

Palo Verde 2

1Q/2012 Performance Indicators

Licensee's General Comments: none

Unplanned Scrams per 7000 Critical Hrs



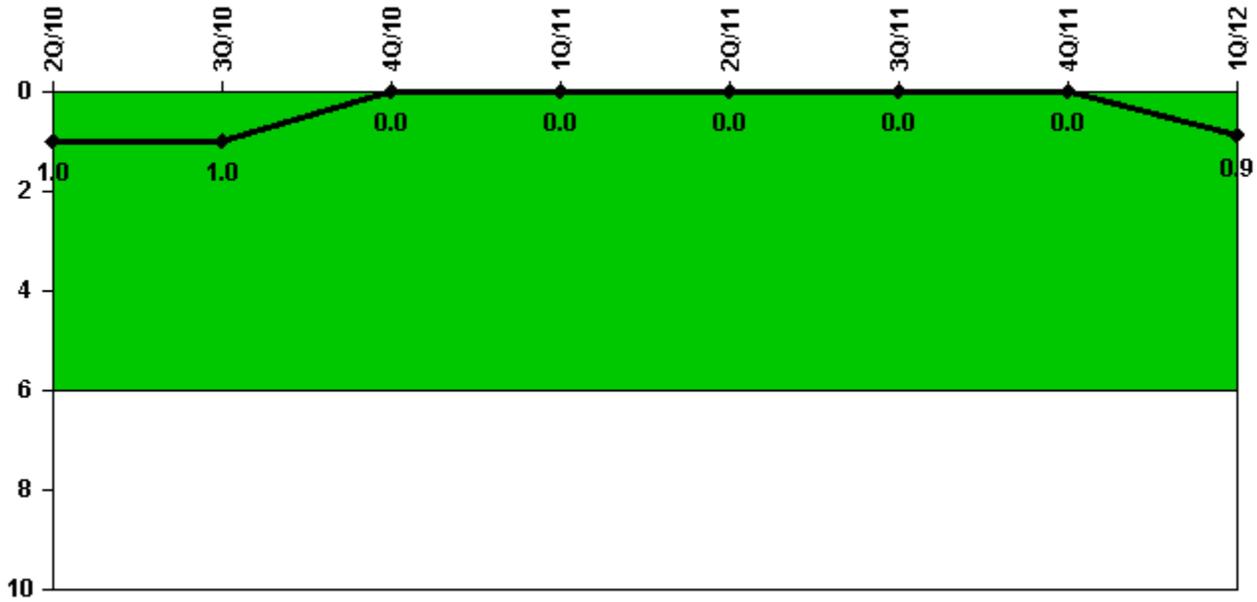
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2184.0	2208.0	2208.0	2160.0	1384.5	2208.0	2208.0	2184.0
Indicator value	0	0	0	0	0	0	0	0

Licensee Comments: none

Unplanned Power Changes per 7000 Critical Hrs



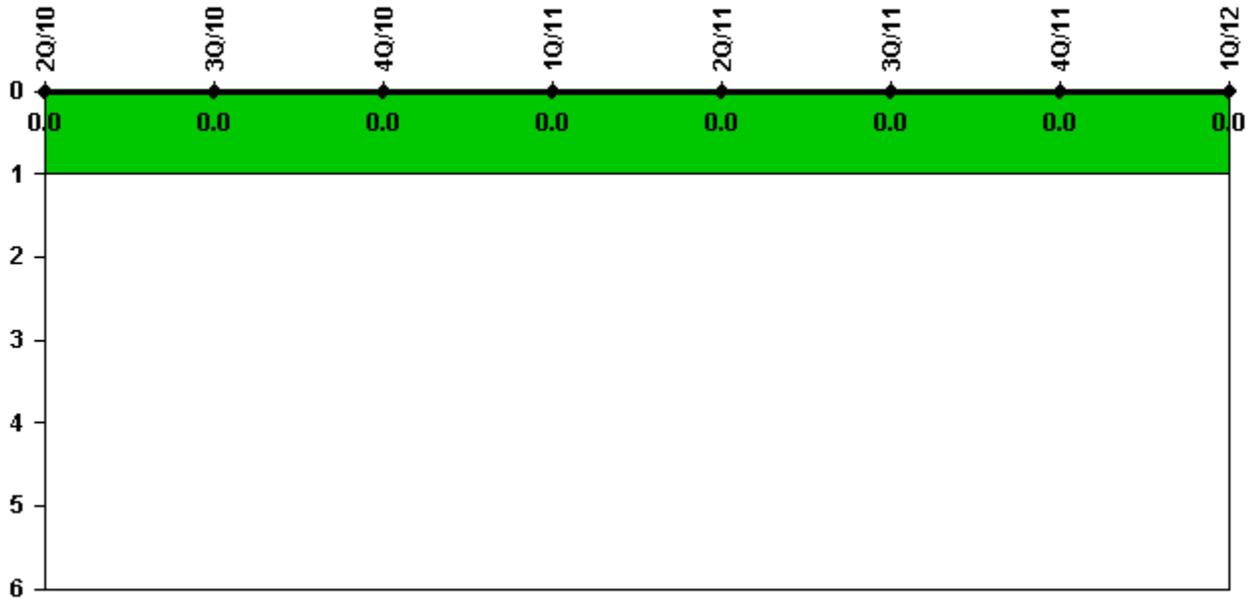
Thresholds: White > 6.0

Notes

Unplanned Power Changes per 7000 Critical Hrs	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Unplanned power changes	0	0	0	0	0	0	0	1.0
Critical hours	2184.0	2208.0	2208.0	2160.0	1384.5	2208.0	2208.0	2184.0
Indicator value	1.0	1.0	0	0	0	0	0	0.9

Licensee Comments: none

Unplanned Scrams with Complications



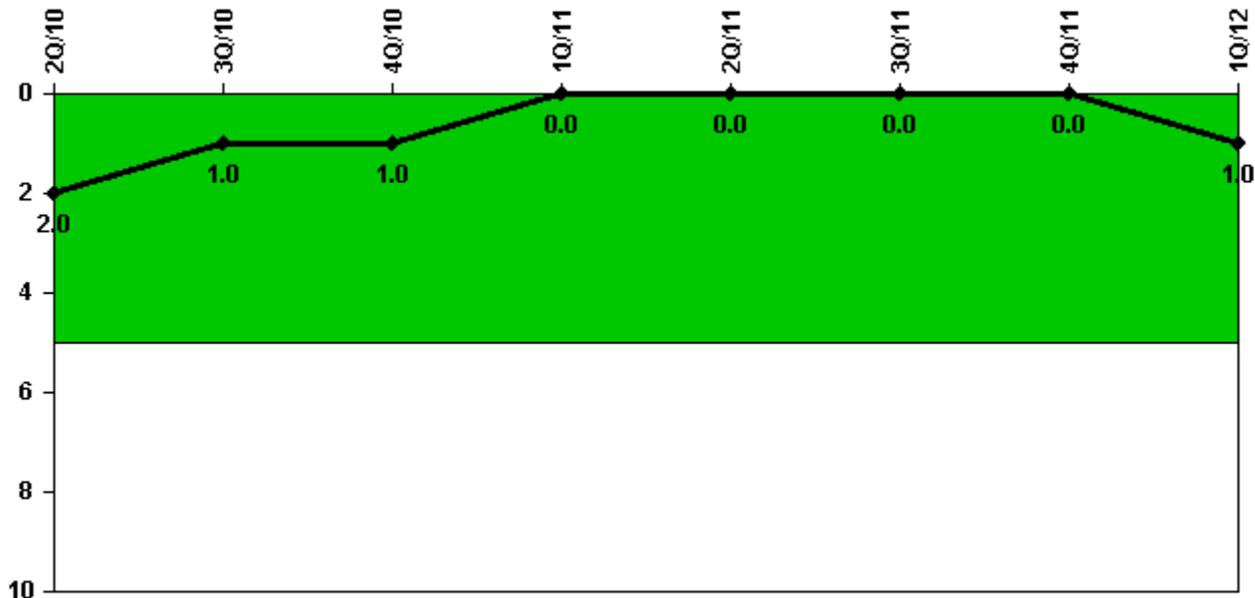
Thresholds: White > 1.0

Notes

Unplanned Scrams with Complications	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
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

Licensee Comments: none

Safety System Functional Failures (PWR)



Thresholds: White > 5.0

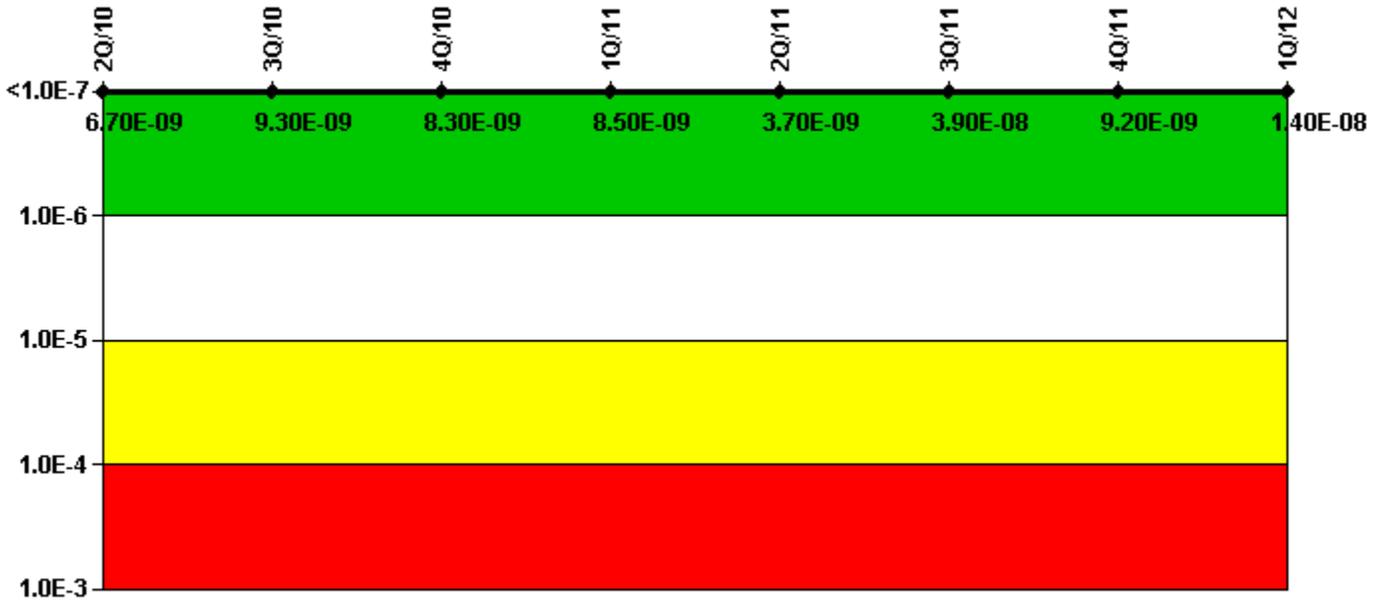
Notes

Safety System Functional Failures (PWR)	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Safety System Functional Failures	0	0	0	0	0	0	0	1
Indicator value	2	1	1	0	0	0	0	1

Licensee Comments:

1Q/12: LER 0500529-2010-002-01 submitted that revised the LER reporting criteria for September 2010 Unit 2 Fuel Oil Transfer Pump failure. Revised LER criteria includes SSFF.

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/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI (Δ CDF)	1.60E-08	2.03E-08	2.09E-08	2.25E-08	2.08E-08	3.13E-08	2.50E-08	2.89E-08
URI (Δ CDF)	-9.34E-09	-1.10E-08	-1.25E-08	-1.40E-08	-1.72E-08	7.28E-09	-1.57E-08	-1.45E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	6.70E-09	9.30E-09	8.30E-09	8.50E-09	3.70E-09	3.90E-08	9.20E-09	1.40E-08

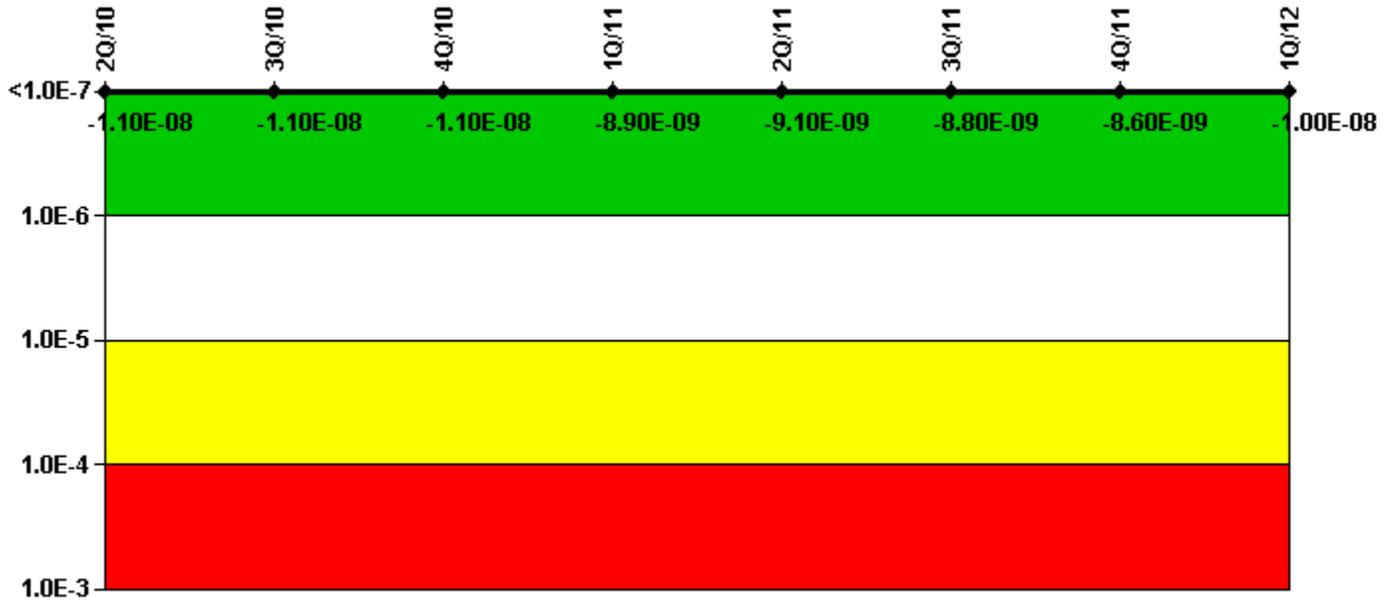
Licensee Comments:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for emergency AC power system. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 ??? 2004, 36 month historical plant data. Revised emergency AC diesel generator demands/runtimes per FAQ 480. No MSPI PRA coefficients were changed.

2Q/11: Changed PRA Parameter(s). A PVNGS PRA Model was completed in January 2011 with a corresponding MSPI Basis Document revision in March 2011. The PRA model revision was a periodic update to the model. As a result of the PRA model change, the Core Damage Frequency and Fussel-Vesely for all monitored trains and components were revised in CDE.

2Q/10: PRA model was revised March 25, 2010 with corresponding MSPI Model revision. This resulted in revision to plant base CDF values and corresponding Fussel-Vessely, Unavailability, and Unreliability values for monitored systems.

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/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI (Δ CDF)	2.19E-09	1.72E-09	1.54E-09	3.72E-09	2.65E-09	2.59E-09	2.52E-09	1.16E-09
URI (Δ CDF)	-1.34E-08	-1.32E-08	-1.29E-08	-1.26E-08	-1.17E-08	-1.14E-08	-1.12E-08	-1.11E-08
PLE	NO							
Indicator value	-1.10E-08	-1.10E-08	-1.10E-08	-8.90E-09	-9.10E-09	-8.80E-09	-8.60E-09	-1.00E-08

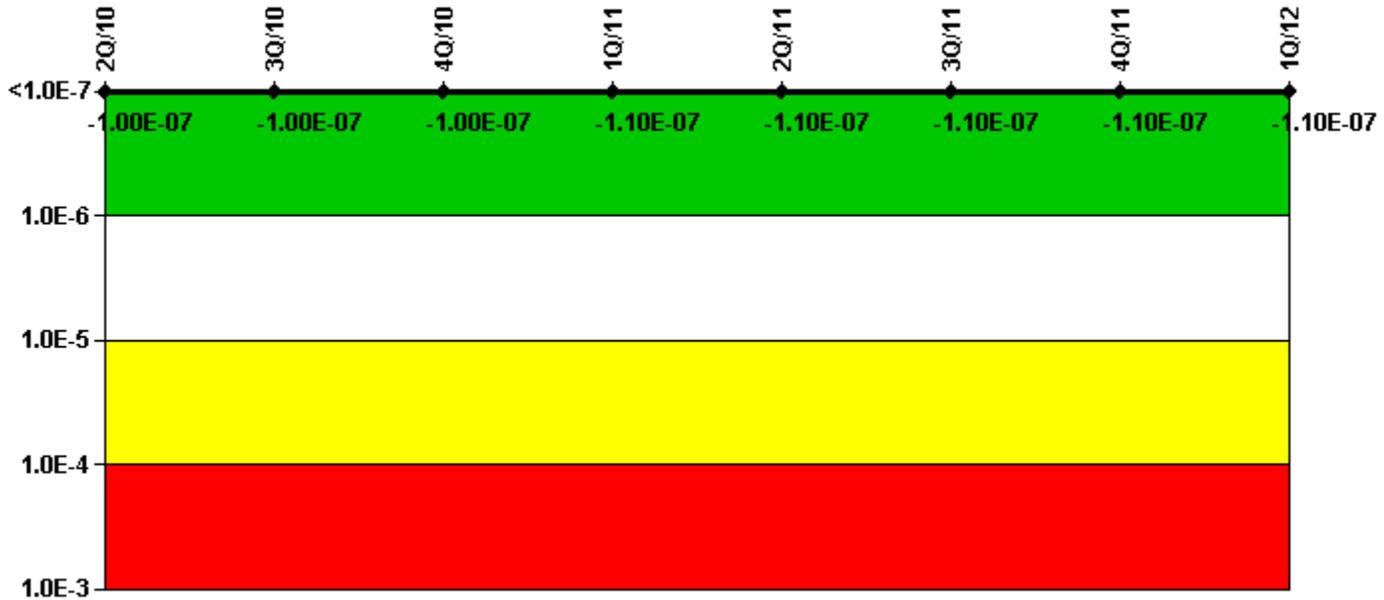
Licensee Comments:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for high pressure safety injection system. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 ??? 2004, 36 month historical plant data. The change also reflected a change in maintenance philosophy. Revised HPSI demands/runtimes to address greater than 25% deviation. No MSPI PRA coefficients were changed.

2Q/11: Changed PRA Parameter(s). A PVNGS PRA Model was completed in January 2011 with a corresponding MSPI Basis Document revision in March 2011. The PRA model revision was a periodic update to the model. As a result of the PRA model change, the Core Damage Frequency and Fussel-Vesely for all monitored trains and components were revised in CDE.

2Q/10: PRA model was revised March 25, 2010 with corresponding MSPI Model revision. This resulted in revision to plant base CDF values and corresponding Fussel-Vessely, Unavailability, and Unreliability values for monitored systems.

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/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI (Δ CDF)	-4.30E-08	-4.30E-08	-4.33E-08	-4.33E-08	-4.36E-08	-4.36E-08	-4.37E-08	-4.32E-08
URI (Δ CDF)	-5.81E-08	-5.98E-08	-6.15E-08	-6.31E-08	-6.26E-08	-6.40E-08	-6.54E-08	-6.54E-08
PLE	NO							
Indicator value	-1.00E-07	-1.00E-07	-1.00E-07	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07	-1.10E-07

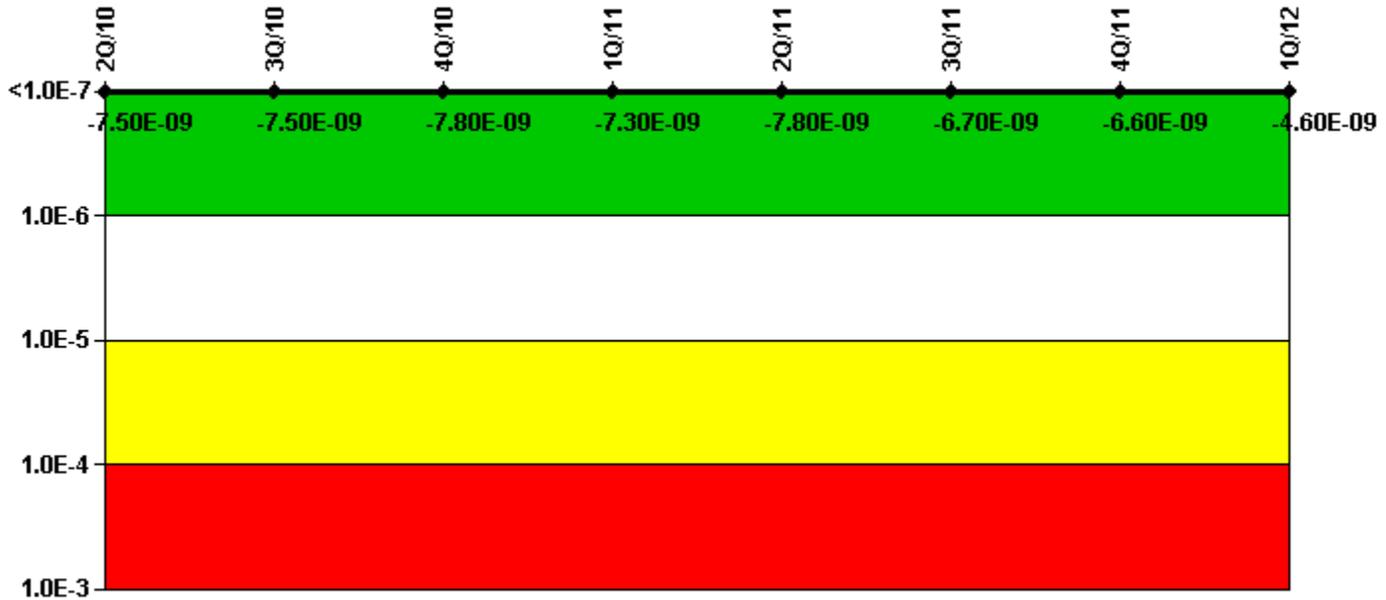
Licensee Comments:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for heat removal system. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 ??? 2004, 36 month historical plant data. Revised heat removal system demands/runtimes to address greater than 25% deviation. No MSPI PRA coefficients were changed.

2Q/11: Changed PRA Parameter(s). A PVNGS PRA Model was completed in January 2011 with a corresponding MSPI Basis Document revision in March 2011. The PRA model revision was a periodic update to the model. As a result of the PRA model change, the Core Damage Frequency and Fussel-Vesely for all monitored trains and components were revised in CDE.

2Q/10: PRA model was revised March 25, 2010 with corresponding MSPI Model revision. This resulted in revision to plant base CDF values and corresponding Fussel-Vesely, Unavailability, and Unreliability values for monitored systems.

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/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI (Δ CDF)	-5.76E-10	-6.87E-10	-1.10E-09	-7.28E-10	-1.37E-09	-3.72E-10	-4.72E-10	1.68E-09
URI (Δ CDF)	-6.90E-09	-6.78E-09	-6.67E-09	-6.55E-09	-6.41E-09	-6.29E-09	-6.16E-09	-6.23E-09
PLE	NO							
Indicator value	-7.50E-09	-7.50E-09	-7.80E-09	-7.30E-09	-7.80E-09	-6.70E-09	-6.60E-09	-4.60E-09

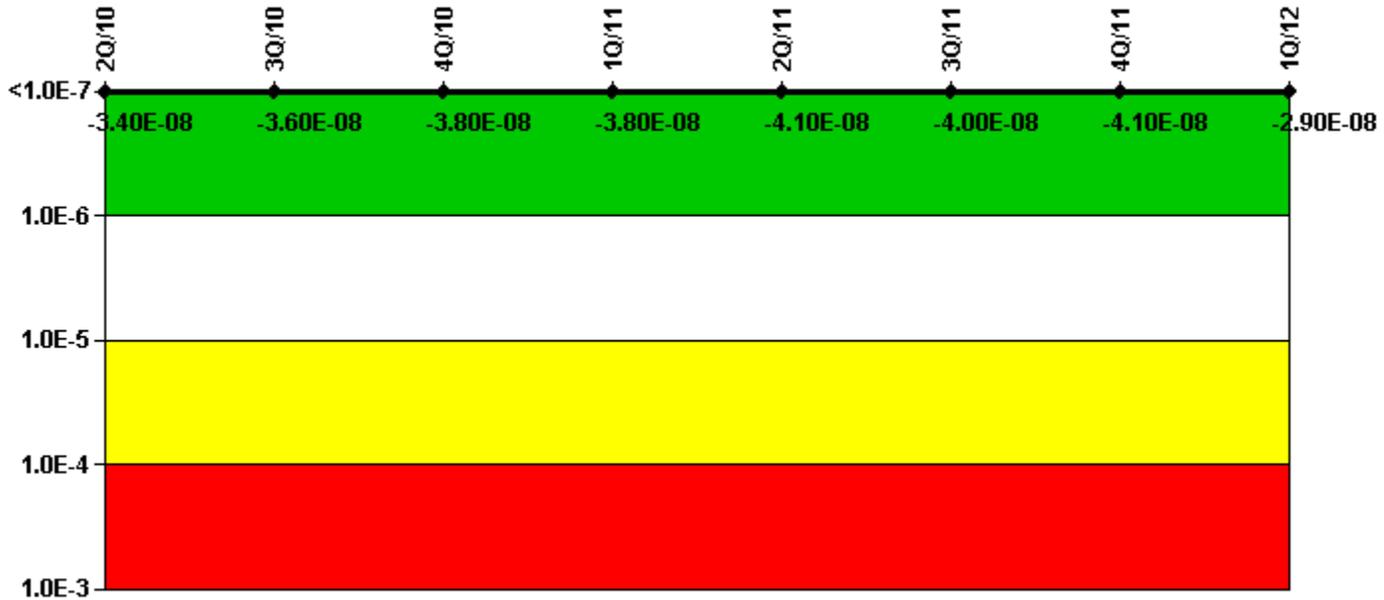
Licensee Comments:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for residual heat removal system. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 ??? 2004, 36 month historical plant data. The change also reflected a change in maintenance philosophy. No MSPI PRA coefficients were changed.

2Q/11: Changed PRA Parameter(s). A PVNGS PRA Model was completed in January 2011 with a corresponding MSPI Basis Document revision in March 2011. The PRA model revision was a periodic update to the model. As a result of the PRA model change, the Core Damage Frequency and Fussel-Vesely for all monitored trains and components were revised in CDE.

2Q/10: PRA model was revised March 25, 2010 with corresponding MSPI Model revision. This resulted in revision to plant base CDF values and corresponding Fussel-Vessely, Unavailability, and Unreliability values for monitored systems.

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/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
UAI (Δ CDF)	6.91E-09	4.90E-09	2.93E-09	3.52E-09	2.87E-09	3.98E-09	3.61E-09	1.64E-08
URI (Δ CDF)	-4.05E-08	-4.09E-08	-4.13E-08	-4.17E-08	-4.40E-08	-4.43E-08	-4.47E-08	-4.50E-08
PLE	NO							
Indicator value	-3.40E-08	-3.60E-08	-3.80E-08	-3.80E-08	-4.10E-08	-4.00E-08	-4.10E-08	-2.90E-08

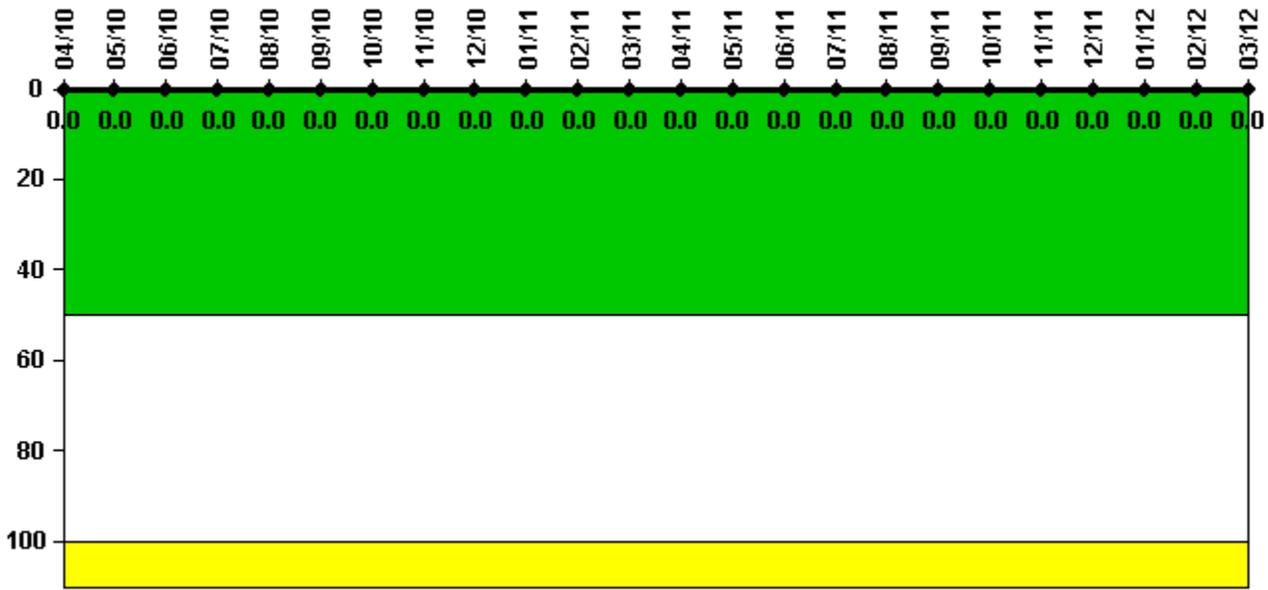
Licensee Comments:

4Q/11: Revised MSPI Bases Document (Rev 9) in 12/2011 for cooling water systems. Per FAQ 468, returned all Planned Unavailability Baselines to 2002 – 2004, 36 month historical plant data.

2Q/11: Changed PRA Parameter(s). A PVNGS PRA Model was completed in January 2011 with a corresponding MSPI Basis Document revision in March 2011. The PRA model revision was a periodic update to the model. As a result of the PRA model change, the Core Damage Frequency and Fussel-Vesely for all monitored trains and components were revised in CDE.

2Q/10: PRA model was revised March 25, 2010 with corresponding MSPI Model revision. This resulted in revision to plant base CDF values and corresponding Fussel-Vessely, Unavailability, and Unreliability values for monitored systems.

Reactor Coolant System Activity



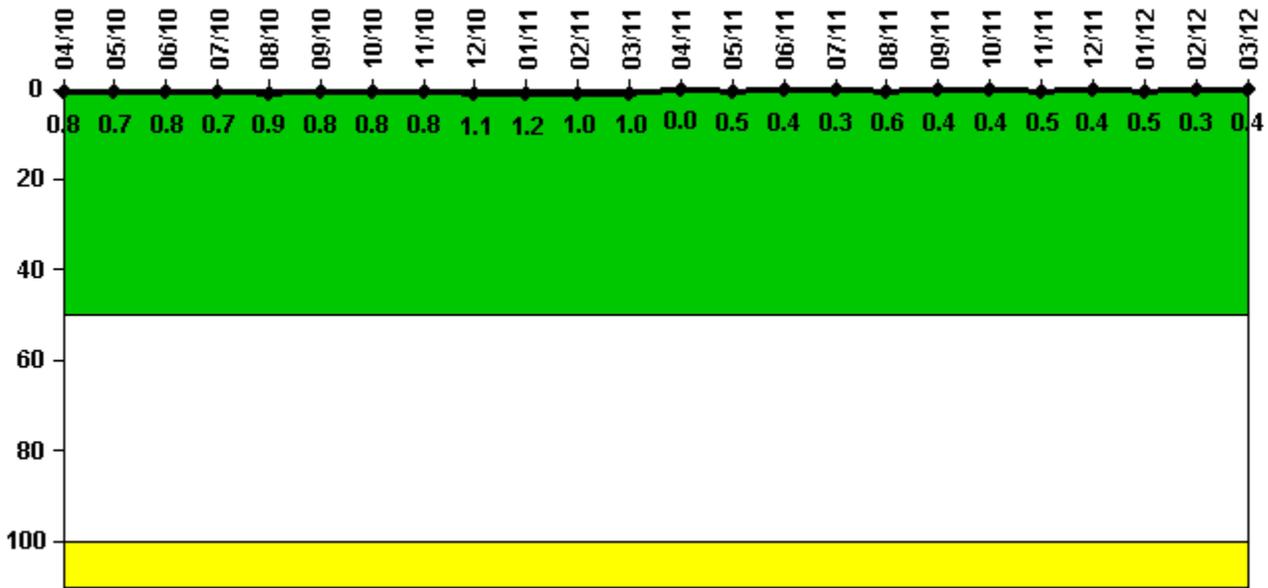
Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Activity	4/10	5/10	6/10	7/10	8/10	9/10	10/10	11/10	12/10	1/11	2/11	3/11
Maximum activity	0.000242	0.000250	0.000260	0.000253	0.000258	0.000269	0.000270	0.000273	0.000278	0.000286	0.000293	0.000295
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	4/11	5/11	6/11	7/11	8/11	9/11	10/11	11/11	12/11	1/12	2/12	3/12
Maximum activity	0.000250	0.000187	0.000195	0.000199	0.000211	0.000210	0.000203	0.000215	0.000213	0.000223	0.000227	0.000226
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

Licensee Comments: none

Reactor Coolant System Leakage



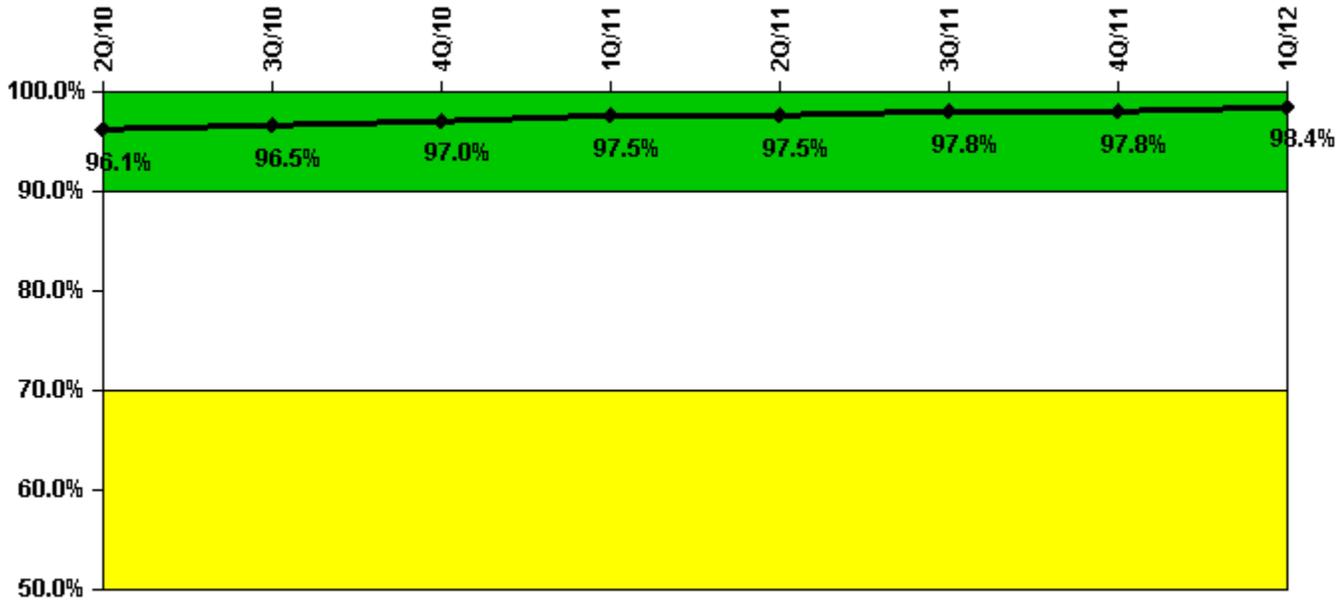
Thresholds: White > 50.0 Yellow > 100.0

Notes

Reactor Coolant System Leakage	4/10	5/10	6/10	7/10	8/10	9/10	10/10	11/10	12/10	1/11	2/11	3/11
Maximum leakage	0.076	0.067	0.077	0.074	0.091	0.079	0.081	0.082	0.112	0.115	0.101	0.098
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	0.8	0.7	0.8	0.7	0.9	0.8	0.8	0.8	1.1	1.2	1.0	1.0
Reactor Coolant System Leakage	4/11	5/11	6/11	7/11	8/11	9/11	10/11	11/11	12/11	1/12	2/12	3/12
Maximum leakage	0	0.050	0.036	0.033	0.061	0.039	0.037	0.047	0.038	0.048	0.033	0.043
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	0.5	0.4	0.3	0.6	0.4	0.4	0.5	0.4	0.5	0.3	0.4

Licensee Comments: none

Drill/Exercise Performance



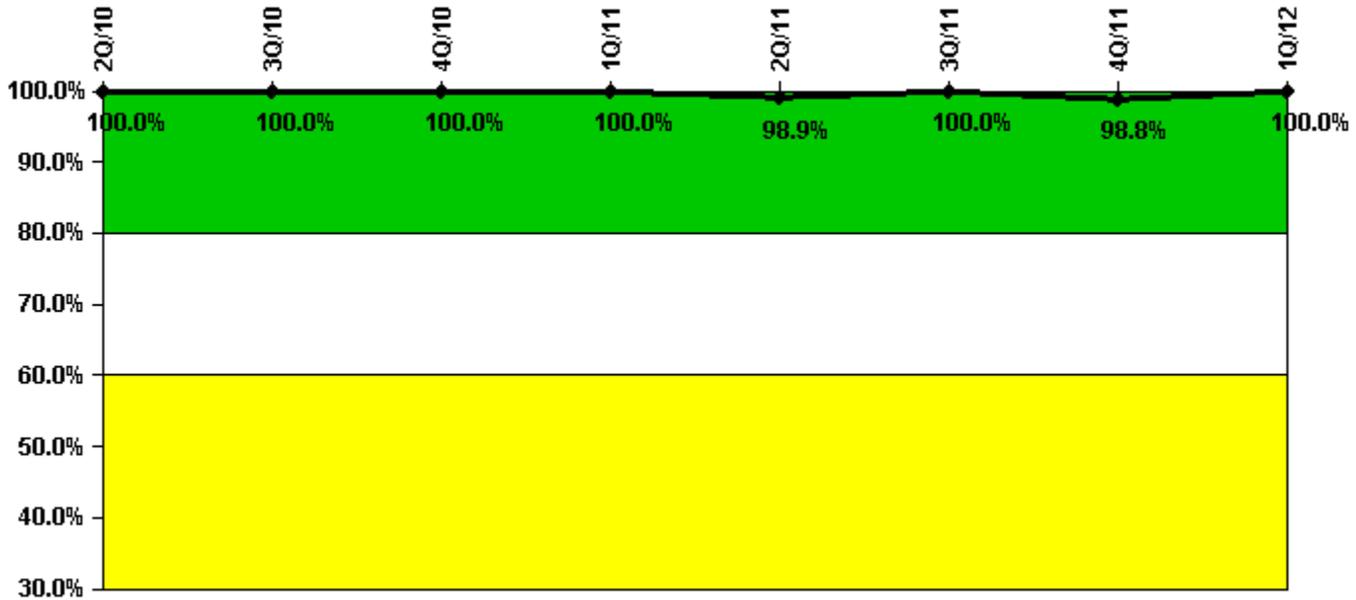
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Successful opportunities	81.0	126.0	20.0	91.0	10.0	184.0	33.0	73.0
Total opportunities	84.0	127.0	20.0	93.0	10.0	187.0	34.0	73.0
Indicator value	96.1%	96.5%	97.0%	97.5%	97.5%	97.8%	97.8%	98.4%

Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

Notes

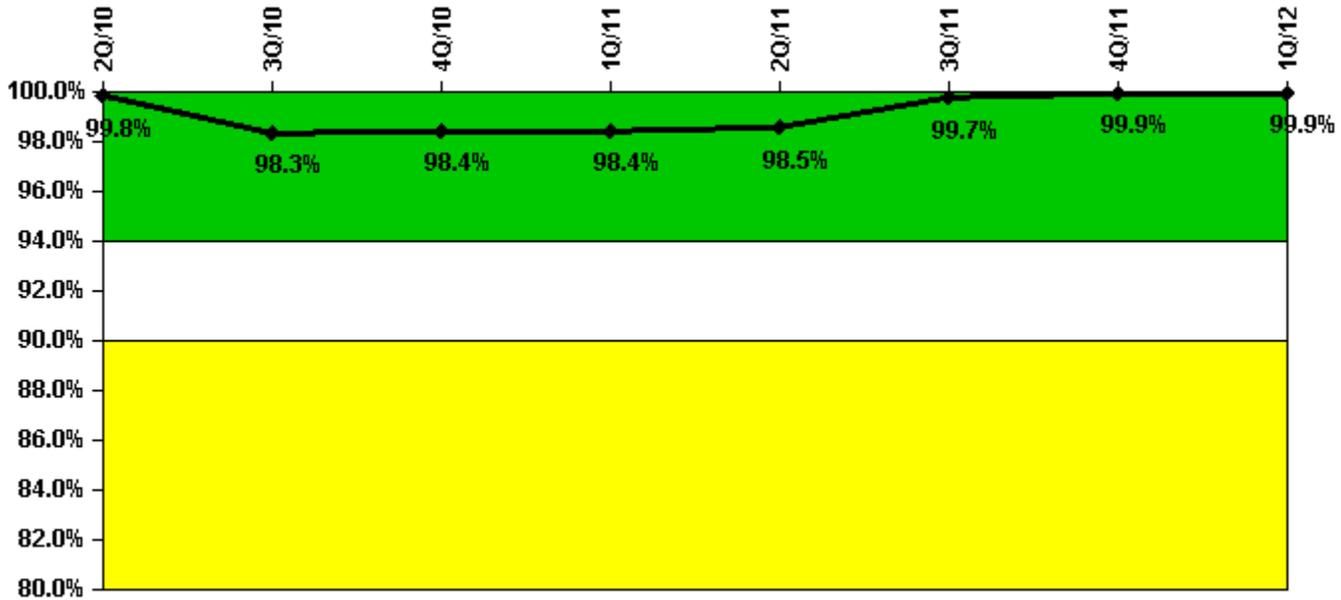
ERO Drill Participation	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Participating Key personnel	102.0	97.0	101.0	90.0	90.0	88.0	85.0	99.0
Total Key personnel	102.0	97.0	101.0	90.0	91.0	88.0	86.0	99.0
Indicator value	100.0%	100.0%	100.0%	100.0%	98.9%	100.0%	98.8%	100.0%

Licensee Comments:

4Q/11: January and March 2011 participation results were revised based on a self-assessment review. This does not affect current quarter results and no-color change resulted.

3Q/11: Routine review of prior data submissions identified errors in May and June 2011 inputs. No color change occurred as a result of the corrections.

Alert & Notification System



Thresholds: White < 94.0% Yellow < 90.0%

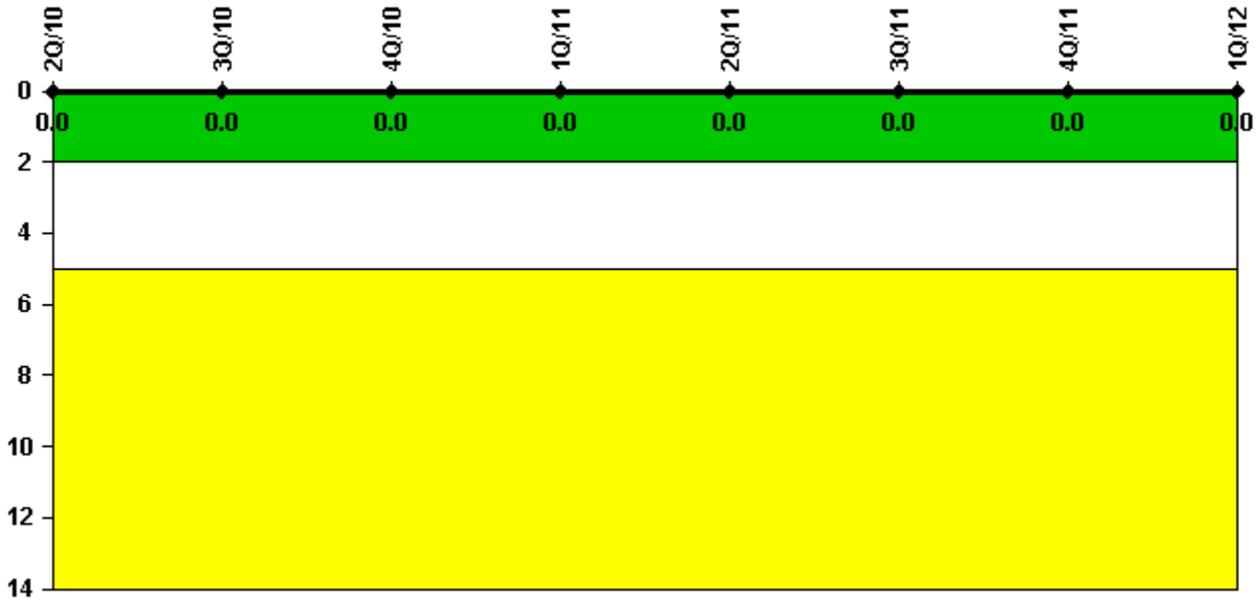
Notes

Alert & Notification System	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
Successful siren-tests	909	864	1000	912	912	910	1008	910
Total sirens-tests	912	912	1008	912	912	912	1008	912
Indicator value	99.8%	98.3%	98.4%	98.4%	98.5%	99.7%	99.9%	99.9%

Licensee Comments:

3Q/10: The regularly scheduled test of the sirens for September 9, 2010, from the Arizona Department of Public Safety was not conducted.

Occupational Exposure Control Effectiveness



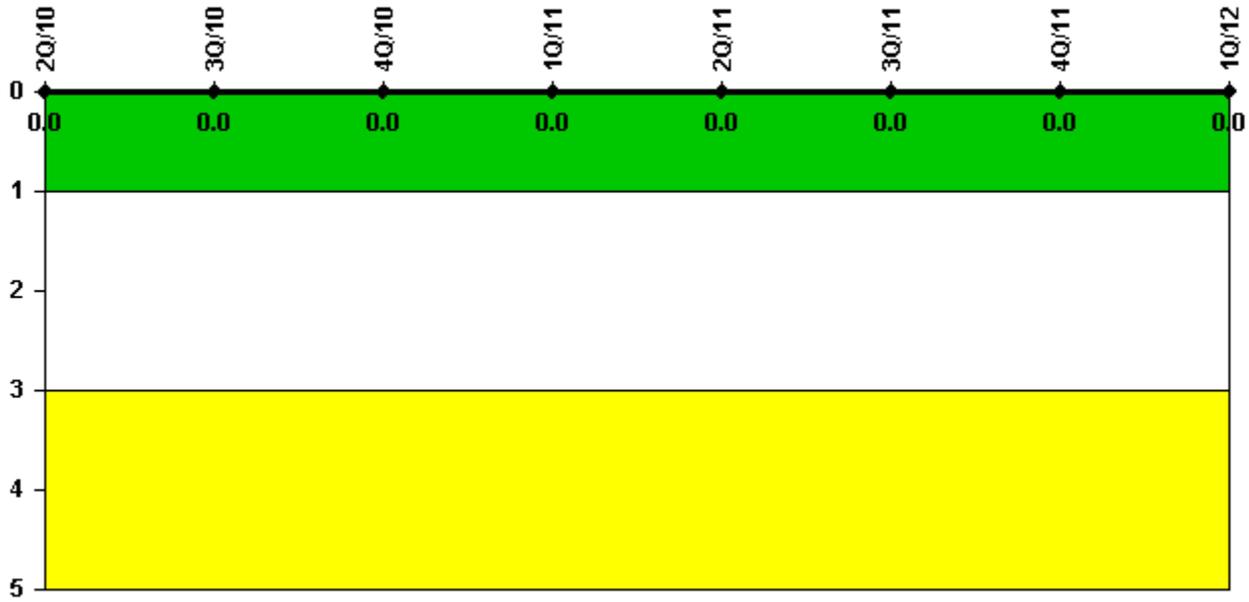
Thresholds: White > 2.0 Yellow > 5.0

Notes

Occupational Exposure Control Effectiveness	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
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/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11	4Q/11	1Q/12
RETS/ODCM occurrences	0	0	0	0	0	0	0	0
Indicator value	0	0	0	0	0	0	0	0

Licensee Comments: none

[Security](#) information not publicly available.