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Palisades – Quarterly Performance Indicators

2Q/2017 Performance Indicators

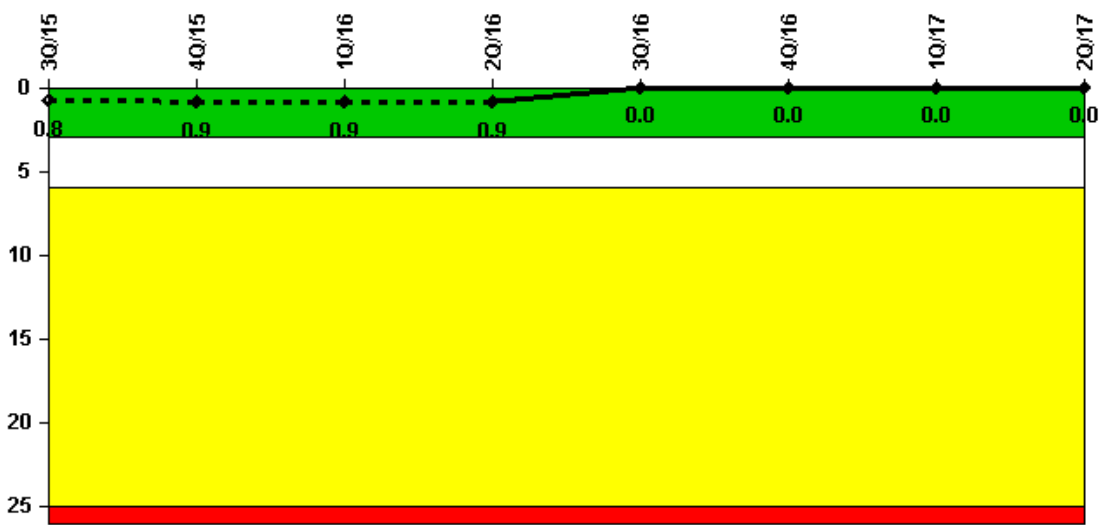
The solid trend line represents the current reporting period.

Licensee's General Comments: A Palisades PRA model revision was approved February 28, 2017. An MSPI Basis Document revision was approved on July 12, 2017 to incorporate the PRA model revision and several reliability estimate updates. The changes were entered in CDE in July 2017 and are effective for second quarter 2017.

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

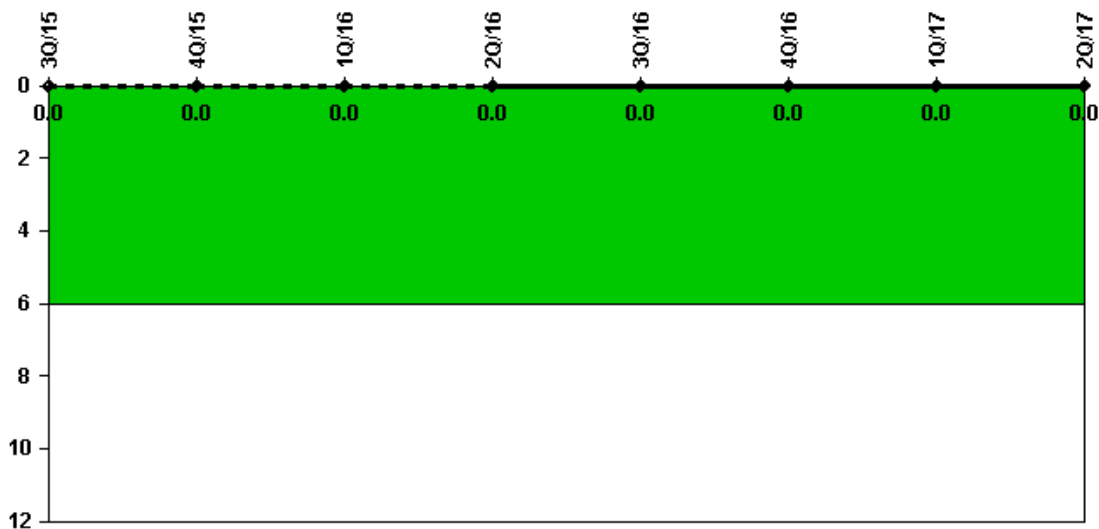
Unplanned Scrams per 7000 Critical Hrs	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Unplanned scrams	1.0	0	0	0	0	0	0	0
Critical hours	1849.3	1771.8	2183.0	2184.0	2208.0	2209.0	2030.7	1553.8

Indicator value	0.8	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

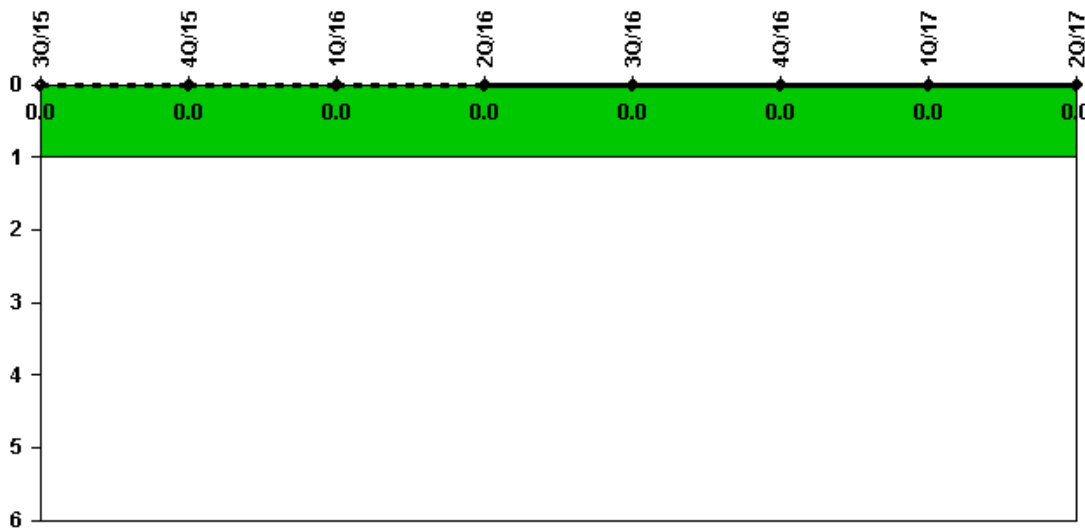
Notes

Unplanned Power Changes per 7000 Critical Hrs	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	1849.3	1771.8	2183.0	2184.0	2208.0	2209.0	2030.7	1553.8
Indicator value	0	0	0	0	0	0	0	0

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Licensee Comments: none

Unplanned Scrams with Complications



Thresholds: White > 1.0

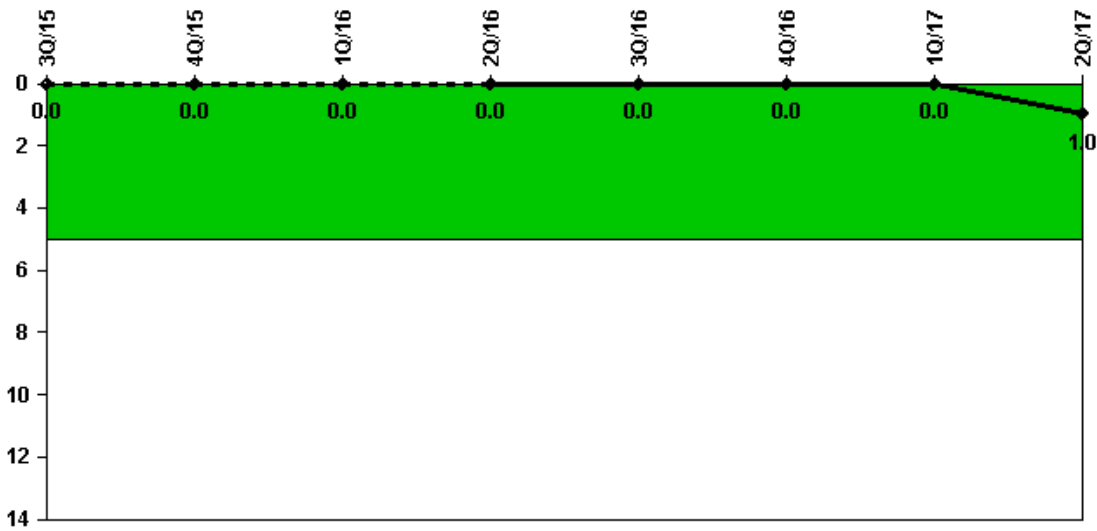
Notes

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

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

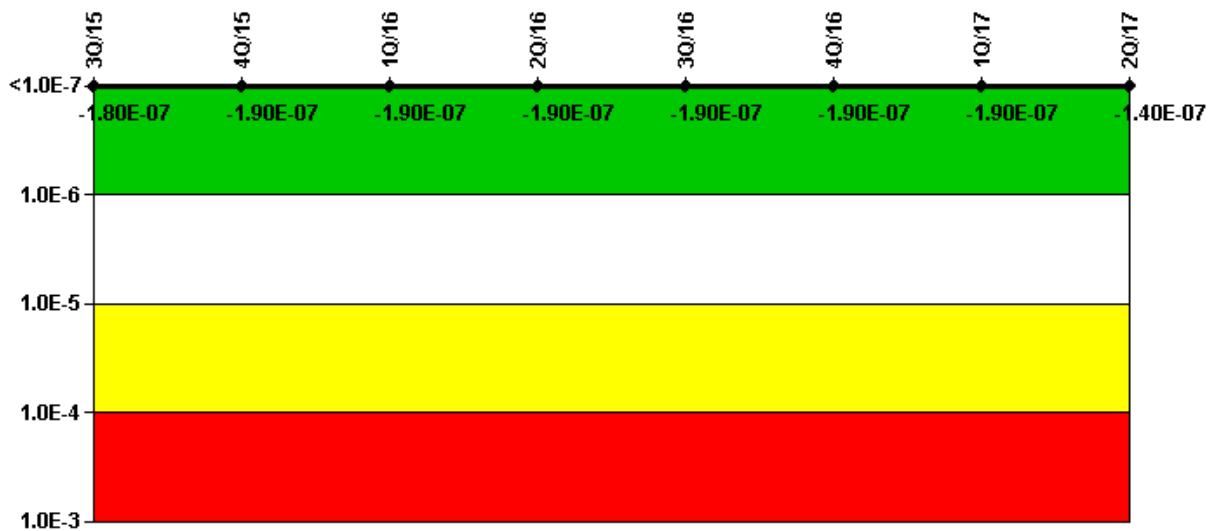
Indicator value 0 0 0 0 0 0 0 1

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Licensee Comments:

2Q/17: LER 2017-001-00 identified potential for loss of safety function in 5 systems. Counts as one loss due to a single event per NEI 99-02 rev.7.

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

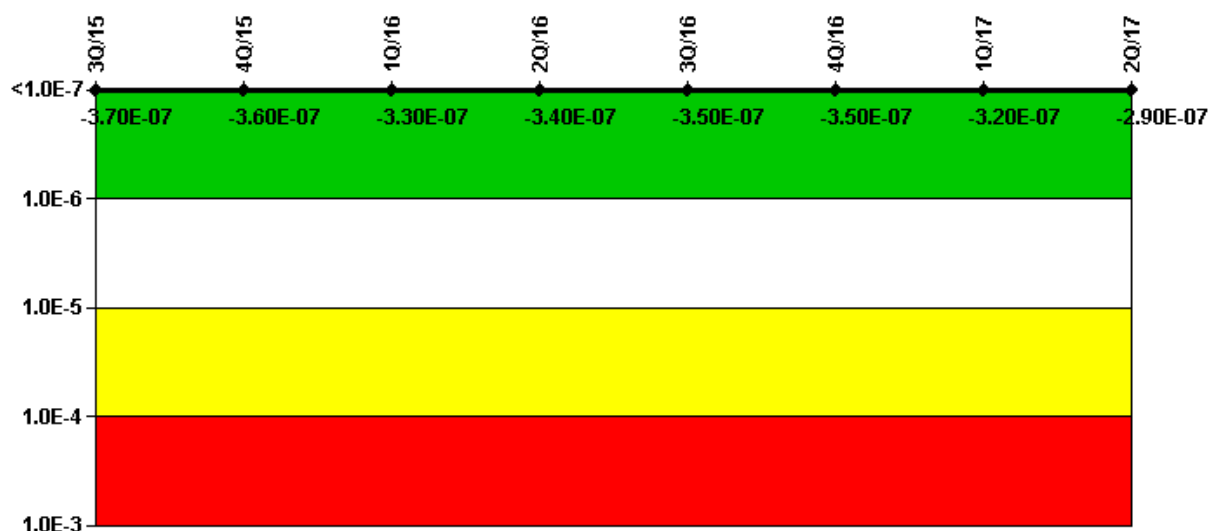
	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (Δ CDF)	-2.11E-08	-2.73E-08	-2.73E-08	-2.73E-08	-2.73E-08	-2.73E-08	-2.62E-08	-1.35E-08
URI (Δ CDF)	-1.59E-07	-1.59E-07	-1.59E-07	-1.59E-07	-1.59E-07	-1.59E-07	-1.59E-07	-1.26E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.80E-07	-1.90E-07	-1.90E-07	-1.90E-07	-1.90E-07	-1.90E-07	-1.90E-07	-1.40E-07

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Licensee Comments:

2Q/17: 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

	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (ΔCDF)	-1.06E-07	-9.31E-08	-6.44E-08	-7.38E-08	-8.83E-08	-8.91E-08	-5.27E-08	-6.39E-08
URI (ΔCDF)	-2.65E-07	-2.65E-07	-2.65E-07	-2.65E-07	-2.65E-07	-2.65E-07	-2.65E-07	-2.29E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.70E-07	-3.60E-07	-3.30E-07	-3.40E-07	-3.50E-07	-3.50E-07	-3.20E-07	-2.90E-07

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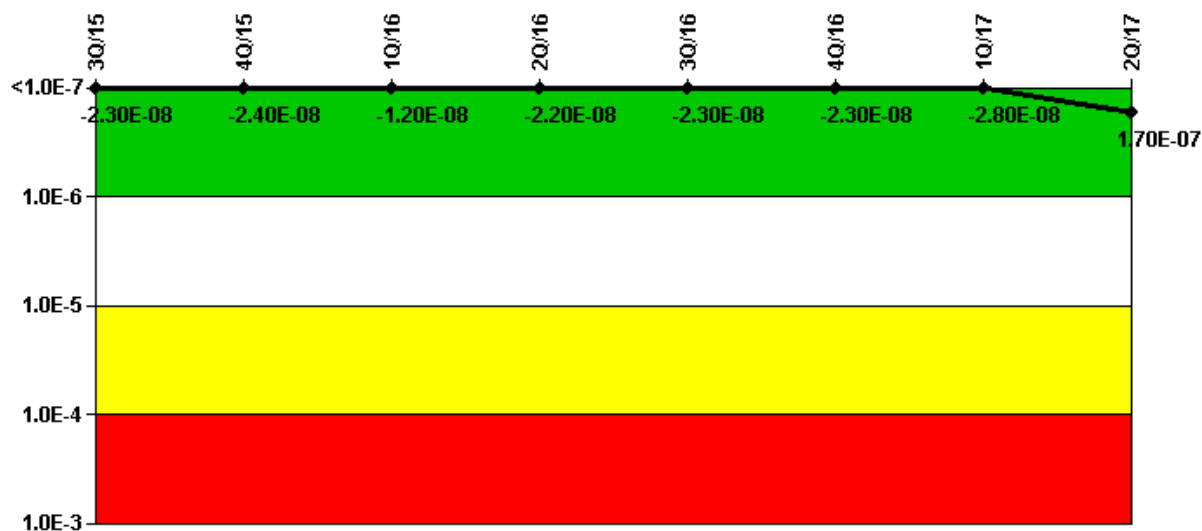
Licensee Comments:

2Q/17: Changed PRA Parameter(s).

4Q/15: Evaluation of Control Valve CV-3057 SIRW (Safety Injection Refueling Water) Storage Tank Outlet degradation from September 2015 concluded No MPSI Failure occurred. (Reference CR-PLP-2015-04043)

3Q/15: Evaluation is pending on degradation of Control Valve CV-3057 SIRW (Safety Injection Refueling Water) Storage Tank Outlet identified in September 2015. (Reference CR-PLP-2015-04043)

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

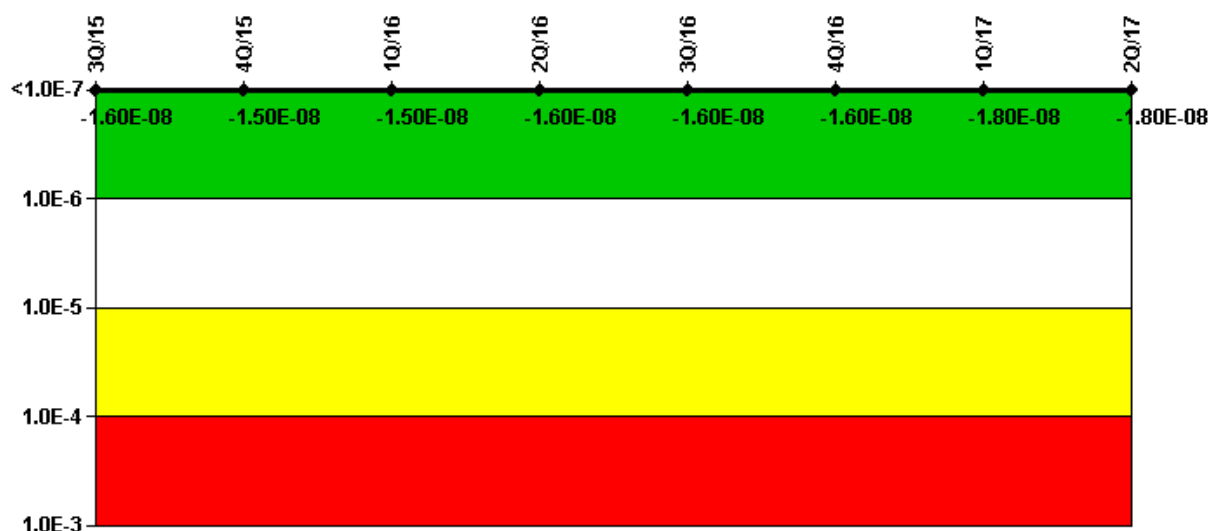
	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (Δ CDF)	1.77E-07	1.76E-07	1.89E-07	1.79E-07	1.77E-07	1.77E-07	1.73E-07	1.79E-07
URI (Δ CDF)	-2.00E-07	-2.00E-07	-2.00E-07	-2.00E-07	-2.00E-07	-2.00E-07	-2.00E-07	-1.14E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.30E-08	-2.40E-08	-1.20E-08	-2.20E-08	-2.30E-08	-2.30E-08	-2.80E-08	1.70E-07

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Licensee Comments:

2Q/17: 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

	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (Δ CDF)	2.48E-08	2.52E-08	2.50E-08	2.39E-08	2.39E-08	2.39E-08	2.28E-08	-2.85E-10
URI (Δ CDF)	-4.04E-08	-4.04E-08	-4.04E-08	-4.04E-08	-4.04E-08	-4.04E-08	-4.04E-08	-1.76E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.60E-08	-1.50E-08	-1.50E-08	-1.60E-08	-1.60E-08	-1.60E-08	-1.80E-08	-1.80E-08

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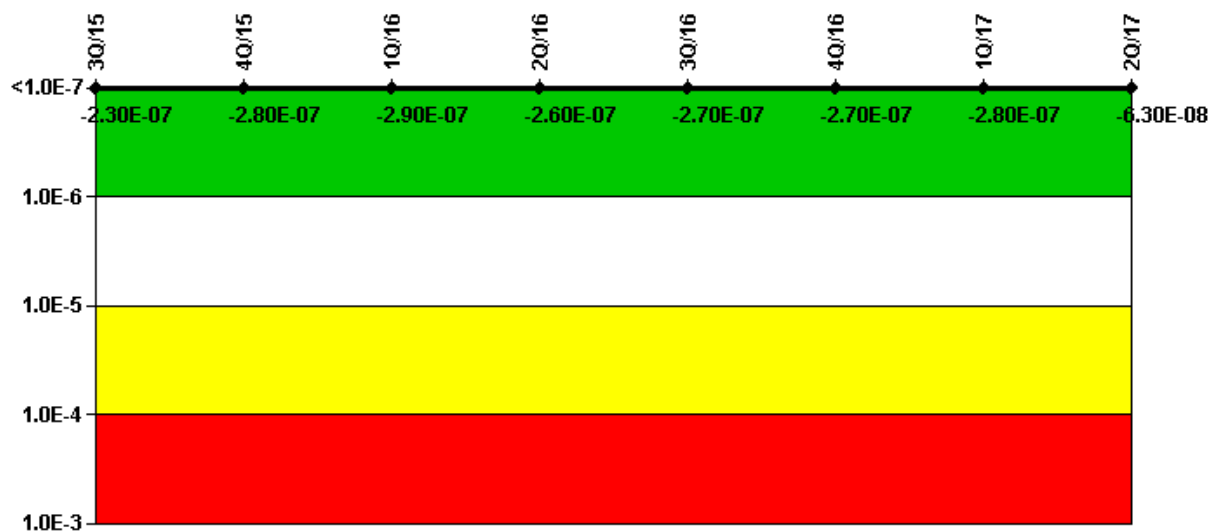
Licensee Comments:

2Q/17: Changed PRA Parameter(s).

4Q/15: Evaluation of Control Valve CV-3057 SIRW (Safety Injection Refueling Water) Storage Tank Outlet degradation from September 2015 concluded No MPSI Failure occurred. (Reference CR-PLP-2015-04043)

3Q/15: Evaluation is pending on degradation of Control Valve CV-3057 SIRW (Safety Injection Refueling Water) Storage Tank Outlet identified in September 2015. (Reference CR-PLP-2015-04043)

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

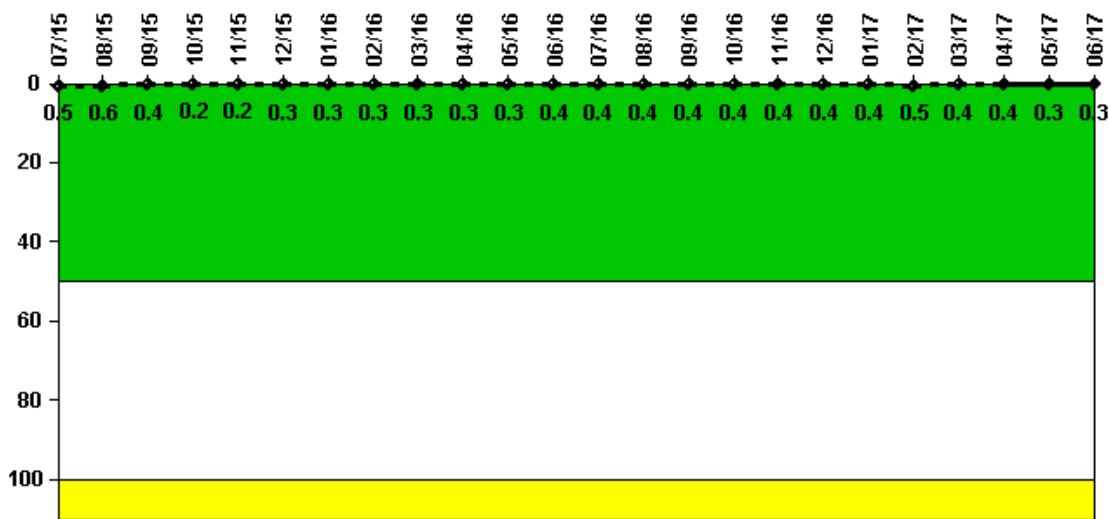
	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
UAI (Δ CDF)	-1.86E-09	-4.99E-08	-5.46E-08	-3.42E-08	-4.33E-08	-4.10E-08	-4.94E-08	-3.18E-08
URI (Δ CDF)	-2.31E-07	-2.31E-07	-2.31E-07	-2.31E-07	-2.31E-07	-2.31E-07	-2.31E-07	-3.15E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-2.30E-07	-2.80E-07	-2.90E-07	-2.60E-07	-2.70E-07	-2.70E-07	-2.80E-07	-6.30E-08

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Licensee Comments:

2Q/17: Changed PRA Parameter(s).

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

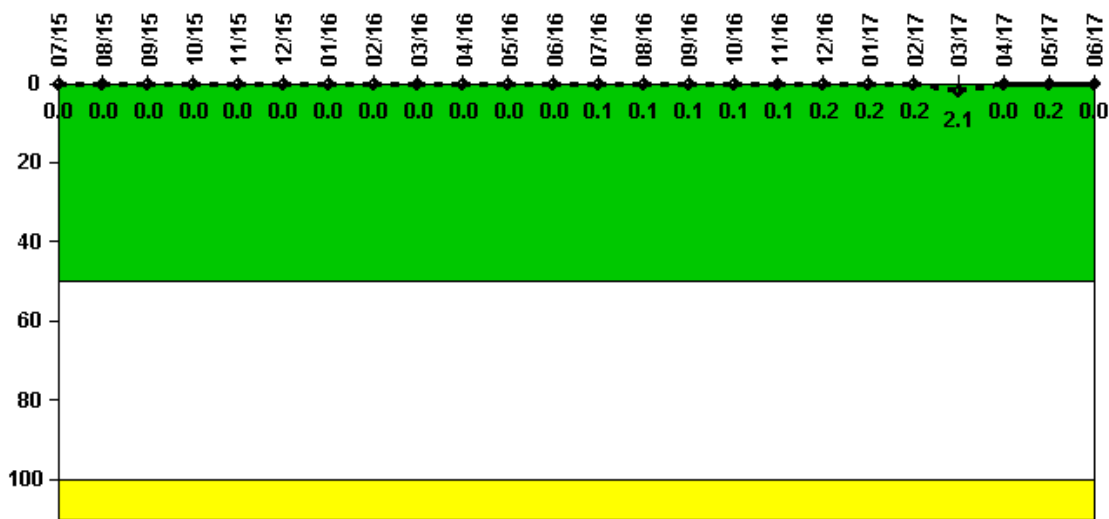
Notes

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	0.005340	0.005930	0.004120	0.001920	0.002100	0.002710	0.002940	0.003340	0.003460	0.002720	0.002760	0.003810
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0.5	0.6	0.4	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4
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	0.003750	0.004070	0.004370	0.003670	0.003652	0.003840	0.003920	0.004763	0.003826	0.003650	0.002505	0.002590
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.3	0.3

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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	0	0	0	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
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

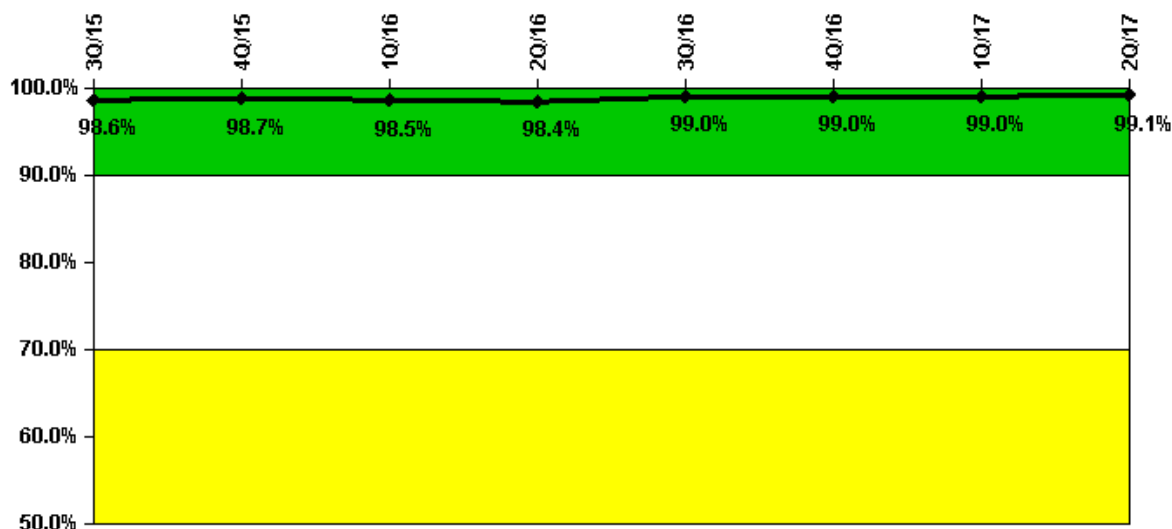
Indicator value	0	0	0	0	0	0	0	0	0	0	0	0
Reactor Coolant System Leakage	7/16	8/16	9/16	10/16	11/16	12/16	1/17	2/17	3/17	4/17	5/17	6/17
Maximum leakage	0.009	0.012	0.012	0.012	0.011	0.015	0.016	0.016	0.211	0	0.015	0.001
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Indicator value	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	2.1	0	0.2	0
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Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

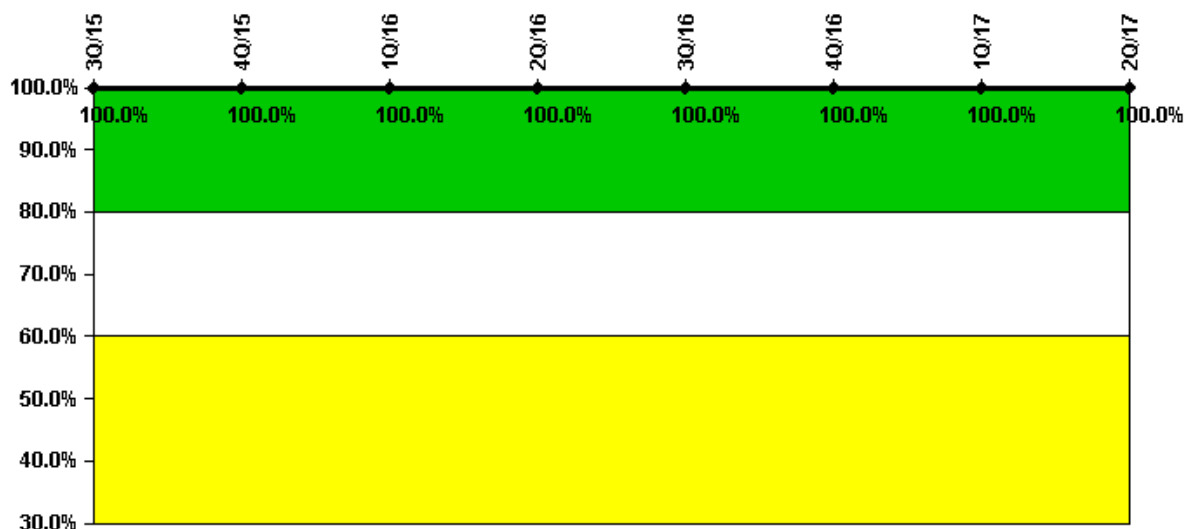
Drill/Exercise Performance	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Successful opportunities	98.0	66.0	115.0	34.0	16.0	17.0	69.0	8.0
Total opportunities	98.0	66.0	117.0	35.0	16.0	17.0	70.0	8.0

Indicator value **98.6% 98.7% 98.5% 98.4% 99.0% 99.0% 99.0% 99.1%**

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Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

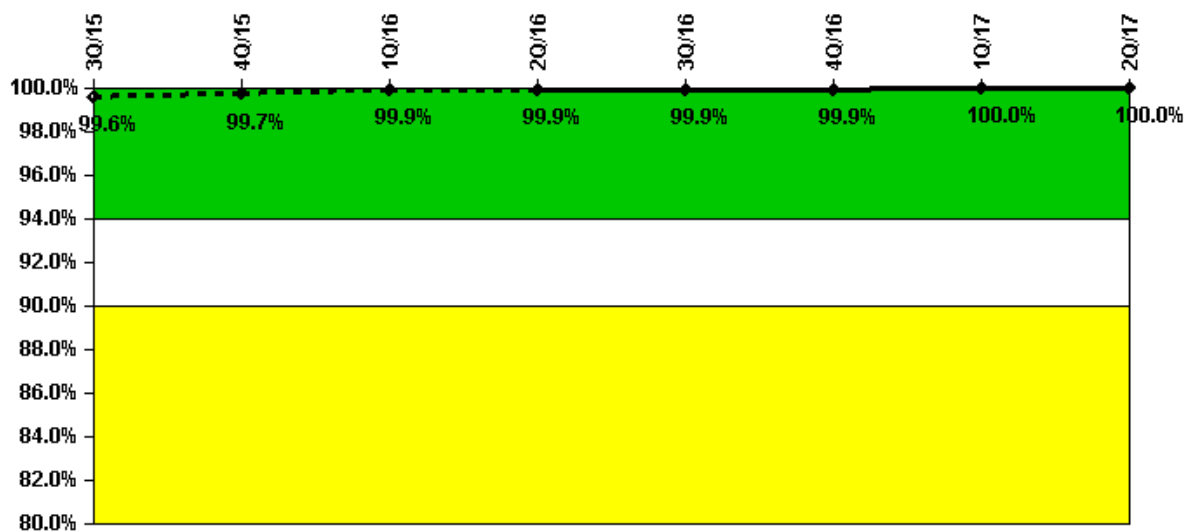
ERO Drill Participation	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Participating Key personnel	67.0	68.0	75.0	73.0	72.0	68.0	72.0	74.0
Total Key personnel	67.0	68.0	75.0	73.0	72.0	68.0	72.0	74.0

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

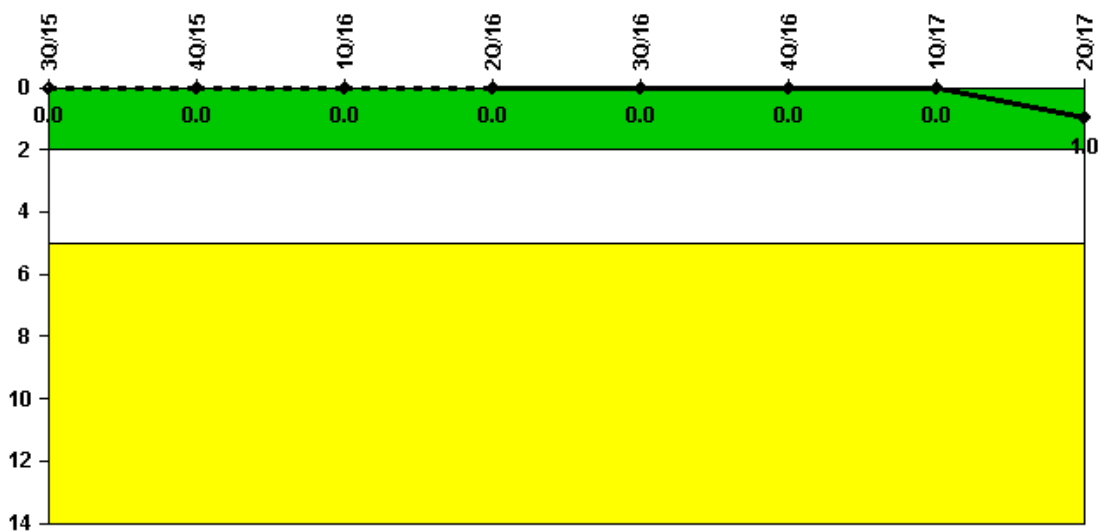
Alert & Notification System	3Q/15	4Q/15	1Q/16	2Q/16	3Q/16	4Q/16	1Q/17	2Q/17
Successful siren-tests	183	183	182	183	183	183	183	183
Total sirens-tests	183	183	183	183	183	183	183	183

Indicator value **99.6%** **99.7%** **99.9%** **99.9%** **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

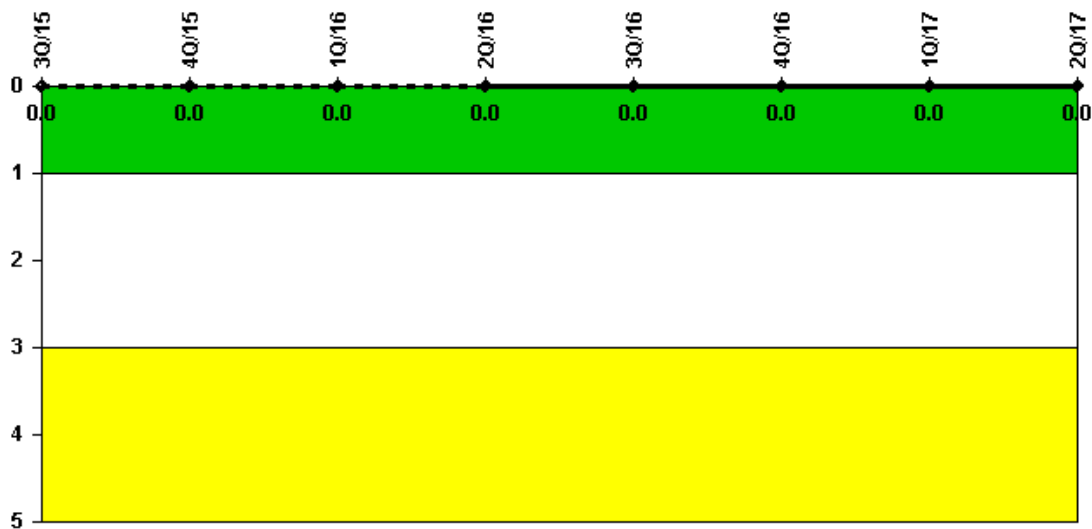
Occupational Exposure Control Effectiveness 3Q/15 4Q/15 1Q/16 2Q/16 3Q/16 4Q/16 1Q/17 2Q/17

High radiation area occurrences	0	0	0	0	0	0	0	1
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	1

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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