115.0	114.0	108.0
Total Key personnel	115.0	110.0	109.0	109.0	114.0	115.0	114.0	109.0

Indicator value            98.3% 100.0% 99.1% 100.0% 100.0% 100.0% 100.0% 100.0% 99.1%

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Licensee Comments: none

### Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

#### Notes

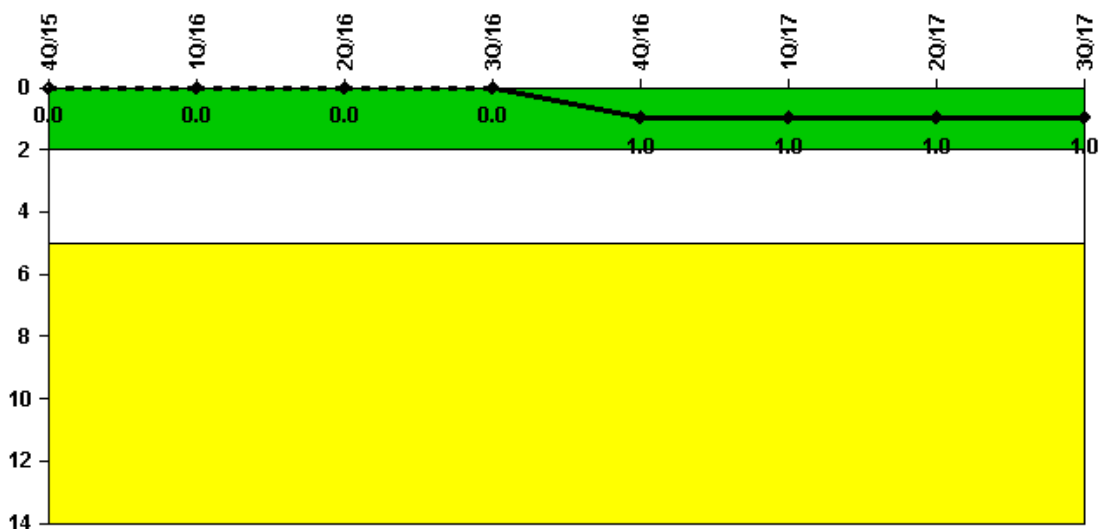
Alert & Notification System	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful siren-tests	186	182	186	186	185	185	185	185
Total sirens-tests	186	186	186	186	186	186	186	186

Indicator value                    99.7% 99.5% 99.5% 99.5% 99.3% 99.7% 99.6% 99.5%

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Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

#### Notes

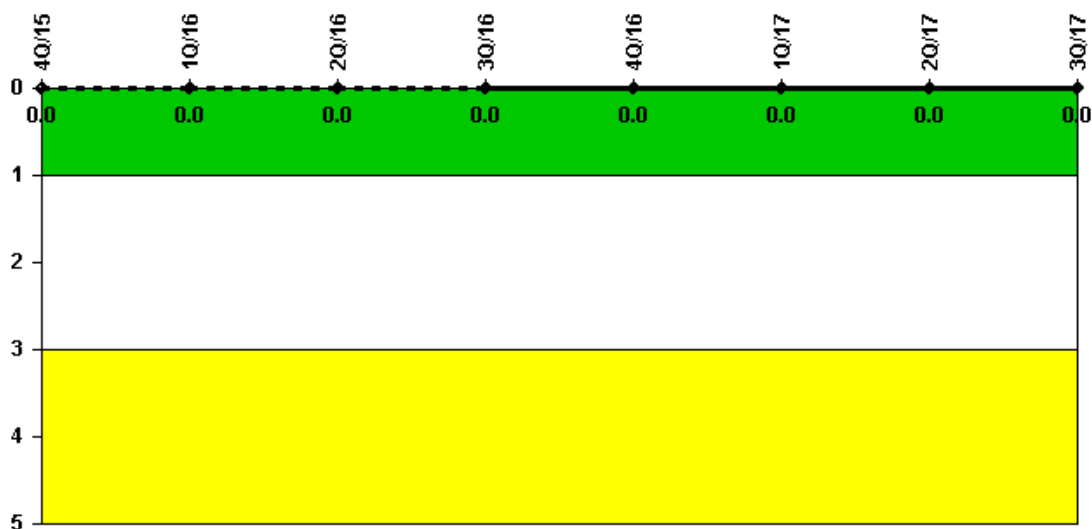
#### Occupational Exposure Control Effectiveness 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

High radiation area occurrences	0	0	0	0	1	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>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>

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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*

*Page Last Reviewed/Updated Monday, November 06, 2017*