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## FitzPatrick – Quarterly Performance Indicators

### 2Q/2017 Performance Indicators

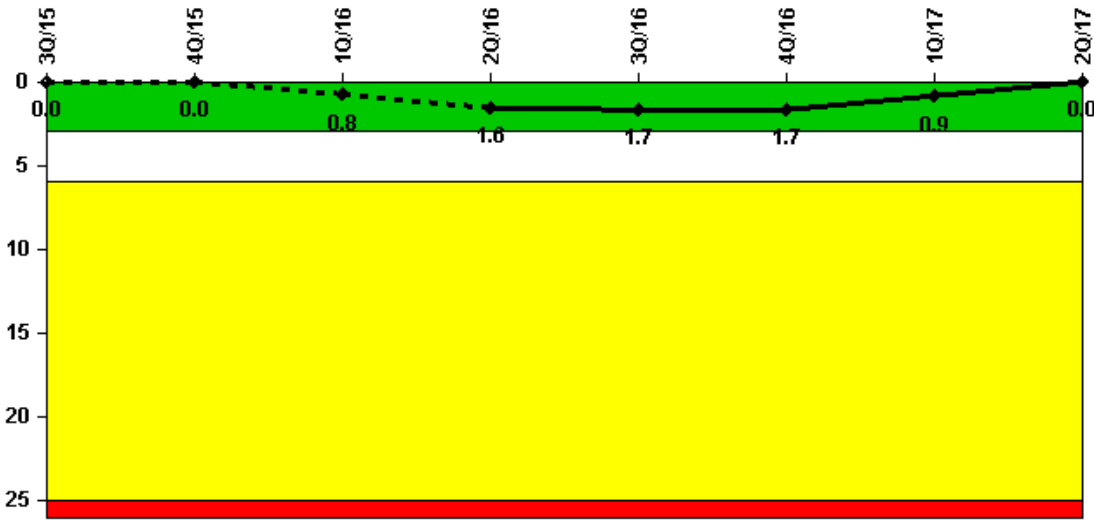
The solid trend line represents the current reporting period.

Licensee's General Comments: 1st Quarter 2017 EDG unavailability was entered as a 1.83 instead of 1.53 in error. Data corrected does not change indicator significance level from green.

On this page:

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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)
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- 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

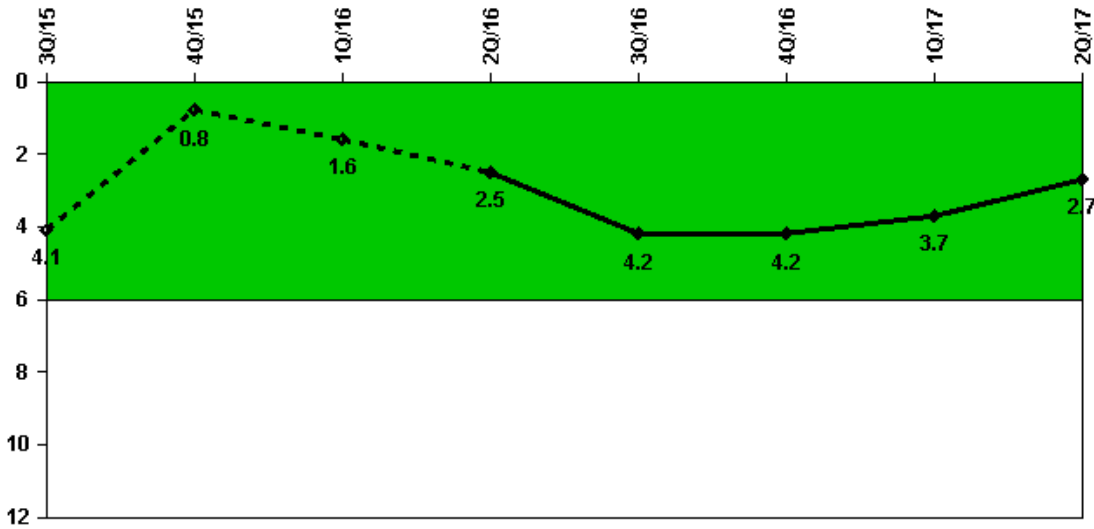
#### Notes

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	1.0	1.0	0	0	0	0
Critical hours	2208.0	2209.0	2058.8	2028.6	2080.5	2209.0	1197.7	2184.0
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0.8</b>	<b>1.6</b>	<b>1.7</b>	<b>1.7</b>	<b>0.9</b>	<b>0</b>

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Licensee Comments: none

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

**Notes**

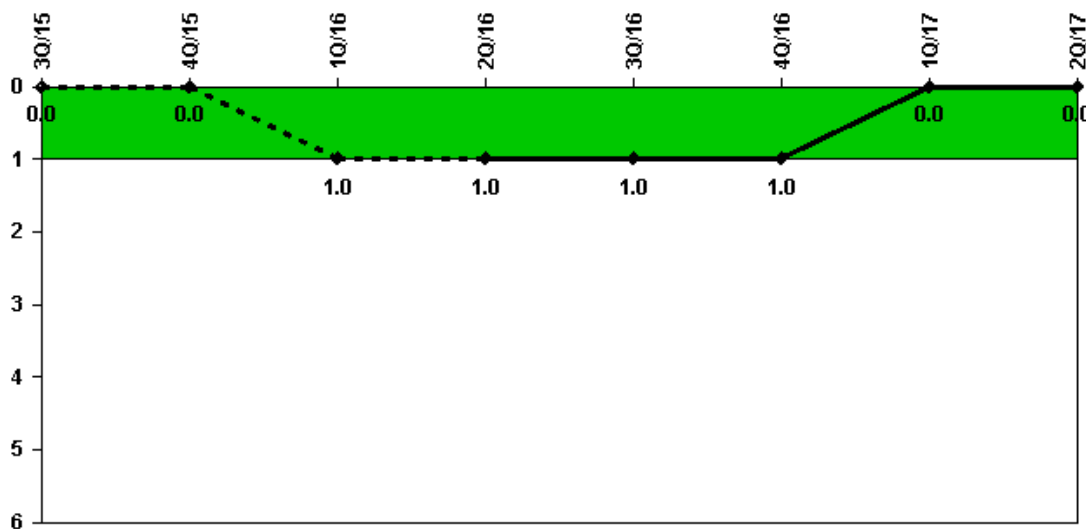
Unplanned Power Changes per 7000 Critical Hrs	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Unplanned power changes	1.0	0	1.0	1.0	3.0	0	0	0
Critical hours	2208.0	2209.0	2058.8	2028.6	2080.5	2209.0	1197.7	2184.0

<b>Indicator value</b>	<b>4.1</b>	<b>0.8</b>	<b>1.6</b>	<b>2.5</b>	<b>4.2</b>	<b>4.2</b>	<b>3.7</b>	<b>2.7</b>
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Licensee Comments: none

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

**Notes**

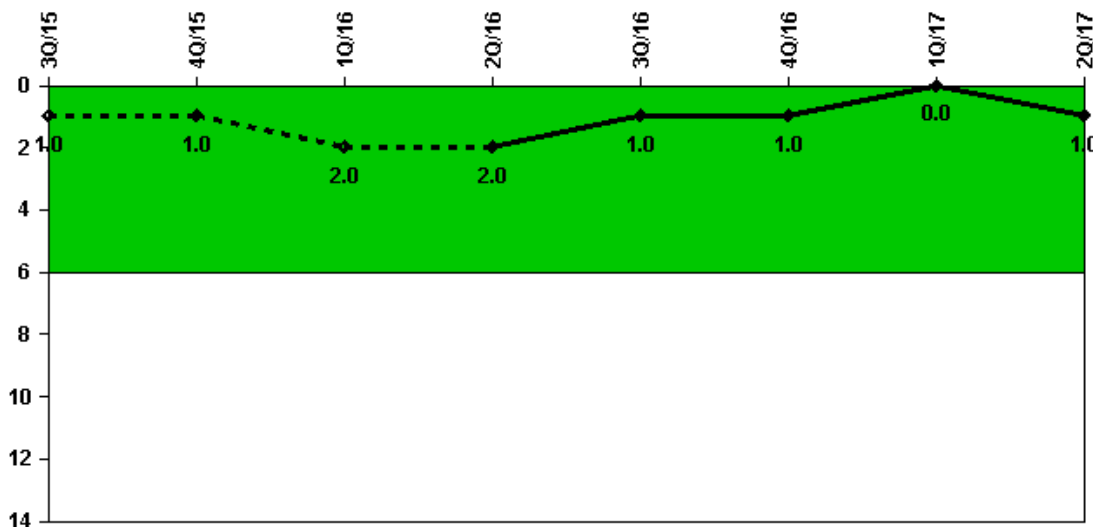
Unplanned Scrams with Complications	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Scrams with complications	0	0	1.0	0	0	0	0	0

<b>Indicator value</b>	<b>0.0</b>	<b>0.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>0.0</b>	<b>0.0</b>
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Licensee Comments: none

### Safety System Functional Failures (BWR)



Thresholds: White > 6.0

**Notes**

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

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

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

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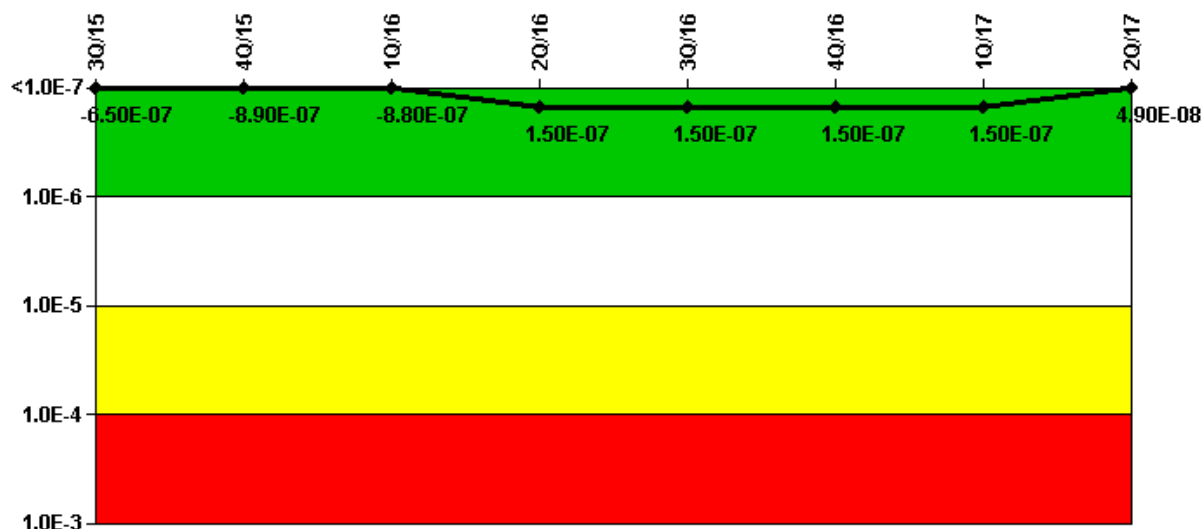
Licensee Comments:

2Q/17: LER-17-003, Inadvertent Isolation of the High Pressure Coolant Injection System

1Q/16: LER-15-008, Containment Atmosphere Dilution System Reliability Degraded due to Manufacturer Defect in Temperature Transmitters

3Q/15: LER-2015-003, Roof Maintenance Results in Secondary Containment Vacuum Below Technical Specification Limit

### 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)	4.70E-09	6.10E-09	5.41E-09	1.25E-09	-3.67E-10	-5.06E-10	-4.04E-10	-8.48E-10
URI (ΔCDF)	-6.57E-07	-8.93E-07	-8.84E-07	1.49E-07	1.49E-07	1.48E-07	1.49E-07	4.96E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-6.50E-07</b>	<b>-8.90E-07</b>	<b>-8.80E-07</b>	<b>1.50E-07</b>	<b>1.50E-07</b>	<b>1.50E-07</b>	<b>1.50E-07</b>	<b>4.90E-08</b>

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Licensee Comments:

1Q/17: Unavailability was entered as a 1.83 instead of 1.53 in error. Data corrected does not change indicator significance level from green.

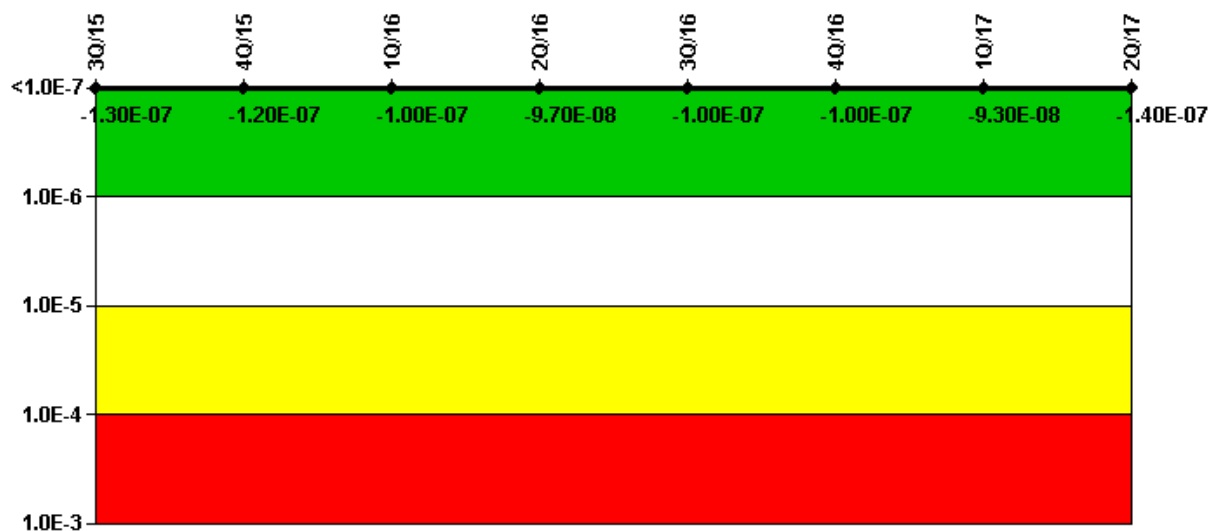
3Q/16: Data in May 2016 was changed to correct for unavailability hours attributed to the Emergency Diesel Generators (EDG) rather than the Emergency Service Water (ESW) System. This correction is in accordance with NEI 99-02 "No Cascading of Unavailability" rule. The change does not affect the indicator significance "color" of Green.

2Q/16: Data in May 2016 was changed to correct for unavailability hours attributed to the Emergency Diesel Generators (EDG) rather than the Emergency Service Water (ESW) System. This correction is in accordance with NEI 99-02 "No Cascading of Unavailability" rule. The change does not affect the indicator significance "color" of Green.

2Q/16: Starting in April 2016, MSPI value is affected by a change to EDG risk, in accordance with NEI 99-02. Previously the Risk utilized affected both trains of EDG per NEI 99.02 Section F1.1.1.

1Q/16: Revised the EDG risk in accordance with NEI 99-02. Previously the Risk utilized affected both trains of EDG per NEI 99.02 Section F1.1.1.

### 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)	-4.43E-08	-4.43E-08	-8.16E-09	-4.58E-09	-8.65E-09	-4.68E-09	4.55E-09	-3.73E-08
URI ( $\Delta$ CDF)	-8.28E-08	-7.61E-08	-9.22E-08	-9.25E-08	-9.43E-08	-9.61E-08	-9.79E-08	-1.01E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.30E-07</b>	<b>-1.20E-07</b>	<b>-1.00E-07</b>	<b>-9.70E-08</b>	<b>-1.00E-07</b>	<b>-1.00E-07</b>	<b>-9.30E-08</b>	<b>-1.40E-07</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**

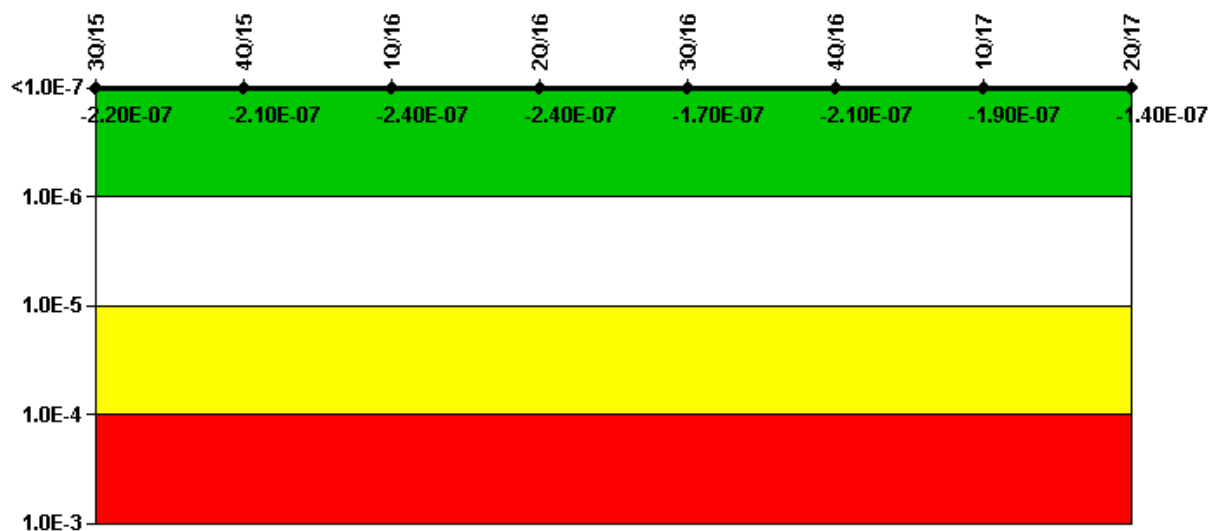
**Mitigating Systems Performance Index, Heat Removal System**

	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (ΔCDF)	-1.32E-08	-1.53E-08	-2.89E-09	9.48E-09	8.92E-09	8.92E-09	-2.69E-08	-2.69E-08
URI (ΔCDF)	-5.45E-08	-4.74E-08	-8.34E-08	-8.59E-08	-8.83E-08	-8.83E-08	-9.19E-08	-9.19E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-6.80E-08</b>	<b>-6.30E-08</b>	<b>-8.60E-08</b>	<b>-7.60E-08</b>	<b>-7.90E-08</b>	<b>-7.90E-08</b>	<b>-1.20E-07</b>	<b>-1.20E-07</b>

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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**

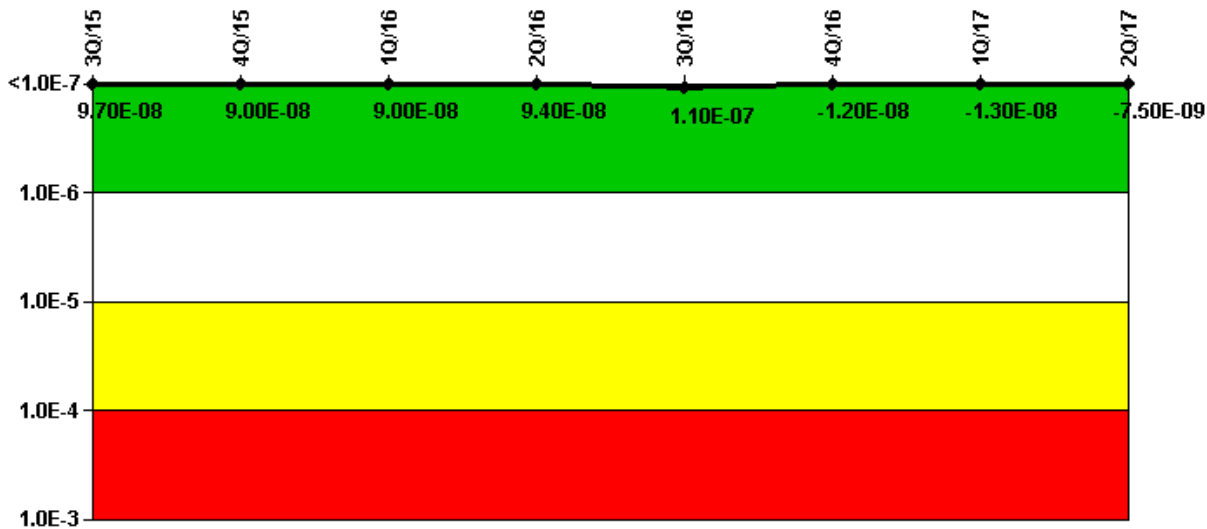
	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (ΔCDF)	2.83E-08	1.81E-08	-6.26E-09	-5.89E-09	7.18E-08	2.92E-08	6.41E-08	1.14E-07
URI (ΔCDF)	-2.50E-07	-2.31E-07	-2.37E-07	-2.38E-07	-2.43E-07	-2.43E-07	-2.57E-07	-2.54E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-2.20E-07</b>	<b>-2.10E-07</b>	<b>-2.40E-07</b>	<b>-2.40E-07</b>	<b>-1.70E-07</b>	<b>-2.10E-07</b>	<b>-1.90E-07</b>	<b>-1.40E-07</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**

	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (ΔCDF)	1.10E-07	1.03E-07	1.02E-07	1.07E-07	1.21E-07	8.51E-10	-1.53E-10	4.96E-09
URI (ΔCDF)	-1.26E-08	-1.26E-08	-1.27E-08	-1.30E-08	-1.24E-08	-1.24E-08	-1.25E-08	-1.25E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>9.70E-08</b>	<b>9.00E-08</b>	<b>9.00E-08</b>	<b>9.40E-08</b>	<b>1.10E-07</b>	<b>-1.20E-08</b>	<b>-1.30E-08</b>	<b>-7.50E-09</b>

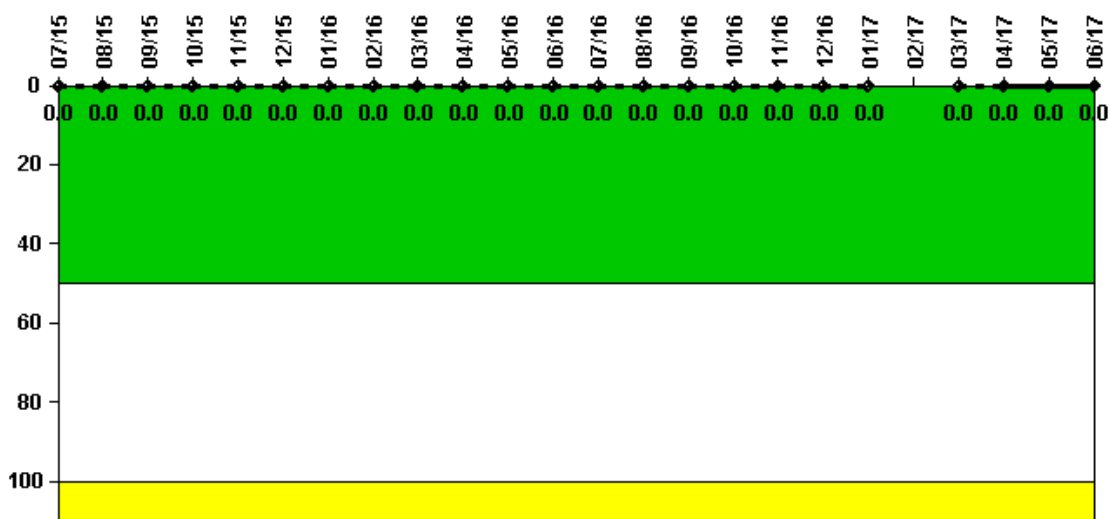
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Licensee Comments:

3Q/16: Data in May 2016 was changed to correct for unavailability hours attributed to the Emergency Diesel Generators (EDG) rather than the Emergency Service Water (ESW) System. This correction is in accordance with NEI 99-02 "No Cascading of Unavailability" rule. The change does not affect the indicator significance "color" of Green.

2Q/16: Data in May 2016 was changed to correct for unavailability hours attributed to the Emergency Diesel Generators (EDG) rather than the Emergency Service Water (ESW) System. This correction is in accordance with NEI 99-02 "No Cascading of Unavailability" rule. The change does not affect the indicator significance "color" of Green.

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

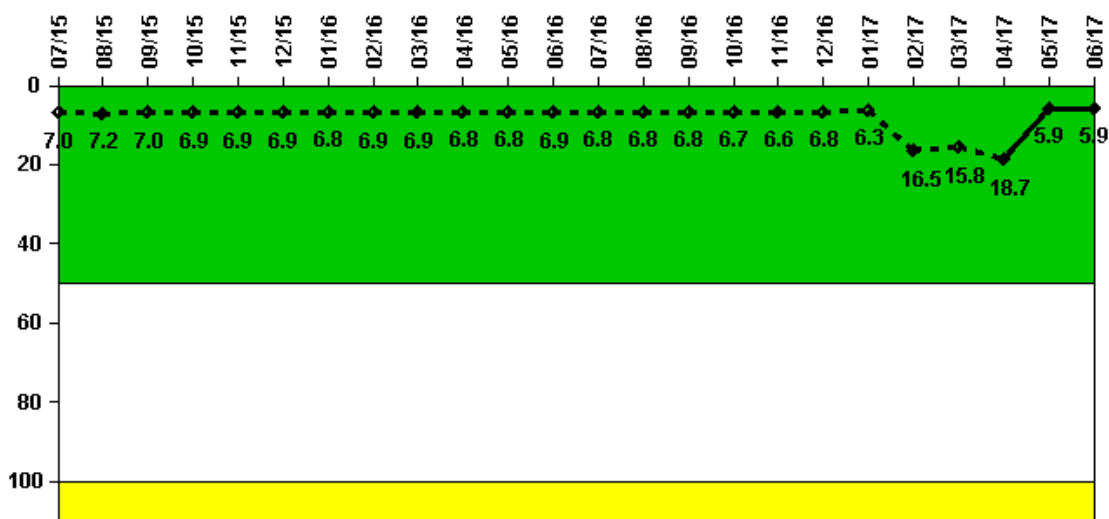
**Notes**

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	0.000007	0.000008	0.000006	0.000006	0.000007	0.000007	0.000006	0.000019	0.000008	0.000005	0.000008	0.000007
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
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
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	0.000012	0.000009	0.000009	0.000011	0.000020	0.000023	0.000038	N/A	0.000008	0.000004	0.000009	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
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>0</b>	<b>0</b>	<b>0</b>

TOP

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	1.740	1.790	1.760	1.720	1.720	1.720	1.710	1.730	1.720	1.710	1.700	1.720
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	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16
Indicator value	7.0	7.2	7.0	6.9	6.9	6.9	6.8	6.9	6.9	6.8	6.8	6.9

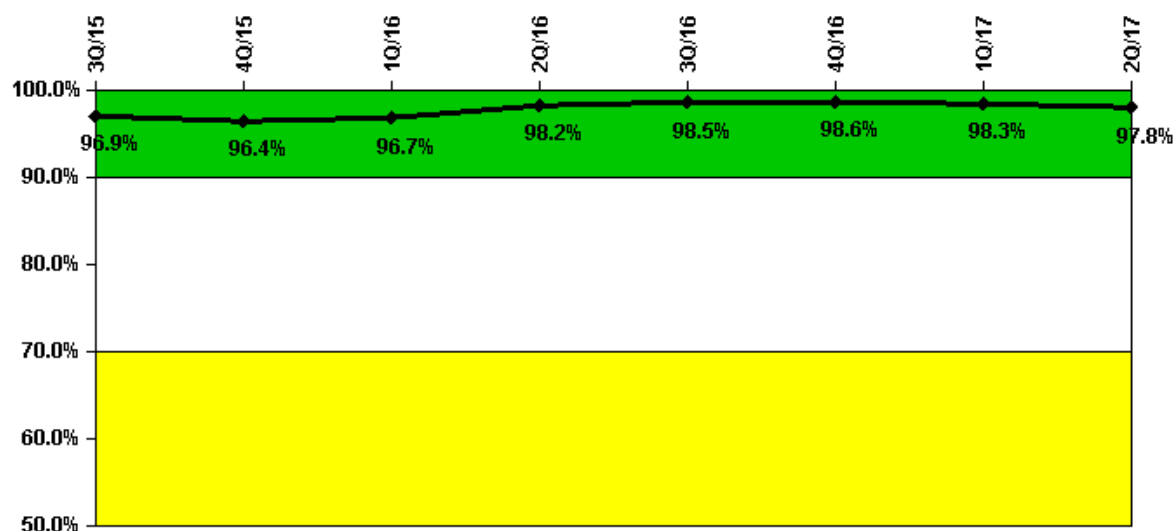
Reactor Coolant System Leakage	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17
Maximum leakage	1.690	1.690	1.690	1.680	1.660	1.700	1.570	4.130	3.940	4.670	1.480	1.470
Technical specification limit	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0

Indicator value	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17
Indicator value	6.8	6.8	6.8	6.7	6.6	6.8	6.3	16.5	15.8	18.7	5.9	5.9

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Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

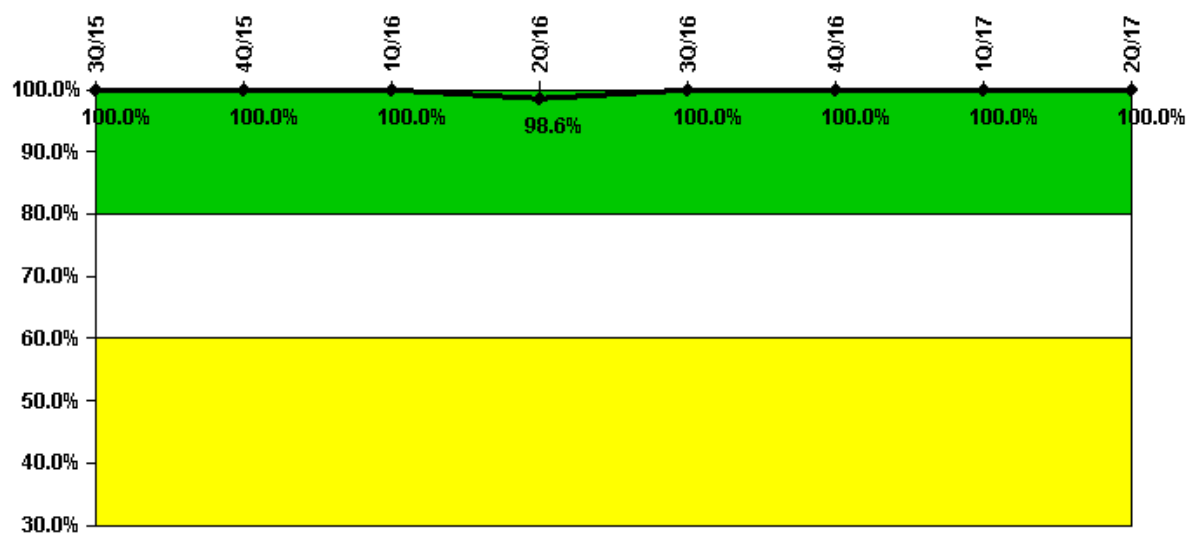
Drill/Exercise Performance	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Successful opportunities	16.0	6.0	67.0	41.0	36.0	14.0	41.0	48.0
Total opportunities	17.0	6.0	68.0	42.0	36.0	14.0	42.0	50.0

Indicator value                    96.9% 96.4% 96.7% 98.2% 98.5% 98.6% 98.3% 97.8%

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Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

#### Notes

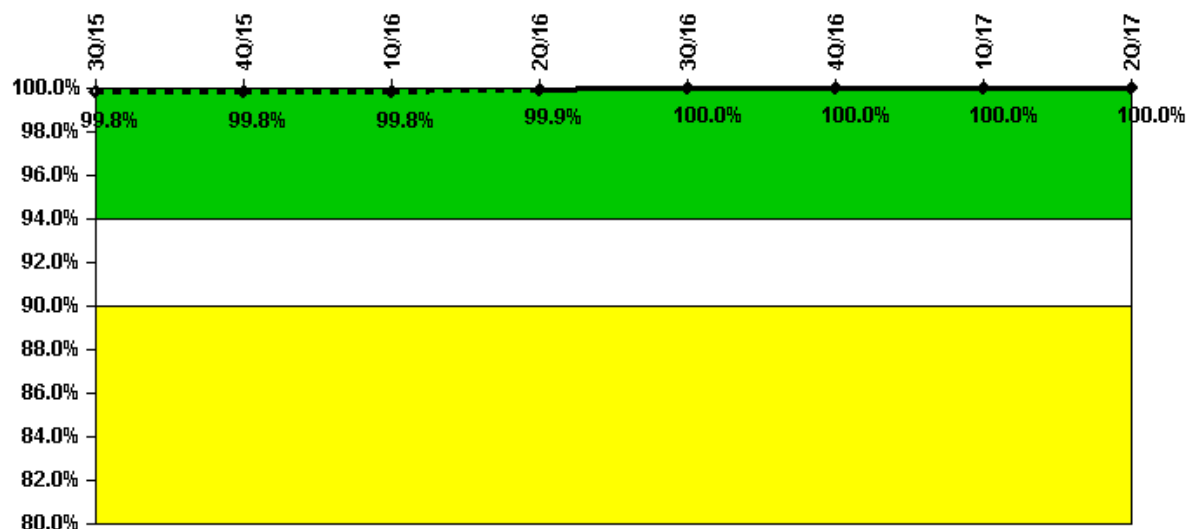
ERO Drill Participation	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Participating Key personnel	61.0	65.0	71.0	73.0	69.0	70.0	64.0	70.0
Total Key personnel	61.0	65.0	71.0	74.0	69.0	70.0	64.0	70.0

**Indicator value**            **100.0% 100.0% 100.0% 98.6% 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**

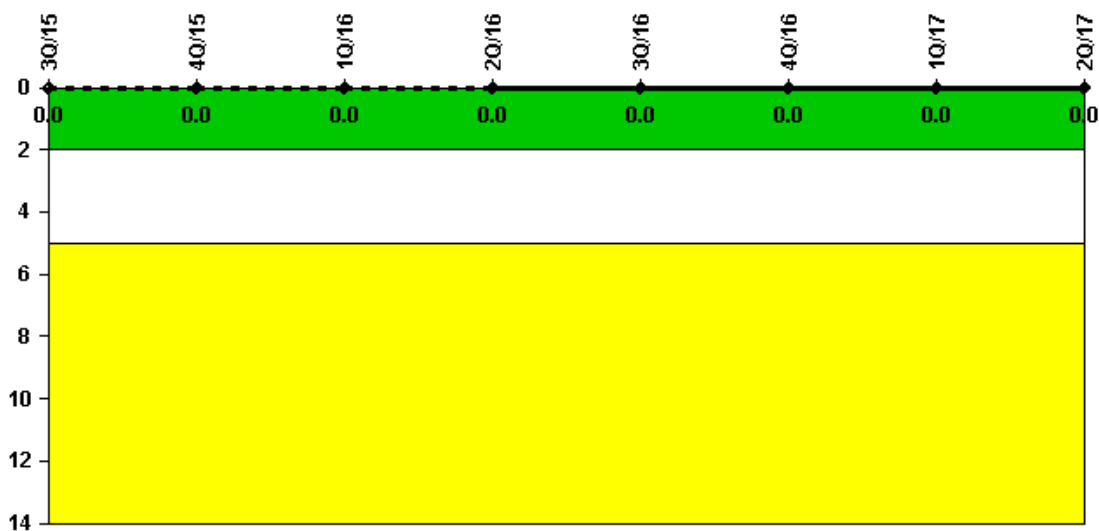
Alert & Notification System	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Successful siren-tests	258	296	348	520	520	520	2440	520
Total sirens-tests	259	296	348	520	520	520	2440	520

**Indicator value**                    **99.8% 99.8% 99.8% 99.9% 100.0% 100.0% 100.0% 100.0%**

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Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

**Notes**

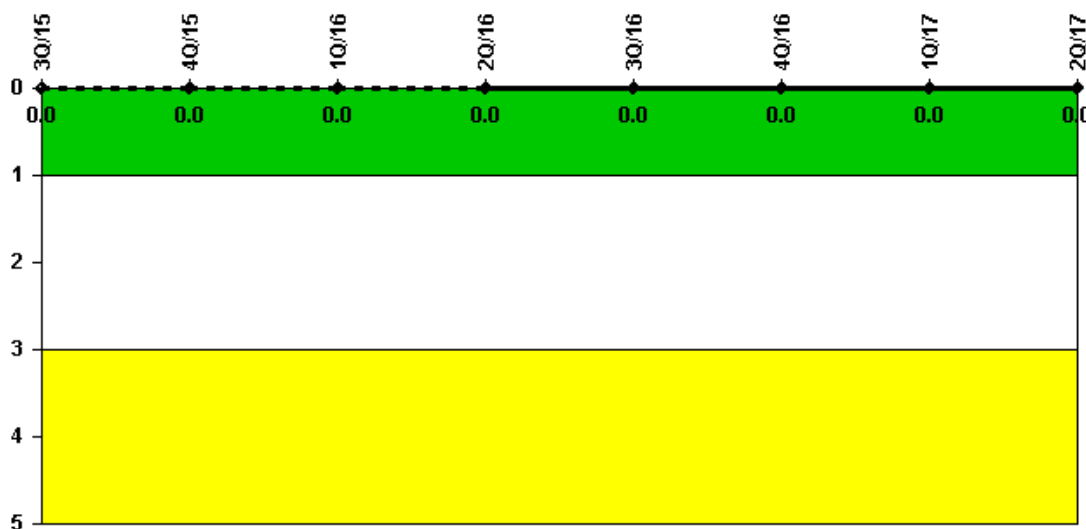
**Occupational Exposure Control Effectiveness** 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17

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>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

TOP

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*