

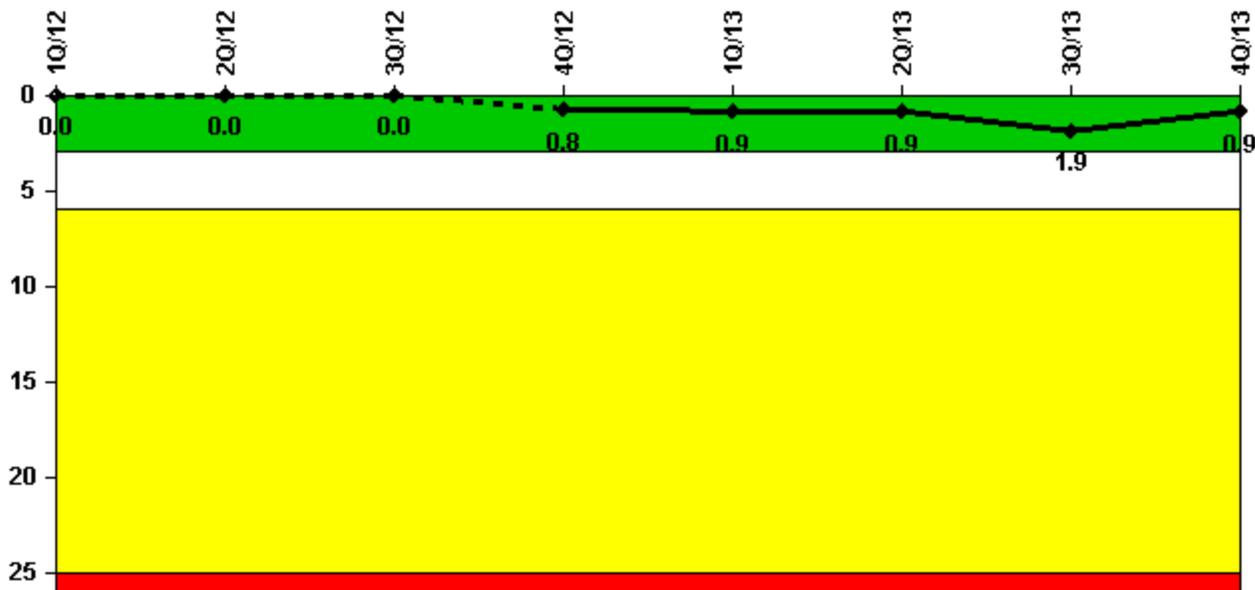
Diablo Canyon 2

4Q/2013 Performance Indicators

The solid trend line represents the current reporting period.

Licensee's General Comments: See Unit 1 Change file for notes on EP01 1Q2012 change.

Unplanned Scrams per 7000 Critical Hrs



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Unplanned scrams	0	0	0	1.0	0	0	1.0	0
Critical hours	2183.0	2130.8	2208.0	2114.5	1041.1	2184.0	2130.0	2209.0
Indicator value	0	0	0	0.8	0.9	0.9	1.9	0.9

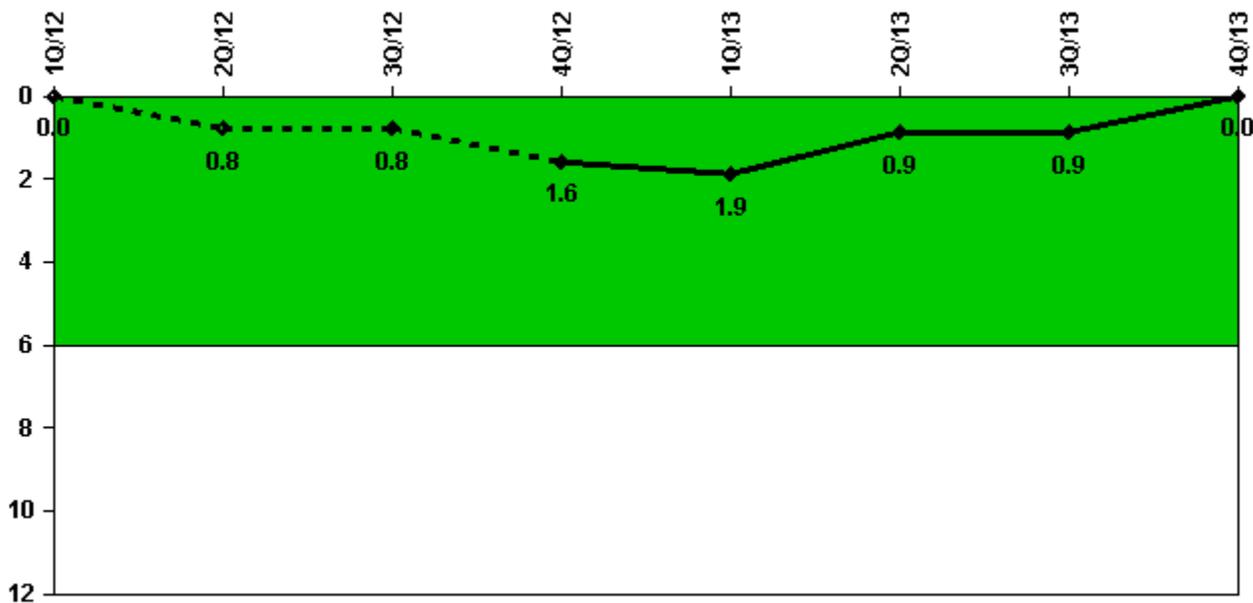
Licensee Comments:

1Q/13: There were no initiating events for Unit 2 during the first quarter of 2013.

4Q/12: Diablo Canyon Unit 2 began the month of October in Mode 1 (Power Operation) at approximately 100 percent reactor power. On October 11th, an apparent electrical arc near the plant transformers resulted in an automatic shutdown. Preliminary investigation suggests that the electrical disturbance was caused by recent rain in the area coming into contact with material that may have built up on a bushing that connects to the Capacitive

Coupled Voltage Transformer, which is used to transmit generation data to the Independent System Operator (ISO). These conditions may have caused the flashover event, providing a path to ground and Unit Trip signal. On October 17, 2012, the unit returned to approximately 100 percent reactor power.

Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Unplanned power changes	0	1.0	0	1.0	0	0	0	0
Critical hours	2183.0	2130.8	2208.0	2114.5	1041.1	2184.0	2130.0	2209.0
Indicator value	0	0.8	0.8	1.6	1.9	0.9	0.9	0

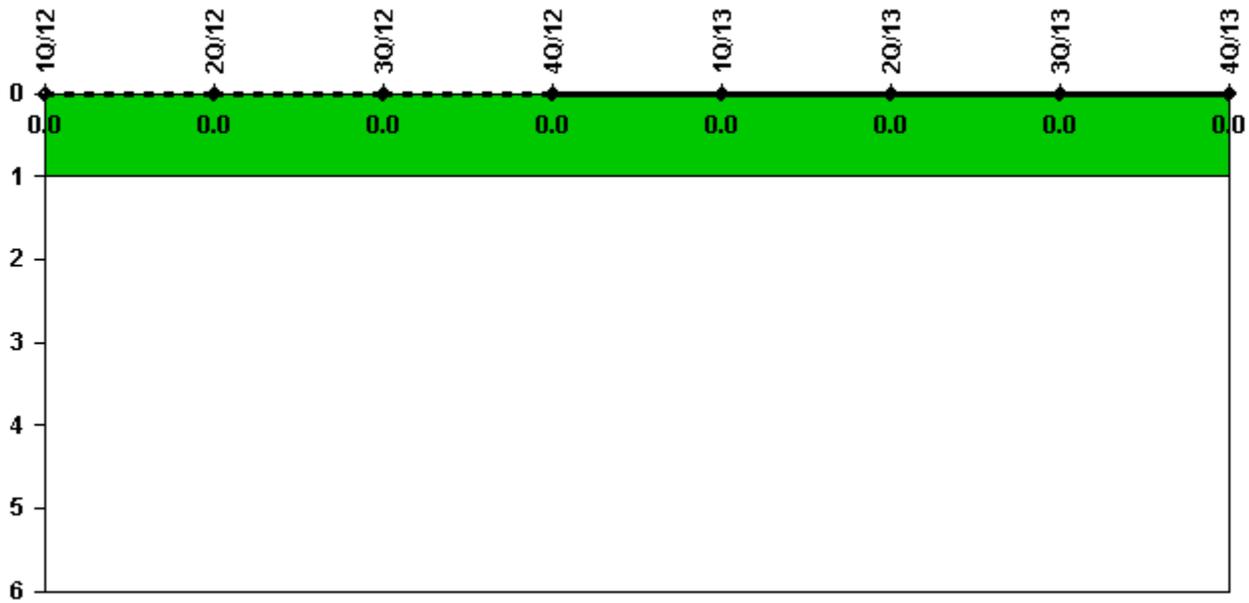
Licensee Comments:

1Q/13: There were no initiating events for Unit 2 during the first quarter of 2013.

4Q/12: Unplanned power change narrative added: On December 12, Diablo Canyon Unit 2 had an unplanned power change (power reduced to approximately 15%) to address Unit 2 main generator voltage fluctuations and replace two fuses needed for manual voltage regulator control and protective features. Work was completed on December 13th and Unit 2 was subsequently returned to full power.

2Q/12: On April 25, 2012, Unit 2 experienced an unplanned power change as a result of a salp influx. With the reactor at approximately 25 percent power, operators manually tripped circulating water pumps 1 and 2 due to differential pressure on the traveling screens caused by a significant increase salp. Operators then manually tripped the main turbine and manually shutdown the reactor. SAPN 50476376

Unplanned Scrams with Complications



Thresholds: White > 1.0

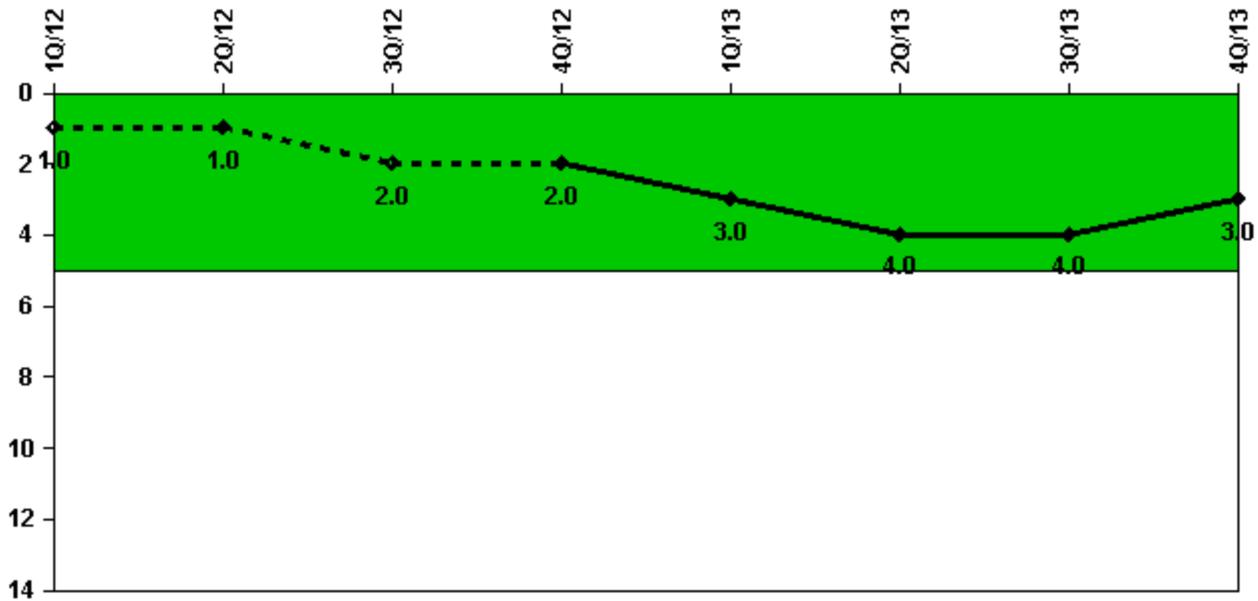
Notes

Unplanned Scrams with Complications	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Scrams with complications	0	0	0	0	0	0	0	0
Indicator value	0.0							

Licensee Comments:

1Q/13: There were no initiating events for Unit 2 during the first quarter of 2013.

Safety System Functional Failures (PWR)



Thresholds: White > 5.0

Notes

Safety System Functional Failures (PWR)	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Safety System Functional Failures	0	0	1	1	1	1	1	0
Indicator value	1	1	2	2	3	4	4	3

Licensee Comments:

3Q/13: LER 2-2013-004 submitted on July 30, 2013 identified a SSFF for Technical Specification 3.8.1 not being met due to a failed wire lug on emergency diesel generator 2-3.

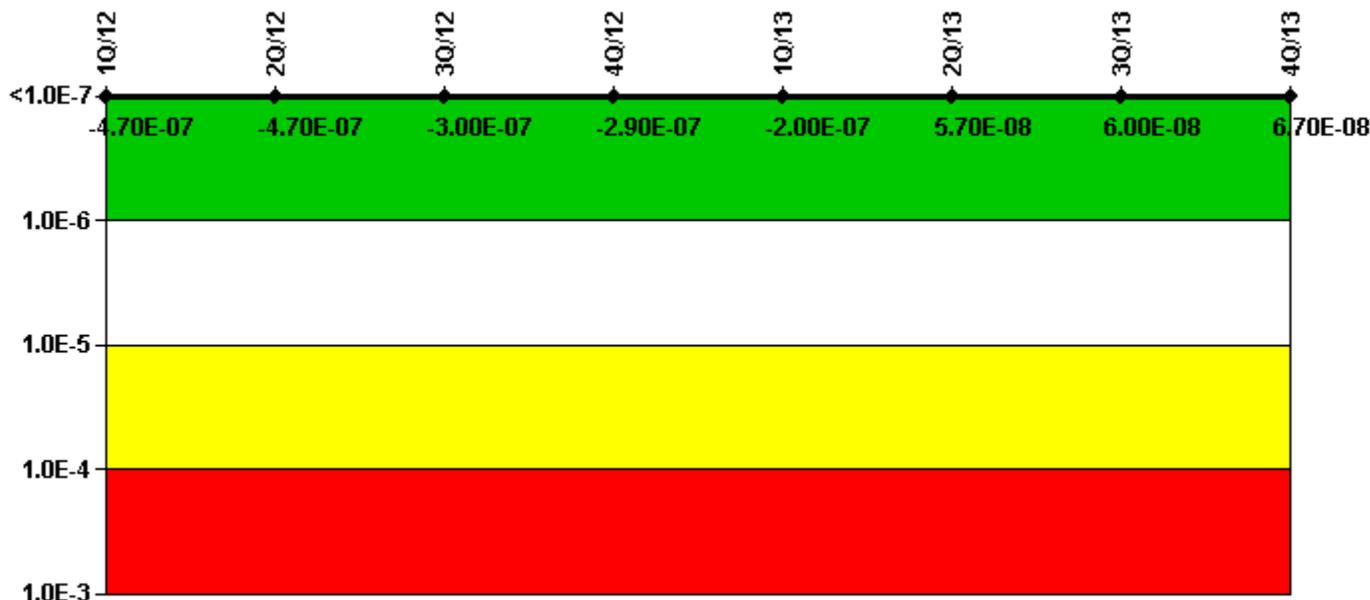
2Q/13: DCP Unit 2 had 1 SSFF reported in May 2013 for a loss of two source range nuclear instruments in Mode 6 during Unit 2 refueling outage seventeen. Reference DCL-13-050, LER 2-2013-002-00.

1Q/13: Unit 2 recorded 1 safety system functional failure for the first quarter of 2013. DCL-13-005 reported that inadequate design controls resulted in loss of the control room ventilation system. See LER 1-2012-008-00. (LER # added 6-13-2013)

1Q/13: Unit 2 recorded 1 safety system functional failure for the first quarter of 2013. DCL-13-005 reported that inadequate design controls resulted in loss of the control room ventilation system.

4Q/12: On October 16, 2012, PG&E submitted LER 2-2012-001-00 for a SSFF of an emergency diesel generator due to a broken fuel oil booster pump drive belt and subsequent failure to meet plant technical specifications (Ref. DCL-12-096).

Mitigating Systems Performance Index, Emergency AC Power System



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

Notes

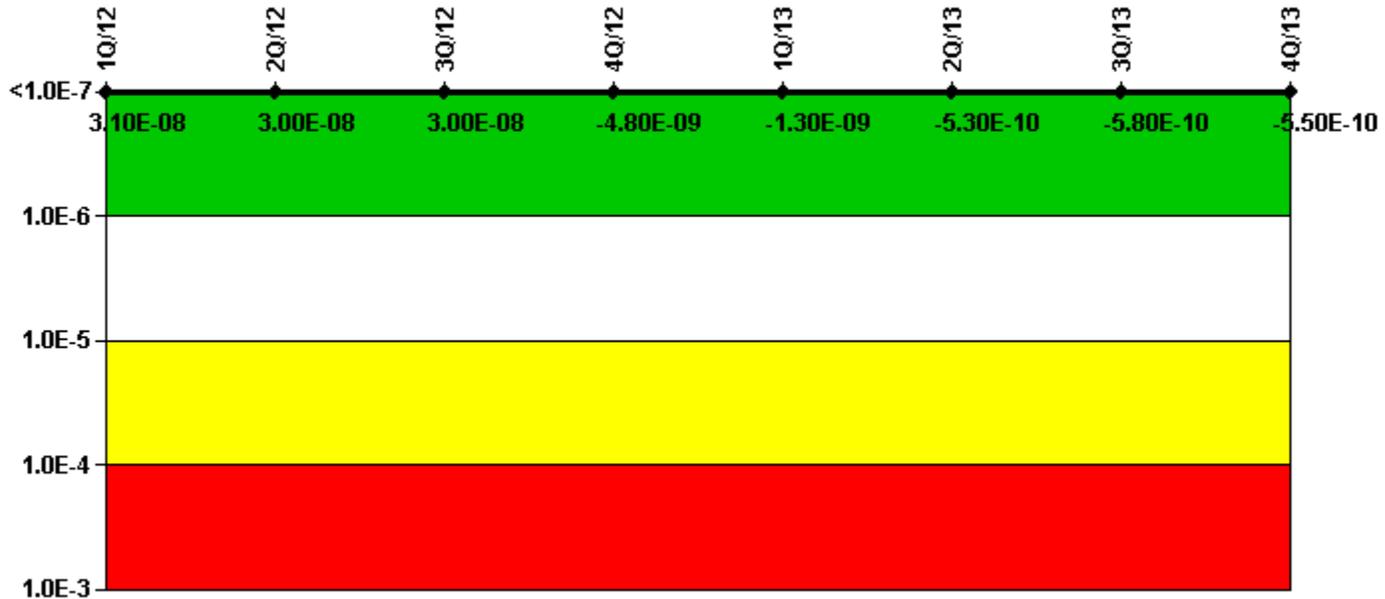
Mitigating Systems Performance Index, Emergency AC Power System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (ΔCDF)	6.95E-11	1.23E-10	-2.40E-09	8.46E-09	7.25E-09	6.76E-09	4.73E-09	4.73E-09
URI (ΔCDF)	-4.69E-07	-4.66E-07	-2.98E-07	-2.95E-07	-2.06E-07	4.98E-08	5.56E-08	6.21E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-4.70E-07	-4.70E-07	-3.00E-07	-2.90E-07	-2.00E-07	5.70E-08	6.00E-08	6.70E-08

Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussler-Vessely and basic event probabilities for all monitored trains and components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control valves scoped into the Residual Heat Removal system which were previously screened out due to low Birnbaum values.

1Q/13: 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

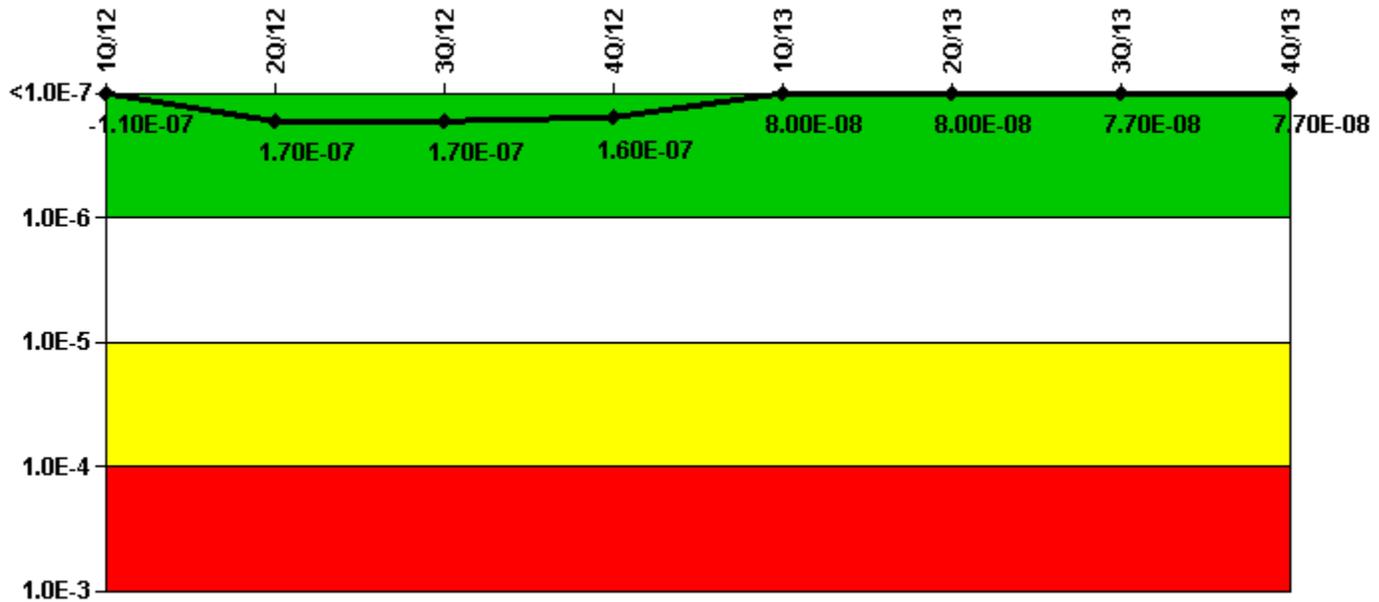
Mitigating Systems Performance Index, High Pressure Injection System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (Δ CDF)	-2.69E-09	-3.36E-09	-3.18E-09	-3.36E-09	-1.27E-10	6.25E-10	5.78E-10	6.04E-10
URI (Δ CDF)	3.35E-08	3.35E-08	3.35E-08	-1.41E-09	-1.16E-09	-1.16E-09	-1.16E-09	-1.16E-09
PLE	NO							
Indicator value	3.10E-08	3.00E-08	3.00E-08	-4.80E-09	-1.30E-09	-5.30E-10	-5.80E-10	-5.50E-10

Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussler-Vessely and basic event probabilities for all monitored trains and components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control valves scoped into the Residual Heat Removal system which were previously screened out due to low Birnbaum values.

1Q/13: Changed PRA Parameter(s).

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/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (Δ CDF)	-2.40E-08	-2.24E-08	-2.25E-08	-2.27E-08	-1.18E-08	-1.18E-08	-1.19E-08	-1.16E-08
URI (Δ CDF)	-9.00E-08	1.88E-07	1.88E-07	1.82E-07	9.18E-08	9.18E-08	8.87E-08	8.87E-08
PLE	NO							
Indicator value	-1.10E-07	1.70E-07	1.70E-07	1.60E-07	8.00E-08	8.00E-08	7.70E-08	7.70E-08

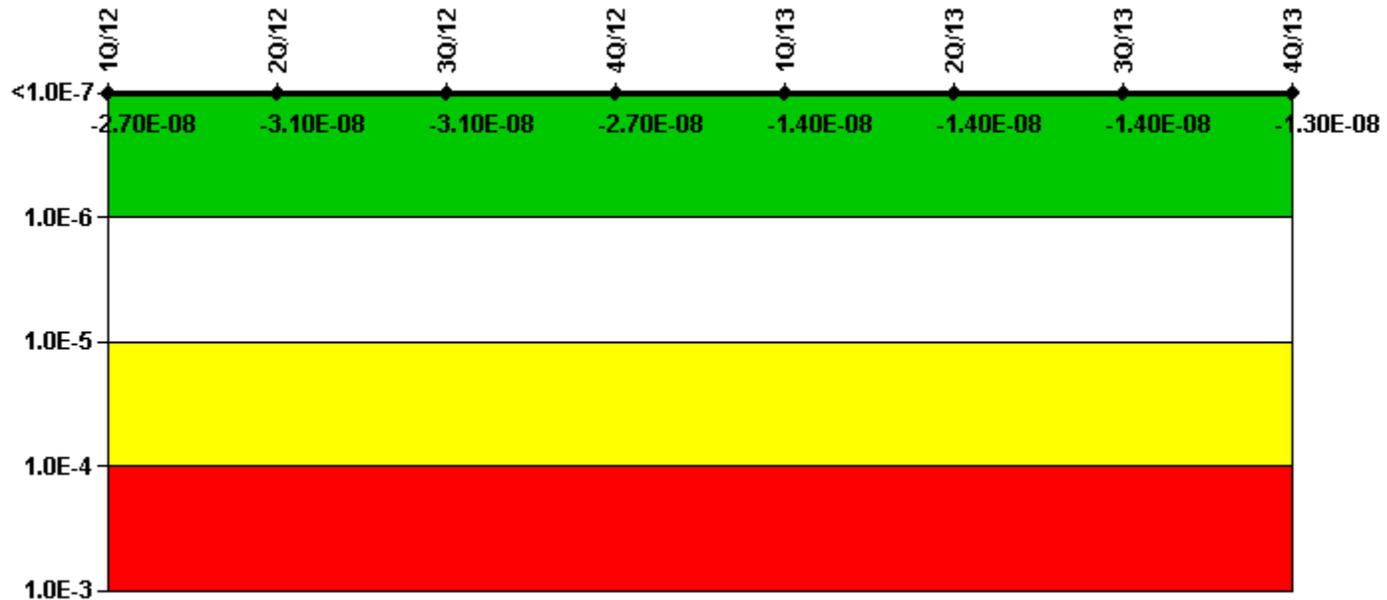
Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussler-Vessely and basic event probabilities for all monitored trains and components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control valves scoped into the Residual Heat Removal system which were previously screened out due to low

Birnbaum values.

1Q/13: 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	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (ΔCDF)	-1.98E-09	-5.25E-09	-5.43E-09	-1.54E-09	-2.41E-09	-2.41E-09	-2.41E-09	-1.66E-09
URI (ΔCDF)	-2.53E-08	-2.53E-08	-2.53E-08	-2.53E-08	-1.14E-08	-1.15E-08	-1.15E-08	-1.16E-08
PLE	NO							
Indicator value	-2.70E-08	-3.10E-08	-3.10E-08	-2.70E-08	-1.40E-08	-1.40E-08	-1.40E-08	-1.30E-08

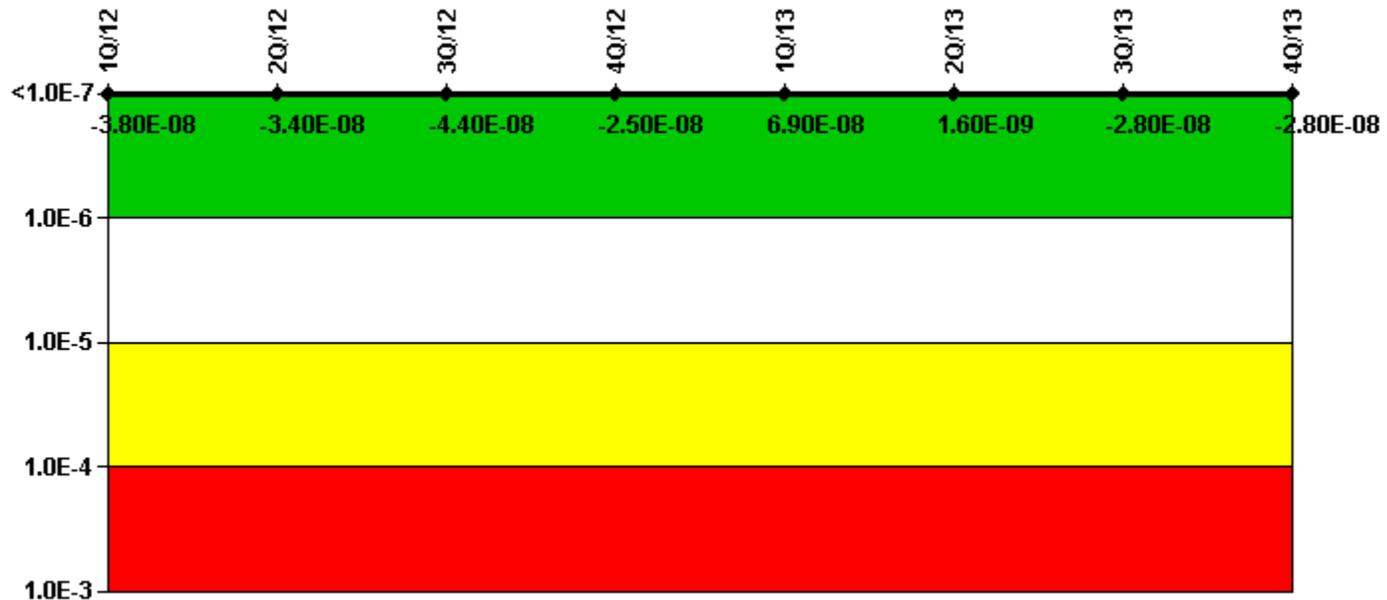
Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussell-Vessely and basic event probabilities for all monitored trains and

components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control valves scoped into the Residual Heat Removal system which were previously screened out due to low Birnbaum values.

1Q/13: Changed PRA Parameter(s).

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/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
UAI (Δ CDF)	-1.41E-08	-9.76E-09	-1.95E-08	-4.53E-10	1.16E-07	4.83E-08	1.86E-08	1.83E-08
URI (Δ CDF)	-2.41E-08	-2.41E-08	-2.41E-08	-2.41E-08	-4.67E-08	-4.67E-08	-4.67E-08	-4.67E-08
PLE	NO							
Indicator value	-3.80E-08	-3.40E-08	-4.40E-08	-2.50E-08	6.90E-08	1.60E-09	-2.80E-08	-2.80E-08

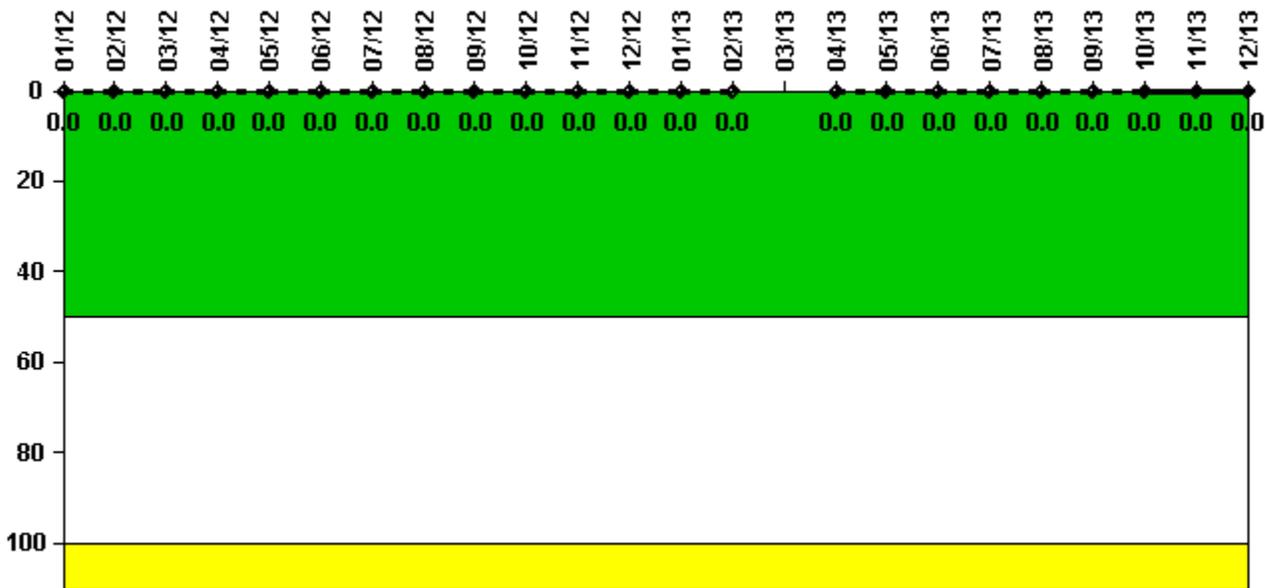
Licensee Comments:

1Q/13: Diablo Canyon Probabilistic Risk Assessment (PRA) model revision DC02 was approved on 11/23/2012. The Mitigating System Performance Index (MSPI) basis document revision 7A was approved on 4/18/2013 and contains the updated PRA parameters. The DC02 model revision is a periodic update that incorporates new model

data for initiating events, equipment failures probabilities and Human error probabilities. As a result of this update, the Core Damage Frequency, Fussell-Vessely and basic event probabilities for all monitored trains and components were revised. The update also resulted in the addition of two monitored Component Cooling Water flow control vales scoped into the Residual Heat Removal system which were previously screened out due to low Birnbaum values.

1Q/13: Changed PRA Parameter(s).

Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

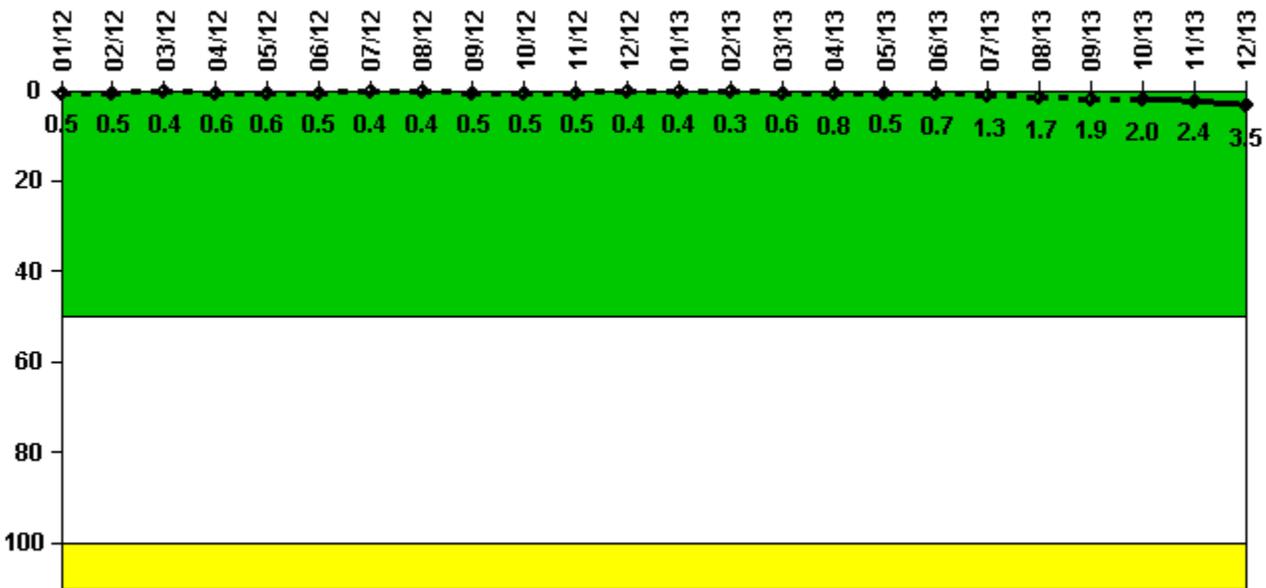
Notes

Reactor Coolant System Activity	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12
Maximum activity	0.000199	0.000199	0.000325	0.000225	0.000222	0.000347	0.000418	0.000313	0.000253	0.000245	0.000261	0.000381
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	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13

Maximum activity	0.000401	0.000215	N/A	0.000081	0.000077	0.000088	0.000088	0.000093	0.000088	0.000096	0.000098	0.000116
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	N/A	0								

Licensee Comments: none

Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

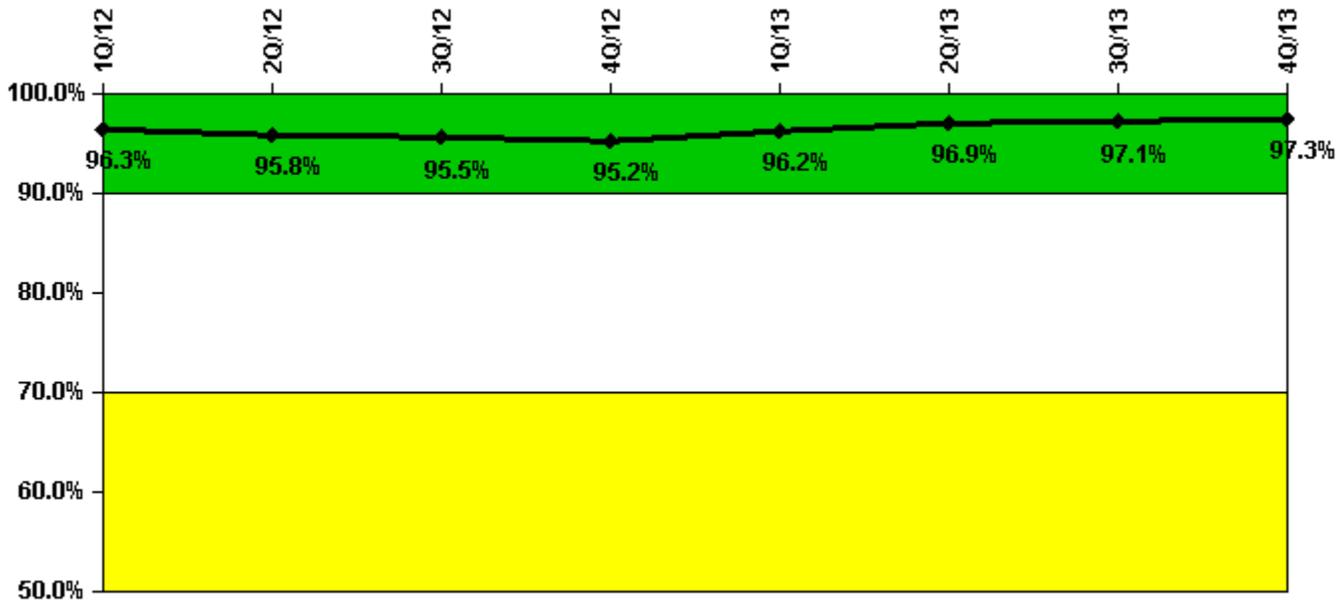
Notes

Reactor Coolant System Leakage	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12
Maximum leakage	0.052	0.051	0.037	0.059	0.055	0.047	0.035	0.037	0.051	0.045	0.049	0.041
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	0.5	0.5	0.4	0.6	0.6	0.5	0.4	0.4	0.5	0.5	0.5	0.4

Reactor Coolant System Leakage	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13
Maximum leakage	0.039	0.031	0.055	0.079	0.054	0.071	0.125	0.170	0.191	0.201	0.235	0.354
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	0.4	0.3	0.6	0.8	0.5	0.7	1.3	1.7	1.9	2.0	2.4	3.5

Licensee Comments: none

Drill/Exercise Performance



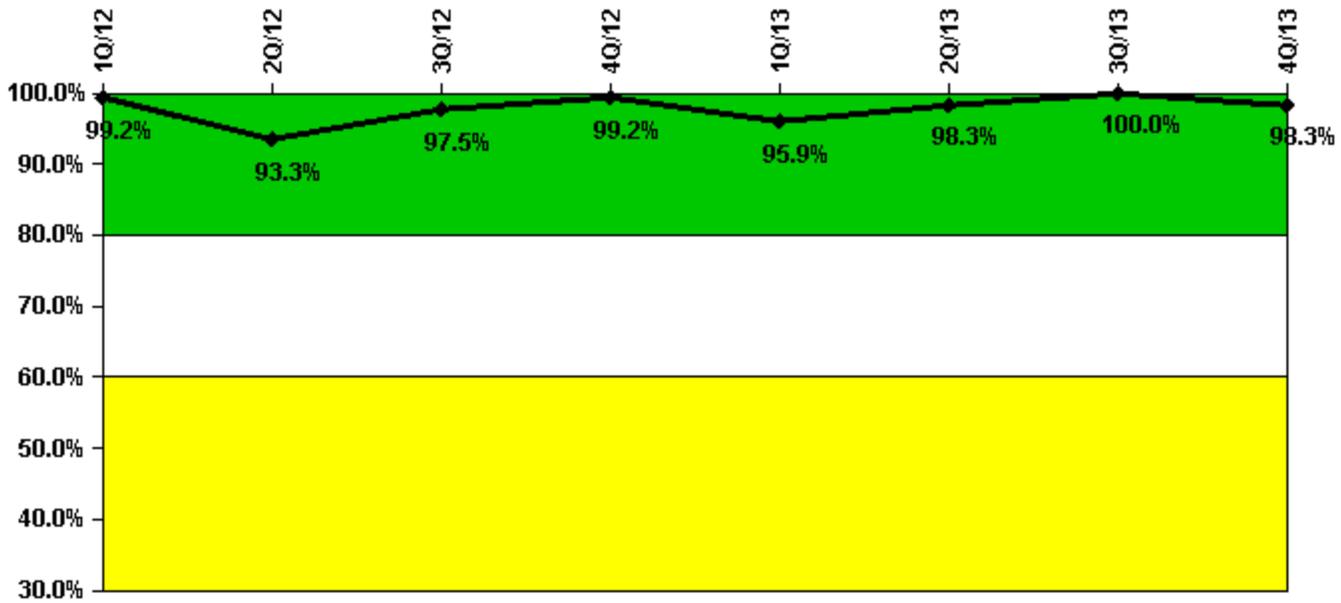
Thresholds: White < 90.0% Yellow < 70.0%

Notes

Drill/Exercise Performance	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Successful opportunities	56.0	6.0	52.0	22.0	8.0	37.0	29.0	42.0
Total opportunities	58.0	6.0	54.0	25.0	8.0	37.0	29.0	42.0
Indicator value	96.3%	95.8%	95.5%	95.2%	96.2%	96.9%	97.1%	97.3%

Licensee Comments: none

ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

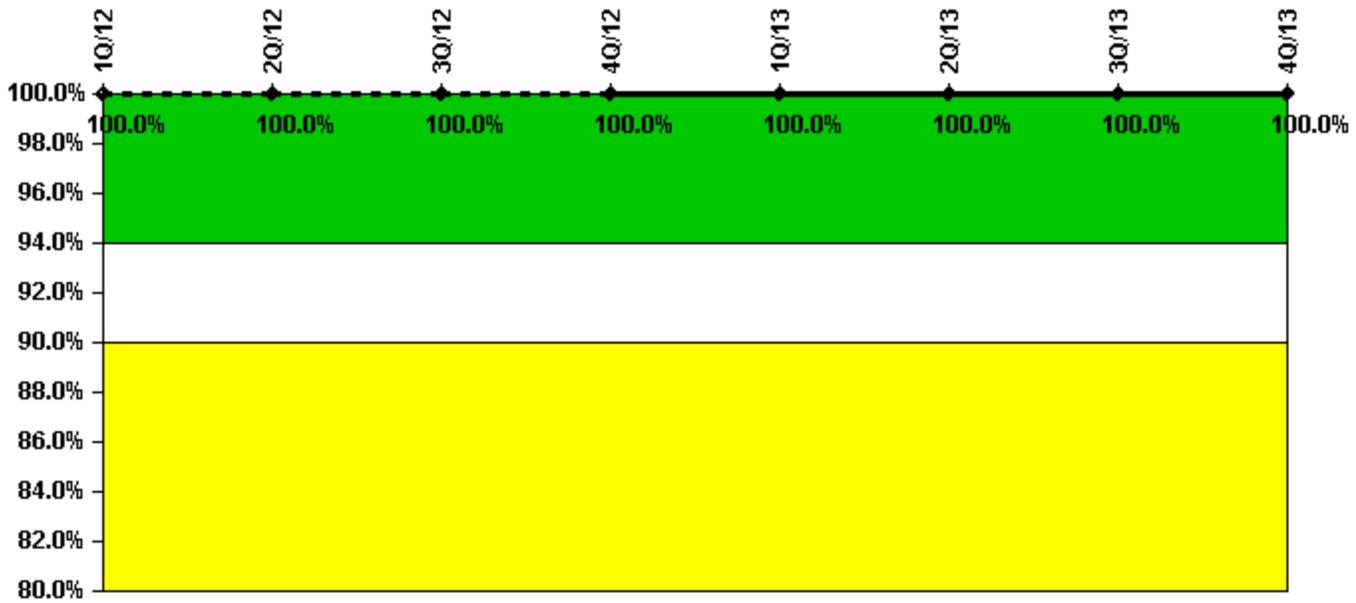
Notes

ERO Drill Participation	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Participating Key personnel	117.0	112.0	116.0	119.0	117.0	119.0	115.0	118.0
Total Key personnel	118.0	120.0	119.0	120.0	122.0	121.0	115.0	120.0
Indicator value	99.2%	93.3%	97.5%	99.2%	95.9%	98.3%	100.0%	98.3%

Licensee Comments:

3Q/13: Total Key ERO personnel adjusted due to mis-calculation.

Alert & Notification System



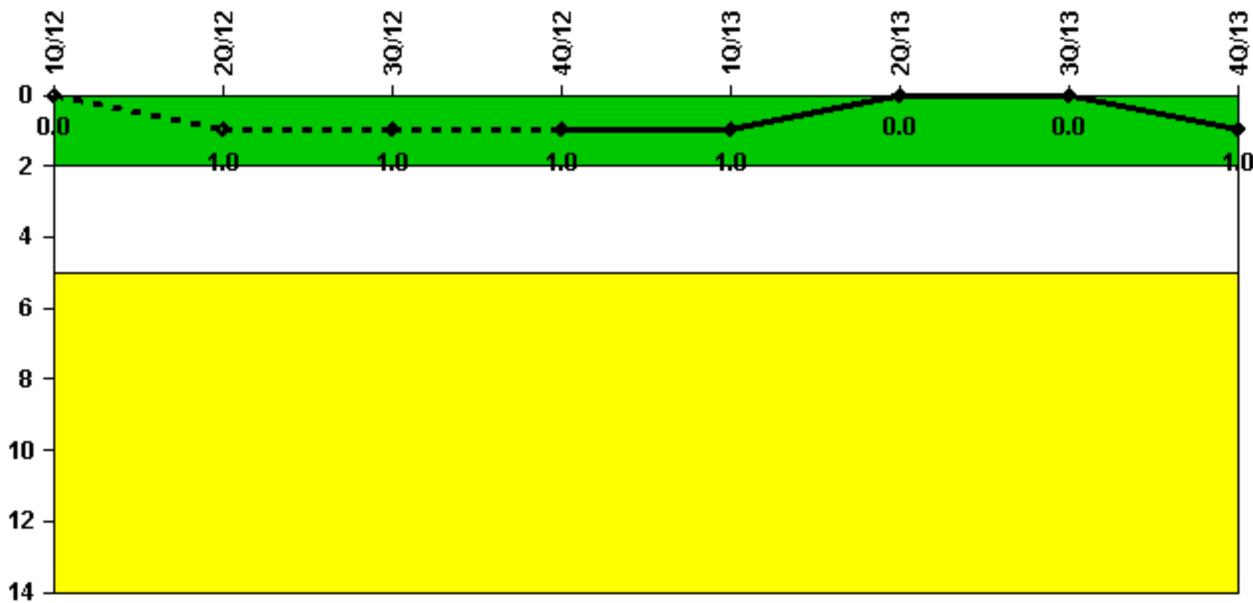
Thresholds: White < 94.0% Yellow < 90.0%

Notes

Alert & Notification System	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
Successful siren-tests	1048	916	1310	917	1046	917	1310	1048
Total sirens-tests	1048	917	1310	917	1047	917	1310	1048
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

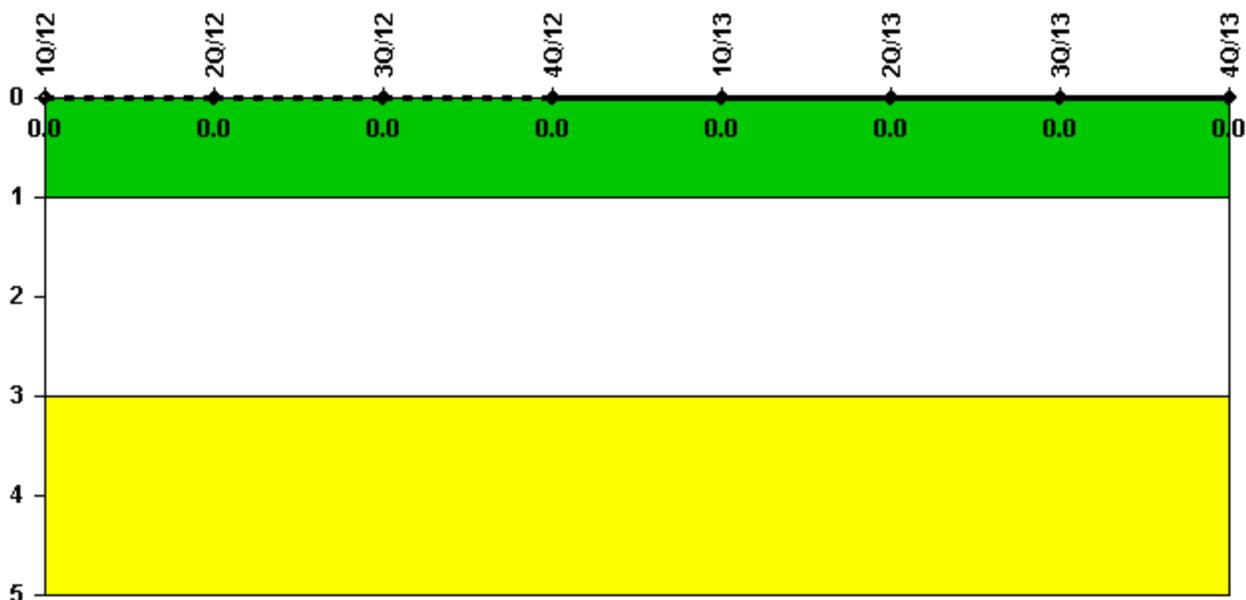
Occupational Exposure Control Effectiveness	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
High radiation area occurrences	0	1	0	0	0	0	0	1
Very high radiation area occurrences	0	0	0	0	0	0	0	0
Unintended exposure occurrences	0	0	0	0	0	0	0	0
Indicator value	0	1	1	1	1	0	0	1

Licensee Comments:

4Q/12: Data approved by manager T. Irving. Approval checked by M. Richardson per request of T. Irving due to technical issues.

1Q/12: A March 2012 "High radiation area occurrence" was retracted in July 2012, following completion of the cause evaluation. The change has no impact on the color of the indicator. The basis for the retraction is contained in SAPN 50499040.

RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

Notes

RETS/ODCM Radiological Effluent	1Q/12	2Q/12	3Q/12	4Q/12	1Q/13	2Q/13	3Q/13	4Q/13
RETS/ODCM occurrences	0	0	0	0	0	0	0	0
Indicator value	0							

Licensee Comments:

4Q/12: Data approved by manager T. Irving. Approval checked by M. Richardson per request of T. Irving due to technical issues.

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: January 22, 2014