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## **Beaver Valley 1 – Quarterly Performance Indicators**

### **1Q/2017 Performance Indicators**

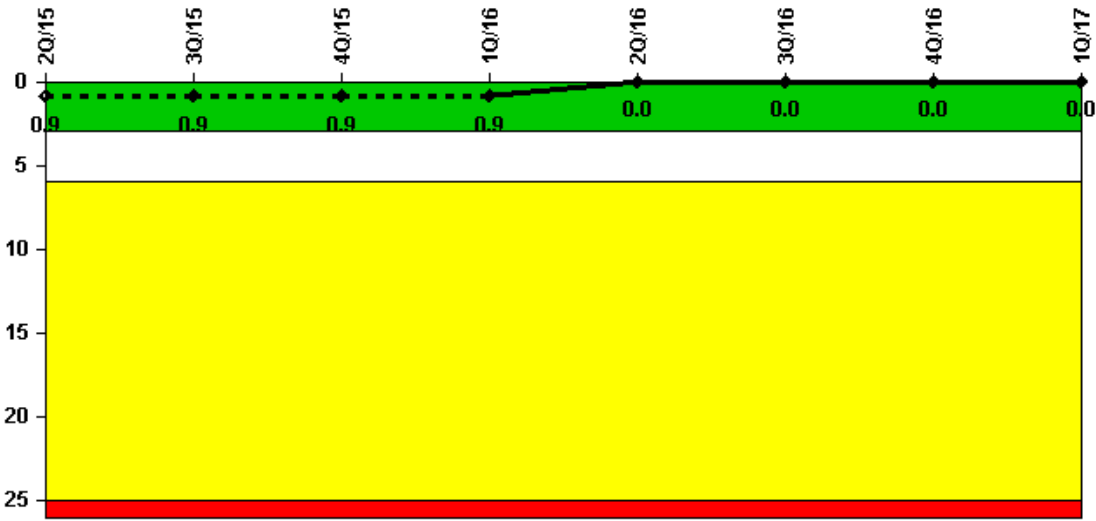
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

- Unplanned Scrams (IE01)
- Unplanned Power Changes per 7000 Critical Hours (IE03)
- Unplanned Scrams with Complications (IE04)
- Safety System Functional Failures (MS05)
- 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**

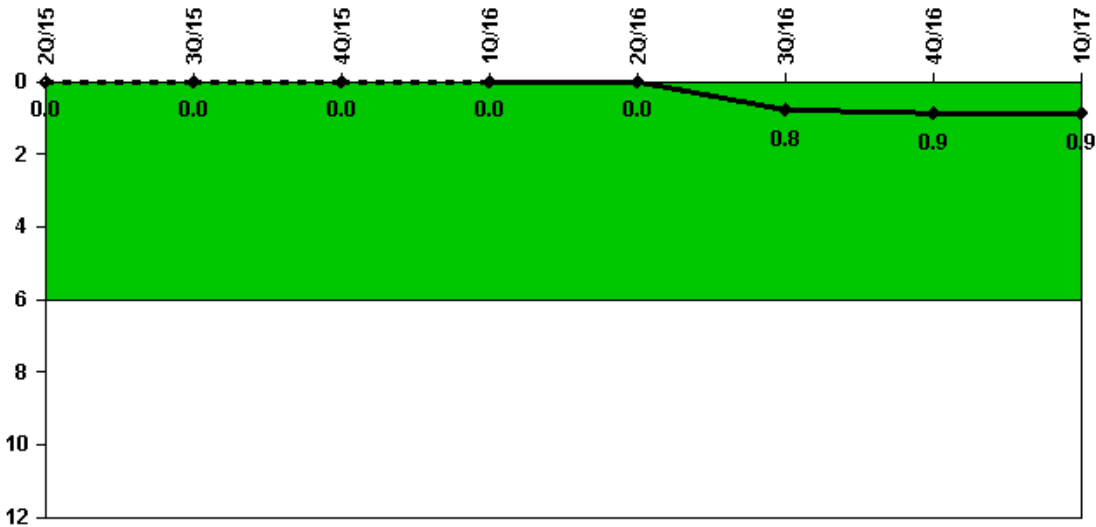
Unplanned Scrams per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned scrams	1.0	0	0	0	0	0	0	0
Critical hours	1424.9	2208.0	2209.0	2183.0	2184.0	2040.3	1653.7	2159.0

Indicator value	0.9	0.9	0.9	0.9	0	0	0	0
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Licensee Comments: none

**Unplanned Power Changes per 7000 Critical Hrs**



Thresholds: White > 6.0

**Notes**

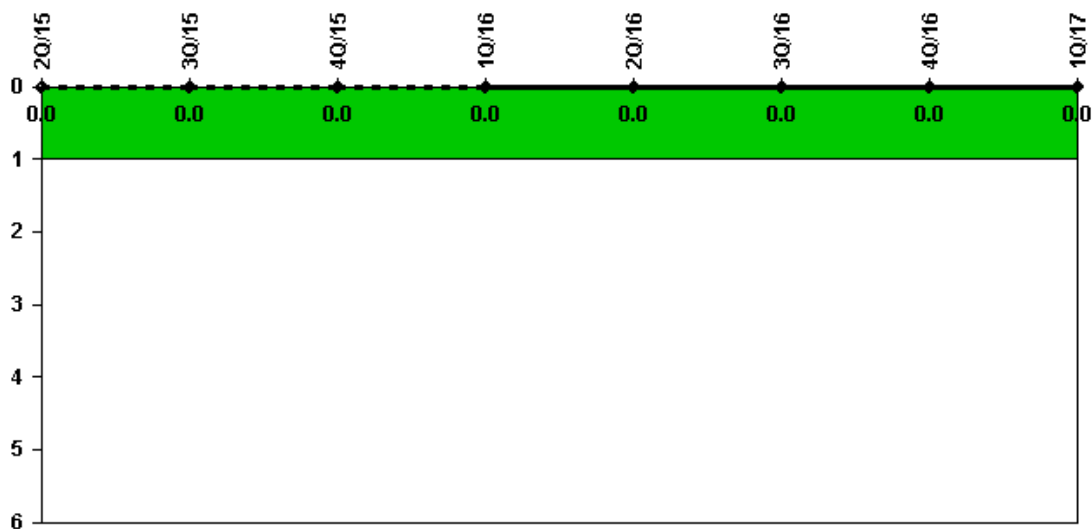
Unplanned Power Changes per 7000 Critical Hrs	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Unplanned power changes	0	0	0	0	0	1.0	0	0
Critical hours	1424.9	2208.0	2209.0	2183.0	2184.0	2040.3	1653.7	2159.0

<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.8</b>	<b>0.9</b>	<b>0.9</b>
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Licensee Comments: none

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

**Notes**

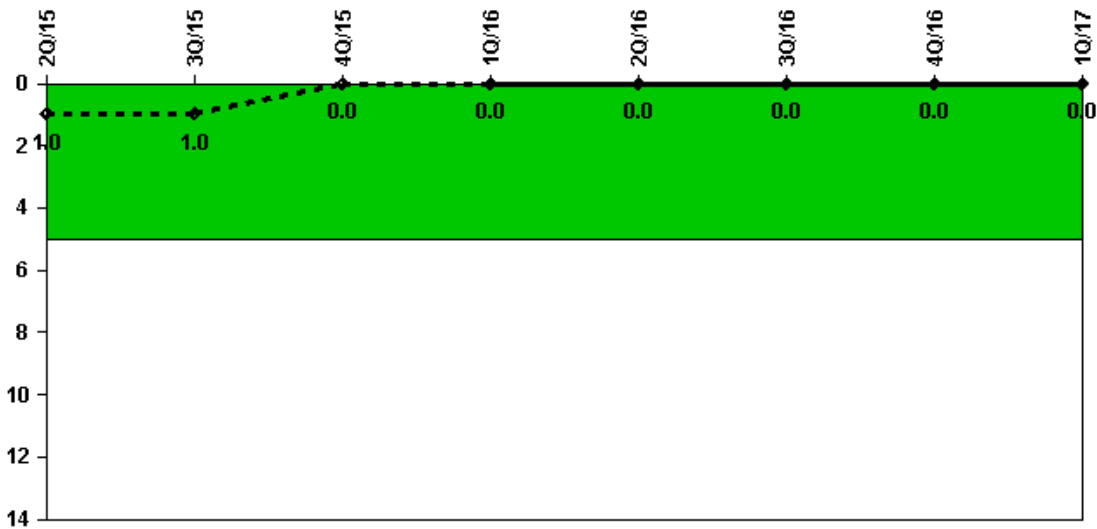
Unplanned Scrams with Complications	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Scrams with complications	0	0	0	0	0	0	0	0

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

### Safety System Functional Failures (PWR)



Thresholds: White > 5.0

#### Notes

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

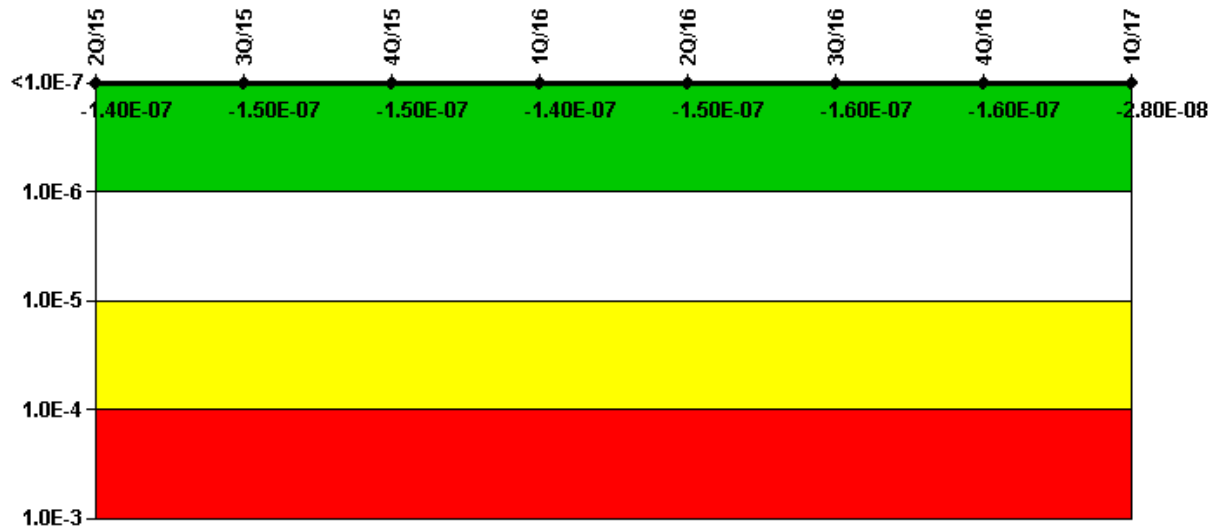
Safety System Functional Failures 0 0 0 0 0 0 0 0

Indicator value 1 1 0 0 0 0 0 0

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Licensee Comments: none

### 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

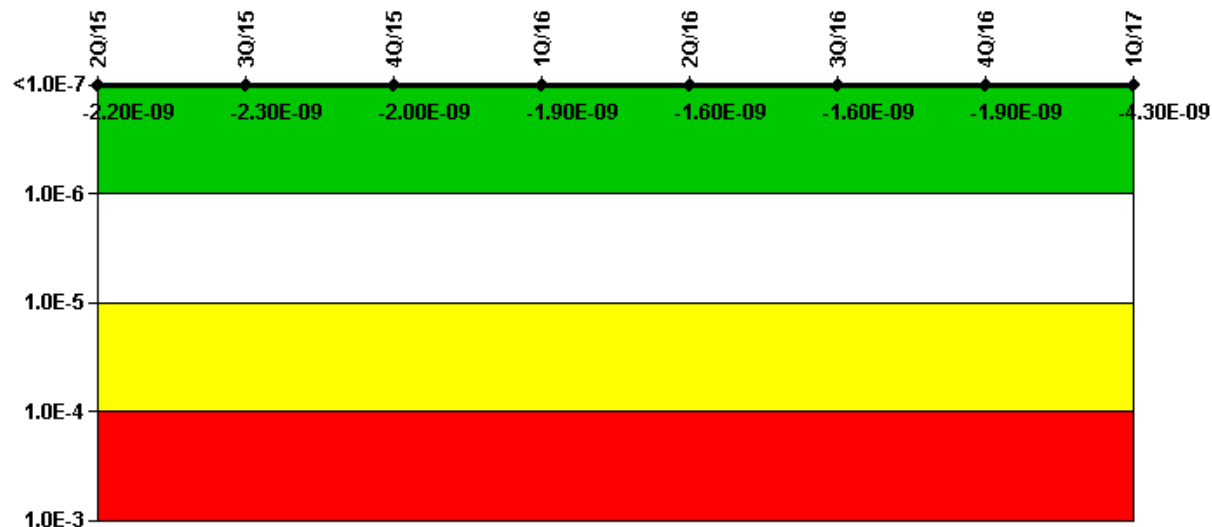
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	1.38E-10	-1.14E-08	-8.76E-09	-1.37E-09	-9.60E-09	-1.76E-08	-2.12E-08	-1.29E-09
URI (ΔCDF)	-1.40E-07	-1.40E-07	-1.40E-07	-1.40E-07	-1.40E-07	-1.40E-07	-1.40E-07	-2.72E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.40E-07	-1.50E-07	-1.50E-07	-1.40E-07	-1.50E-07	-1.60E-07	-1.60E-07	-2.80E-08

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Licensee Comments:

1Q/17: Changed PRA Parameter(s). The BVPS Unit 1 PRA Model Revision 06 was approved on 12/31/2016 with a corresponding MSPI Document Revision 08 approved on 3/22/2017. The PRA model revision was a periodic update to the model which included a data update. As a result of the PRA model change, the CDF, Fussel-Vesely and Basic Events Probabilities for all monitored trains and components were revised.

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

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-1.62E-09	-1.72E-09	-1.40E-09	-1.26E-09	-9.49E-10	-9.68E-10	-1.32E-09	-2.98E-09
URI (ΔCDF)	-6.06E-10	-6.06E-10	-6.06E-10	-6.06E-10	-6.06E-10	-6.06E-10	-6.06E-10	-1.34E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO

Indicator value

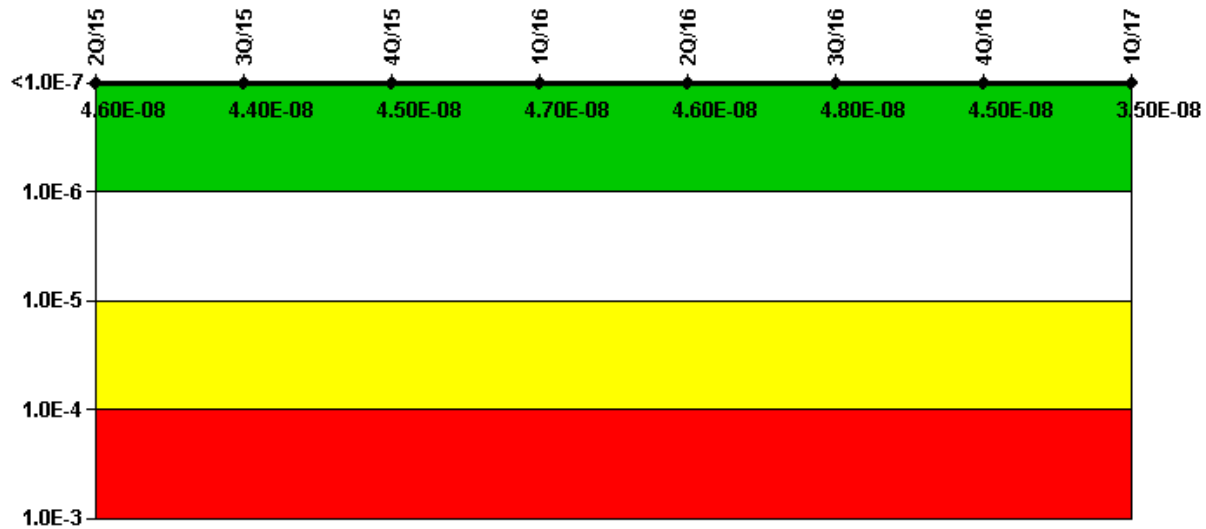
-2.20E-09   -2.30E-09   -2.00E-09   -1.90E-09   -1.60E-09   -1.60E-09   -1.90E-09   -4.30E-09

TOP

Licensee Comments:

1Q/17: Changed PRA Parameter(s). The BVPS Unit 1 PRA Model Revision 06 was approved on 12/31/2016 with a corresponding MSPI Document Revision 08 approved on 3/22/2017. The PRA model revision was a periodic update to the model which included a data update. As a result of the PRA model change, the CDF, Fussel-Vesely and Basic Events Probabilities for all monitored trains and components were revised.

**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**

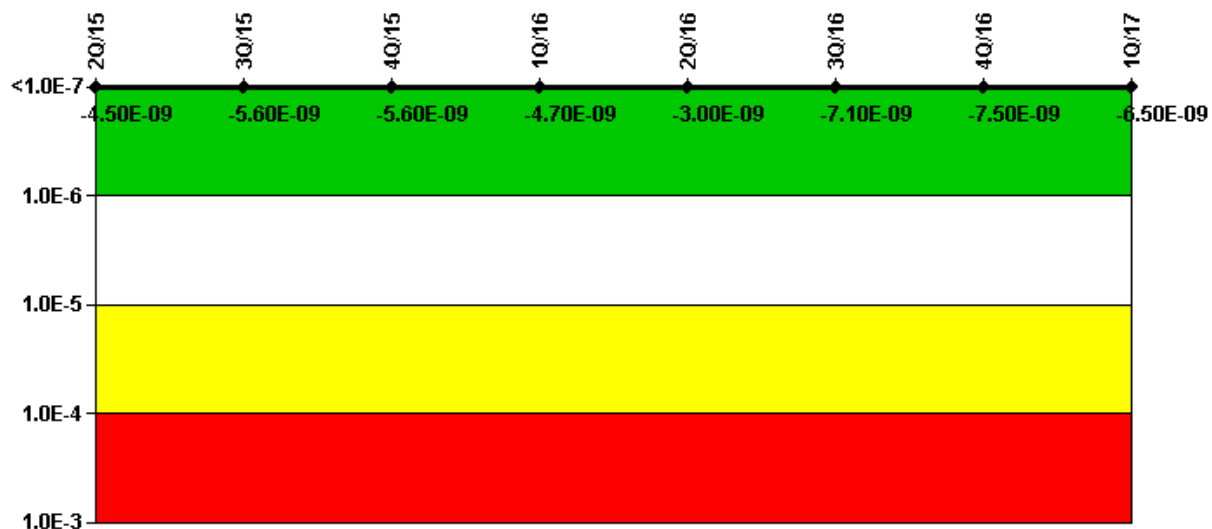
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI ( $\Delta$ CDF)	5.65E-09	3.81E-09	4.51E-09	6.04E-09	5.55E-09	6.83E-09	3.95E-09	2.55E-09
URI ( $\Delta$ CDF)	4.06E-08	4.06E-08	4.06E-08	4.06E-08	4.06E-08	4.07E-08	4.10E-08	3.23E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	4.60E-08	4.40E-08	4.50E-08	4.70E-08	4.60E-08	4.80E-08	4.50E-08	3.50E-08

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Licensee Comments:

1Q/17: Changed PRA Parameter(s). The BVPS Unit 1 PRA Model Revision 06 was approved on 12/31/2016 with a corresponding MSPI Document Revision 08 approved on 3/22/2017. The PRA model revision was a periodic update to the model which included a data update. As a result of the PRA model change, the CDF, Fussel-Vesely and Basic Events Probabilities for all monitored trains and components were revised.

### 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**

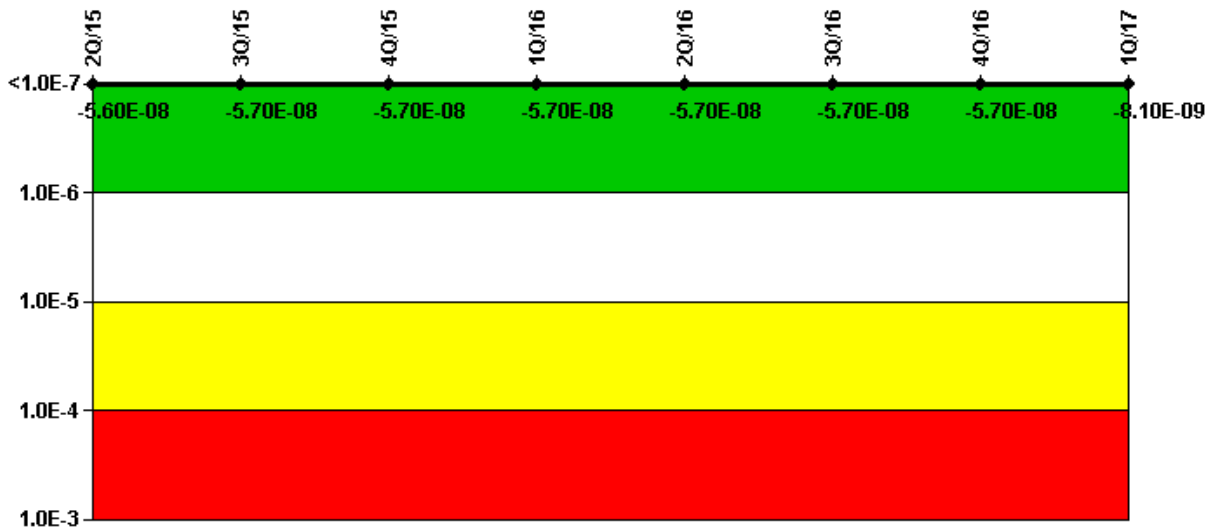
	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	6.19E-10	-4.60E-10	-4.24E-10	4.47E-10	2.19E-09	-1.97E-09	-2.32E-09	-1.66E-09
URI (ΔCDF)	-5.15E-09	-5.15E-09	-5.15E-09	-5.15E-09	-5.15E-09	-5.15E-09	-5.15E-09	-4.80E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-4.50E-09</b>	<b>-5.60E-09</b>	<b>-5.60E-09</b>	<b>-4.70E-09</b>	<b>-3.00E-09</b>	<b>-7.10E-09</b>	<b>-7.50E-09</b>	<b>-6.50E-09</b>

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Licensee Comments:

1Q/17: Changed PRA Parameter(s). The BVPS Unit 1 PRA Model Revision 06 was approved on 12/31/2016 with a corresponding MSPI Document Revision 08 approved on 3/22/2017. The PRA model revision was a periodic update to the model which included a data update. As a result of the PRA model change, the CDF, Fussel-Vesely and Basic Events Probabilities for all monitored trains and components were revised.

### 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**

	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
UAI (ΔCDF)	-4.37E-08	-4.52E-08	-4.52E-08	-4.52E-08	-4.52E-08	-4.52E-08	-4.52E-08	-6.64E-09
URI (ΔCDF)	-1.18E-08	-1.18E-08	-1.18E-08	-1.18E-08	-1.18E-08	-1.18E-08	-1.18E-08	-1.49E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-5.60E-08</b>	<b>-5.70E-08</b>	<b>-5.70E-08</b>	<b>-5.70E-08</b>	<b>-5.70E-08</b>	<b>-5.70E-08</b>	<b>-5.70E-08</b>	<b>-8.10E-09</b>

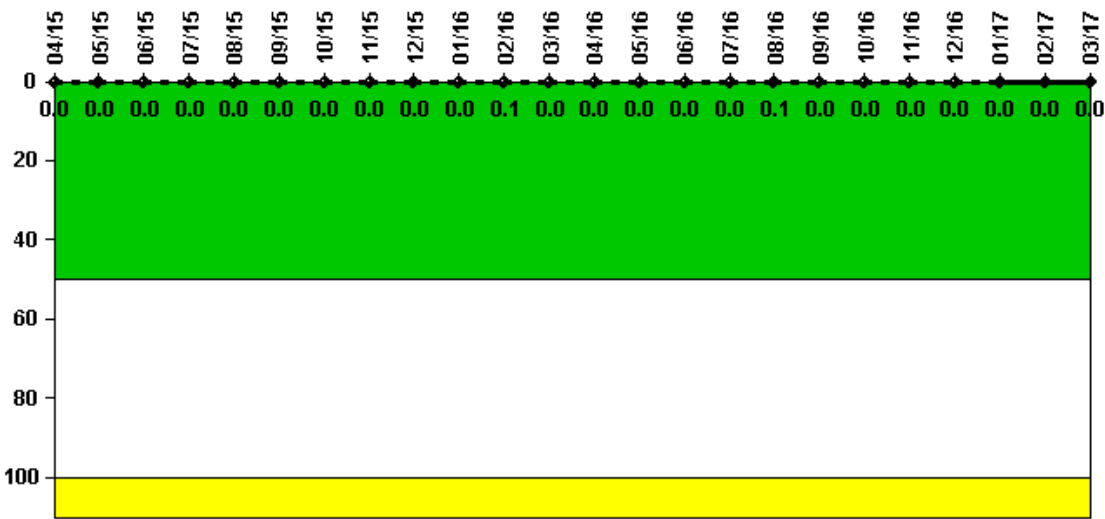
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Licensee Comments:

1Q/17: Changed PRA Parameter(s). The BVPS Unit 1 PRA Model Revision 06 was approved on 12/31/2016 with a corresponding MSPI Document Revision 08 approved on 3/22/2017. The PRA model revision was a periodic update to the model which included a data update. As a result of the PRA model change, the CDF, Fussel-Vesely and Basic Events Probabilities for all monitored trains and components were revised.



### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

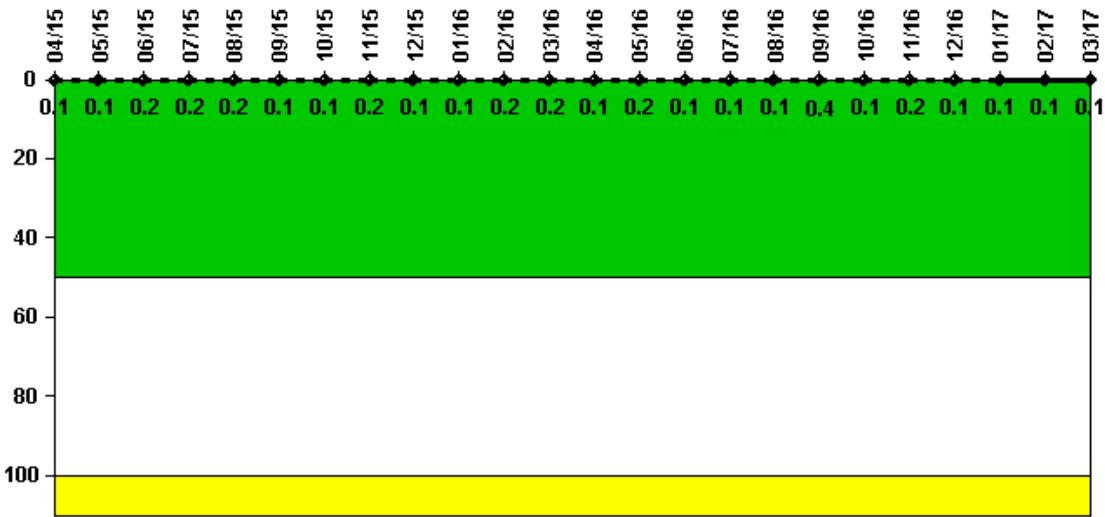
#### Notes

Reactor Coolant System Activity	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16
Maximum activity	0.000131	0.000072	0.000072	0.000084	0.000091	0.000089	0.000094	0.000107	0.000110	0.000129	0.000192	0.000111
Technical specification limit	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Indicator value	0	0	0	0	0	0	0	0	0	0	0.1	0
Reactor Coolant System Activity	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum activity	0.000128	0.000117	0.000118	0.000125	0.000310	0.000117	0.000024	0.000078	0.000070	0.000077	0.000079	0.000089
Technical specification limit	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Indicator value	0	0	0	0	0.1	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	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15	1/16	2/16	3/16
Maximum leakage	0.010	0.010	0.020	0.020	0.020	0.010	0.010	0.020	0.010	0.010	0.020	0.020
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

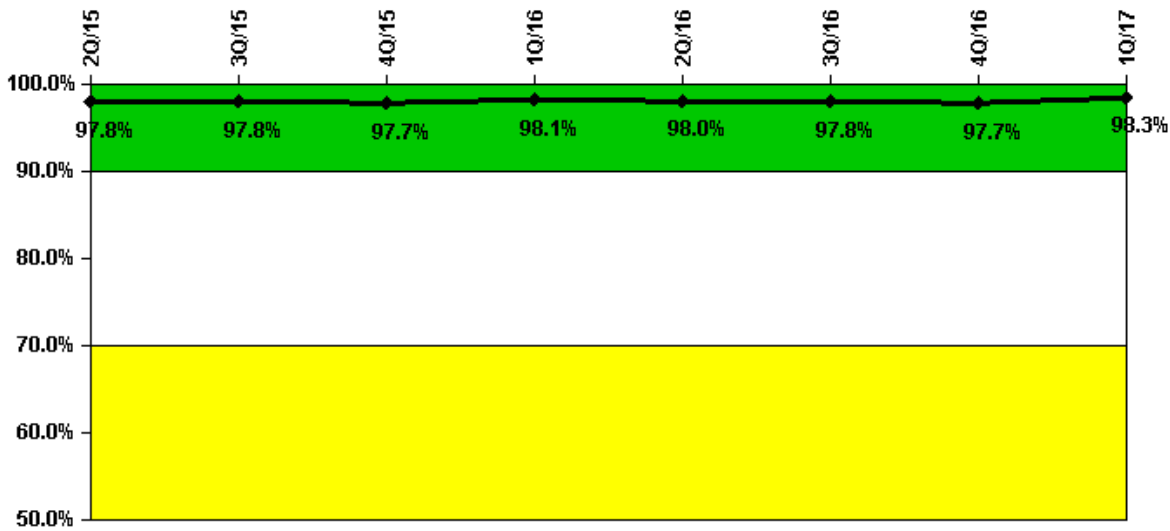
<b>Indicator value</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>
Reactor Coolant System Leakage	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17
Maximum leakage	0.010	0.020	0.010	0.010	0.010	0.040	0.010	0.020	0.010	0.010	0.010	0.010
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>0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.4</b>	<b>0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
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Licensee Comments: none

**Drill/Exercise Performance**



Thresholds: White < 90.0% Yellow < 70.0%

**Notes**

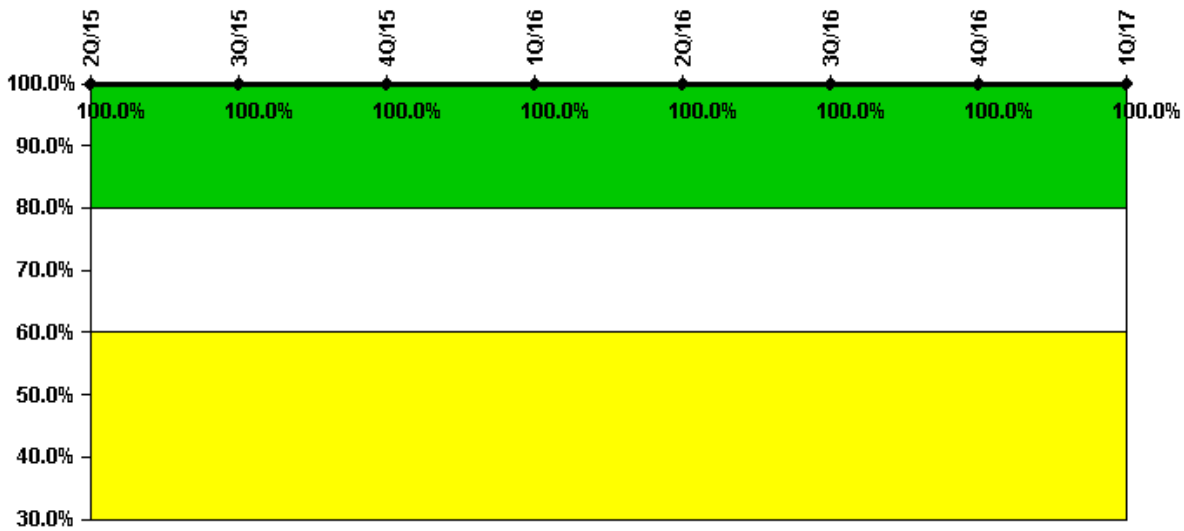
Drill/Exercise Performance	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful opportunities	36.0	106.0	17.0	62.0	68.0	39.0	42.0	92.0
Total opportunities	36.0	108.0	18.0	62.0	71.0	40.0	43.0	92.0

**Indicator value**                    **97.8% 97.8% 97.7% 98.1% 98.0% 97.8% 97.7% 98.3%**

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Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

**Notes**

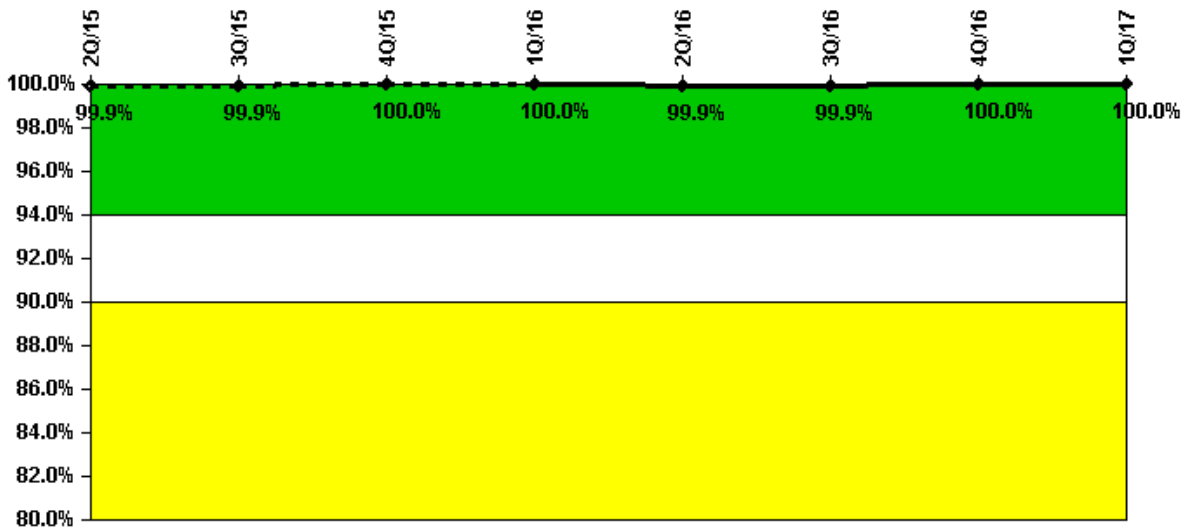
ERO Drill Participation	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Participating Key personnel	173.0	165.0	161.0	168.0	170.0	166.0	170.0	179.0
Total Key personnel	173.0	165.0	161.0	168.0	170.0	166.0	170.0	179.0

**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**

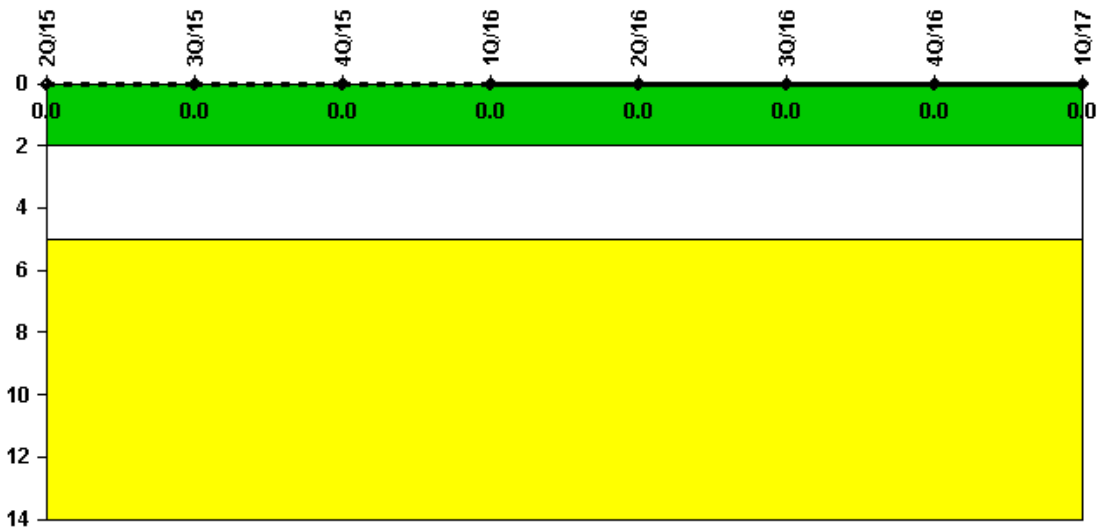
Alert & Notification System	2Q/15	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17
Successful siren-tests	1560	1560	1559	1558	1559	1560	1560	1560
Total sirens-tests	1560	1560	1560	1560	1560	1560	1560	1560

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

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Licensee Comments: none

### Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

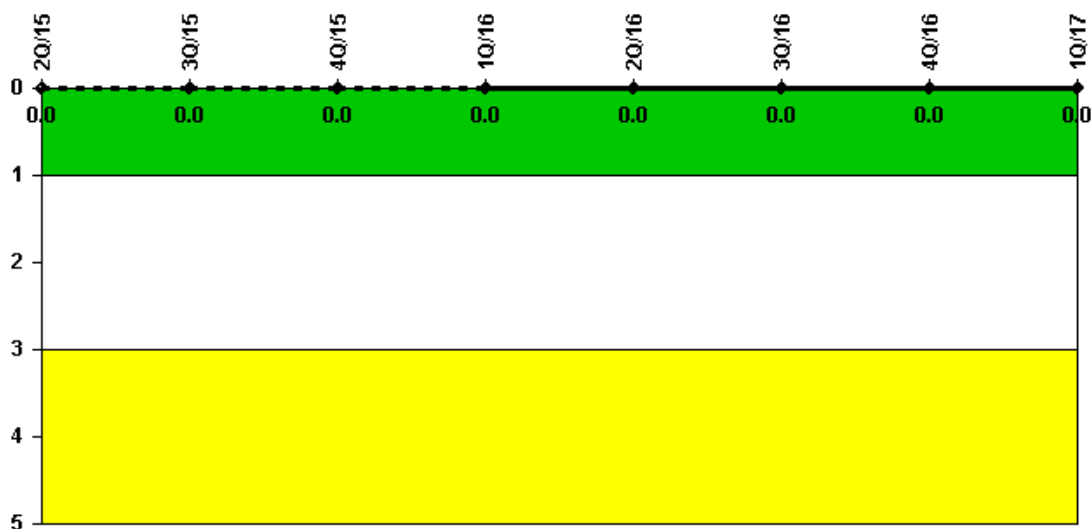
**Notes**

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

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Licensee Comments: none

### RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

**Notes**

RETS/ODCM Radiological Effluent 2Q/15 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/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: May 5, 2017

Page Last Reviewed/Updated Wednesday, June 07, 2017