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Beaver Valley 1 – Quarterly Performance Indicators

4Q/2017 Performance Indicators

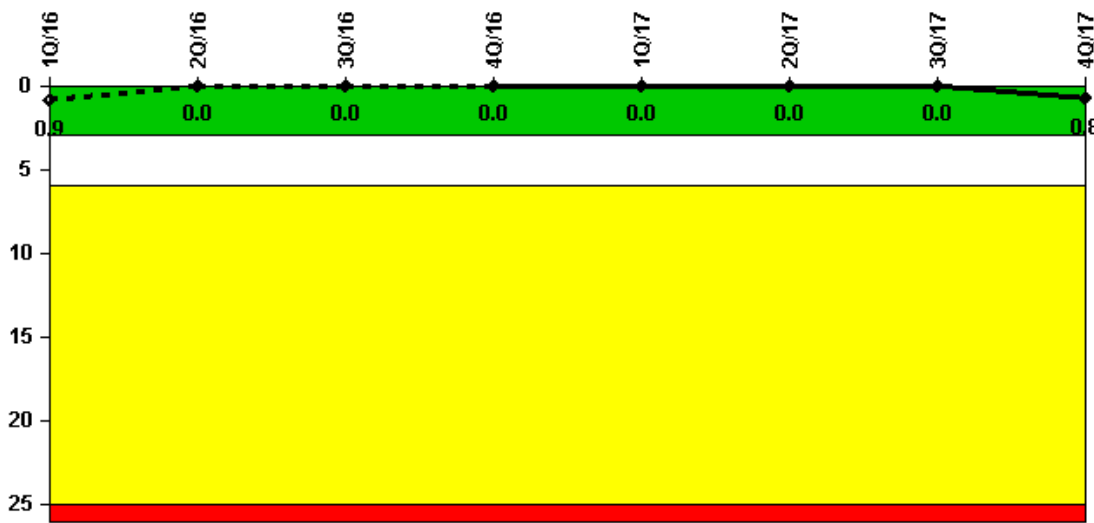
The solid trend line represents the current reporting period.

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)
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- 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

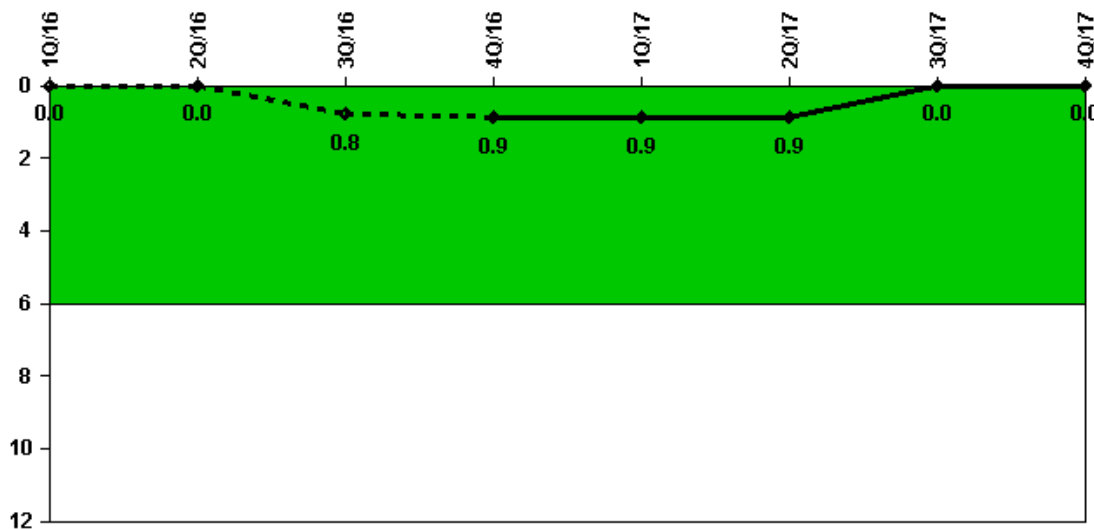
Unplanned Scrams per 7000 Critical Hrs	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Unplanned scrams	0	0	0	0	0	0	0	1.0
Critical hours	2183.0	2184.0	2040.3	1653.7	2159.0	2184.0	2208.0	2091.9

Indicator value	0.9	0	0	0	0	0	0	0.8
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Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

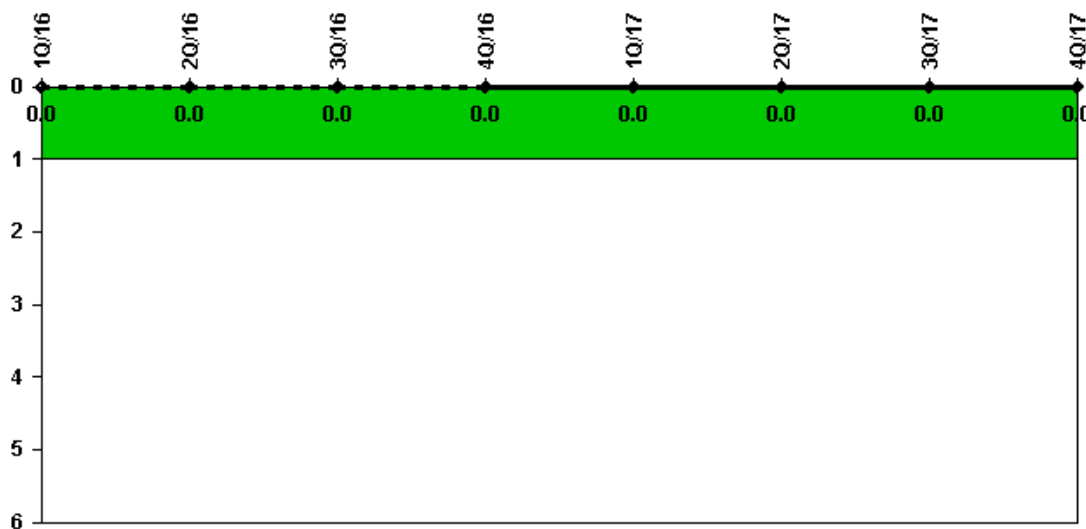
Notes

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	2183.0	2184.0	2040.3	1653.7	2159.0	2184.0	2208.0	2091.9
Indicator value	0	0	0.8	0.9	0.9	0.9	0	0

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Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

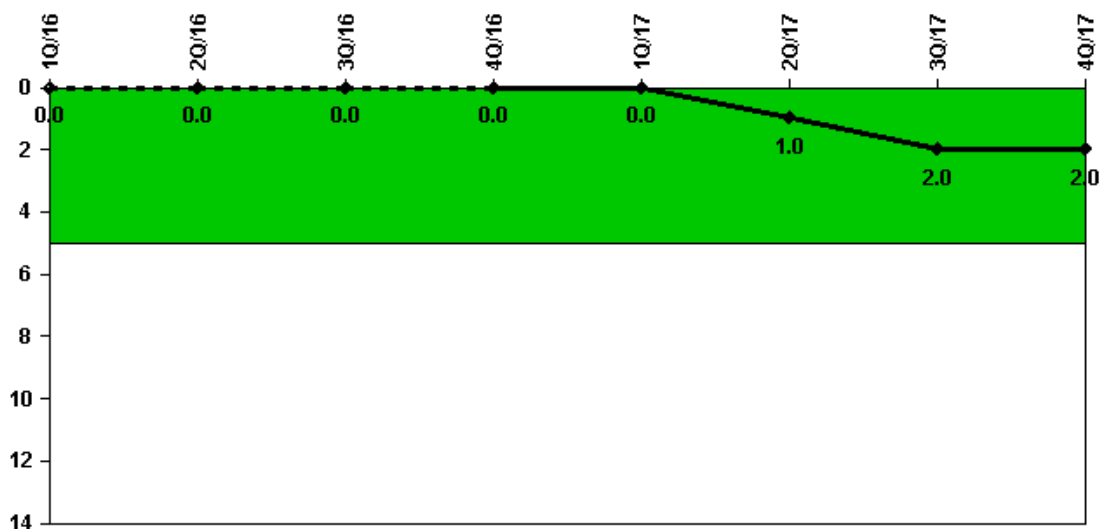
Notes

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

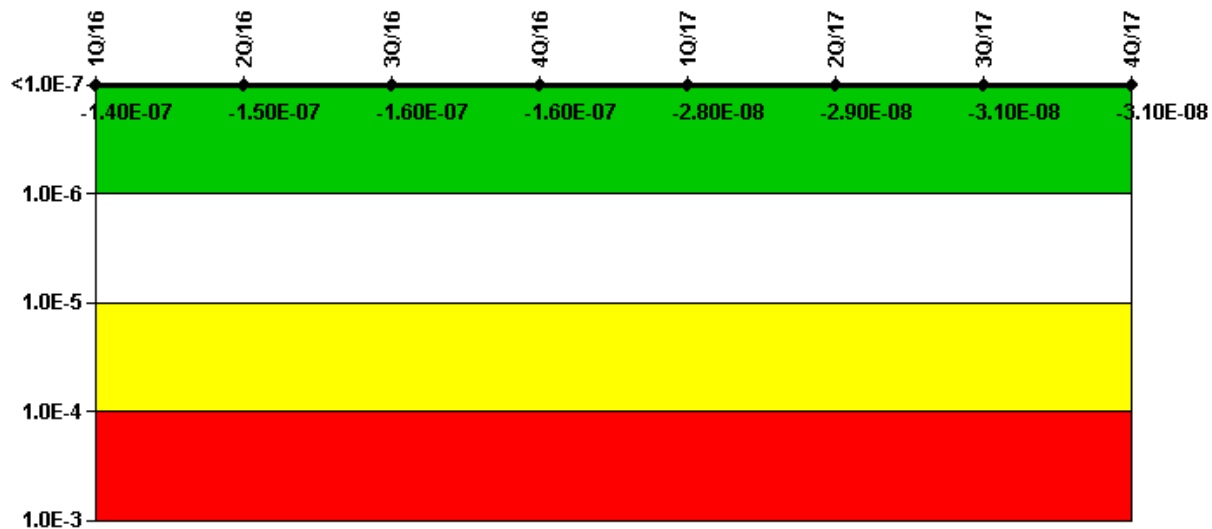
Safety System Functional Failures 0 0 0 0 0 1 1 0

Indicator value 0 0 0 0 0 1 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

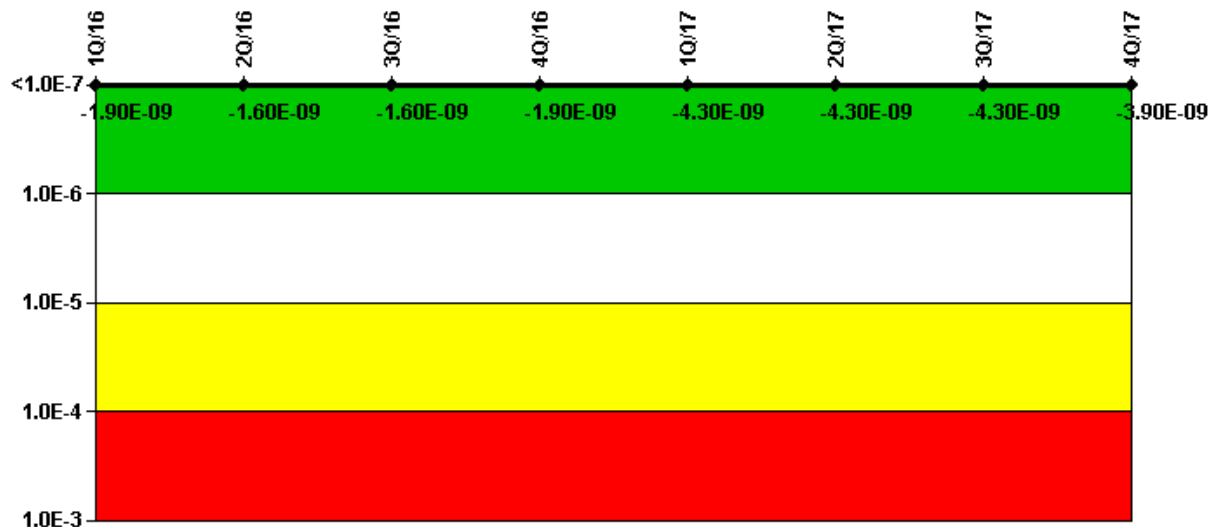
AC Power System	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-1.37E-09	-9.60E-09	-1.76E-08	-2.12E-08	-1.29E-09	-2.30E-09	-4.33E-09	-3.47E-09
URI (ΔCDF)	-1.40E-07	-1.40E-07	-1.40E-07	-1.40E-07	-2.72E-08	-2.72E-08	-2.72E-08	-2.72E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.40E-07	-1.50E-07	-1.60E-07	-1.60E-07	-2.80E-08	-2.90E-08	-3.10E-08	-3.10E-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

	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-1.26E-09	-9.49E-10	-9.68E-10	-1.32E-09	-2.98E-09	-2.95E-09	-2.98E-09	-2.52E-09
URI (ΔCDF)	-6.06E-10	-6.06E-10	-6.06E-10	-6.06E-10	-1.34E-09	-1.34E-09	-1.34E-09	-1.34E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO

Indicator value

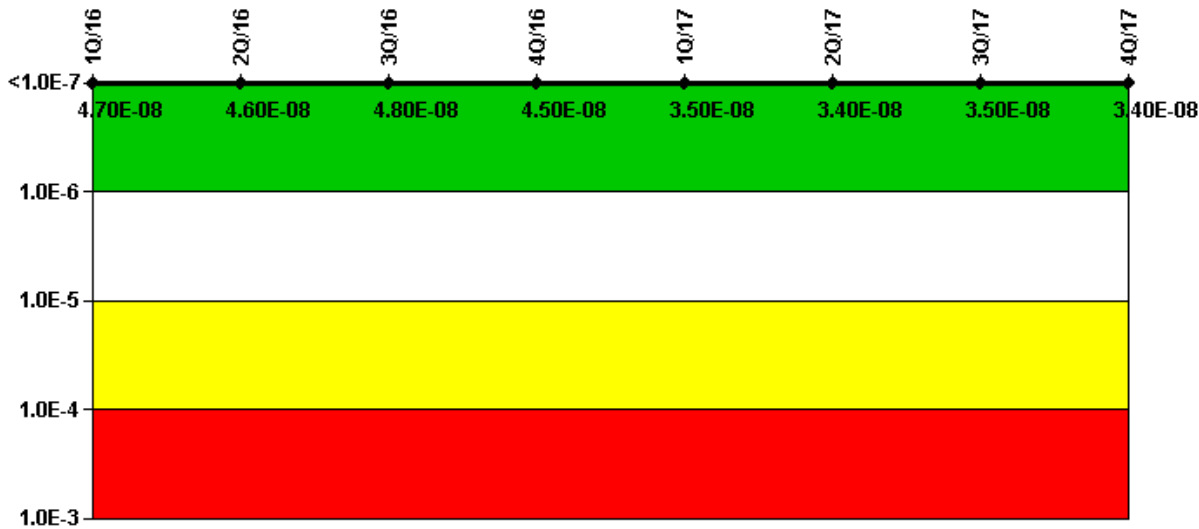
-1.90E-09 -1.60E-09 -1.60E-09 -1.90E-09 -4.30E-09 -4.30E-09 -4.30E-09 -3.90E-09

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

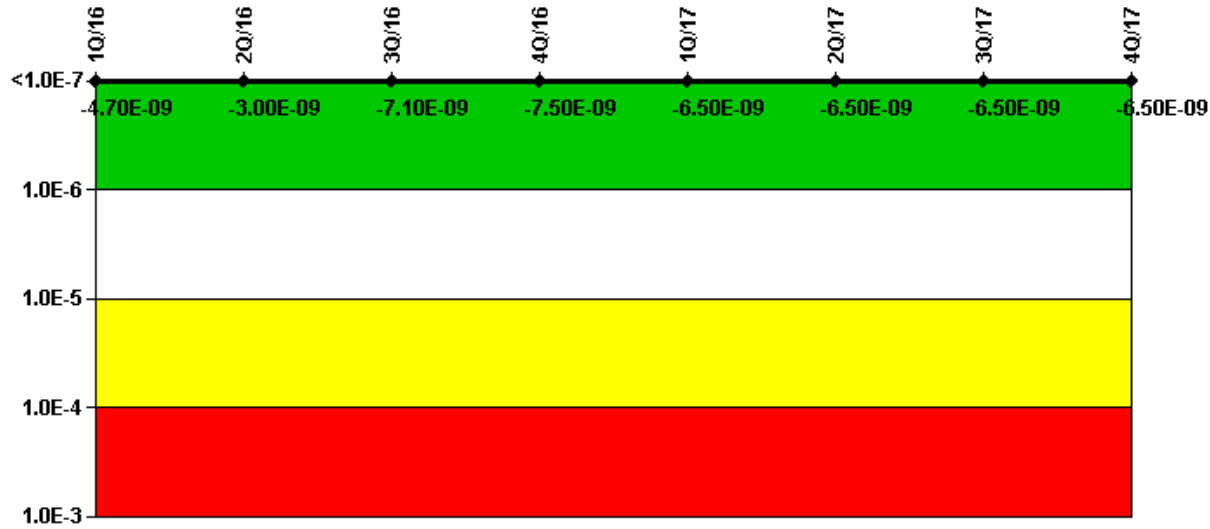
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	6.04E-09	5.55E-09	6.83E-09	3.95E-09	2.55E-09	1.24E-09	2.78E-09	1.99E-09
URI (ΔCDF)	4.06E-08	4.06E-08	4.07E-08	4.10E-08	3.23E-08	3.23E-08	3.23E-08	3.15E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	4.70E-08	4.60E-08	4.80E-08	4.50E-08	3.50E-08	3.40E-08	3.50E-08	3.40E-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

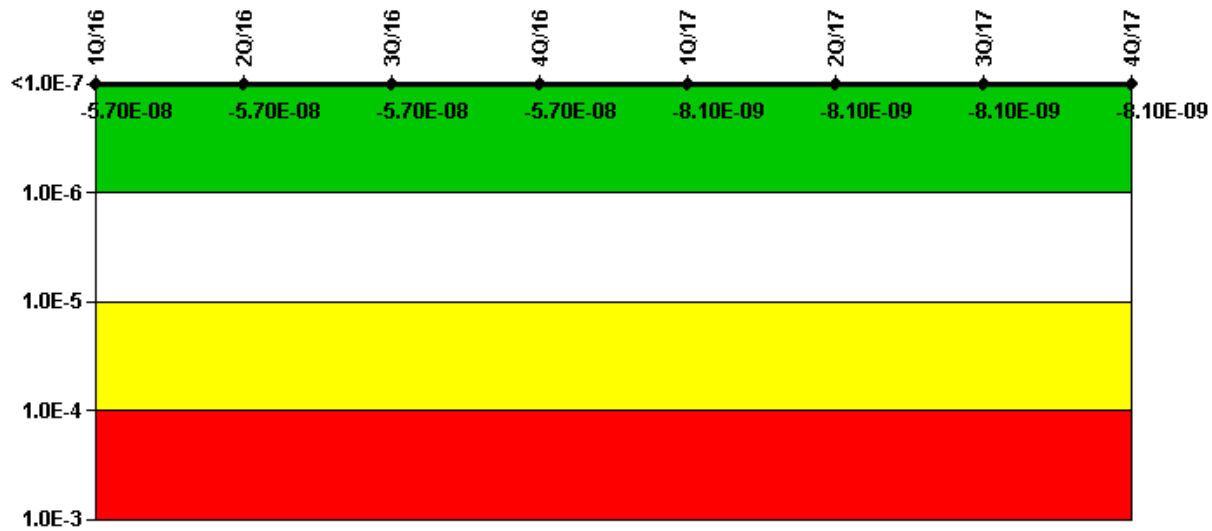
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	4.47E-10	2.19E-09	-1.97E-09	-2.32E-09	-1.66E-09	-1.66E-09	-1.66E-09	-1.66E-09
URI (ΔCDF)	-5.15E-09	-5.15E-09	-5.15E-09	-5.15E-09	-4.80E-09	-4.80E-09	-4.80E-09	-4.80E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-4.70E-09	-3.00E-09	-7.10E-09	-7.50E-09	-6.50E-09	-6.50E-09	-6.50E-09	-6.50E-09

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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

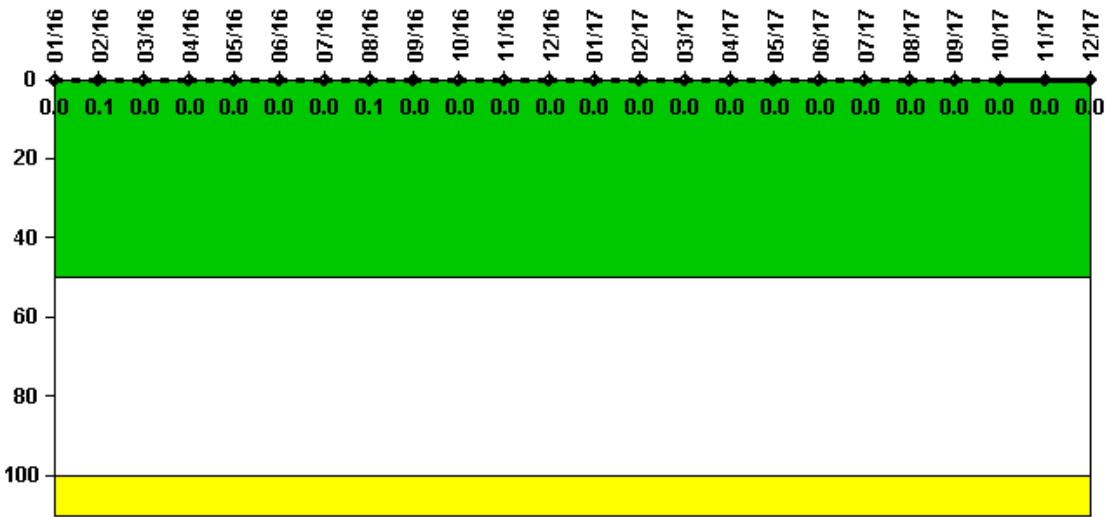
	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
UAI (ΔCDF)	-4.52E-08	-4.52E-08	-4.52E-08	-4.52E-08	-6.64E-09	-6.62E-09	-6.64E-09	-6.64E-09
URI (ΔCDF)	-1.18E-08	-1.18E-08	-1.18E-08	-1.18E-08	-1.49E-09	-1.49E-09	-1.49E-09	-1.49E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-5.70E-08	-5.70E-08	-5.70E-08	-5.70E-08	-8.10E-09	-8.10E-09	-8.10E-09	-8.10E-09

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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, Fussler-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

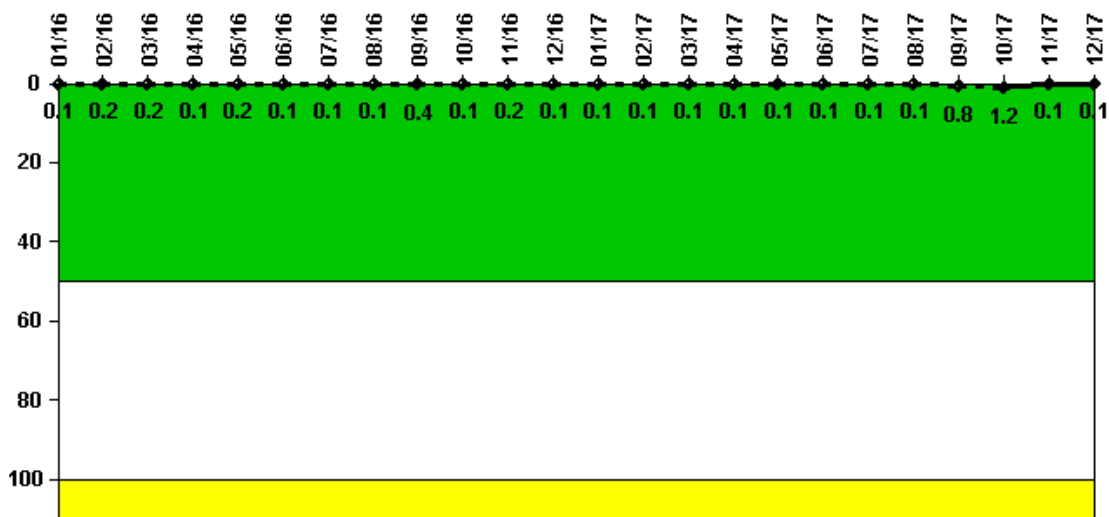
Reactor Coolant System Activity	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16	10/16	11/16	12/16
Maximum activity	0.000129	0.000192	0.000111	0.000128	0.000117	0.000118	0.000125	0.000310	0.000117	0.000024	0.000078	0.000070
Technical specification limit	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Indicator value	0	0.1	0	0	0	0	0	0.1	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	0.000077	0.000079	0.000089	0.000096	0.000096	0.000093	0.000098	0.000110	0.000106	0.000110	0.000119	0.000112
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

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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	0.010	0.020	0.020	0.010	0.020	0.010	0.010	0.010	0.040	0.010	0.020	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

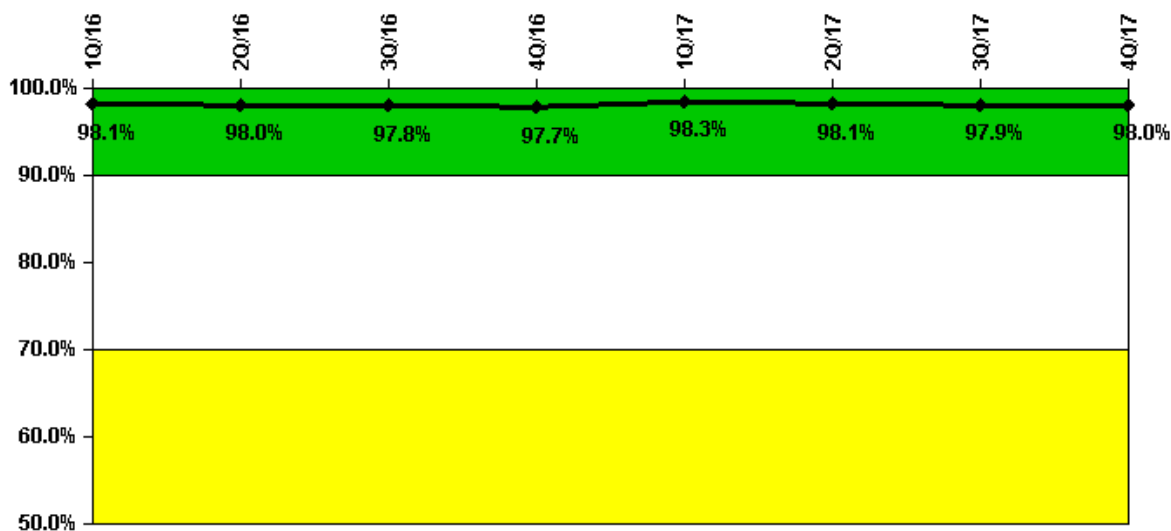
Indicator value	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.4	0.1	0.2	0.1
Reactor Coolant System Leakage	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17
Maximum leakage	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.080	0.120	0.010	0.010
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8	1.2	0.1	0.1
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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

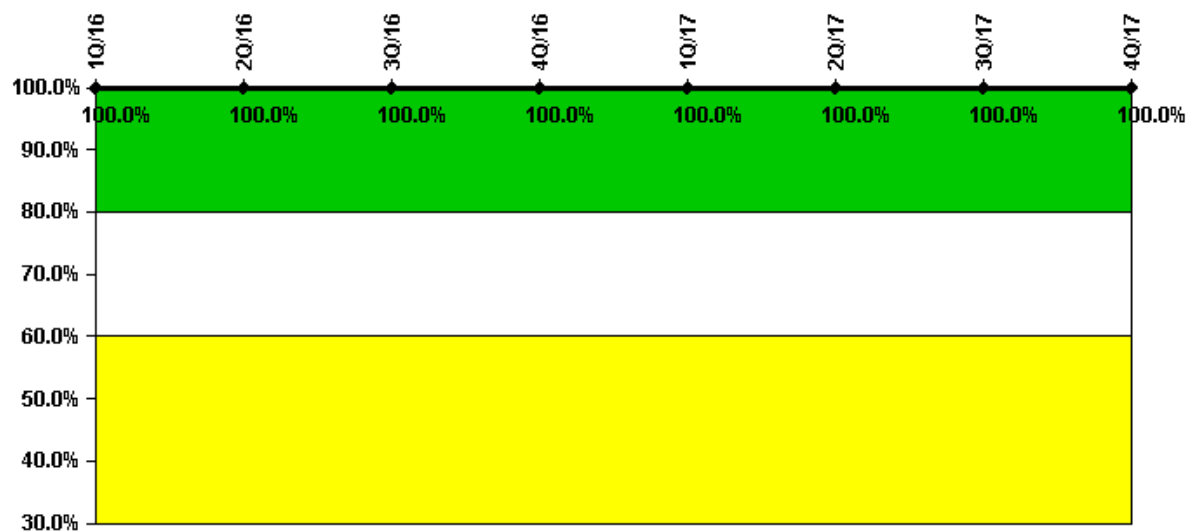
Drill/Exercise Performance	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful opportunities	62.0	68.0	39.0	42.0	92.0	35.0	69.0	40.0
Total opportunities	62.0	71.0	40.0	43.0	92.0	36.0	71.0	41.0

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

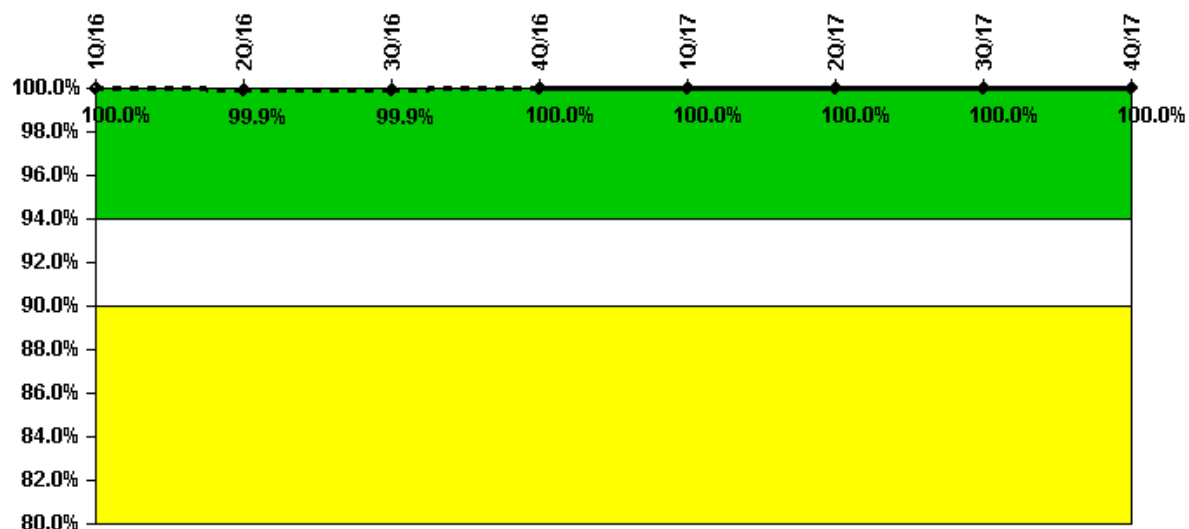
ERO Drill Participation	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Participating Key personnel	168.0	170.0	166.0	170.0	179.0	183.0	182.0	179.0
Total Key personnel	168.0	170.0	166.0	170.0	179.0	183.0	182.0	179.0

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

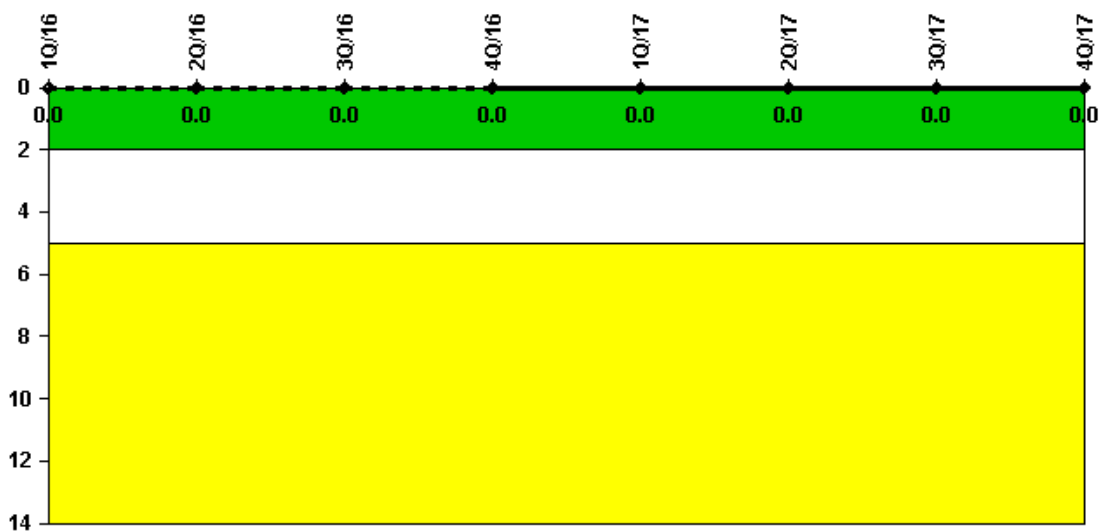
Alert & Notification System	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17	4Q/17
Successful siren-tests	1558	1559	1560	1560	1560	1533	1534	1534
Total sirens-tests	1560	1560	1560	1560	1560	1534	1534	1534

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

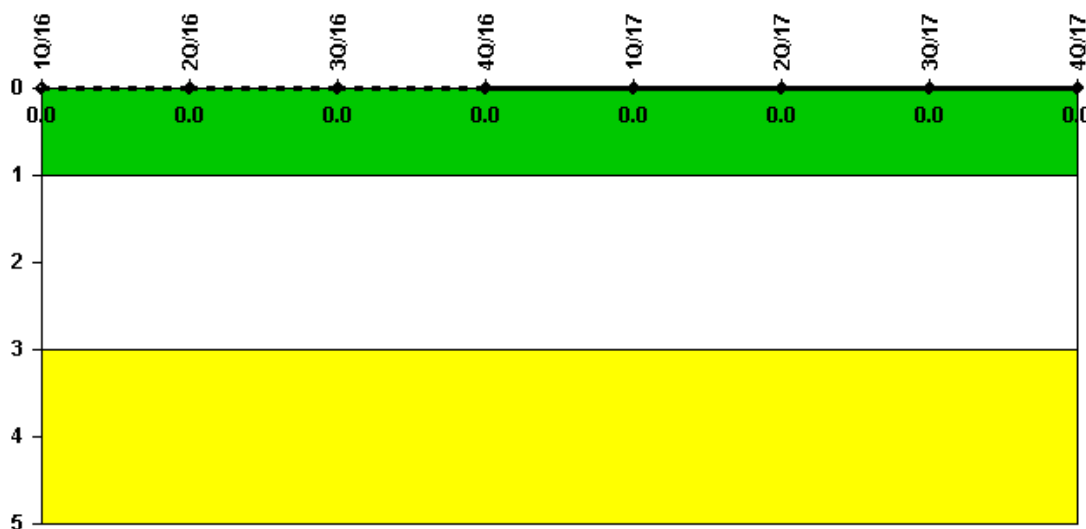
Occupational Exposure Control Effectiveness 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17 4Q/17

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
Indicator value	0	0	0	0	0	0	0	0

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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