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## Beaver Valley 2 – Quarterly Performance Indicators

### 4Q/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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- 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)
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- Protected Area Equipment (PP01)

### Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

#### Notes

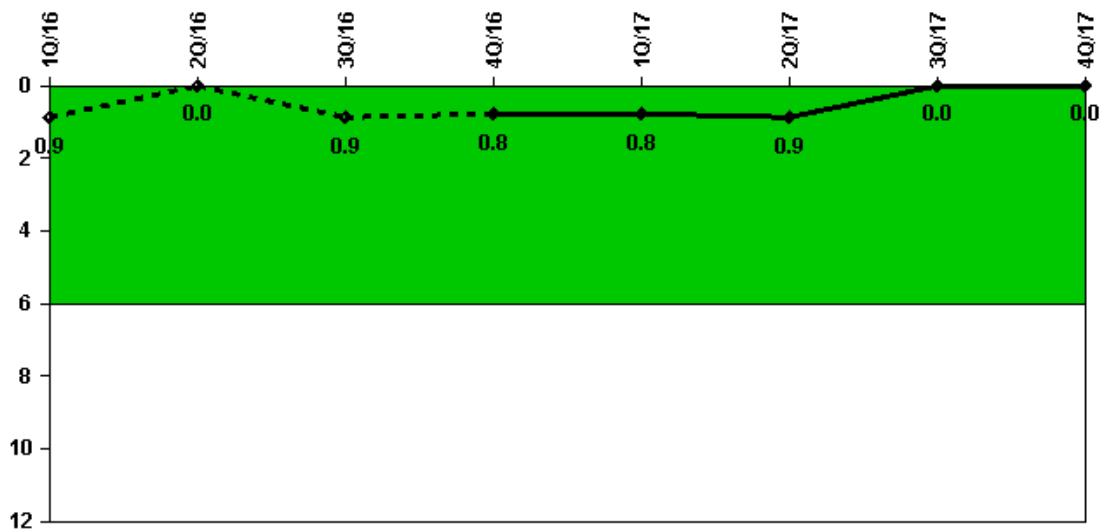
Unplanned Scrams per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	1987.2	2184.0	2208.0	2209.0	2159.0	1507.8	2208.0	2209.0

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

### Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

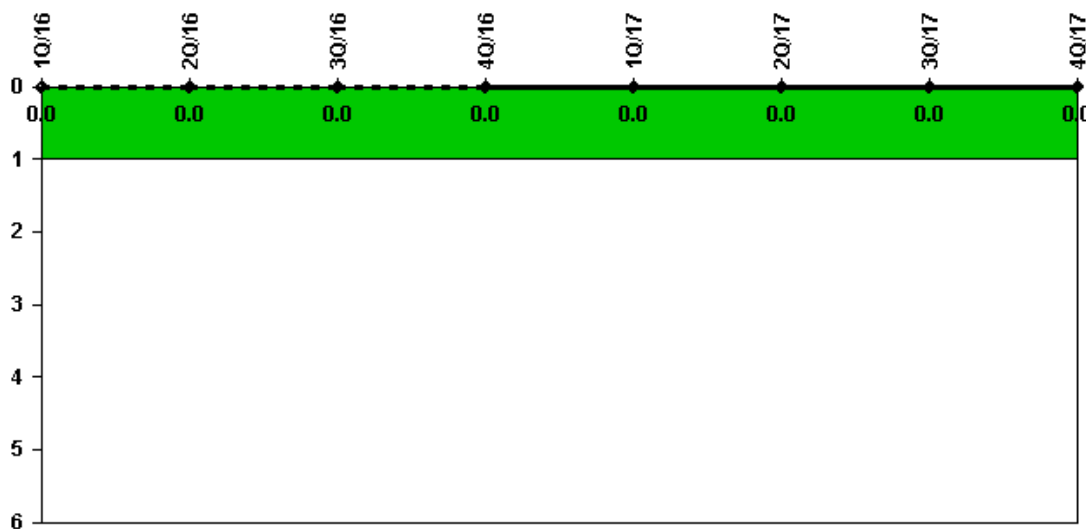
**Notes**

Unplanned Power Changes per 7000 Critical Hrs	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	1987.2	2184.0	2208.0	2209.0	2159.0	1507.8	2208.0	2209.0
<b>Indicator value</b>	<b>0.9</b>	<b>0</b>	<b>0.9</b>	<b>0.8</b>	<b>0.8</b>	<b>0.9</b>	<b>0</b>	<b>0</b>

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Licensee Comments: none

**Unplanned Scrams with Complications**



Thresholds: White > 1.0

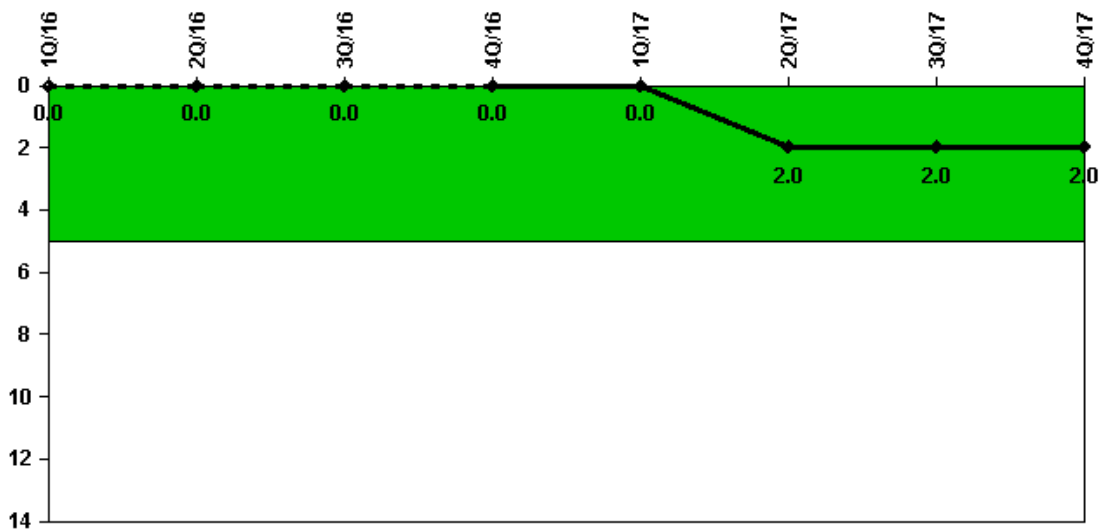
**Notes**

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
<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) 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

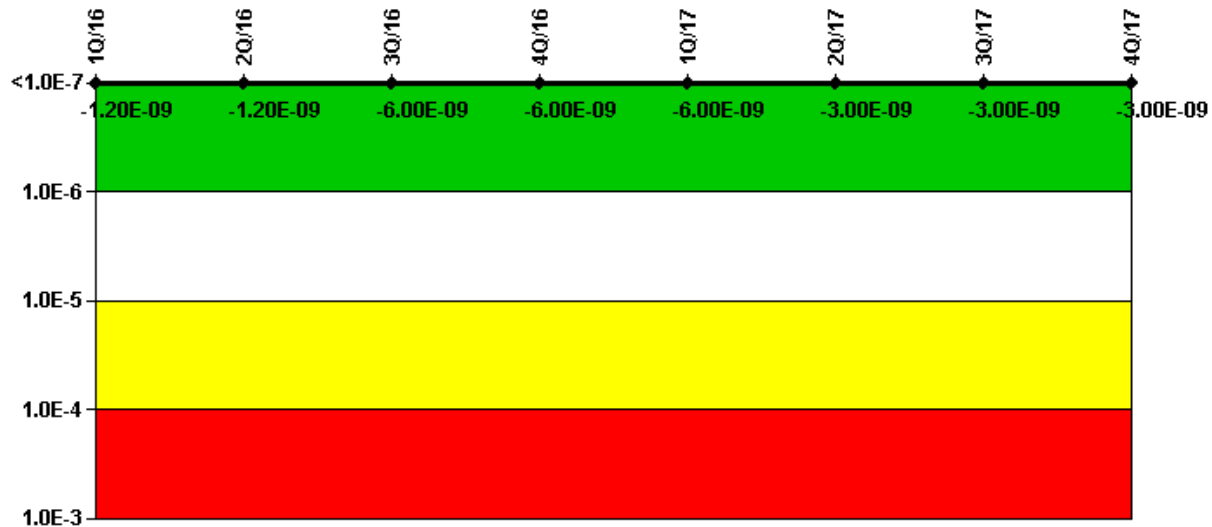
Safety System Functional Failures 0 0 0 0 0 2 0 0

Indicator value 0 0 0 0 0 2 2 2

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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**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-1.62E-09	-1.70E-09	-6.47E-09	-6.47E-09	-6.47E-09	-6.75E-09	-6.75E-09	-6.75E-09
URI (ΔCDF)	4.57E-10	4.57E-10	4.57E-10	4.57E-10	4.57E-10	3.72E-09	3.72E-09	3.72E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.20E-09</b>	<b>-1.20E-09</b>	<b>-6.00E-09</b>	<b>-6.00E-09</b>	<b>-6.00E-09</b>	<b>-3.00E-09</b>	<b>-3.00E-09</b>	<b>-3.00E-09</b>

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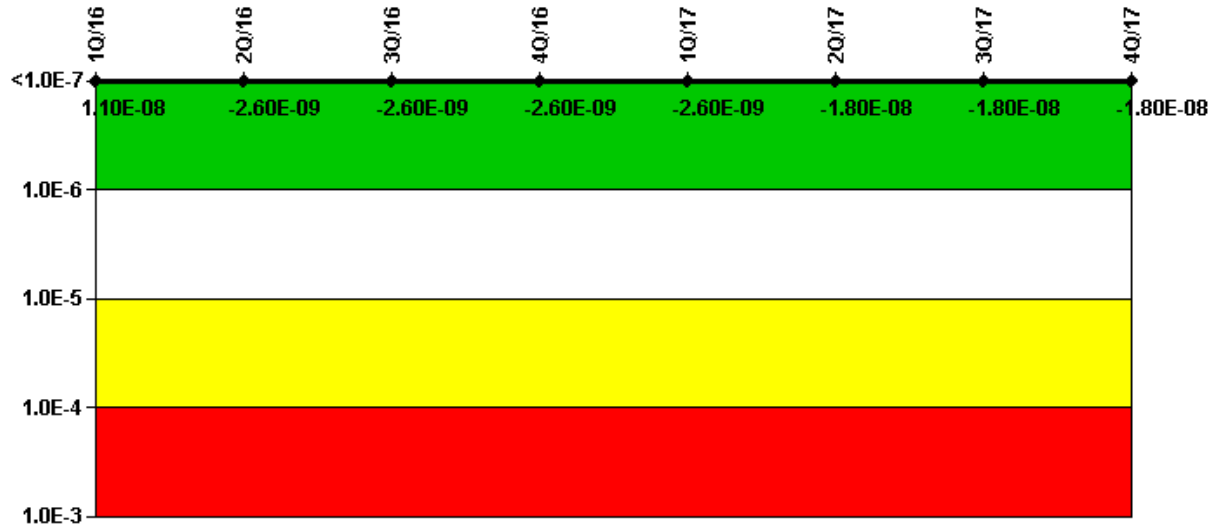
Licensee Comments:

3Q/17: Changed PRA Parameter(s). The BVPS Unit 2 PRA Model Revision 06a was approved on 4/01/2017 with a corresponding MSPI Document Revision 11 approved on 10/05/2017. 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.

2Q/17: Changed PRA Parameter(s). The BVPS Unit 2 PRA Model Revision 06a was approved on 4/01/2017 with a corresponding MSPI Document Revision 11 approved on 10/05/2017. 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.

1Q/16: 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)	1.21E-08	-1.33E-09	-1.33E-09	-1.33E-09	-1.33E-09	-1.63E-08	-1.63E-08	-1.63E-08
URI (ΔCDF)								

	-7.16E-10	-1.22E-09	-1.22E-09	-1.22E-09	-1.22E-09	-1.65E-09	-1.65E-09	-1.65E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>1.10E-08</b>	<b>-2.60E-09</b>	<b>-2.60E-09</b>	<b>-2.60E-09</b>	<b>-2.60E-09</b>	<b>-1.80E-08</b>	<b>-1.80E-08</b>	<b>-1.80E-08</b>

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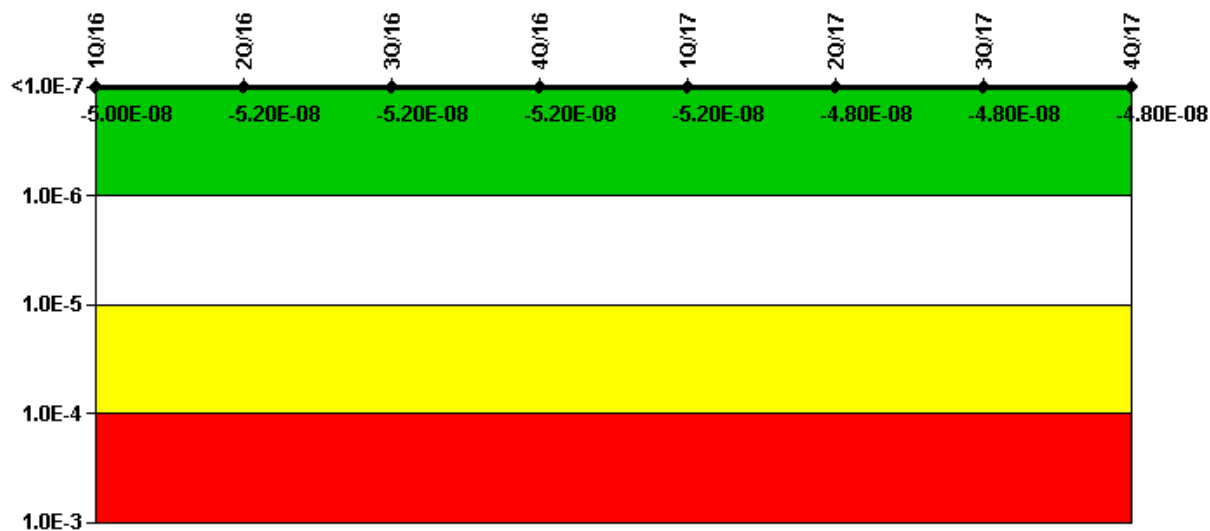
Licensee Comments:

3Q/17: Changed PRA Parameter(s). The BVPS Unit 2 PRA Model Revision 06a was approved on 4/01/2017 with a corresponding MSPI Document Revision 11 approved on 10/05/2017. 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.

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1Q/16: 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

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-1.60E-08	-1.73E-08	-1.73E-08	-1.73E-08	-1.73E-08	-1.88E-08	-1.88E-08	-1.88E-08
URI (ΔCDF)	-3.44E-08	-3.44E-08	-3.44E-08	-3.44E-08	-3.44E-08	-2.91E-08	-2.91E-08	-2.91E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO

Indicator value

-5.00E-08   -5.20E-08   -5.20E-08   -5.20E-08   -5.20E-08   -4.80E-08   -4.80E-08   -4.80E-08

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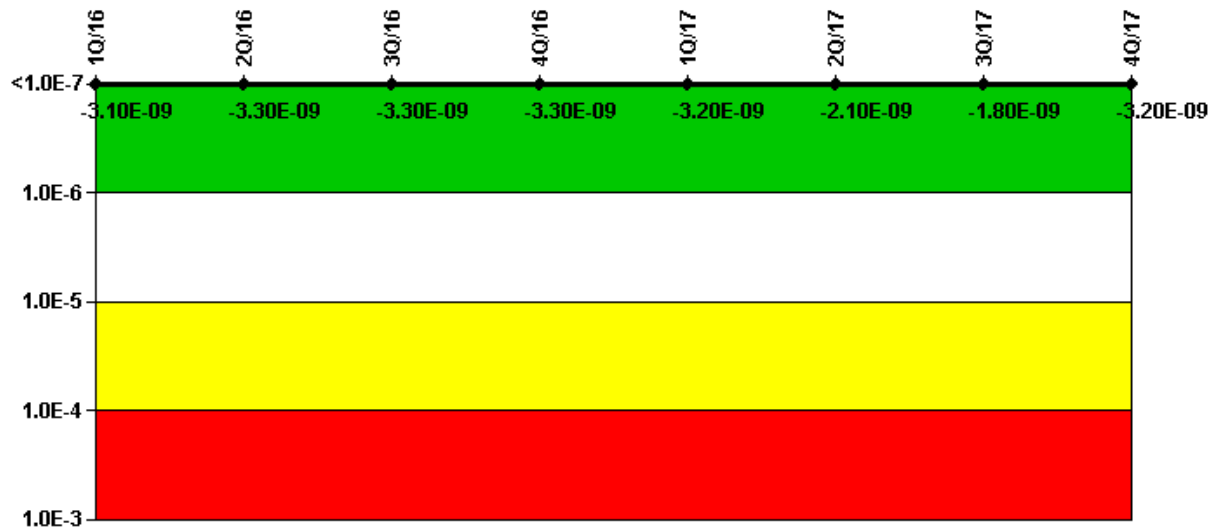
Licensee Comments:

3Q/17: Changed PRA Parameter(s). The BVPS Unit 2 PRA Model Revision 06a was approved on 4/01/2017 with a corresponding MSPI Document Revision 11 approved on 10/05/2017. 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.

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1Q/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

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-1.45E-09	-1.69E-09	-1.69E-09	-1.69E-09	-1.53E-09	-4.54E-10	-1.51E-10	-1.64E-09
URI (ΔCDF)	-1.65E-09	-1.65E-09	-1.65E-09	-1.65E-09	-1.65E-09	-1.61E-09	-1.61E-09	-1.61E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.10E-09	-3.30E-09	-3.30E-09	-3.30E-09	-3.20E-09	-2.10E-09	-1.80E-09	-3.20E-09

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Licensee Comments:

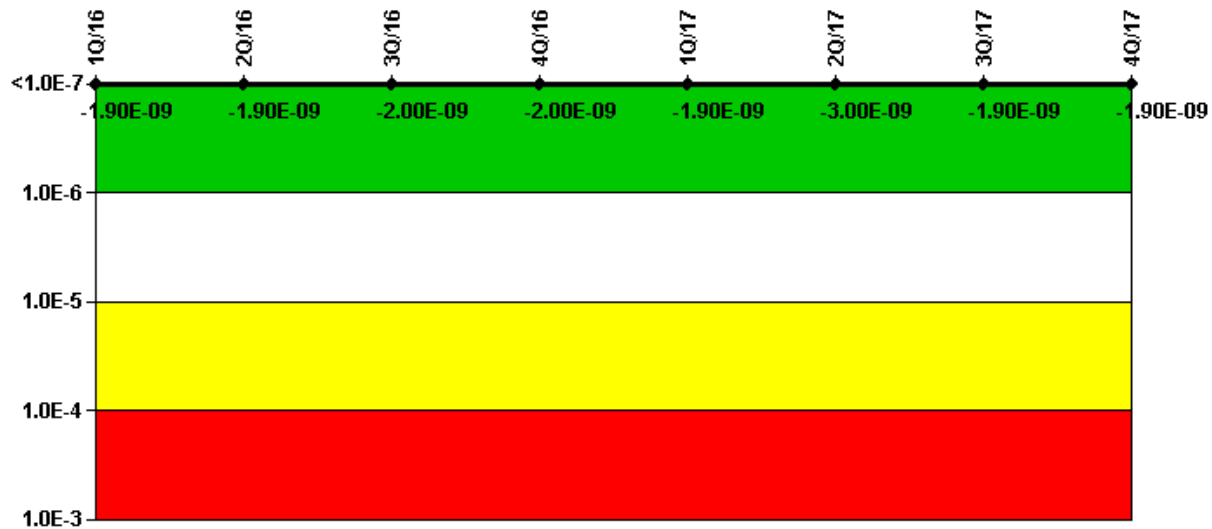
3Q/17: Changed PRA Parameter(s). The BVPS Unit 2 PRA Model Revision 06a was approved on 4/01/2017 with a corresponding MSPI

Document Revision 11 approved on 10/05/2017. 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.

2Q/17: Changed PRA Parameter(s). The BVPS Unit 2 PRA Model Revision 06a was approved on 4/01/2017 with a corresponding MSPI Document Revision 11 approved on 10/05/2017. 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.

1Q/16: 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**

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-1.67E-10	-1.67E-10	-1.95E-10	-1.95E-10	-7.18E-11	-2.65E-10	8.15E-10	8.15E-10
URI (ΔCDF)	-1.78E-09	-1.78E-09	-1.78E-09	-1.78E-09	-1.78E-09	-2.71E-09	-2.71E-09	-2.71E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
<b>Indicator value</b>	<b>-1.90E-09</b>	<b>-1.90E-09</b>	<b>-2.00E-09</b>	<b>-2.00E-09</b>	<b>-1.90E-09</b>	<b>-3.00E-09</b>	<b>-1.90E-09</b>	<b>-1.90E-09</b>

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Licensee Comments:

3Q/17: Changed PRA Parameter(s). The BVPS Unit 2 PRA Model Revision 06a was approved on 4/01/2017 with a corresponding MSPI Document Revision 11 approved on 10/05/2017. 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.

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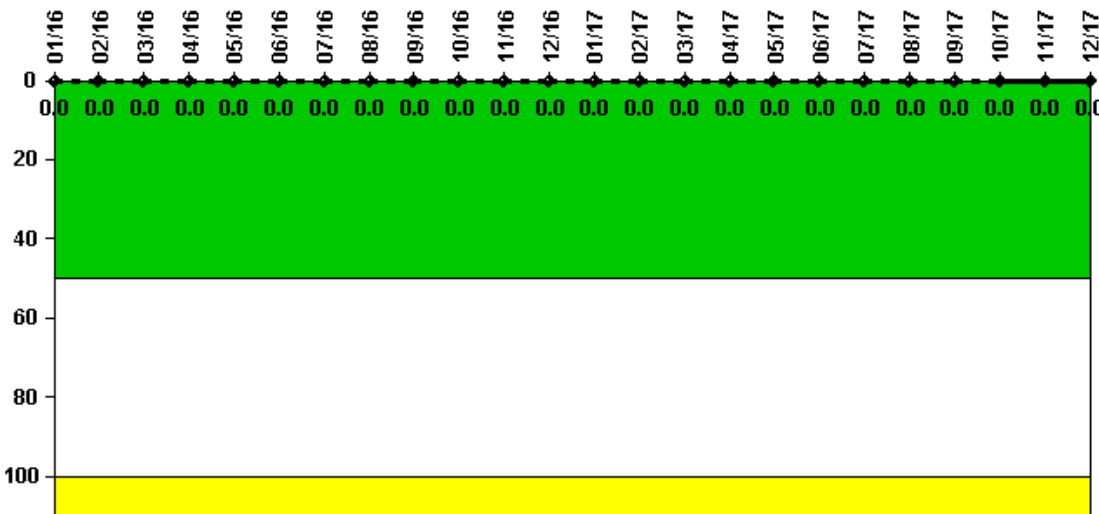


components were revised.

2Q/16: Previously reported value for Segment "F" 2016-05 was in error. The change has no impact on GREEN status. Reference Condition Report 2016-09566

1Q/16: Changed PRA Parameter(s).

### Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

**Notes**

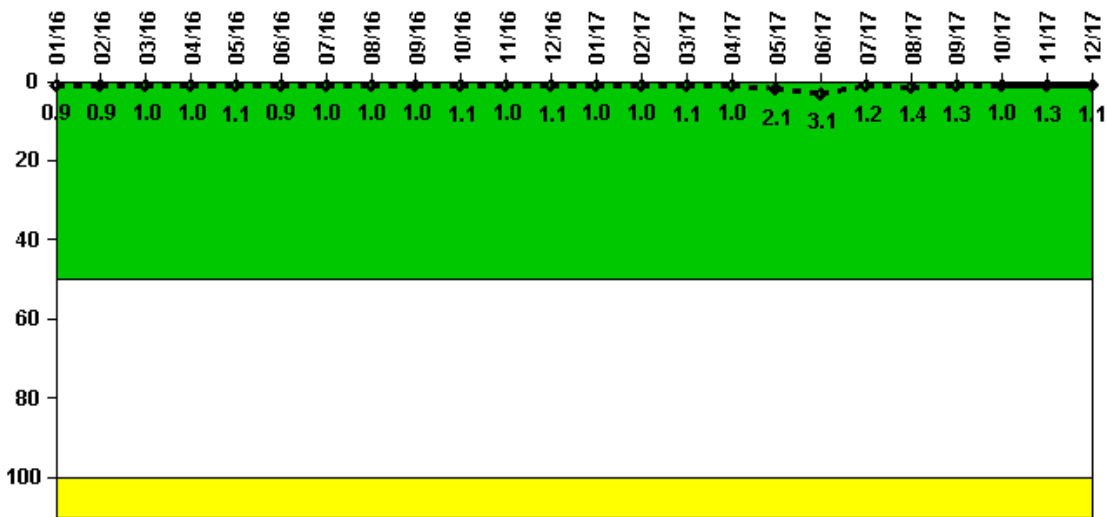
Reactor Coolant System Activity	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16
Maximum activity	0.000085	0.000087	0.000087	0.000090	0.000090	0.000091	0.000090	0.000091	0.000100	0.000105	0.000111	0.000107
Technical specification limit	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Indicator value	0	0	0	0	0	0	0	0	0	0	0	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	0.000116	0.000110	0.000143	0.000100	0.000063	0.000059	0.000067	0.000071	0.000076	0.000079	0.000085	0.000086
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	0

**Indicator value**

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Licensee Comments: none

**Reactor Coolant System Leakage**



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	0.090	0.090	0.100	0.100	0.110	0.090	0.100	0.100	0.100	0.110	0.100	0.110
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

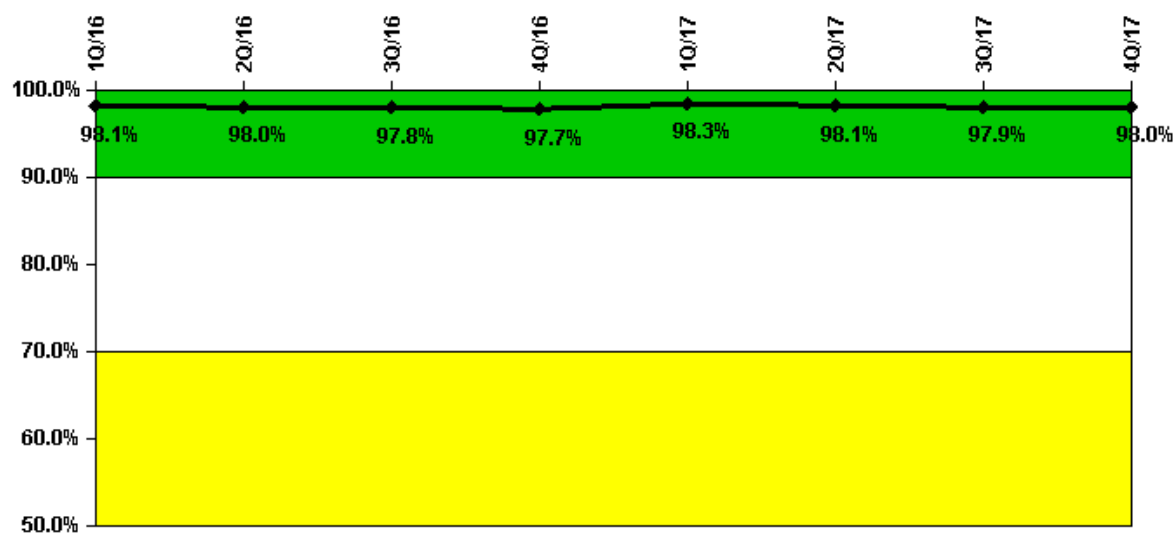
Indicator value	0.9	0.9	1.0	1.0	1.1	0.9	1.0	1.0	1.0	1.1	1.0	1.1
Reactor Coolant System Leakage	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17
Maximum leakage	0.100	0.100	0.110	0.100	0.210	0.310	0.120	0.140	0.130	0.100	0.130	0.110
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	1.0	1.0	1.1	1.0	2.1	3.1	1.2	1.4	1.3	1.0	1.3	1.1
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Licensee Comments: none

### Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

#### Notes

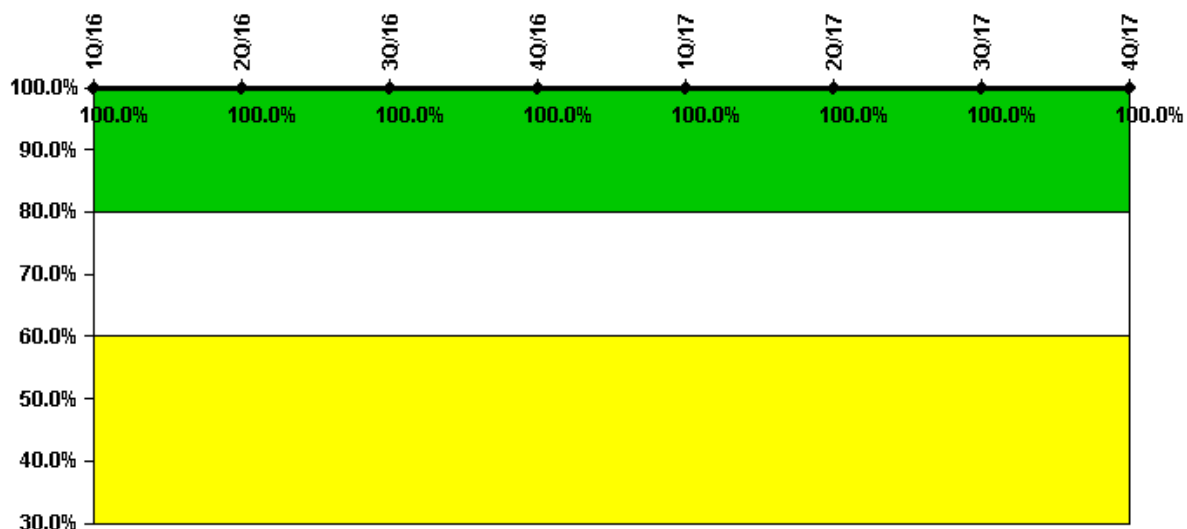
Drill/Exercise Performance	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful opportunities	62.0	68.0	39.0	42.0	92.0	35.0	69.0	40.0
Total opportunities	62.0	71.0	40.0	43.0	92.0	36.0	71.0	41.0

**Indicator value**                    **98.1% 98.0% 97.8% 97.7% 98.3% 98.1% 97.9% 98.0%**

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Licensee Comments: none

### ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

**Notes**

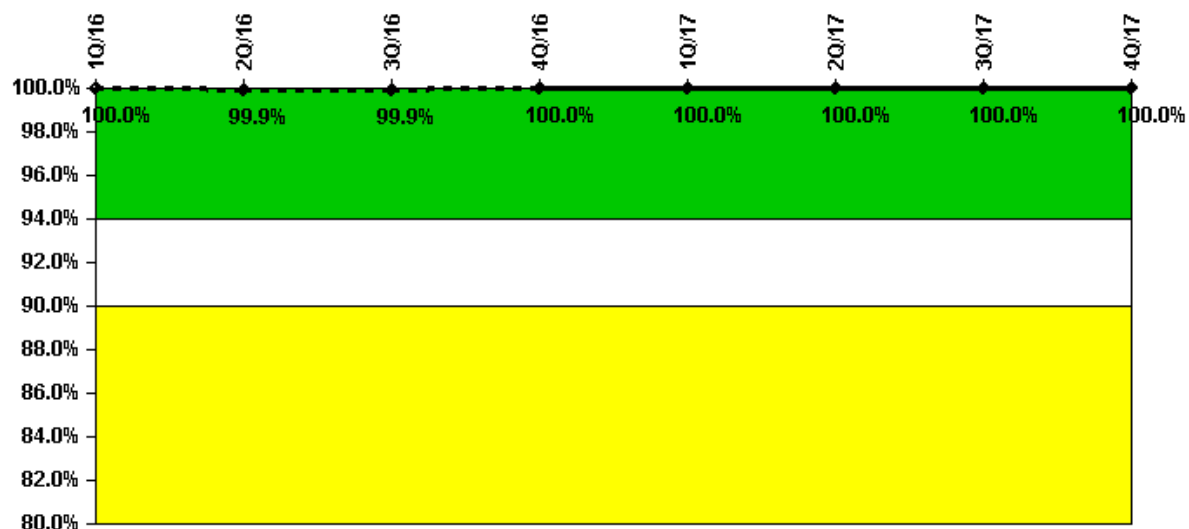
ERO Drill Participation	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Participating Key personnel	168.0	170.0	166.0	170.0	179.0	183.0	182.0	179.0
Total Key personnel	168.0	170.0	166.0	170.0	179.0	183.0	182.0	179.0

**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**

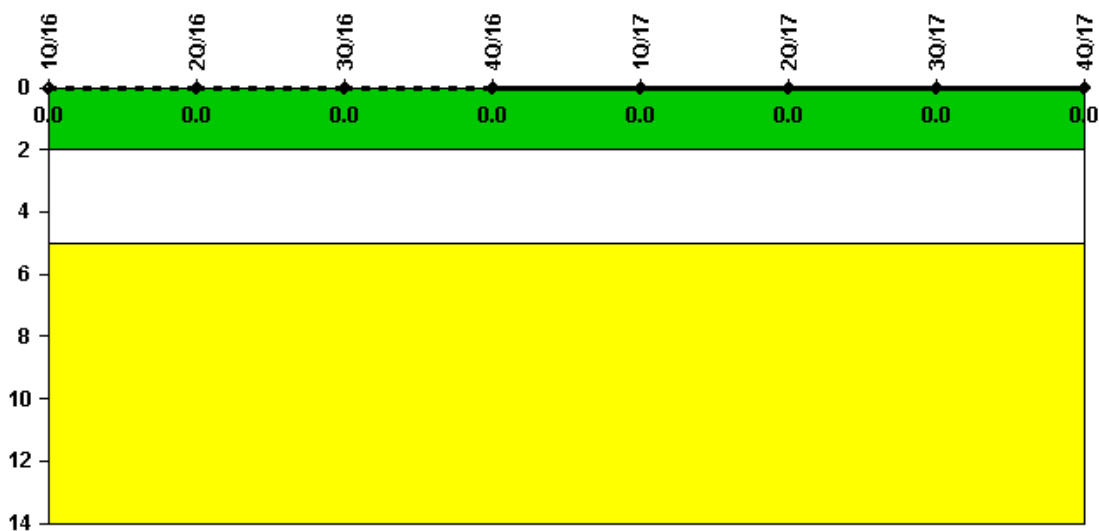
Alert & Notification System	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful siren-tests	1558	1559	1560	1560	1560	1533	1534	1534
Total sirens-tests	1560	1560	1560	1560	1560	1534	1534	1534

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

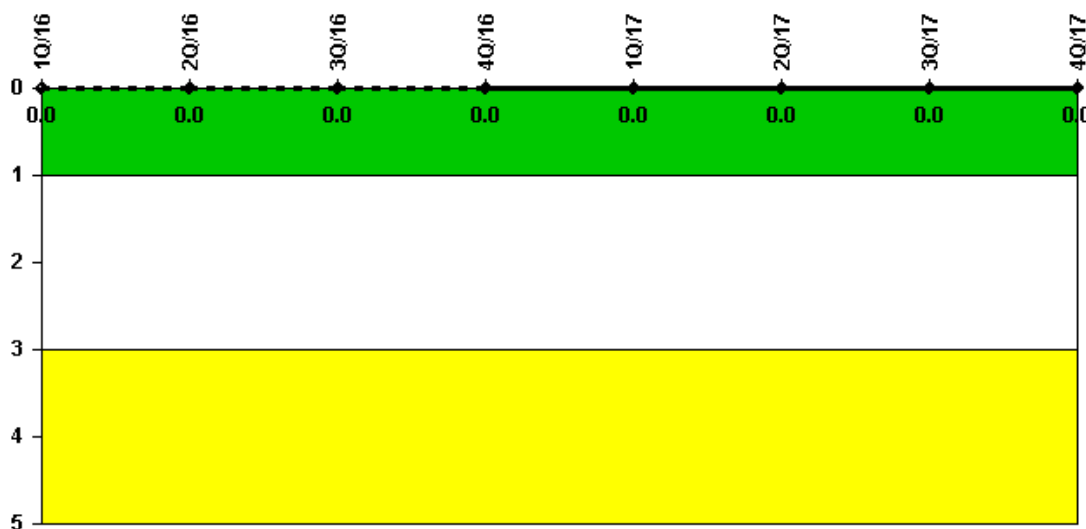
**Occupational Exposure Control Effectiveness** 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

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 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*