

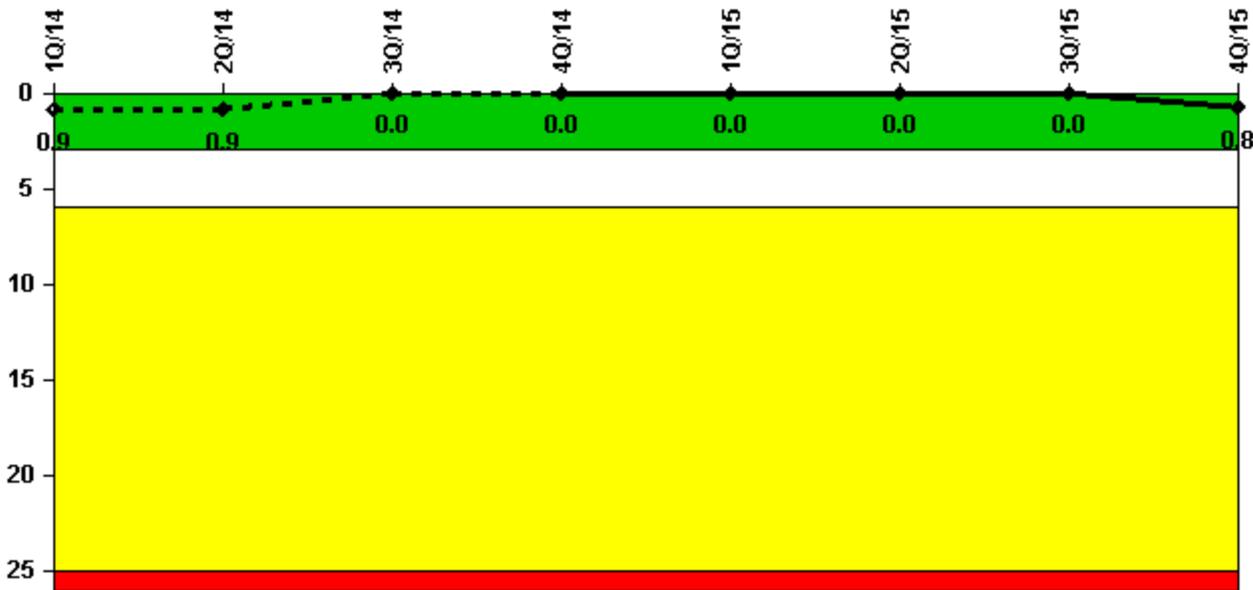
Indian Point 2

4Q/2015 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

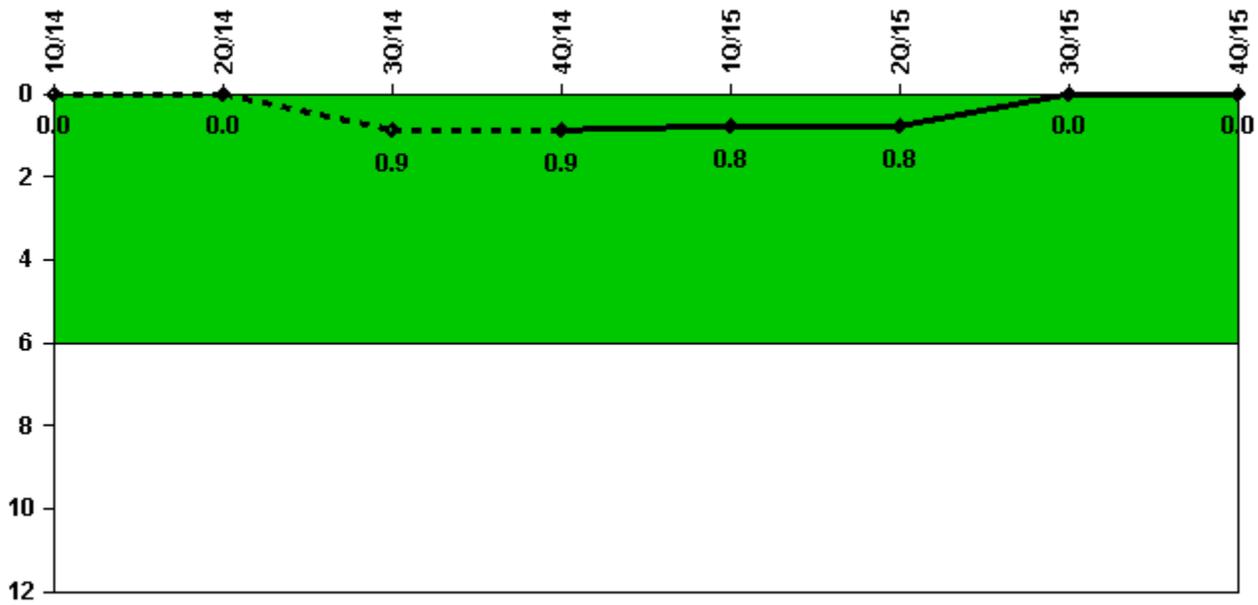
Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Unplanned scrams	0	0	0	0	0	0	0	1.0
Critical hours	1619.8	2184.0	2208.0	2209.0	2159.0	2184.0	2208.0	2154.3
Indicator value	0.9	0.9	0	0	0	0	0	0.8

Licensee Comments:

4Q/15: On December 5, 2015, a manual reactor trip was initiated due to indications of multiple dropped control rods. Initiating event was a fault of Motor Control Center (MCC) 24-2H that caused the upstream supply breaker to open to clear the fault resulting in a loss of power to the operating backup power supply in Rod Control Cabinet 2BD with a degraded primary power supply. The loss of power to the Control Rod System caused the Control Rod stationary grippers to de-energize and rods inserted into the reactor core.

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

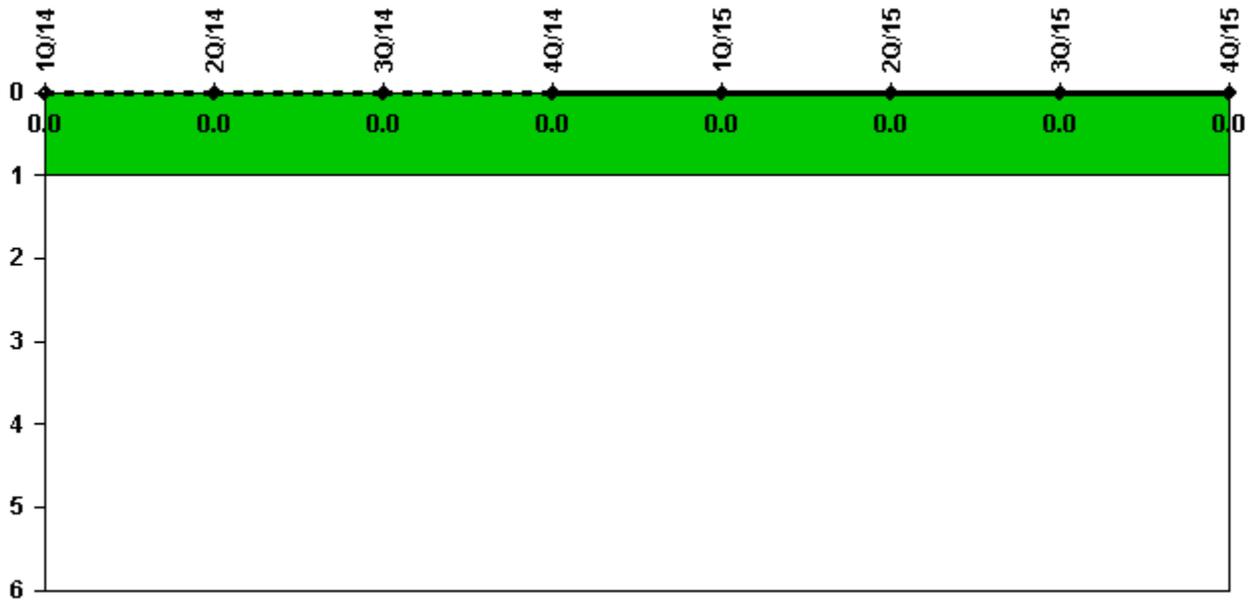
Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Unplanned power changes	0	0	1.0	0	0	0	0	0
Critical hours	1619.8	2184.0	2208.0	2209.0	2159.0	2184.0	2208.0	2154.3
Indicator value	0	0	0.9	0.9	0.8	0.8	0	0

Licensee Comments:

3Q/14: Unplanned power change on September 18, 2014, due to Technical Specification required power change as a result of misaligned control rod/shutdown bank B during testing. Power reduced to approximately 70%.

Unplanned Scrams with Complications



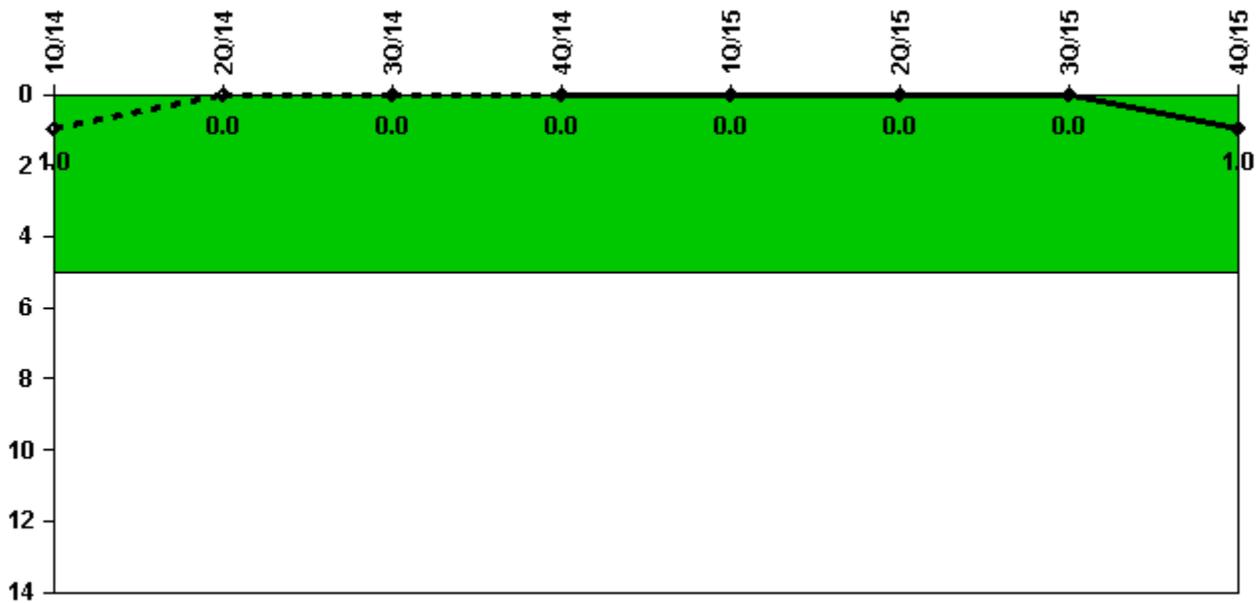
Thresholds: White > 1.0

Notes

Unplanned Scrams with Complications	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Scrams with complications	0	0	0	0	0	0	0	0
Indicator value	0.0							

Licensee Comments: none

Safety System Functional Failures (PWR)



Thresholds: White > 5.0

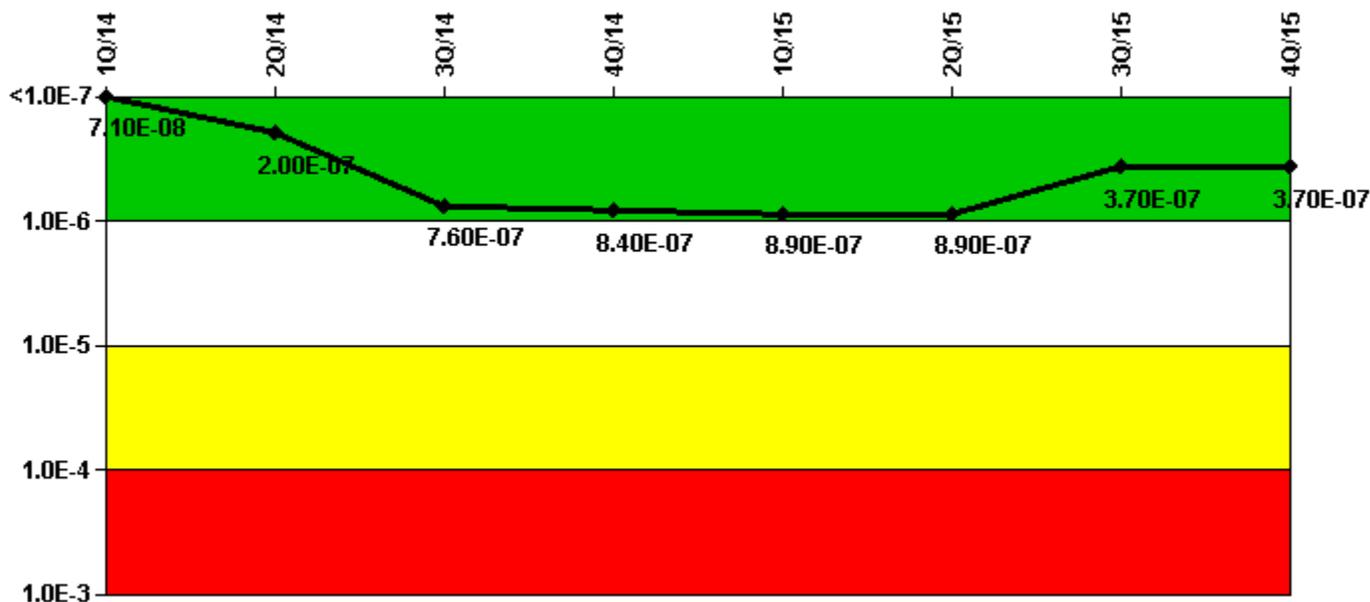
Notes

Safety System Functional Failures (PWR)	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Safety System Functional Failures	0	0	0	0	0	0	0	1
Indicator value	1	0	0	0	0	0	0	1

Licensee Comments:

4Q/15: LER-2015-002 reported a SSFF on October 19, 2015, due to fuses for the Residual Heat Removal Heat Exchanger outlet valves that would not remain operable under degraded voltage conditions.

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/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI (ΔCDF)	2.73E-07	3.56E-07	3.65E-07	4.23E-07	3.76E-07	3.77E-07	8.74E-08	8.64E-08
URI (ΔCDF)	-2.03E-07	-1.59E-07	3.93E-07	4.15E-07	5.12E-07	5.14E-07	2.83E-07	2.83E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	7.10E-08	2.00E-07	7.60E-07	8.40E-07	8.90E-07	8.90E-07	3.70E-07	3.70E-07

Licensee Comments:

3Q/15: Changed PRA Parameter(s). 3Q15 report includes changes to the Unit 2 MSPI PSA parameters as a result of a PRA model interim update approved on May 6, 2015 from the EDG MSPI Margin Improvement Plan. Changes made were to Monitored Component PRA information to be effective July 1, 2015. Also included were changes in the plant specific EAC planned baseline unavailability in MSPI.

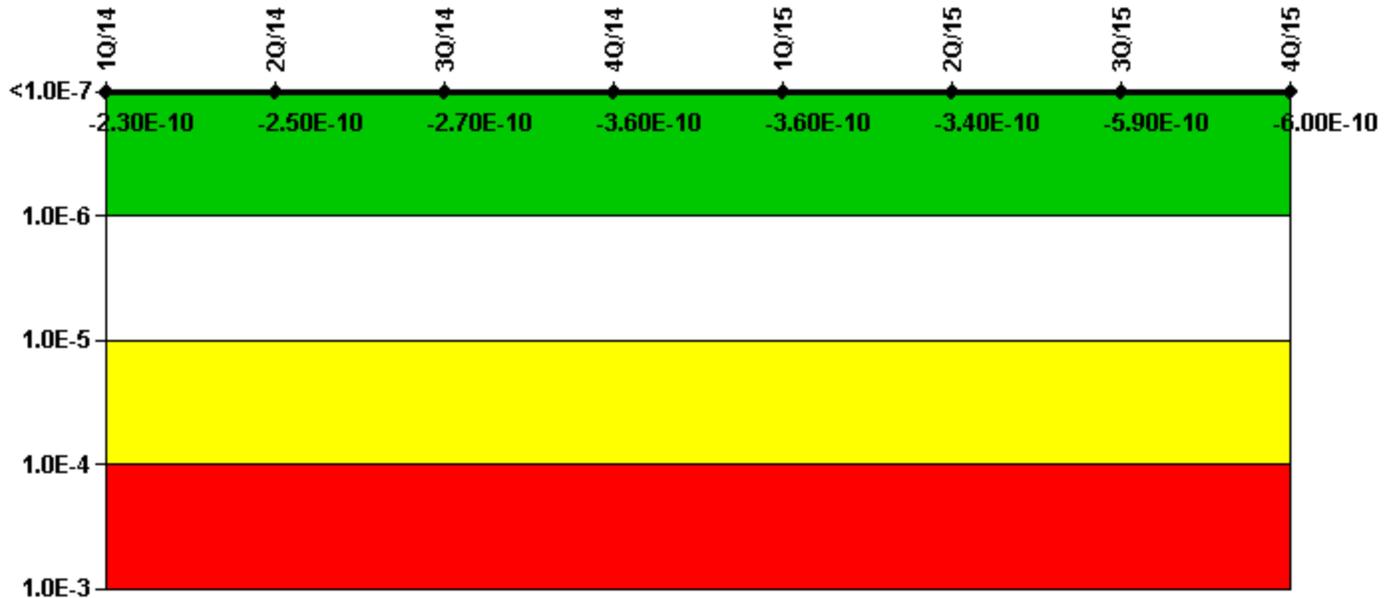
2Q/15: Risk Cap Invoked.

1Q/15: Risk Cap Invoked.

4Q/14: Risk Cap Invoked.

3Q/14: Risk Cap Invoked. On September 12, 2014, a lube oil leak was discovered on the vitaulic coupling of the 23 EDG during post maintenance testing. EDG secured. MSPI Run Failure.

Mitigating Systems Performance Index, High Pressure Injection System



Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

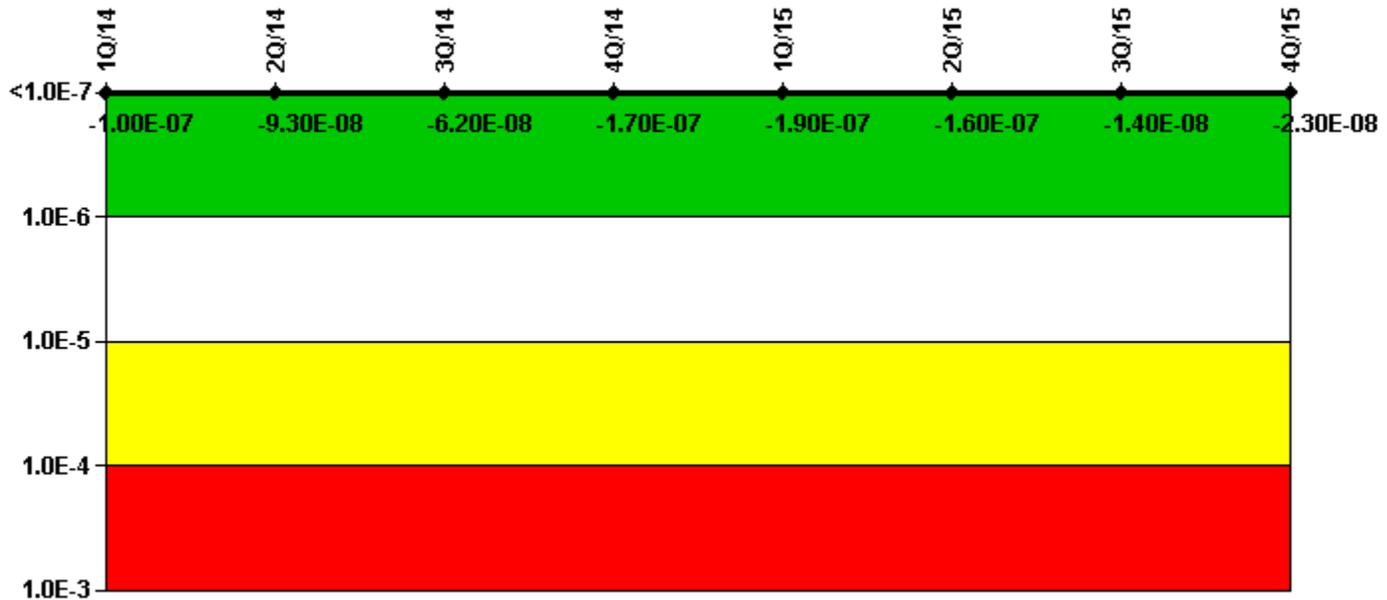
Notes

Mitigating Systems Performance Index, High Pressure Injection System	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI (Δ CDF)	6.60E-11	5.21E-11	5.05E-11	-3.50E-11	-3.95E-11	-2.54E-11	-1.41E-10	-1.51E-10
URI (Δ CDF)	-2.92E-10	-3.05E-10	-3.19E-10	-3.27E-10	-3.18E-10	-3.11E-10	-4.51E-10	-4.53E-10
PLE	NO							
Indicator value	-2.30E-10	-2.50E-10	-2.70E-10	-3.60E-10	-3.60E-10	-3.40E-10	-5.90E-10	-6.00E-10

Licensee Comments:

3Q/15: Changed PRA Parameter(s). 3Q15 report includes changes to the Unit 2 MSPI PSA parameters as a result of a PRA model interim update approved on May 6, 2015 from the EDG MSPI Margin Improvement Plan. Changes made were to Monitored Component PRA information to be effective July 1, 2015. Also included were changes in the plant specific EAC planned baseline unavailability in MSPI.

Mitigating Systems Performance Index, Heat Removal System



Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

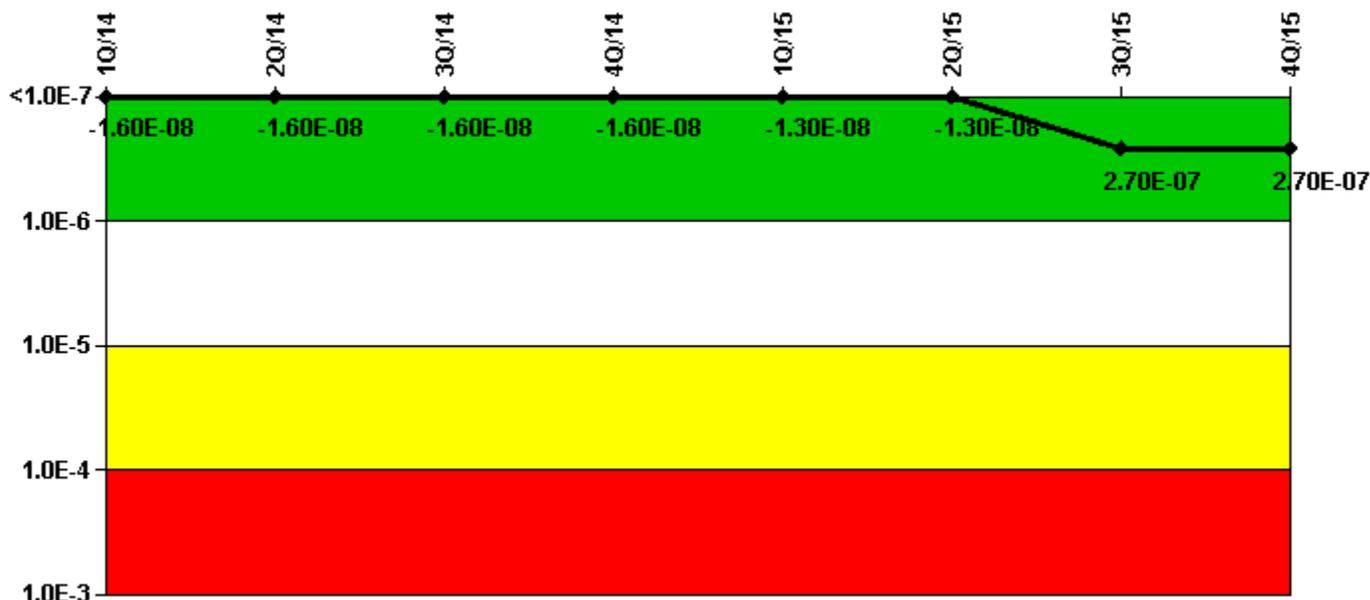
Notes

Mitigating Systems Performance Index, Heat Removal System	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI (Δ CDF)	-2.85E-08	-2.72E-08	3.81E-09	2.10E-08	5.35E-10	1.06E-08	1.40E-08	6.84E-09
URI (Δ CDF)	-7.36E-08	-6.60E-08	-6.59E-08	-1.93E-07	-1.86E-07	-1.71E-07	-2.83E-08	-2.94E-08
PLE	NO							
Indicator value	-1.00E-07	-9.30E-08	-6.20E-08	-1.70E-07	-1.90E-07	-1.60E-07	-1.40E-08	-2.30E-08

Licensee Comments:

3Q/15: Changed PRA Parameter(s). 3Q15 report includes changes to the Unit 2 MSPI PSA parameters as a result of a PRA model interim update approved on May 6, 2015 from the EDG MSPI Margin Improvement Plan. Changes made were to Monitored Component PRA information to be effective July 1, 2015. Also included were changes in the plant specific EAC planned baseline unavailability in MSPI.

Mitigating Systems Performance Index, Residual Heat Removal System



Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

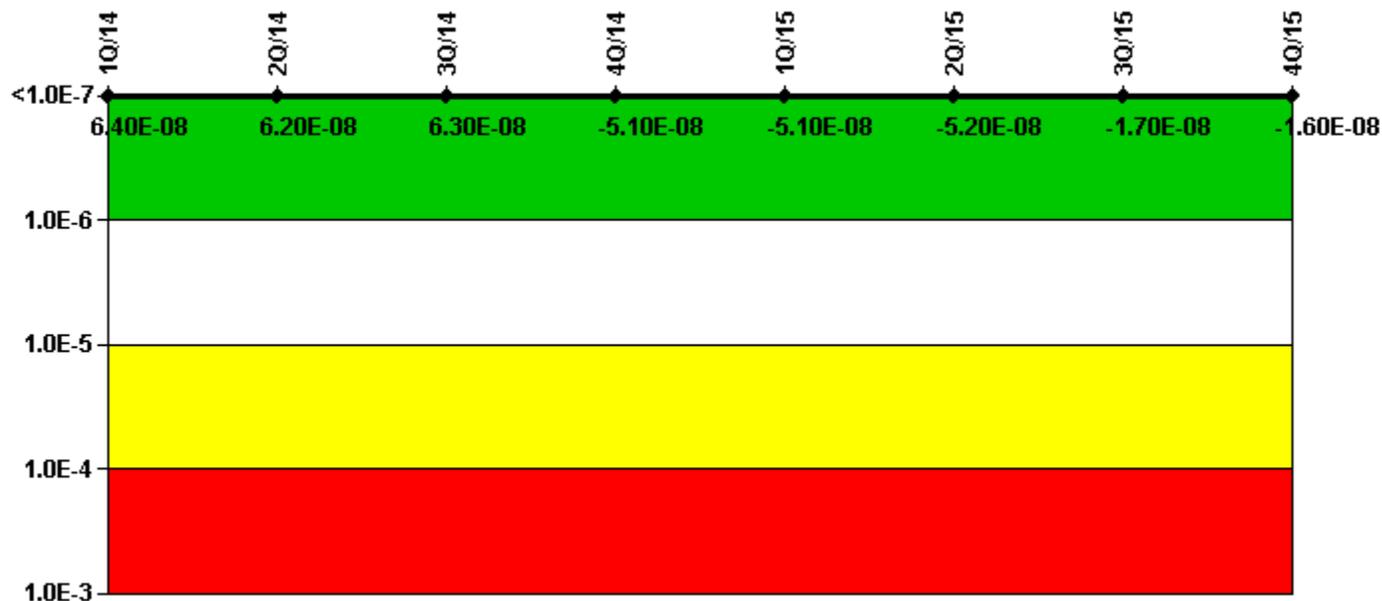
Mitigating Systems Performance Index, Residual Heat Removal System	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI (ΔCDF)	-3.91E-09	-3.97E-09	-3.97E-09	-4.19E-09	-4.35E-09	-4.36E-09	-3.99E-09	-4.26E-09
URI (ΔCDF)	-1.17E-08	-1.17E-08	-1.17E-08	-1.17E-08	-8.35E-09	-8.26E-09	2.70E-07	2.70E-07
PLE	NO							
Indicator value	-1.60E-08	-1.60E-08	-1.60E-08	-1.60E-08	-1.30E-08	-1.30E-08	2.70E-07	2.70E-07

Licensee Comments:

3Q/15: The planned unavailability hours changed for the 21 and 22 RHR pump (0.0 hrs to 0.8 hrs) to reflect the final OE that the valves were inoperable as a result of the response to a CBDI inspection question and a final determination that the normally closed 21 and 22 RHR Pumps Heat Exchanger outlet valves (MOV-746 & MOV-747) would not adequately operate under degraded voltage conditions as a result of inadequate fuses. This resulted in both trains of RHR being considered inoperable. LER-2015-002 reported this event as a safety system functional failure. On December 29, 2015, ICES input data for the RHR event was determined to be complete which included a Maintenance Rule functional failure and MSPI safety system functional failure of both RHR Hx outlet valves. The ICES report was completed in ICES and initiated for review by INPO December 29, 2015. This action caused MSPI to be recalculated.

3Q/15: Changed PRA Parameter(s). 3Q15 report includes changes to the Unit 2 MSPI PSA parameters as a result of a PRA model interim update approved on May 6, 2015 from the EDG MSPI Margin Improvement Plan. Changes made were to Monitored Component PRA information to be effective July 1, 2015. Also included were changes in the plant specific EAC planned baseline unavailability in MSPI.

Mitigating Systems Performance Index, Cooling Water Systems



Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Notes

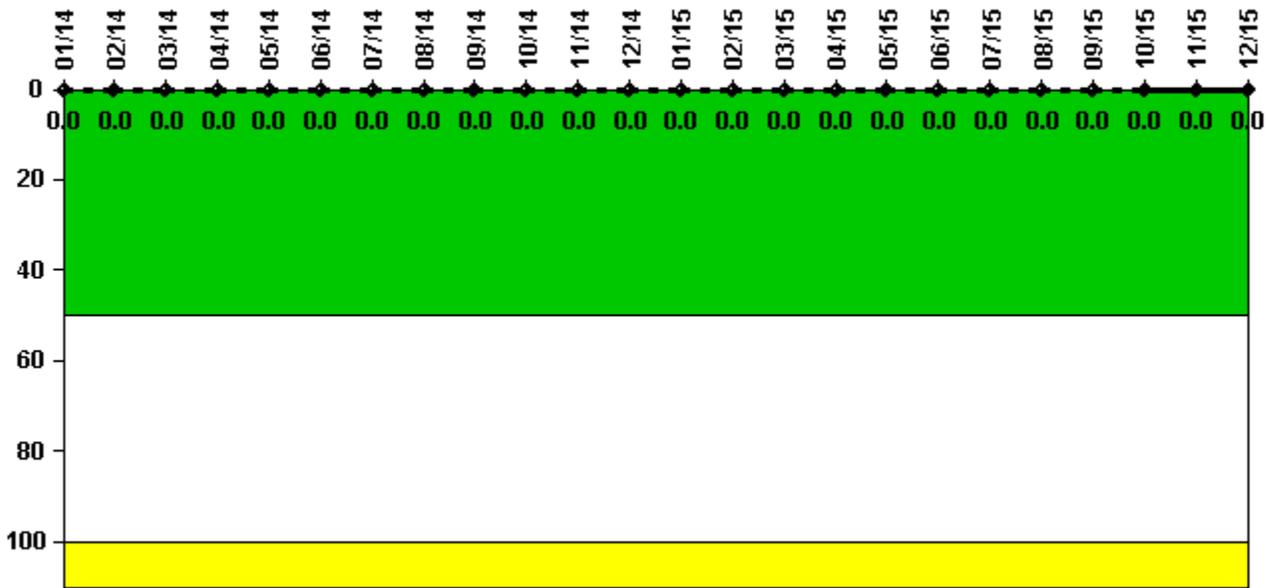
Mitigating Systems Performance Index, Cooling Water Systems	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
UAI (Δ CDF)	-3.47E-09	-3.28E-09	-3.61E-09	-4.38E-09	-4.67E-09	-5.17E-09	3.42E-09	3.50E-09
URI (Δ CDF)	6.71E-08	6.55E-08	6.66E-08	-4.68E-08	-4.64E-08	-4.64E-08	-2.07E-08	-1.95E-08
PLE	NO							
Indicator value	6.40E-08	6.20E-08	6.30E-08	-5.10E-08	-5.10E-08	-5.20E-08	-1.70E-08	-1.60E-08

Licensee Comments:

3Q/15: The September 2015 CCWP demands and run hours were revised. 21 CCP demands changed from 0 to 1, run hours changed from 0.0 to 0.58; 22 CCP demands changed from 0 to 1, run hours changed from 720.0 to 719.48; 23 CCP demands changed from 0 to 1; run hours changed from 720.0 to 719.47.

3Q/15: Changed PRA Parameter(s). 3Q15 report includes changes to the Unit 2 MSPI PSA parameters as a result of a PRA model interim update approved on May 6, 2015 from the EDG MSPI Margin Improvement Plan. Changes were made to Monitored Component PRA information to be effective July 1, 2015. Also included were changes in the plant specific EAC planned baseline unavailability in MSPI.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

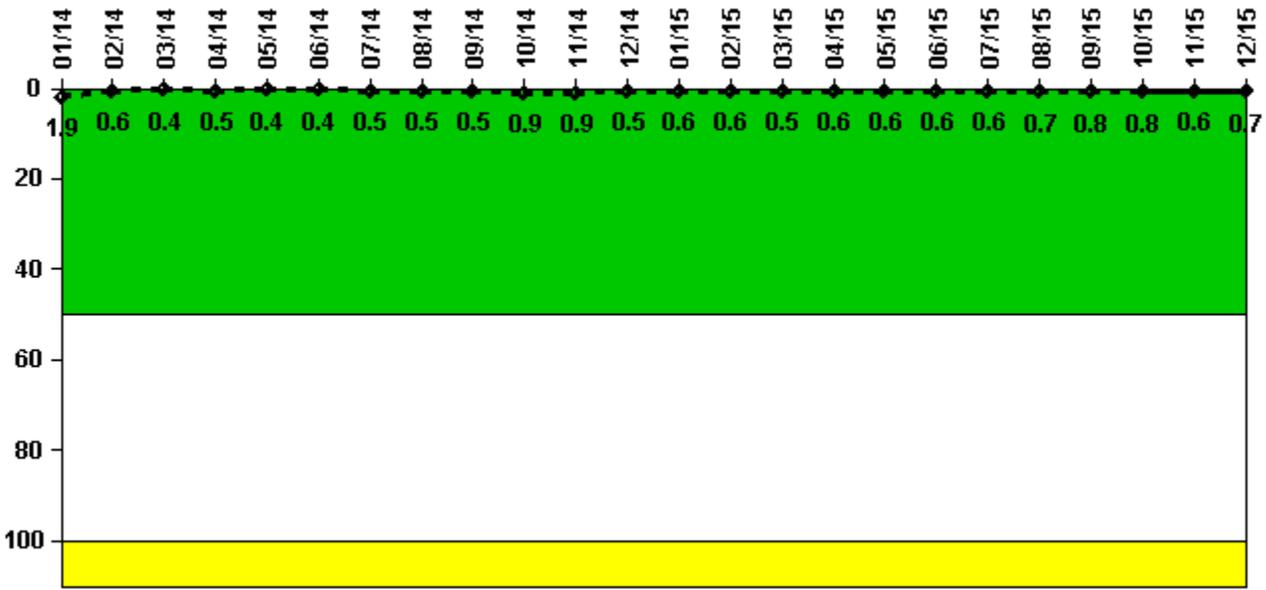
Notes

Reactor Coolant System Activity	1/14	2/14	3/14	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14
Maximum activity	0.000278	0.000334	0.000125	0.000159	0.000133	0.000165	0.000153	0.000141	0.000148	0.000158	0.000170	0.000175
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	0	0	0	0	0	0	0	0	0	0	0
Reactor Coolant System Activity	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15
Maximum activity	0.000175	0.000170	0.000195	0.000182	0.000179	0.000190	0.000206	0.000202	0.000203	0.000216	0.000260	0.000223
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	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

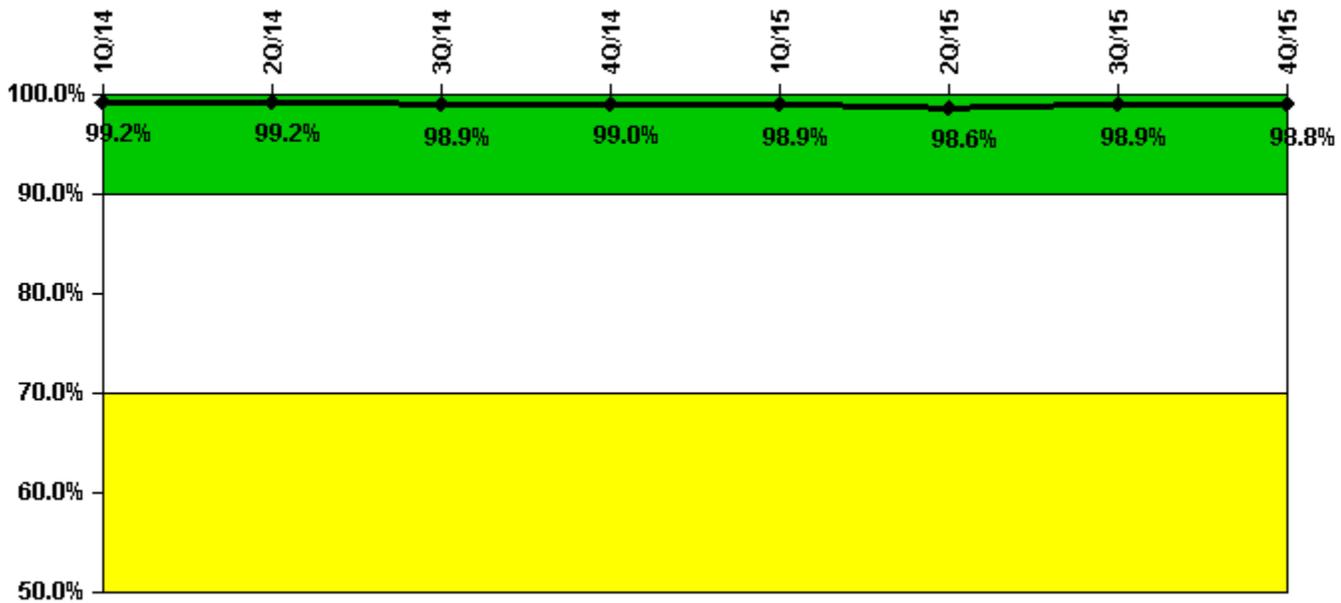
Notes

Reactor Coolant System Leakage	1/14	2/14	3/14	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14
Maximum leakage	0.190	0.060	0.040	0.050	0.040	0.040	0.050	0.050	0.050	0.090	0.090	0.053
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	1.9	0.6	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.9	0.9	0.5

Reactor Coolant System Leakage	1/15	2/15	3/15	4/15	5/15	6/15	7/15	8/15	9/15	10/15	11/15	12/15
Maximum leakage	0.060	0.060	0.050	0.060	0.060	0.060	0.060	0.070	0.080	0.080	0.060	0.070
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	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.6	0.7

Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Successful opportunities	50.0	110.0	200.0	109.0	20.0	71.0	146.0	28.0
Total opportunities	51.0	112.0	203.0	109.0	21.0	72.0	147.0	28.0
Indicator value	99.2%	99.2%	98.9%	99.0%	98.9%	98.6%	98.9%	98.8%

Licensee Comments: none

ERO Drill Participation



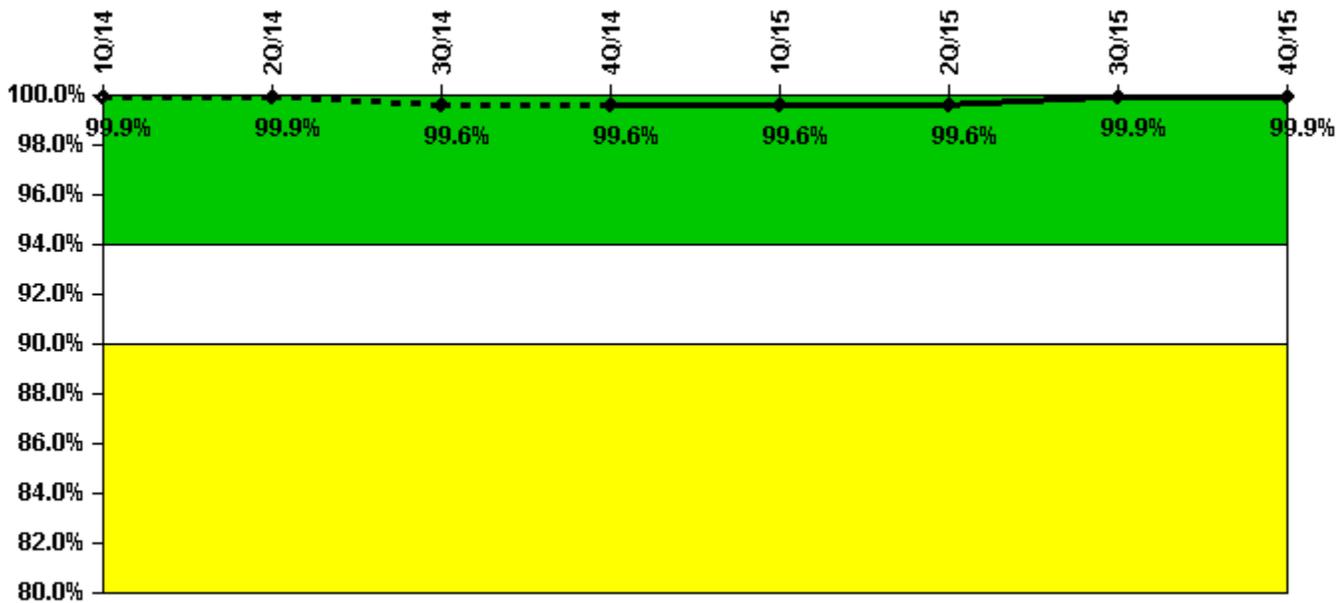
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Participating Key personnel	104.0	104.0	100.0	106.0	104.0	104.0	105.0	103.0
Total Key personnel	104.0	104.0	100.0	106.0	104.0	104.0	105.0	103.0
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Alert & Notification System



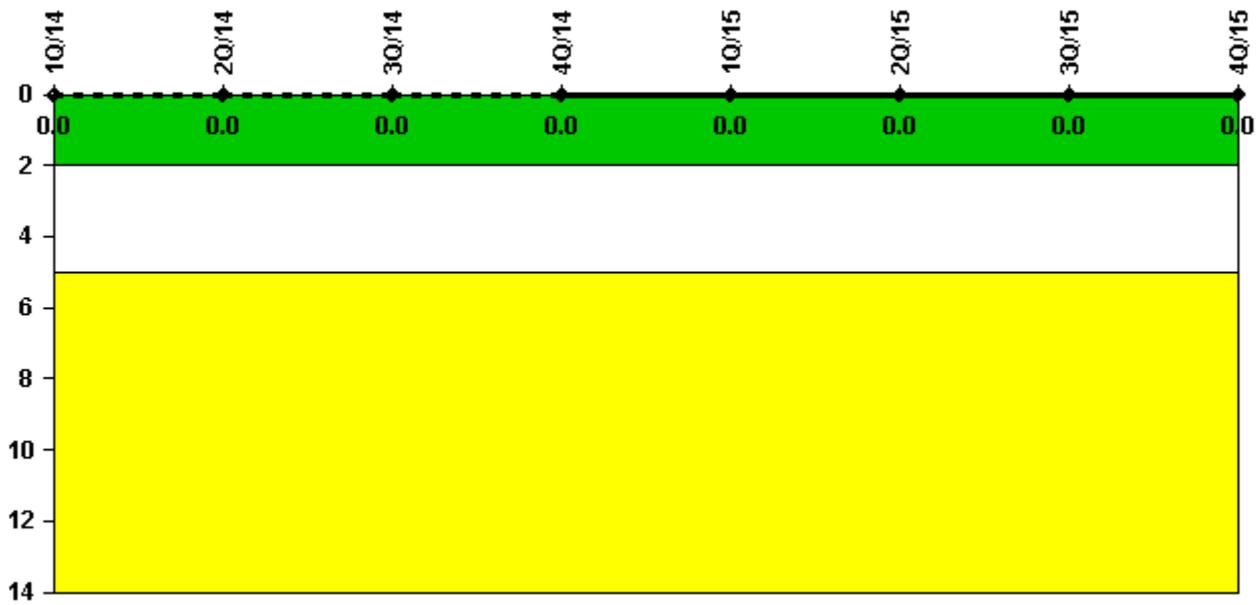
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
Successful siren-tests	1148	1079	1110	1104	1135	917	1105	1046
Total sirens-tests	1148	1081	1126	1104	1135	917	1109	1046
Indicator value	99.9%	99.9%	99.6%	99.6%	99.6%	99.6%	99.9%	99.9%

Licensee Comments: none

Occupational Exposure Control Effectiveness



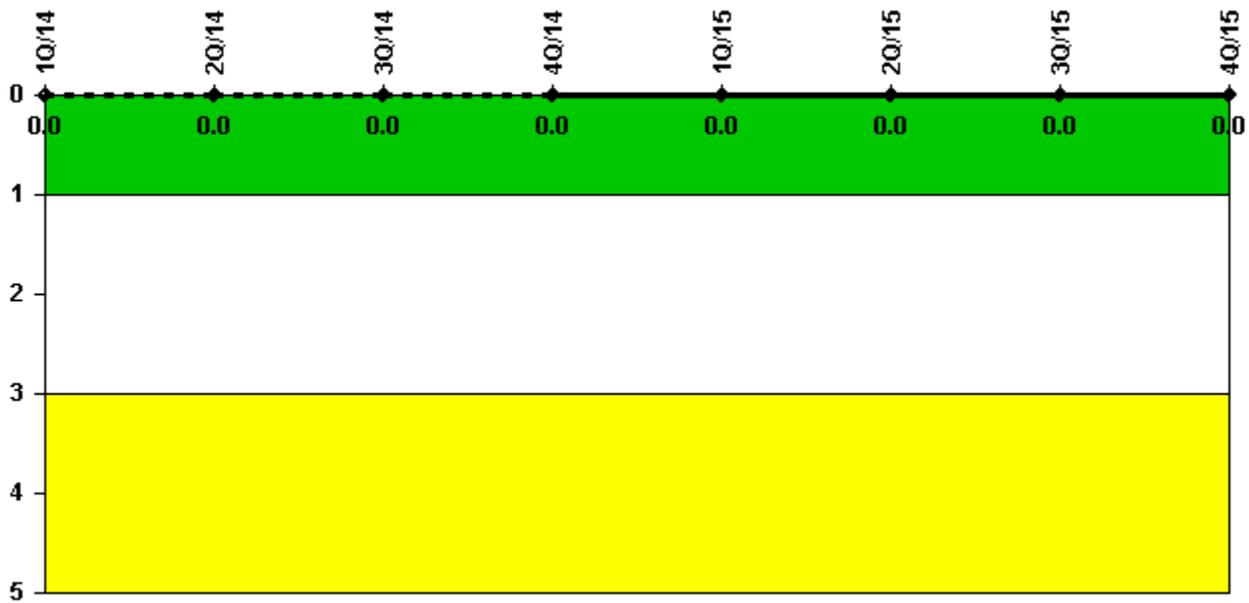
Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
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							

Licensee Comments: none

RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

Notes

RETS/ODCM Radiological Effluent	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15	2Q/15	3Q/15	4Q/15
RETS/ODCM occurrences	0	0	0	0	0	0	0	0
Indicator value	0	0	0	0	0	0	0	0

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.

▲ [Action Matrix Summary](#) | [Inspection Findings Summary](#) | [PI Summary](#) | [Reactor Oversight Process](#)

Last Modified: March 1, 2016