

Wolf Creek 1

1Q/2015 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs



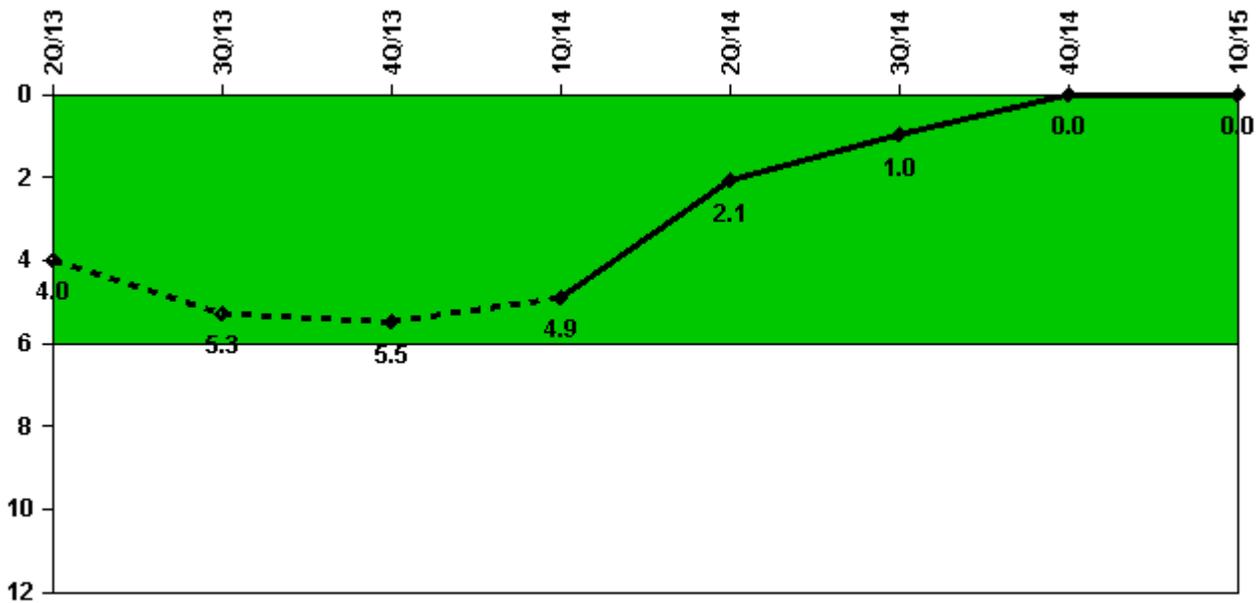
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	1749.1	1786.6	1998.9	1584.6	1170.7	2208.0	2209.0	1392.0
Indicator value	0	0	0	0	0	0	0	0

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

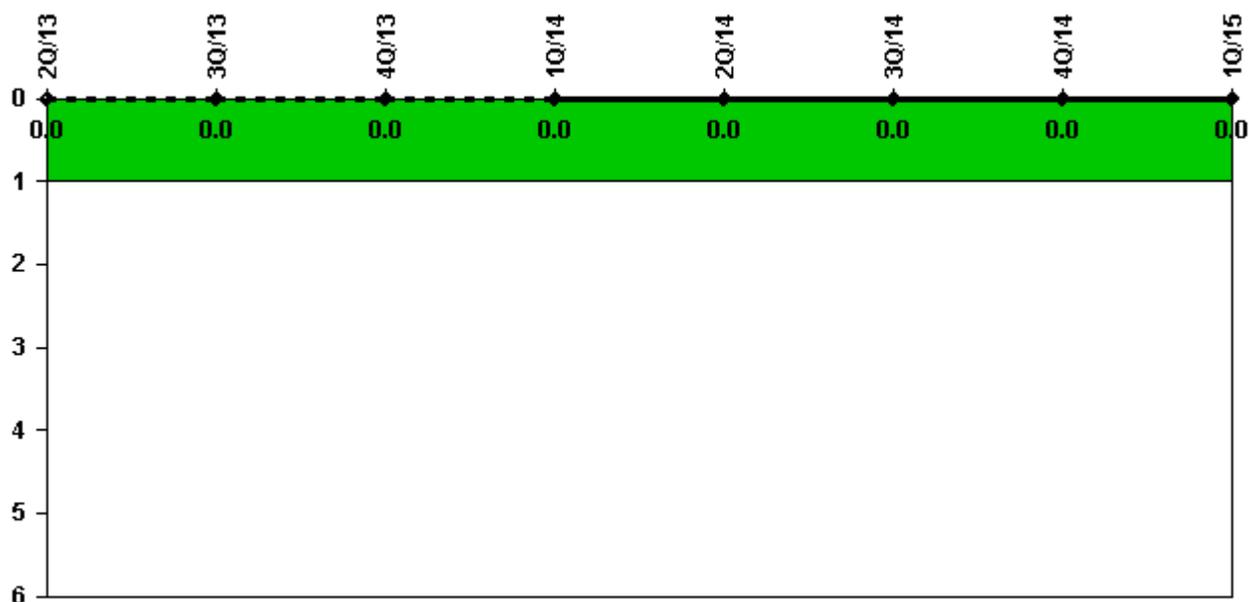
Notes

Unplanned Power Changes per 7000 Critical Hrs	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
Unplanned power changes	3.0	1.0	1.0	0	0	0	0	0
Critical hours	1749.1	1786.6	1998.9	1584.6	1170.7	2208.0	2209.0	1392.0
Indicator value	4.0	5.3	5.5	4.9	2.1	1.0	0	0

Licensee Comments:

4Q/14: On October 9, 2014, the NRC verbally approved the request for a NOED to not enforce compliance with Required Action B.4.1 of Technical Specification 3.8.1, "AC Source - Operating," which required restoration of the "B" diesel generator (DG) within 72 hours of being declared inoperable. The NOED provided an additional 8 hours to complete the 24-hour endurance and margin test required by TS Surveillance Requirement 3.8.1.14. The "B" DG was restored to operable status at approximately 75 hours such that granting of the NOED potentially avoided an unplanned power change.

Unplanned Scrams with Complications



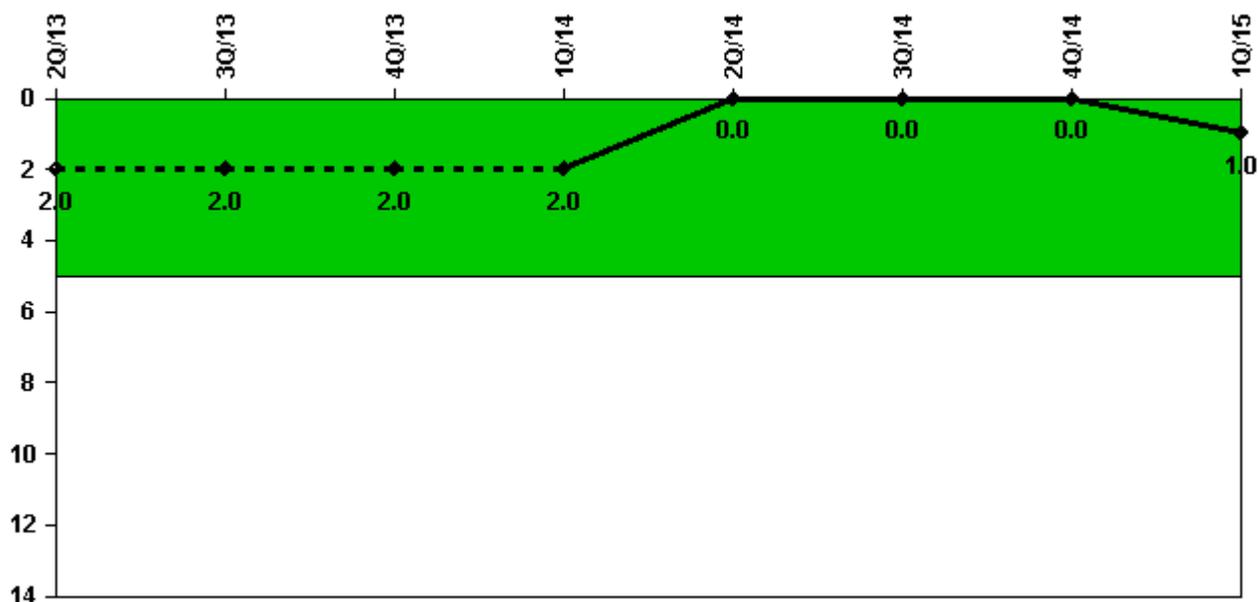
Thresholds: White > 1.0

Notes

Unplanned Scrams with Complications	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/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

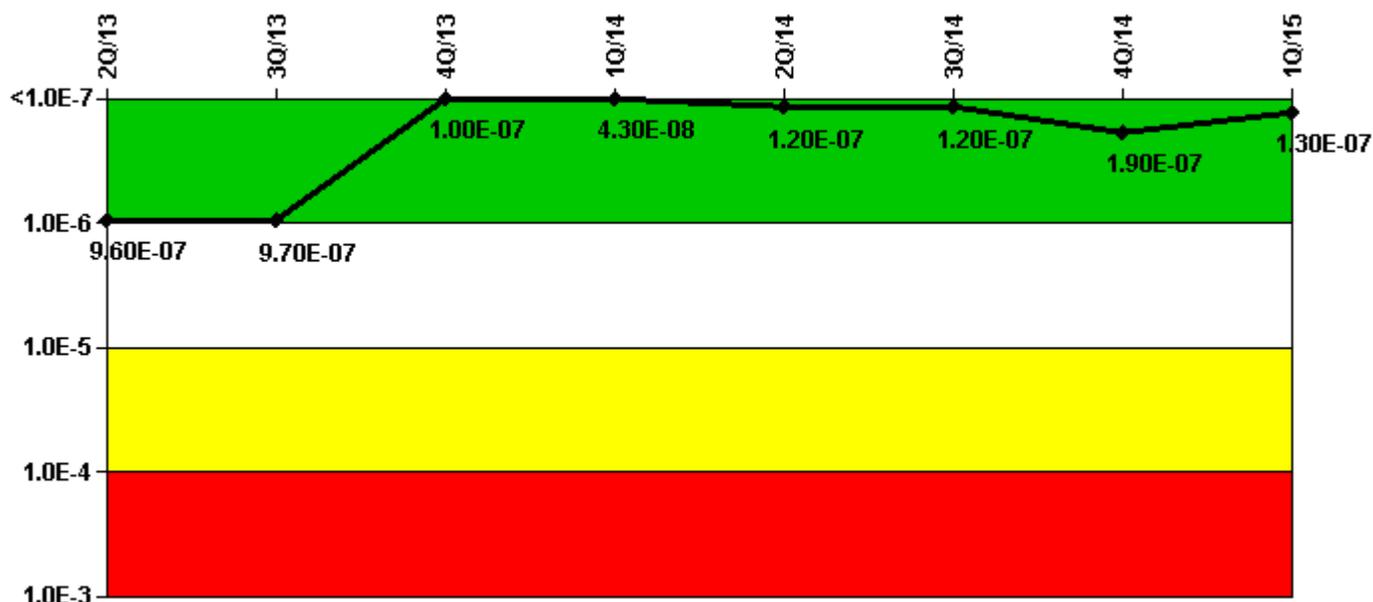
Safety System Functional Failures (PWR)	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
Safety System Functional Failures	2	0	0	0	0	0	0	1
Indicator value	2	2	2	2	0	0	0	1

Licensee Comments:

1Q/15: LER 2015-001-00 issued 3/25/15 for loss of 2 RHR trains

2Q/13: LER 2013-004-00 and LER 2013-005-00

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	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
UAI (ΔCDF)	1.19E-07	1.08E-07	6.89E-09	2.88E-10	2.82E-09	-9.53E-11	3.64E-09	3.33E-09
URI (ΔCDF)	8.39E-07	8.61E-07	9.69E-08	4.24E-08	1.14E-07	1.22E-07	1.82E-07	1.27E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	9.60E-07	9.70E-07	1.00E-07	4.30E-08	1.20E-07	1.20E-07	1.90E-07	1.30E-07

Licensee Comments:

4Q/14: On October 9, 2014, the NRC verbally approved the request for a NOED to not enforce compliance with Required Action B.4.1 of Technical Specification 3.8.1, "AC Source - Operating," which required restoration of the "B" diesel generator (DG) within 72 hours of being declared inoperable. The NOED provided an additional 8 hours to complete the 24-hour endurance and margin test required by TS Surveillance Requirement 3.8.1.14. The "B" DG was restored to operable status at approximately 75 hours such that granting of the NOED potentially avoided an unplanned power change.

2Q/14: Run Failure 312063 B EDG STS KJ-015B, frequency unexpectedly and erratically increased when the output bkr was opened after an hour of full load operation. Soldered wire termination failed within the hydraulic actuator transducer (coil) circuit.

1Q/14: Changed PRA Parameter(s).

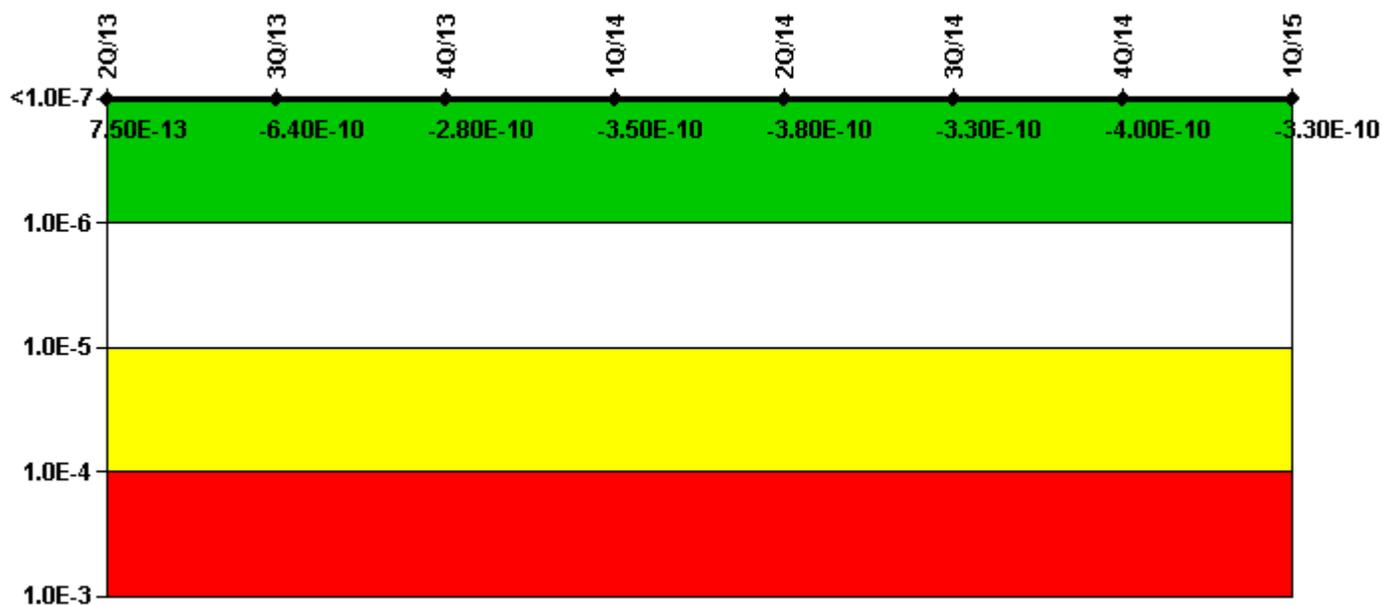
4Q/13: Changed PRA Parameter(s). Revision 10 of the Wolf Creek Basis Document included Probabilistic Risk Assessment (PRA) Model Revision 7, which incorporated the new support system initiating event fault trees,

update of the station blackout accident sequence logic to remove credit for the SHIELD passive RCP seal and add credit for the newly installed non-safety station blackout diesel generators. The model change was a significant change and resulted in most PSA values changing.

3Q/13: Risk Cap Invoked.

2Q/13: Risk Cap Invoked. Revision 9 of the Wolf Creek MSPI Basis Document incorporates new PRA inputs from Wolf Creek Generating Station PSA Model Revision 6. This revision included updates of component reliability and unavailability data, credit for the SHIELD passive RCP seal, and credit for the non-safety auxiliary feedwater pump as well as other less significant model updates. Revision 6 to the PSA model is a significant change and resulted in the revision of CDF, Fussel-Vesely and Basic Event Probabilities for all monitored trains and components. This revision also incorporated use of plant-specific common cause adjustment factors for the ESW subsystem of the cooling water system as allowed in NEI 99-02 Section F.2.3.4. In addition, system drawings for High Pressure Safety Injection, Emergency AC Power, and Auxiliary Feedwater were revised to correct scoping errors on previous drawings. Corrected dates in tables in Appendix 3 from 2004 to 2006 to 2002 to 2004.

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	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
UAI (ΔCDF)	2.33E-09	1.68E-09	1.46E-10	5.16E-11	1.19E-11	6.37E-11	-4.03E-12	7.90E-11
	-2.33E-	-2.32E-	-4.27E-	-4.03E-	-3.92E-	-3.91E-	-3.96E-	-4.09E-

URI (Δ CDF)	09	09	10	10	10	10	10	10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	7.50E-13	-6.40E-10	-2.80E-10	-3.50E-10	-3.80E-10	-3.30E-10	-4.00E-10	-3.30E-10

Licensee Comments:

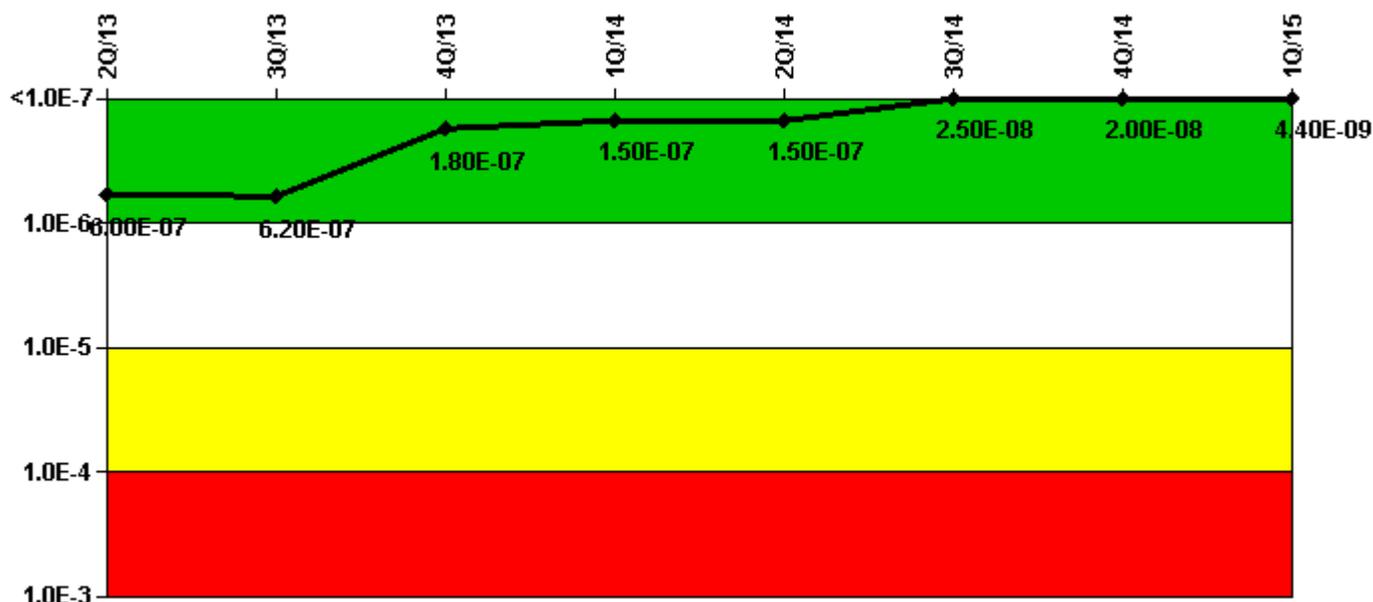
1Q/14: Changed PRA Parameter(s).

4Q/13: Changed PRA Parameter(s). Revision 10 of the Wolf Creek Basis Document included Probabilistic Risk Assessment (PRA) Model Revision 7, which incorporated the new support system initiating event fault trees, update of the station blackout accident sequence logic to remove credit for the SHIELD passive RCP seal and add credit for the newly installed non-safety station blackout diesel generators. The model change was a significant change and resulted in most PSA values changing.

2Q/13: Changed PRA Parameter(s). Revision 9 of the Wolf Creek MSPI Basis Document incorporates new PRA inputs from Wolf Creek Generating Station PSA Model Revision 6. This revision included updates of component reliability and unavailability data, credit for the SHIELD passive RCP seal, and credit for the non-safety auxiliary feedwater pump as well as other less significant model updates. Revision 6 to the PSA model is a significant change and resulted in the revision of CDF, Fussel-Vesely and Basic Event Probabilities for all monitored trains and components. This revision also incorporated use of plant-specific common cause adjustment factors for the ESW subsystem of the cooling water system as allowed in NEI 99-02 Section F.2.3.4. In addition, system drawings for High Pressure Safety Injection, Emergency AC Power, and Auxiliary Feedwater were revised to correct scoping errors on previous drawings. Corrected dates in tables in Appendix 3 from 2004 to 2006 to 2002 to 2004.

2Q/13: Revision 9 of the Wolf Creek MSPI Basis Document incorporates new PRA inputs from Wolf Creek Generating Station PSA Model Revision 6. This revision included updates of component reliability and unavailability data, credit for the SHIELD passive RCP seal, and credit for the non-safety auxiliary feedwater pump as well as other less significant model updates. Revision 6 to the PSA model is a significant change and resulted in the revision of CDF, Fussel-Vesely and Basic Event Probabilities for all monitored trains and components. This revision also incorporated use of plant-specific common cause adjustment factors for the ESW subsystem of the cooling water system as allowed in NEI 99-02 Section F.2.3.4. In addition, system drawings for High Pressure Safety Injection, Emergency AC Power, and Auxiliary Feedwater were revised to correct scoping errors on previous drawings. Corrected dates in tables in Appendix 3 from 2004 to 2006 to 2002 to 2004.

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	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
UAI (Δ CDF)	6.10E-07	6.49E-07	1.69E-07	1.39E-07	1.30E-07	8.39E-08	7.74E-08	5.95E-08
URI (Δ CDF)	-1.40E-08	-2.92E-08	1.49E-08	1.45E-08	1.80E-08	-5.84E-08	-5.77E-08	-5.51E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	6.00E-07	6.20E-07	1.80E-07	1.50E-07	1.50E-07	2.50E-08	2.00E-08	4.40E-09

Licensee Comments:

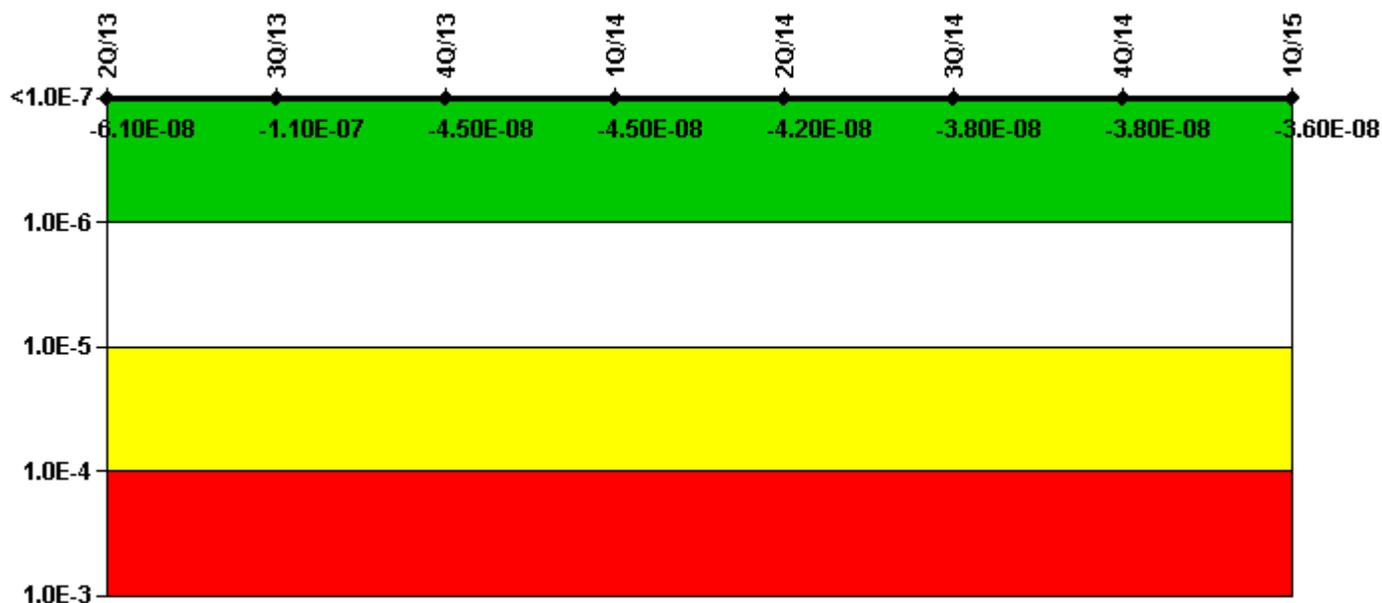
1Q/14: Changed PRA Parameter(s).

4Q/13: Changed PRA Parameter(s). Revision 10 of the Wolf Creek Basis Document included Probabilistic Risk Assessment (PRA) Model Revision 7, which incorporated the new support system initiating event fault trees, update of the station blackout accident sequence logic to remove credit for the SHIELD passive RCP seal and add credit for the newly installed non-safety station blackout diesel generators. The model change was a significant change and resulted in most PSA values changing.

2Q/13: Revision 9 of the Wolf Creek MSPI Basis Document incorporates new PRA inputs from Wolf Creek Generating Station PSA Model Revision 6. This revision included updates of component reliability and unavailability data, credit for the SHIELD passive RCP seal, and credit for the non-safety auxiliary feedwater pump as well as other less significant model updates. Revision 6 to the PSA model is a significant change and resulted in the revision of CDF, Fussel-Vesely and Basic Event Probabilities for all monitored trains and components. This revision also incorporated use of plant-specific common cause adjustment factors for the ESW subsystem of the cooling water system as allowed in NEI 99-02 Section F.2.3.4. In addition, system drawings

for High Pressure Safety Injection, Emergency AC Power, and Auxiliary Feedwater were revised to correct scoping errors on previous drawings. Corrected dates in tables in Appendix 3 from 2004 to 2006 to 2002 to 2004.

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	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
UAI (ΔCDF)	4.96E-08	1.03E-09	-5.14E-10	5.92E-12	-2.05E-09	1.99E-09	2.42E-09	3.23E-09
URI (ΔCDF)	-1.11E-07	-1.10E-07	-4.49E-08	-4.46E-08	-3.99E-08	-3.99E-08	-4.00E-08	-3.91E-08
PLE	NO							
Indicator value	-6.10E-08	-1.10E-07	-4.50E-08	-4.50E-08	-4.20E-08	-3.80E-08	-3.80E-08	-3.60E-08

Licensee Comments:

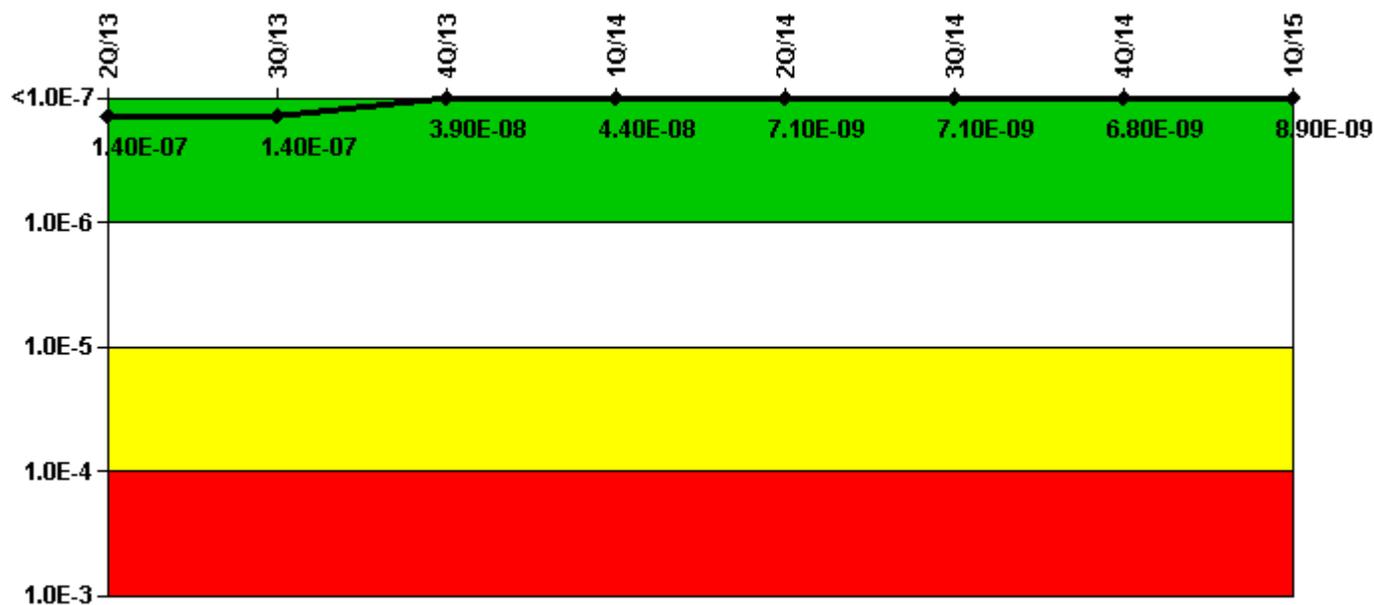
1Q/14: Changed PRA Parameter(s).

4Q/13: Changed PRA Parameter(s). Revision 10 of the Wolf Creek Basis Document included Probabilistic Risk Assessment (PRA) Model Revision 7, which incorporated the new support system initiating event fault trees, update of the station blackout accident sequence logic to remove credit for the SHIELD passive RCP seal and

add credit for the newly installed non-safety station blackout diesel generators. The model change was a significant change and resulted in most PSA values changing.

2Q/13: Revision 9 of the Wolf Creek MSPI Basis Document incorporates new PRA inputs from Wolf Creek Generating Station PSA Model Revision 6. This revision included updates of component reliability and unavailability data, credit for the SHIELD passive RCP seal, and credit for the non-safety auxiliary feedwater pump as well as other less significant model updates. Revision 6 to the PSA model is a significant change and resulted in the revision of CDF, Fussel-Vesely and Basic Event Probabilities for all monitored trains and components. This revision also incorporated use of plant-specific common cause adjustment factors for the ESW subsystem of the cooling water system as allowed in NEI 99-02 Section F.2.3.4. In addition, system drawings for High Pressure Safety Injection, Emergency AC Power, and Auxiliary Feedwater were revised to correct scoping errors on previous drawings. Corrected dates in tables in Appendix 3 from 2004 to 2006 to 2002 to 2004.

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	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
UAI (ΔCDF)	8.30E-08	8.43E-08	2.18E-08	2.73E-08	2.96E-08	2.92E-08	2.87E-08	3.03E-08
URI (ΔCDF)	5.55E-08	5.71E-08	1.68E-08	1.67E-08	-2.25E-08	-2.20E-08	-2.19E-08	-2.14E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO

Indicator value	1.40E-07	1.40E-07	3.90E-08	4.40E-08	7.10E-09	7.10E-09	6.80E-09	8.90E-09
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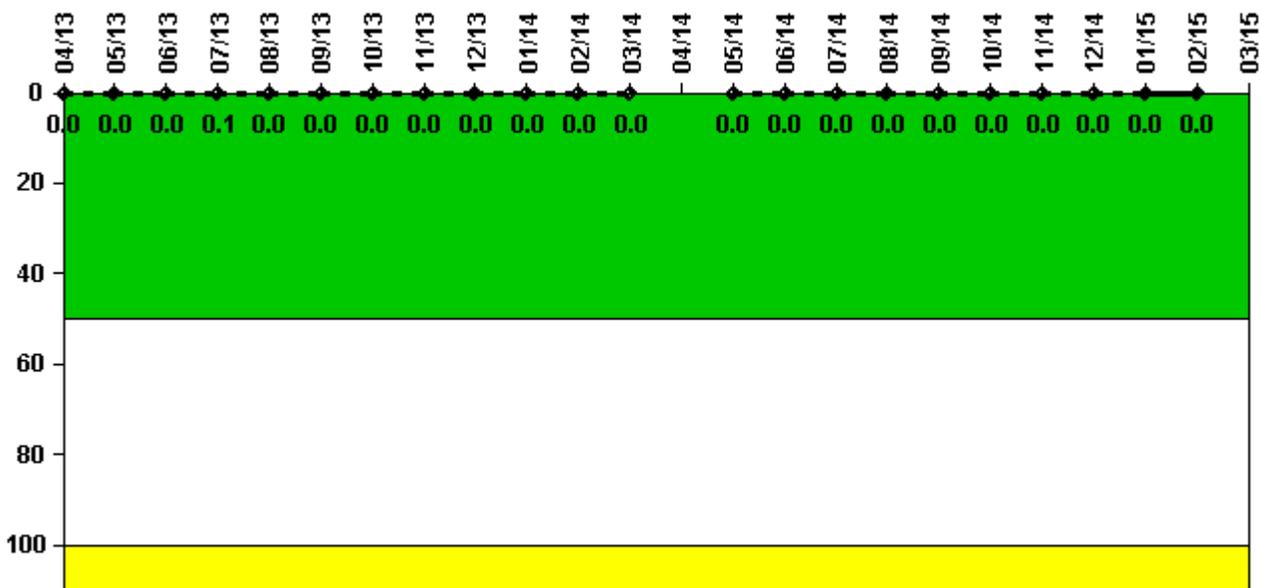
Licensee Comments:

1Q/14: Changed PRA Parameter(s).

4Q/13: Changed PRA Parameter(s). Revision 10 of the Wolf Creek Basis Document included Probabilistic Risk Assessment (PRA) Model Revision 7, which incorporated the new support system initiating event fault trees, update of the station blackout accident sequence logic to remove credit for the SHIELD passive RCP seal and add credit for the newly installed non-safety station blackout diesel generators. The model change was a significant change and resulted in most PSA values changing.

2Q/13: Revision 9 of the Wolf Creek MSPI Basis Document incorporates new PRA inputs from Wolf Creek Generating Station PSA Model Revision 6. This revision included updates of component reliability and unavailability data, credit for the SHIELD passive RCP seal, and credit for the non-safety auxiliary feedwater pump as well as other less significant model updates. Revision 6 to the PSA model is a significant change and resulted in the revision of CDF, Fussel-Vesely and Basic Event Probabilities for all monitored trains and components. This revision also incorporated use of plant-specific common cause adjustment factors for the ESW subsystem of the cooling water system as allowed in NEI 99-02 Section F.2.3.4. In addition, system drawings for High Pressure Safety Injection, Emergency AC Power, and Auxiliary Feedwater were revised to correct scoping errors on previous drawings. Corrected dates in tables in Appendix 3 from 2004 to 2006 to 2002 to 2004.

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

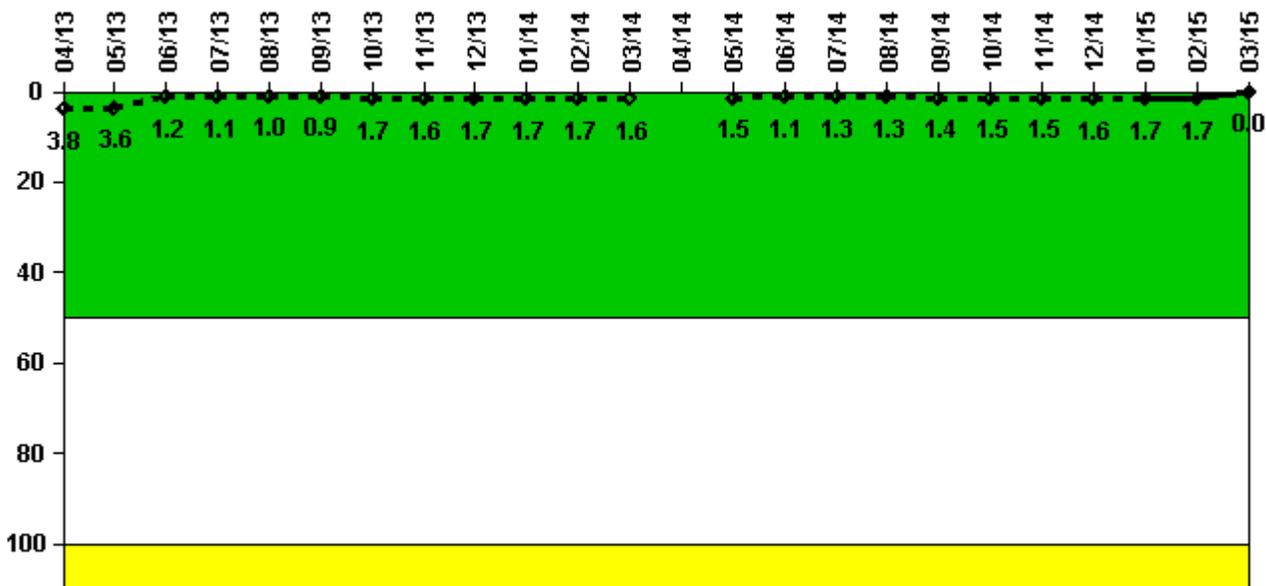
Notes

Reactor Coolant System Activity	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	1/14	2/14	3/14
Maximum activity	0.000100	0.000100	0.000200	0.000600	0.000200	0.000200	0.000100	0.000200	0.000200	0.000200	0.000200	0.000200
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	0.1	0	0	0	0	0	0	0	0

Reactor Coolant System Activity	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14	1/15	2/15	3/15
Maximum activity	N/A	0.000300	0.000300	0.000200	0.000300	0.000400	0.000300	0.000300	0.000400	0.000300	0.000400	N/A
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	N/A	0	0	0	0	0	0	0	0	0	0	N/A

Licensee Comments: none

Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

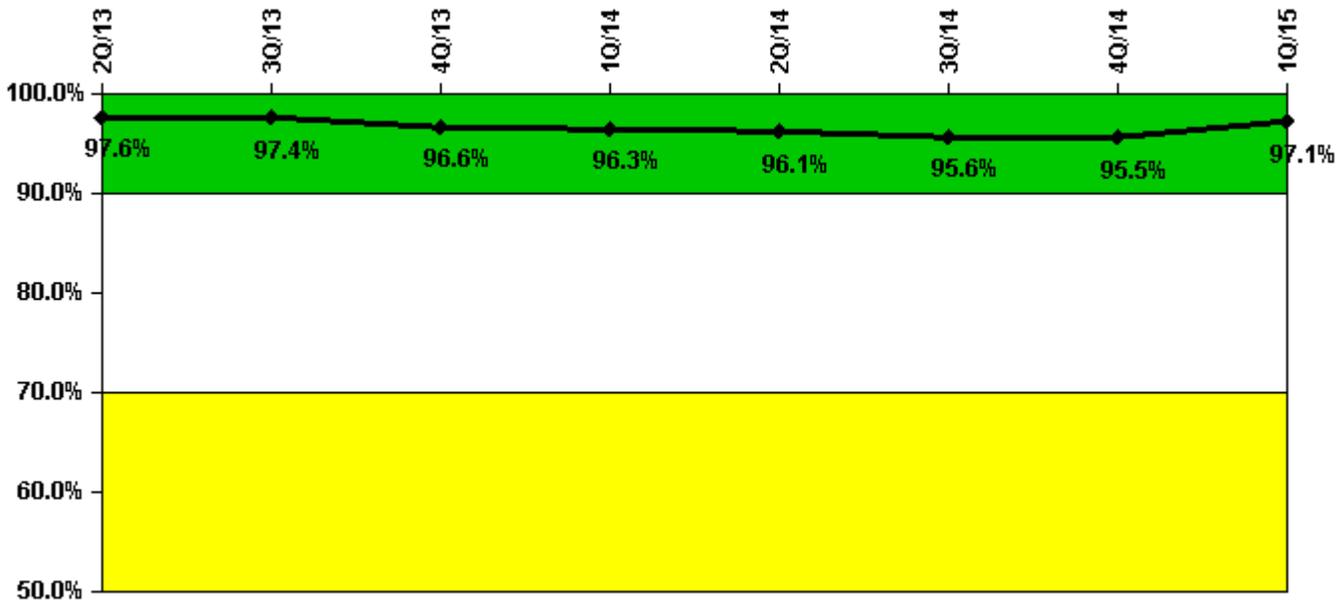
Notes

Reactor Coolant System Leakage	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	1/14	2/14	3/14
Maximum leakage	0.380	0.360	0.120	0.110	0.100	0.090	0.170	0.160	0.170	0.170	0.170	0.160
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	3.8	3.6	1.2	1.1	1.0	0.9	1.7	1.6	1.7	1.7	1.7	1.6

Reactor Coolant System Leakage	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14	1/15	2/15	3/15
Maximum leakage	N/A	0.150	0.110	0.130	0.130	0.140	0.150	0.150	0.160	0.170	0.170	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	N/A	1.5	1.1	1.3	1.3	1.4	1.5	1.5	1.6	1.7	1.7	0

Licensee Comments: none

Drill/Exercise Performance



Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
Successful opportunities	6.0	55.0	118.0	14.0	37.0	41.0	65.0	128.0
Total opportunities	7.0	56.0	124.0	14.0	38.0	45.0	66.0	128.0

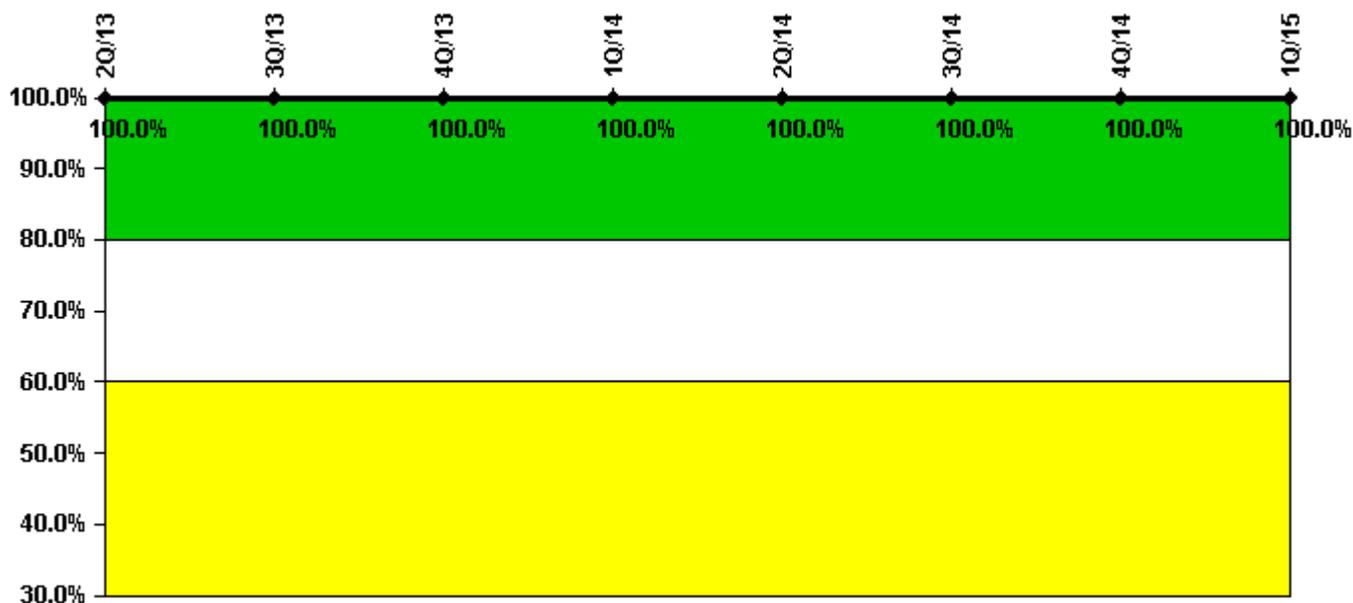
Indicator value	97.6%	97.4%	96.6%	96.3%	96.1%	95.6%	95.5%	97.1%
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Licensee Comments:

4Q/13: QA audit identified a DEP reporting error for 12/2013 - data was corrected. No impact to the overall indicator color.

2Q/13: June 2013 DEP - It had been reported that there were three successes out of four opportunities. It should have been reported that there were four successes out of five opportunities. The additional opportunity was associated with the declaration of a Site Area Emergency. Site Area Emergency declarations inherently contain an automatic PAR. These PARs do NOT count as classification / PAR opportunities, but do count for notifications.

ERO Drill Participation



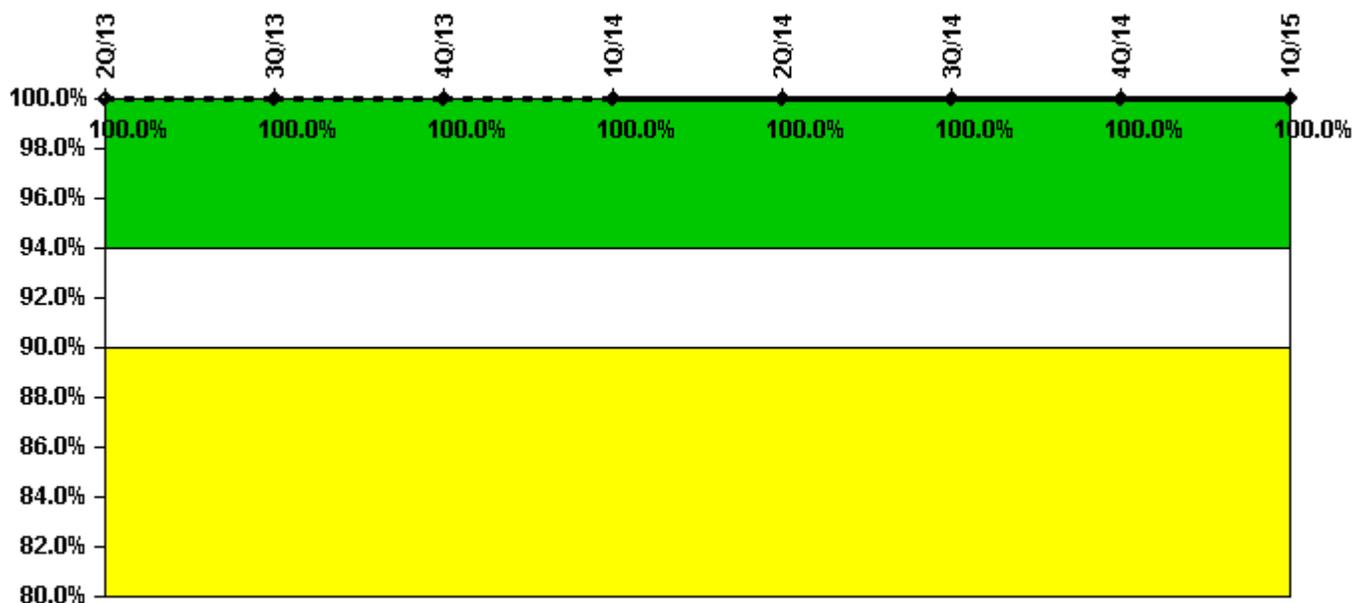
Thresholds: White < 80.0% Yellow < 60.0%

Notes

ERO Drill Participation	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
Participating Key personnel	66.0	67.0	65.0	65.0	63.0	66.0	66.0	65.0
Total Key personnel	66.0	67.0	65.0	65.0	63.0	66.0	66.0	65.0
Indicator value	100.0%							

Licensee Comments: none

Alert & Notification System



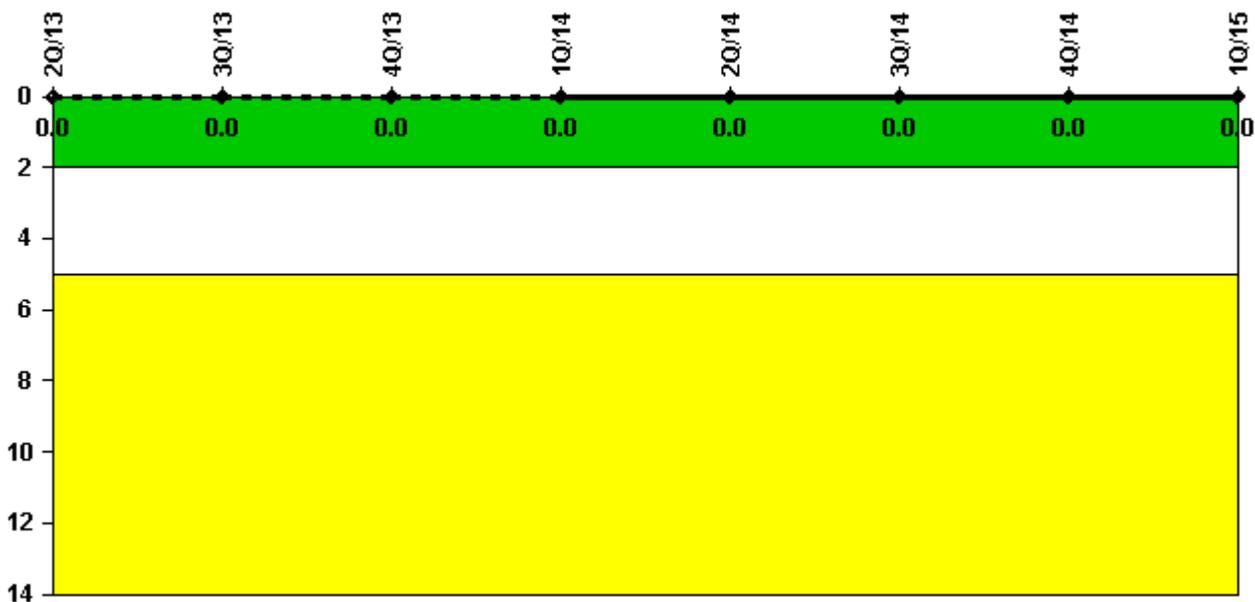
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
Successful siren-tests	77	66	77	77	77	77	66	77
Total sirens-tests	77	66	77	77	77	77	66	77
Indicator value	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

Occupational Exposure Control Effectiveness



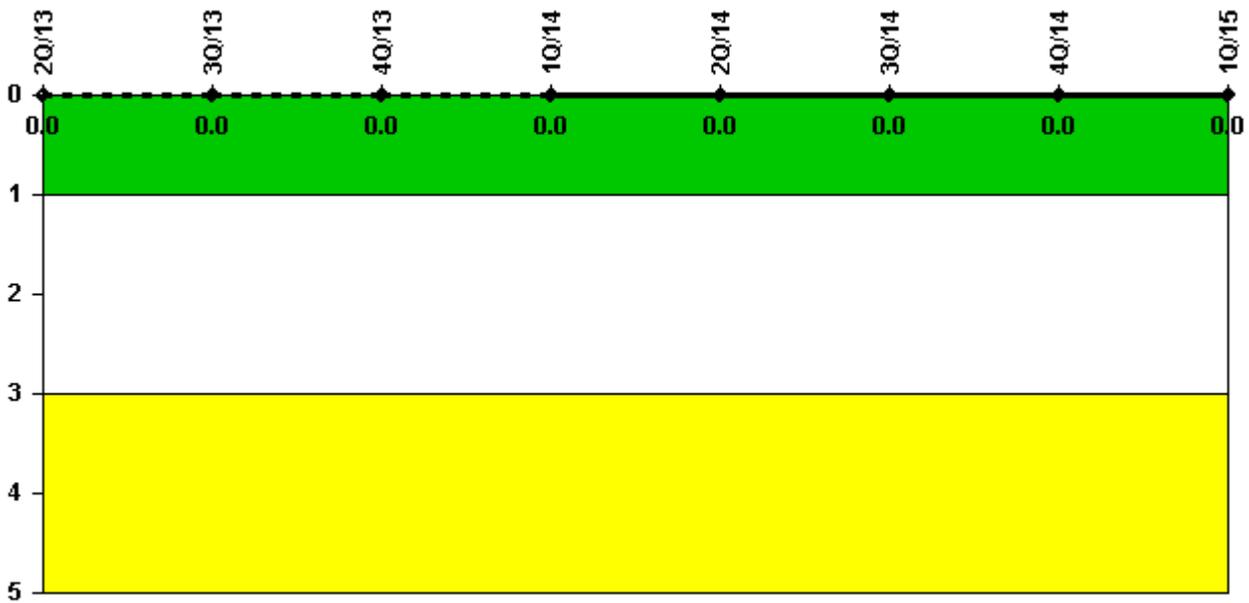
Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/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	2Q/13	3Q/13	4Q/13	1Q/14	2Q/14	3Q/14	4Q/14	1Q/15
RETS/ODCM occurrences	0	0	0	0	0	0	0	0
Indicator value	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: April 23, 2015