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Prairie Island 2 – Quarterly Performance Indicators

3Q/2017 Performance Indicators

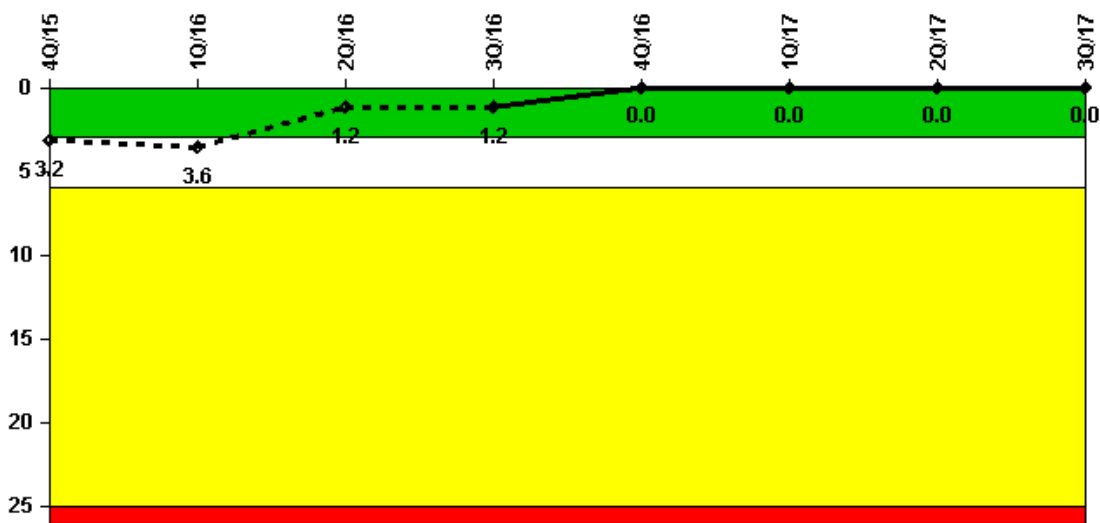
The solid trend line represents the current reporting period.

Licensee's General Comments: none

On this page:

- Unplanned Scrams (IE01)
- Unplanned Power Changes per 7000 Critical Hours (IE03)
- Unplanned Scrams with Complications (IE04)
- 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	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned scrams	1.0	0	0	0	0	0	0	0
Critical hours	718.8	921.2	2184.0	2208.0	2209.0	2159.0	2184.0	2208.0

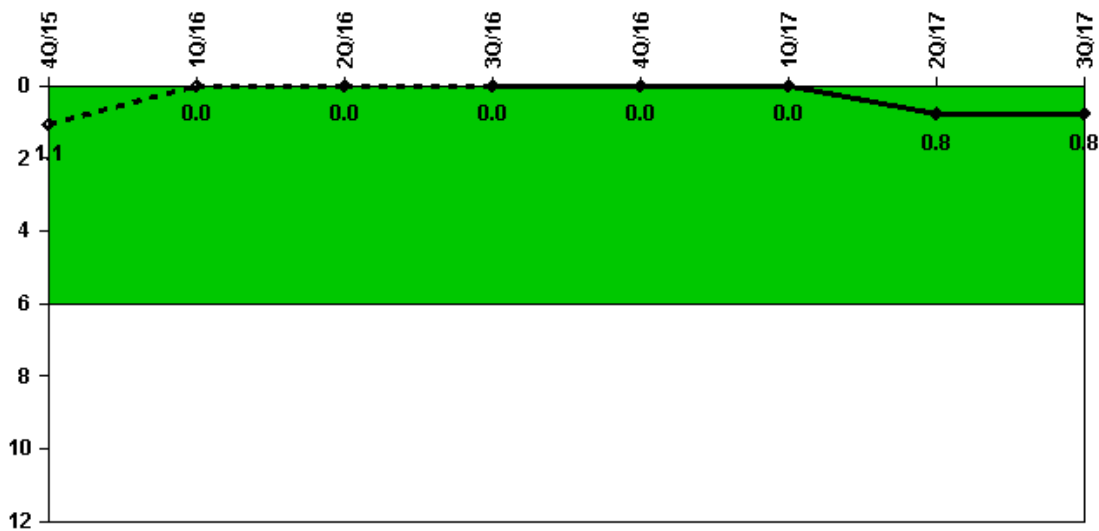
Indicator value	3.2	3.6	1.2	1.2	0	0	0	0
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Licensee Comments:

4Q/15: The Green-White threshold has been exceeded for this indicator due to three unplanned scrams in 2015 (April, June & December).

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

Notes

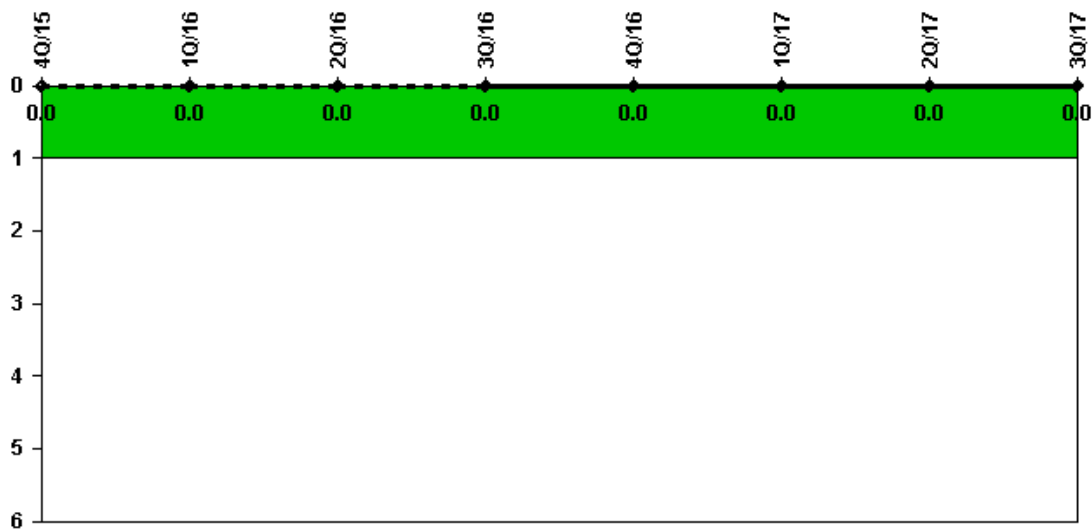
Unplanned Power Changes per 7000 Critical Hrs	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Unplanned power changes	0	0	0	0	0	0	1.0	0
Critical hours	718.8	921.2	2184.0	2208.0	2209.0	2159.0	2184.0	2208.0

Indicator value	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
	1.1	0	0	0	0	0	0.8	0.8

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Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

Notes

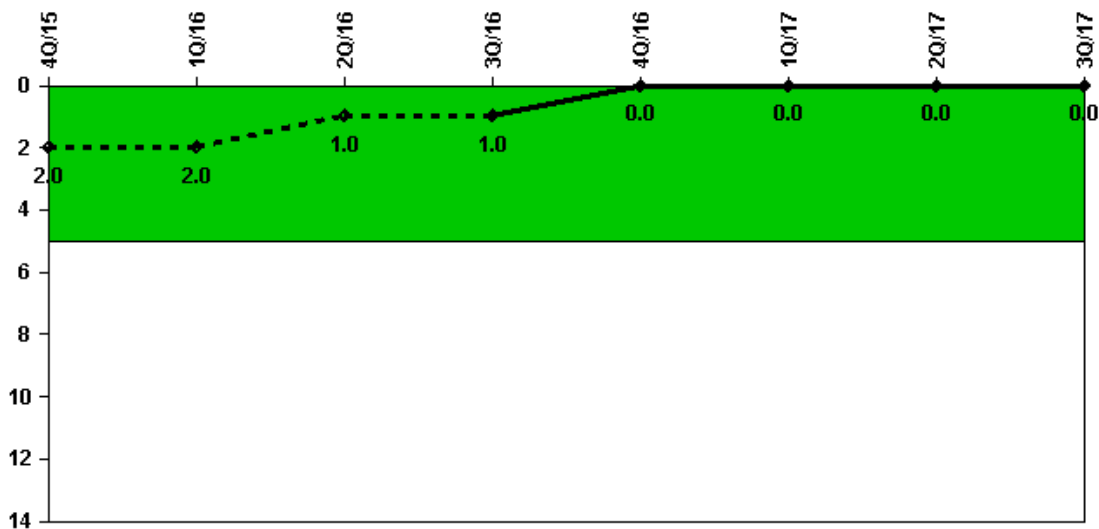
Unplanned Scrams with Complications 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17
 Scrams with complications 0 0 0 0 0 0 0 0

Indicator value 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) 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

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

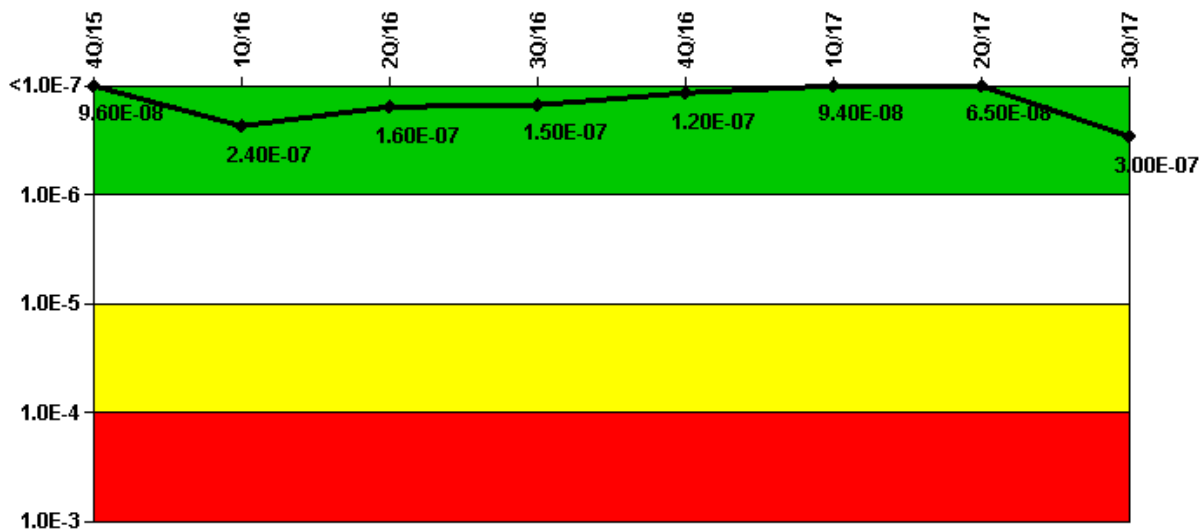
Indicator value 2 2 1 1 0 0 0 0

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Licensee Comments:

4Q/15: LER 50-282/2015-006-00, reported on 10/5/15 for Quarterly Containment Spray Pump Surveillance Test Methodology

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)	1.03E-07	2.20E-07	1.47E-07	1.33E-07	1.04E-07	7.95E-08	4.98E-08	1.67E-07
URI (ΔCDF)	-6.87E-09	1.53E-08	1.53E-08	1.53E-08	1.53E-08	1.46E-08	1.52E-08	1.29E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	9.60E-08	2.40E-07	1.60E-07	1.50E-07	1.20E-07	9.40E-08	6.50E-08	3.00E-07

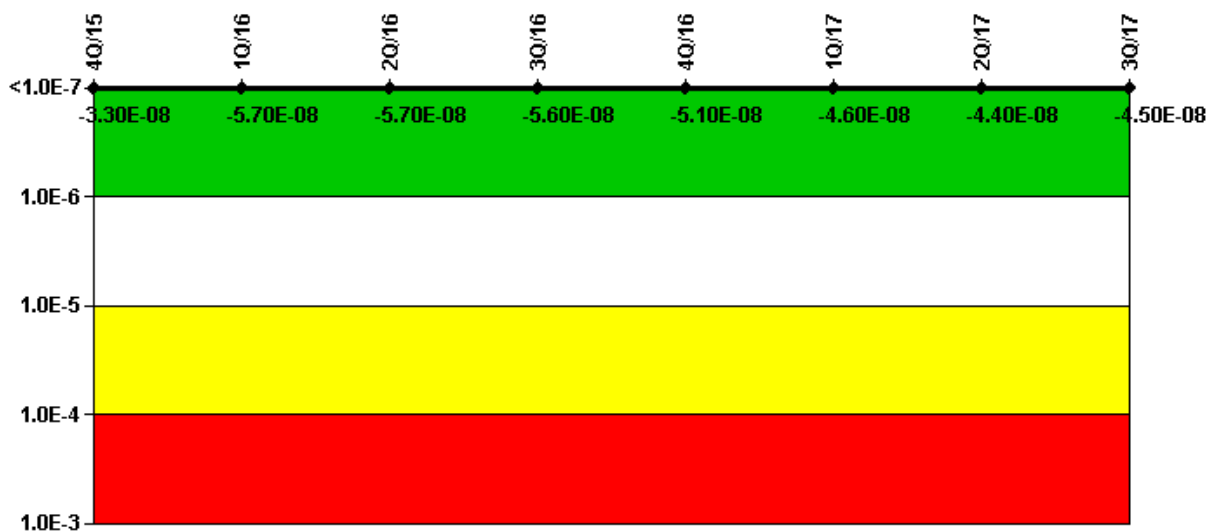
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Licensee Comments:

1Q/17: Changed PRA Parameter(s).

1Q/16: Changed PRA Parameter(s). The PINGP PRA Model Revision 5.2 was approved on 11/30/2015 with corresponding MSPI Basis Document Revision 20 approved 3/18/2016. This incorporates FAQ 14-01, data analysis update and plant installed Mayer Groove RCP seals.

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 (Δ CDF)	-7.89E-09	-1.68E-08	-1.68E-08	-1.59E-08	-1.63E-08	-1.38E-08	-1.26E-08	-1.28E-08
URI (Δ CDF)	-2.48E-08	-4.03E-08	-4.03E-08	-4.03E-08	-3.50E-08	-3.19E-08	-3.19E-08	-3.19E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.30E-08	-5.70E-08	-5.70E-08	-5.60E-08	-5.10E-08	-4.60E-08	-4.40E-08	-4.50E-08

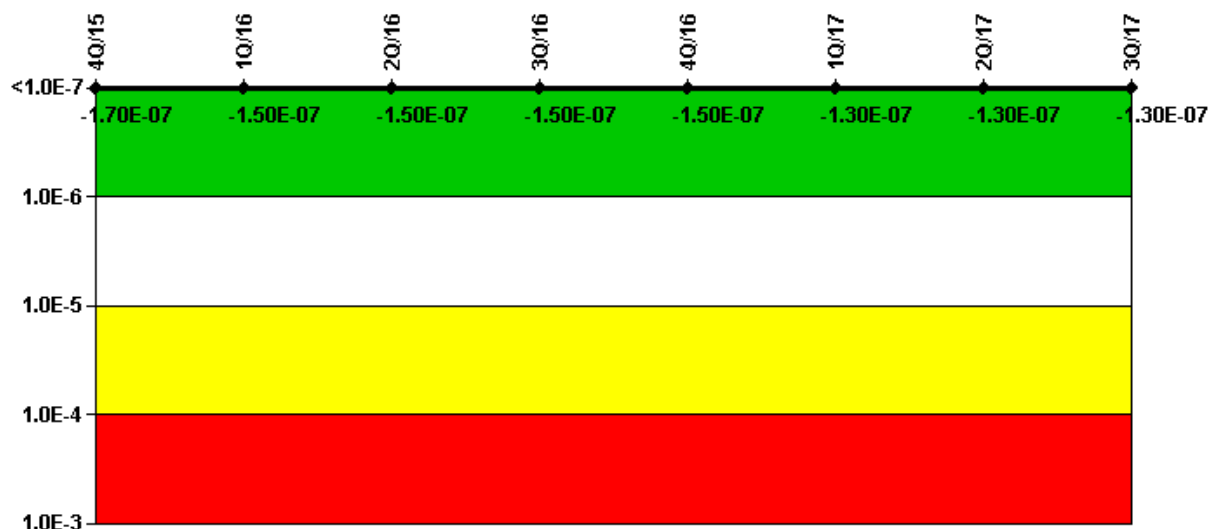
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Licensee Comments:

1Q/17: Changed PRA Parameter(s).

1Q/16: Changed PRA Parameter(s). The PINGP PRA Model Revision 5.2 was approved on 11/30/2015 with corresponding MSPI Basis Document Revision 20 approved 3/18/2016. This incorporates FAQ 14-01, data analysis update and plant installed Mayer Groove RCP seals.

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 (Δ CDF)	-2.69E-08	-3.02E-08	-3.02E-08	-3.02E-08	-3.02E-08	-2.42E-08	-2.41E-08	-2.42E-08
URI (Δ CDF)	-1.45E-07	-1.18E-07	-1.18E-07	-1.18E-07	-1.16E-07	-1.01E-07	-1.02E-07	-1.02E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.70E-07	-1.50E-07	-1.50E-07	-1.50E-07	-1.50E-07	-1.30E-07	-1.30E-07	-1.30E-07

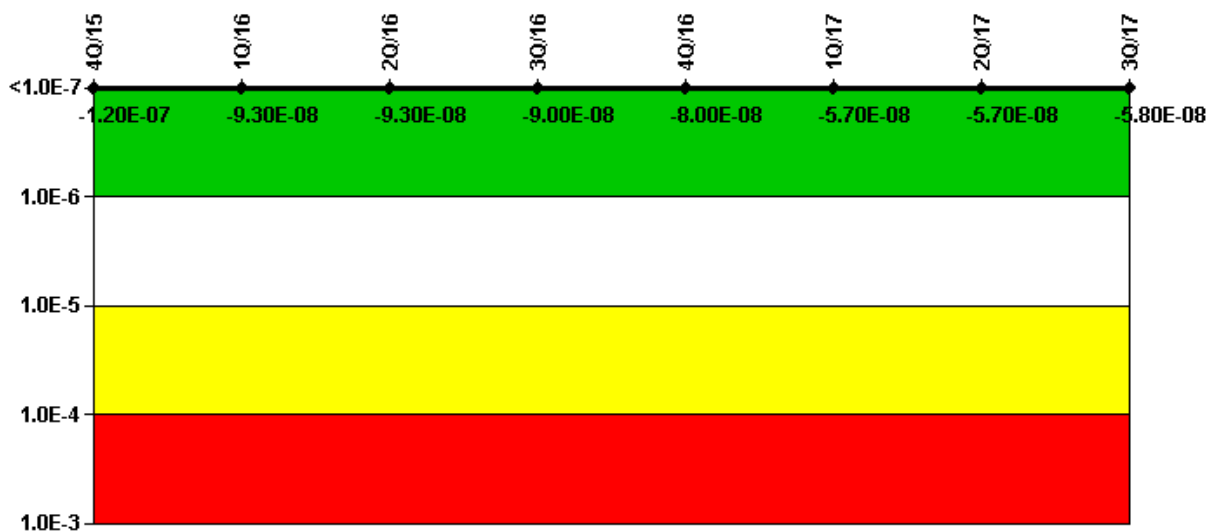
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Licensee Comments:

1Q/17: Changed PRA Parameter(s).

1Q/16: Changed PRA Parameter(s). The PINGP PRA Model Revision 5.2 was approved on 11/30/2015 with corresponding MSPI Basis Document Revision 20 approved 3/18/2016. This incorporates FAQ 14-01, data analysis update and plant installed Mayer Groove RCP seals.

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)	-1.73E-08	-1.46E-08	-1.46E-08	-1.46E-08	-1.46E-08	-1.25E-08	-1.25E-08	-1.25E-08
URI (ΔCDF)	-1.06E-07	-7.83E-08	-7.83E-08	-7.56E-08	-6.57E-08	-4.49E-08	-4.49E-08	-4.51E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.20E-07	-9.30E-08	-9.30E-08	-9.00E-08	-8.00E-08	-5.70E-08	-5.70E-08	-5.80E-08

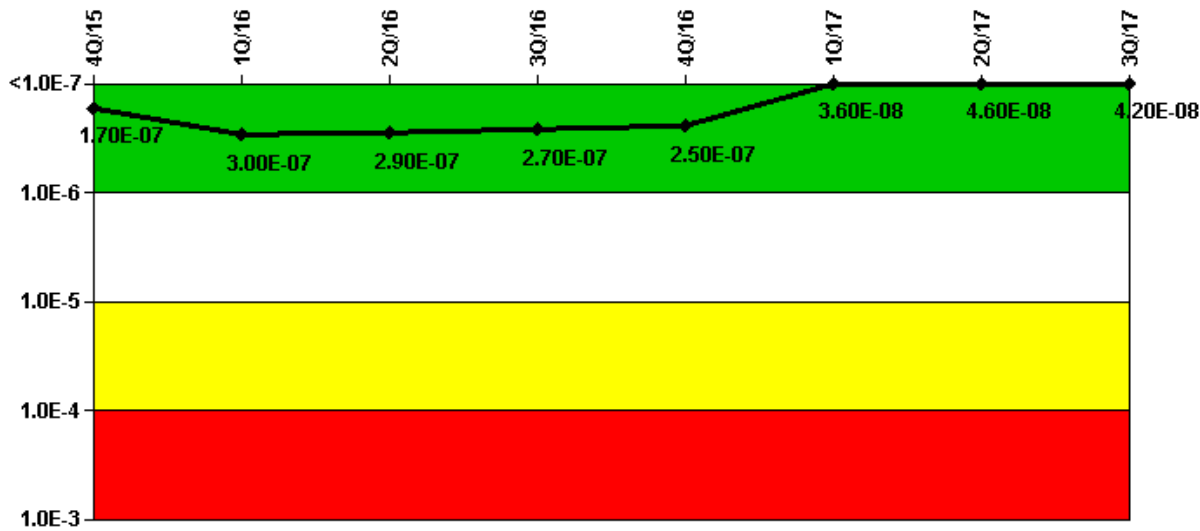
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Licensee Comments:

1Q/17: Changed PRA Parameter(s).

1Q/16: Changed PRA Parameter(s). The PINGP PRA Model Revision 5.2 was approved on 11/30/2015 with corresponding MSPI Basis Document Revision 20 approved 3/18/2016. This incorporates FAQ 14-01, data analysis update and plant installed Mayer Groove RCP seals.

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 (ΔCDF)	2.09E-07	2.90E-07	2.78E-07	2.60E-07	2.41E-07	1.25E-07	1.35E-07	1.31E-07
URI (ΔCDF)	-3.75E-08	7.65E-09	7.78E-09	7.98E-09	9.82E-09	-8.93E-08	-8.91E-08	-8.89E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	1.70E-07	3.00E-07	2.90E-07	2.70E-07	2.50E-07	3.60E-08	4.60E-08	4.20E-08

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Licensee Comments:

2Q/17: Corrected device type for motor valves which became MSPI monitored components effective 1/1/2016.

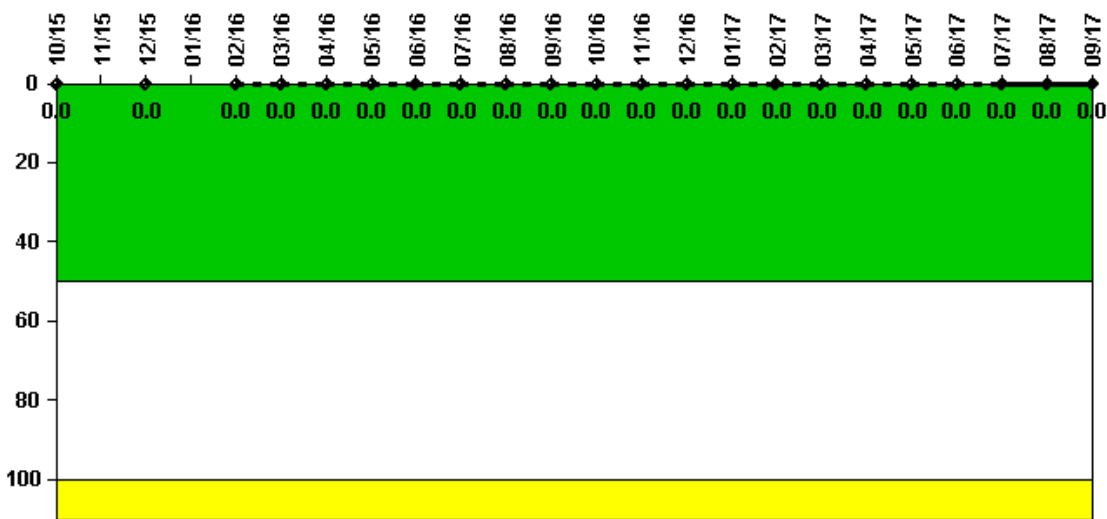
1Q/17: Changed PRA Parameter(s).

1Q/16: The PINGP PRA Model Revision 5.2 was approved on 11/30/2015 with corresponding MSPI Basis Document Revision 20 approved 3/18/2016. This incorporates FAQ 14-01, data analysis update and plant installed Mayer Groove RCP seals.

1Q/16: Changed PRA Parameter(s). The PINGP PRA Model Revision 5.2 was approved on 11/30/2015 with corresponding MSPI Basis Document Revision 20 approved 3/18/2016. This incorporates FAQ 14-01, data analysis update and plant installed Mayer Groove RCP seals.

4Q/15: The pending evaluation for loss of bearing water pressure on 121 motor driven cooling water pump in a previous quarter was not an MSPI failure. Bearing water flow was observed, although indicated pressure was zero. Pump was not failed and would not fail prior to meeting mission time.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

Notes

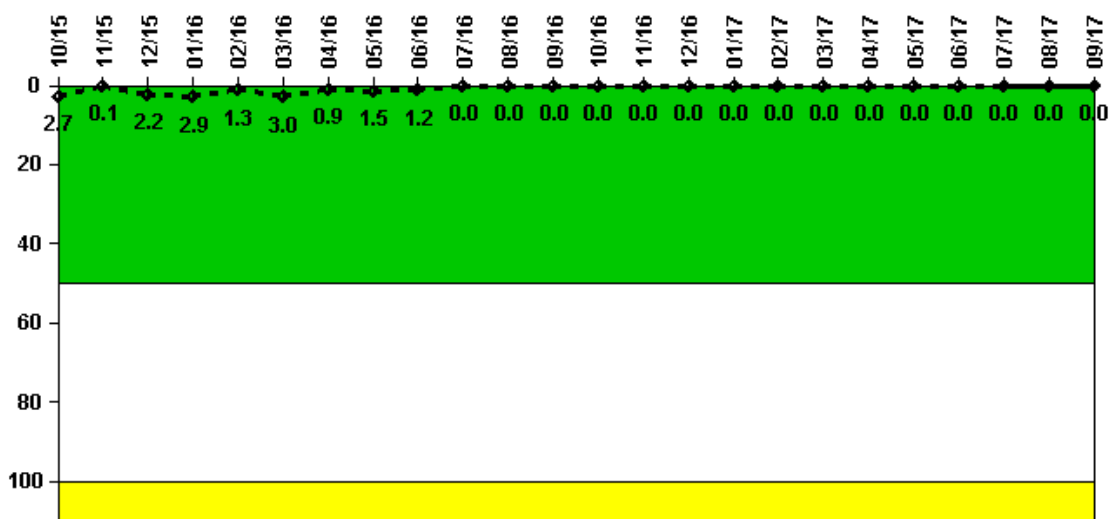
Reactor Coolant System Activity	10/15	11/15	12/15	1/16	2/16	3/16	4/16	5/16	6/16	7/16	8/16	9/16
Maximum activity	0.000065	N/A	0.000015	N/A	0.000042	0.000037	0.000042	0.000048	0.000044	0.000044	0.000047	0.000047
Technical specification limit	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Indicator value	0	N/A	0	N/A	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	0.000053	0.000050	0.000053	0.000051	0.000053	0.000054	0.000052	0.000056	0.000063	0.000057	0.000061	0.000059
Technical specification limit	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	0.267	0.006	0.221	0.292	0.131	0.304	0.087	0.147	0.120	0	0	0
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 2.7 0.1 2.2 2.9 1.3 3.0 0.9 1.5 1.2 0 0 0

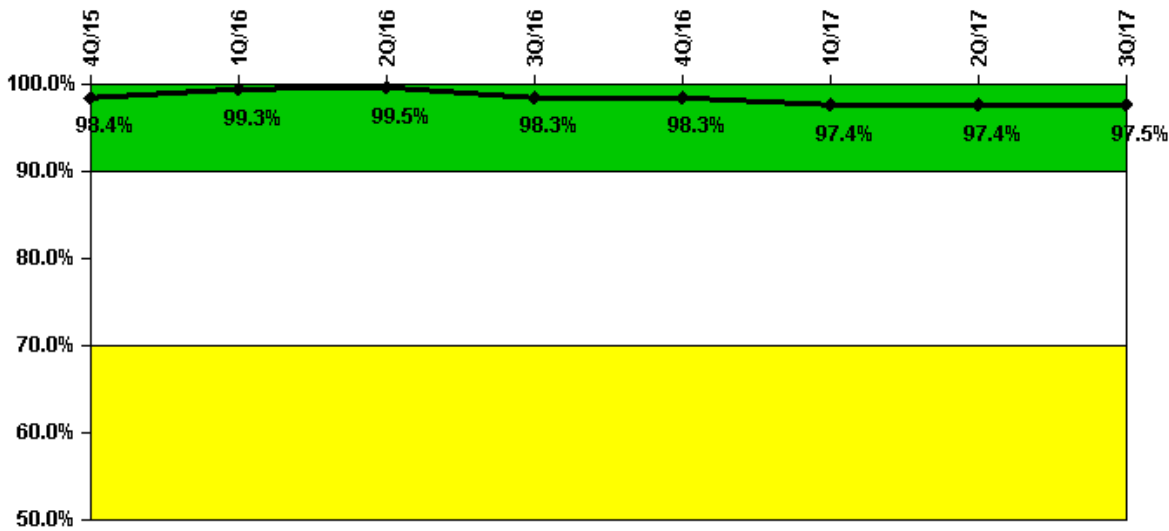
Reactor Coolant System Leakage	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17
Maximum leakage	0	0	0	0	0	0	0	0	0	0	0	0
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value 0 0 0 0 0 0 0 0 0 0 0 0

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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

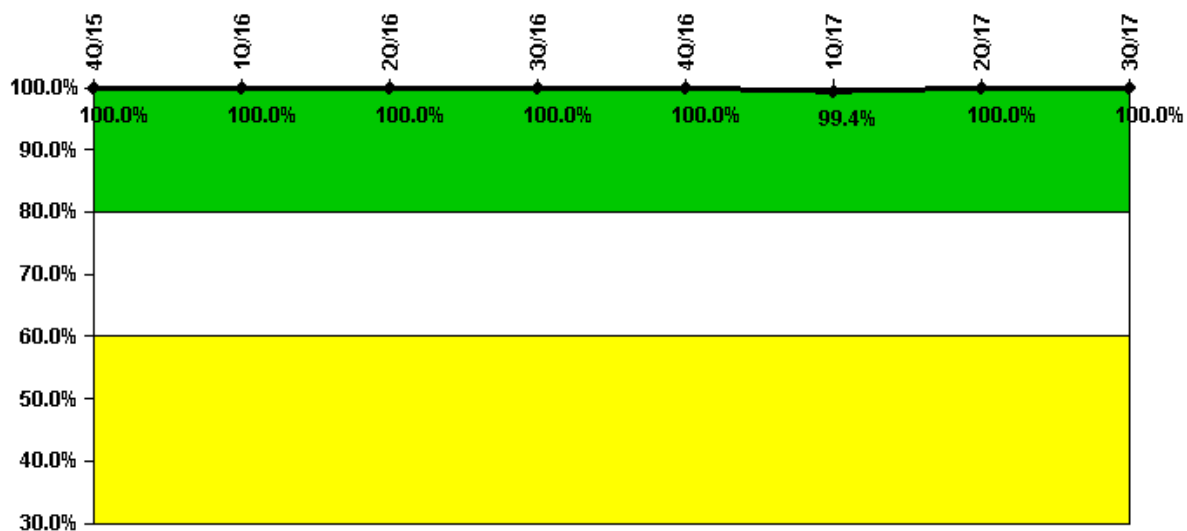
Drill/Exercise Performance	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful opportunities	4.0	40.0	33.0	22.0	10.0	13.0	26.0	6.0
Total opportunities	4.0	40.0	34.0	24.0	10.0	14.0	26.0	6.0

Indicator value 98.4% 99.3% 99.5% 98.3% 98.3% 97.4% 97.4% 97.5%

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

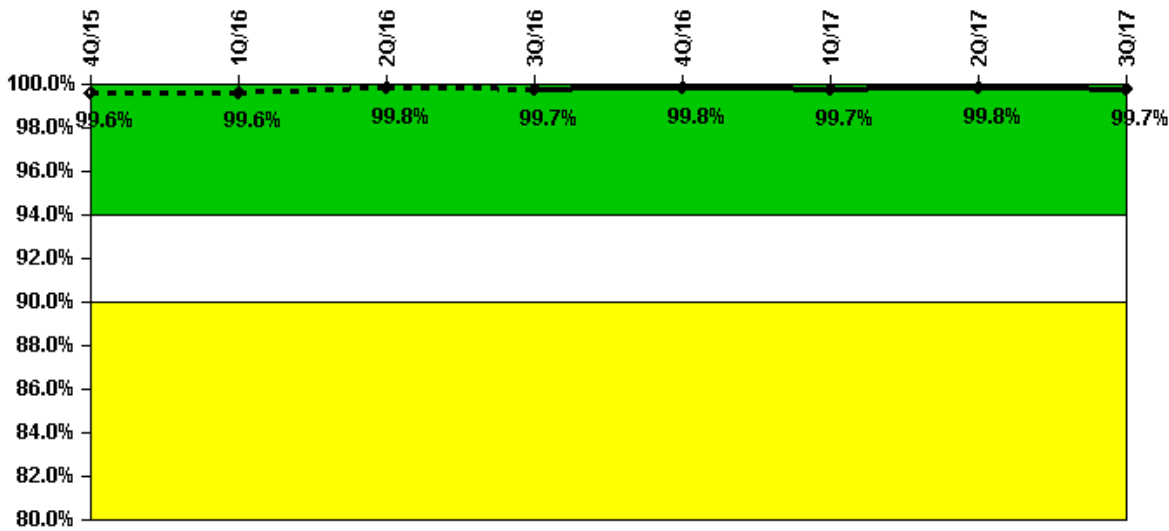
ERO Drill Participation	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Participating Key personnel	136.0	132.0	126.0	163.0	156.0	159.0	158.0	153.0
Total Key personnel	136.0	132.0	126.0	163.0	156.0	160.0	158.0	153.0

Indicator value **100.0% 100.0% 100.0% 100.0% 100.0% 99.4% 100.0% 100.0%**

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Licensee Comments: none

Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

Notes

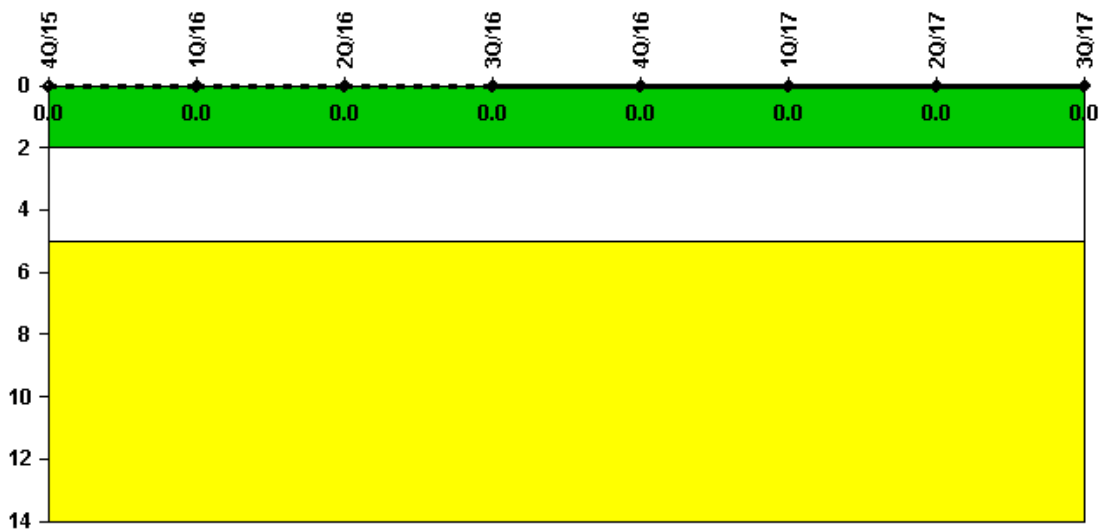
Alert & Notification System	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17	3Q/17
Successful siren-tests	1591	1596	1594	1595	1597	1594	1597	1592
Total sirens-tests	1599	1599	1599	1599	1599	1599	1599	1599

Indicator value **99.6%** **99.6%** **99.8%** **99.7%** **99.8%** **99.7%** **99.8%** **99.7%**

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Licensee Comments: none

Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

Notes

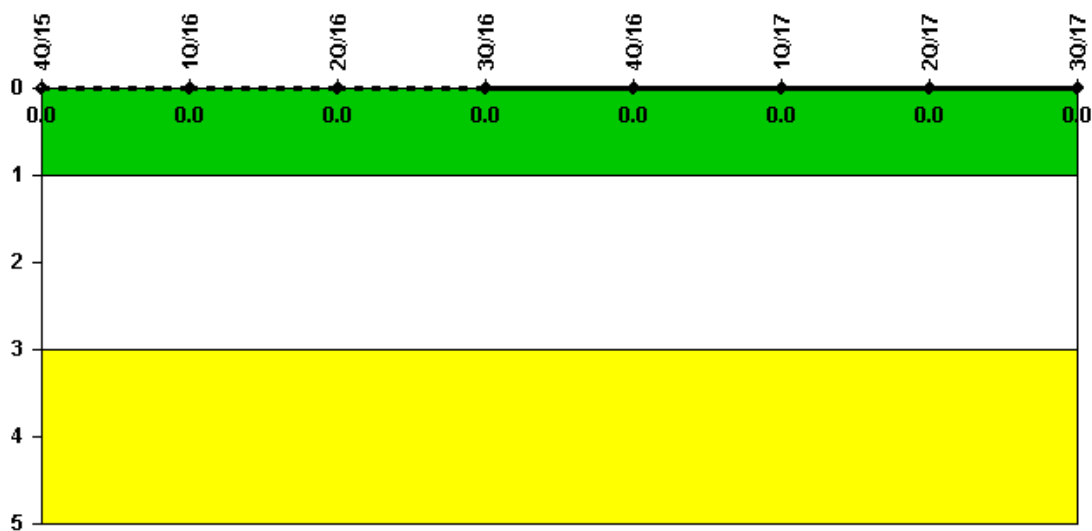
Occupational Exposure Control Effectiveness 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17 3Q/17

High radiation area occurrences	0	0	0	0	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 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