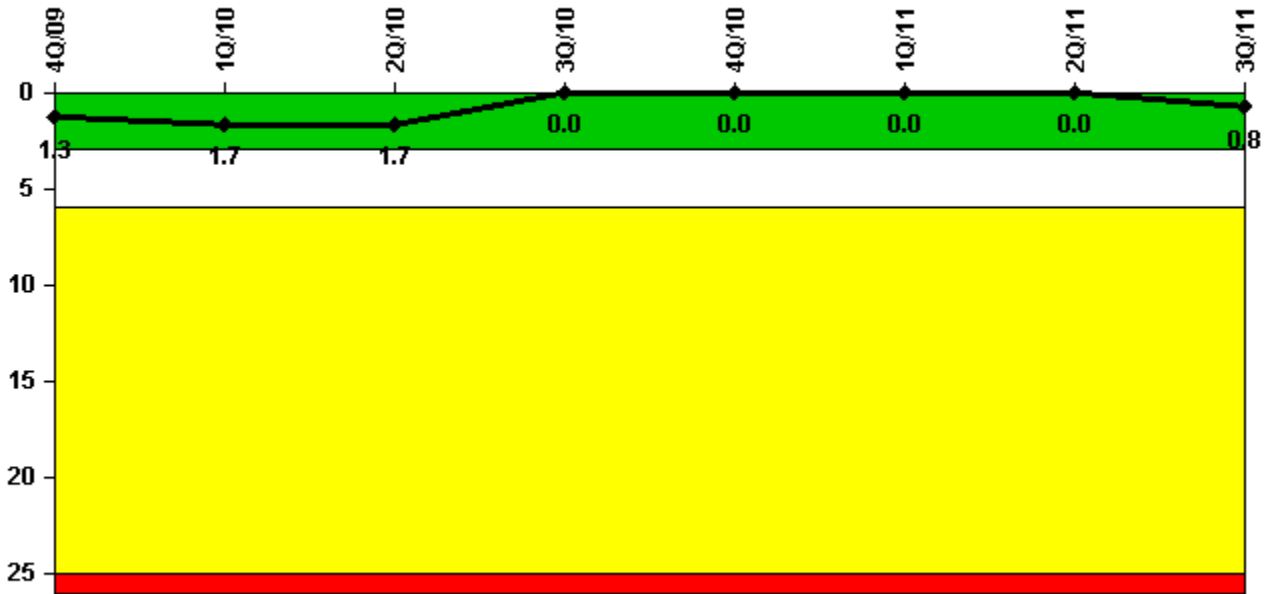


# San Onofre 2

## 3Q/2011 Performance Indicators

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



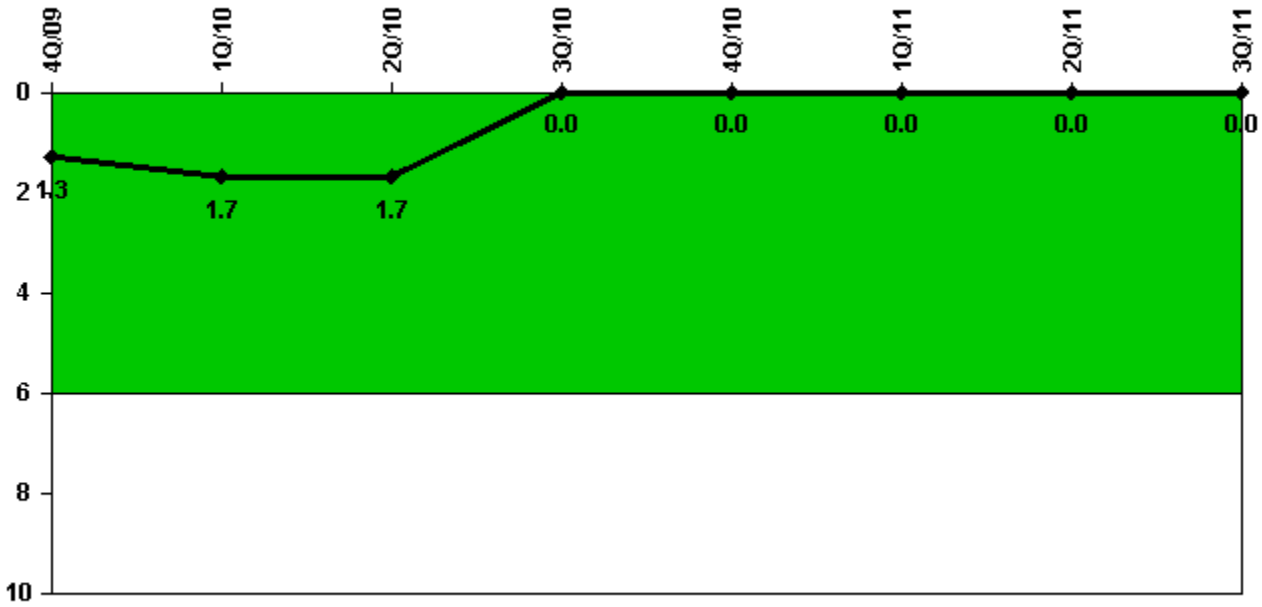
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### Notes

Unplanned Scrams per 7000 Critical Hrs	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
Unplanned scrams	0	0	0	0	0	0	0	1.0
Critical hours	0	0	2003.8	2208.0	2209.0	2159.0	2184.0	2162.1
Indicator value	1.3	1.7	1.7	0	0	0	0	0.8

Licensee Comments: none

## Unplanned Power Changes per 7000 Critical Hrs



Thresholds: White > 6.0

### Notes

Unplanned Power Changes per 7000 Critical Hrs	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
Unplanned power changes	0	0	0	0	0	0	0	0
Critical hours	0	0	2003.8	2208.0	2209.0	2159.0	2184.0	2162.1
Indicator value	1.3	1.7	1.7	0	0	0	0	0

Licensee Comments: none

# Unplanned Scrams with Complications



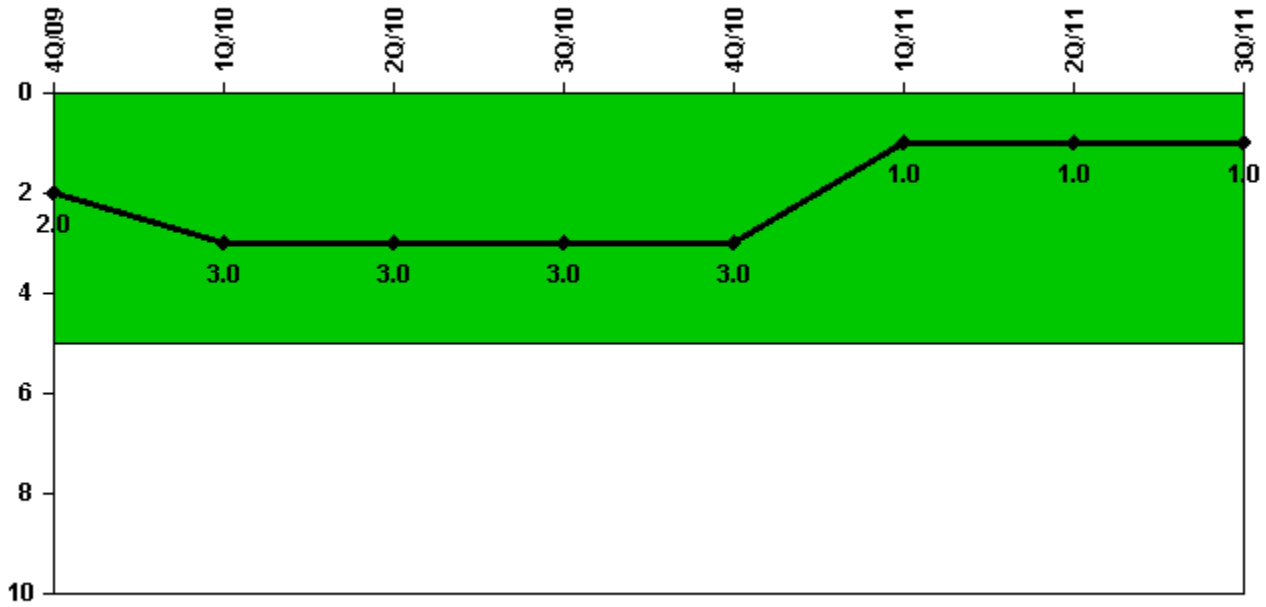
Thresholds: White > 1.0

## Notes

Unplanned Scrams with Complications	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
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)



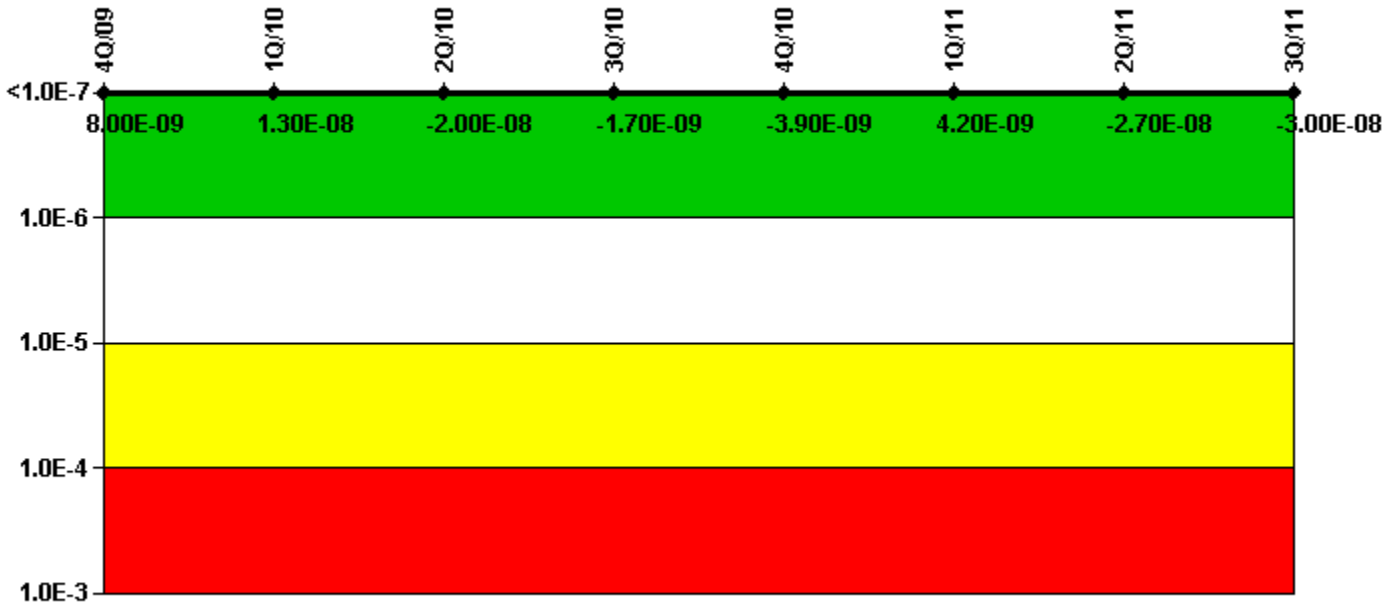
Thresholds: White > 5.0

### Notes

Safety System Functional Failures (PWR)	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
Safety System Functional Failures	1	2	0	0	1	0	0	0
Indicator value	2	3	3	3	3	1	1	1

Licensee Comments: none

# Mitigating Systems Performance Index, Emergency AC Power System



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

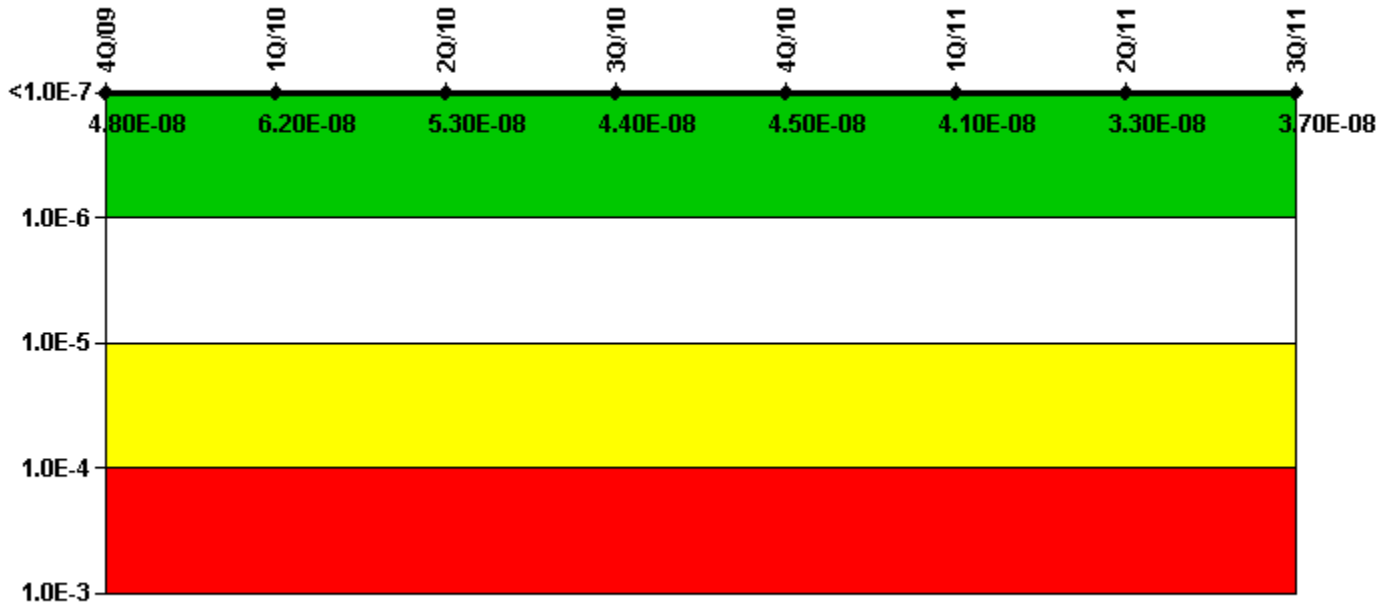
## Notes

Mitigating Systems Performance Index, Emergency AC Power System	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
UAI ( $\Delta$ CDF)	3.40E-08	3.89E-08	3.42E-08	3.68E-08	3.46E-08	4.27E-08	3.76E-08	3.46E-08
URI ( $\Delta$ CDF)	-2.60E-08	-2.55E-08	-5.39E-08	-3.85E-08	-3.85E-08	-3.85E-08	-6.46E-08	-6.46E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	8.00E-09	1.30E-08	-2.00E-08	-1.70E-09	-3.90E-09	4.20E-09	-2.70E-08	-3.00E-08

Licensee Comments:

3Q/11: PRACP-11-0004 models the removal of credit for transferring RCPs power to the other unit on loss of offsite power. This would increase the failure probability of normal Pressurizer Spray, which is provided by the RCPs. Hence, the Auxiliary Spray becomes more important. The suction valve for the Auxiliary Spray is a Train B valve, which makes Train B EDG more important. The Birnbaum values for Train B EDG components increased up to 46%. The Birnbaum value for train unavailability increased 10%.

# Mitigating Systems Performance Index, High Pressure Injection System



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

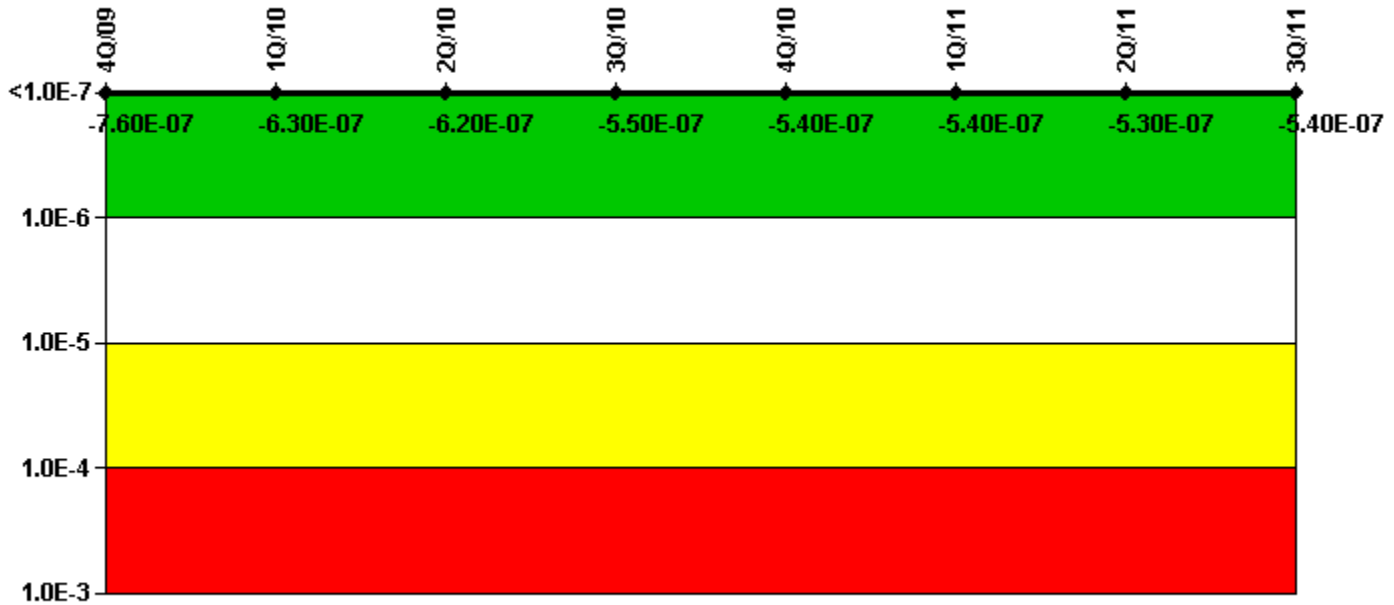
## Notes

Mitigating Systems Performance Index, High Pressure Injection System	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
UAI ( $\Delta$ CDF)	9.90E-08	1.13E-07	1.07E-07	9.77E-08	9.91E-08	9.50E-08	8.71E-08	9.13E-08
URI ( $\Delta$ CDF)	-5.10E-08	-5.04E-08	-5.43E-08	-5.41E-08	-5.41E-08	-5.41E-08	-5.41E-08	-5.41E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	4.80E-08	6.20E-08	5.30E-08	4.40E-08	4.50E-08	4.10E-08	3.30E-08	3.70E-08

Licensee Comments:

3Q/11: For HPSI system, all Birnbaum values are within 1% change compared to last quarters Birnbaum values.

# Mitigating Systems Performance Index, Heat Removal System



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

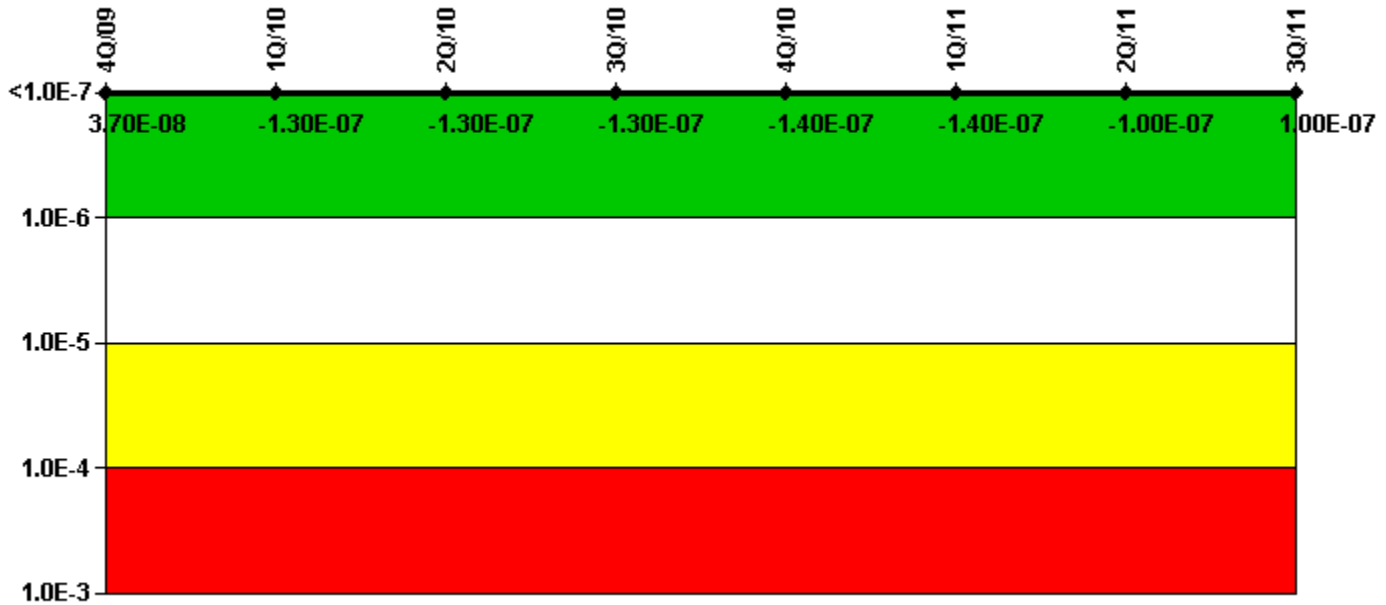
## Notes

Mitigating Systems Performance Index, Heat Removal System	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
UAI ( $\Delta$ CDF)	-2.00E-07	-1.54E-07	-1.54E-07	-1.45E-07	-1.37E-07	-1.38E-07	-1.38E-07	-1.38E-07
URI ( $\Delta$ CDF)	-5.60E-07	-4.74E-07	-4.66E-07	-4.03E-07	-4.03E-07	-4.03E-07	-3.95E-07	-4.05E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-7.60E-07	-6.30E-07	-6.20E-07	-5.50E-07	-5.40E-07	-5.40E-07	-5.30E-07	-5.40E-07

Licensee Comments:

3Q/11: For AFW system, all Birnbaum values are within 1% change compared to last quarters Birnbaum values.

# Mitigating Systems Performance Index, Residual Heat Removal System



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

## Notes

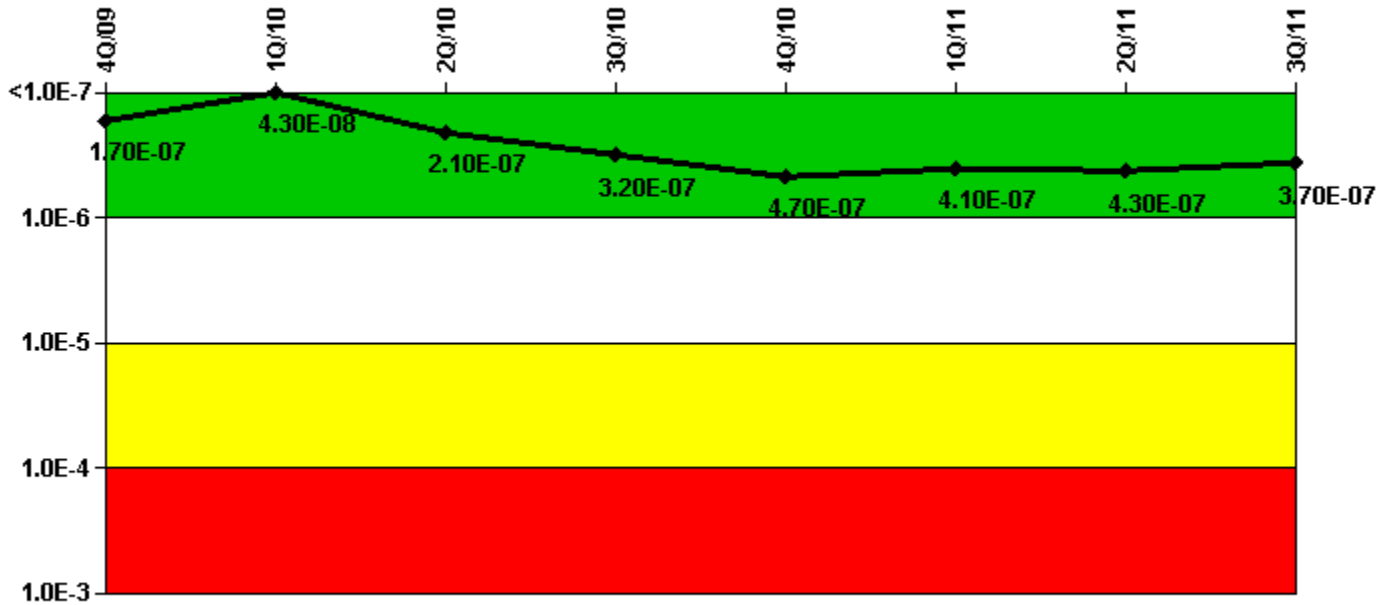
Mitigating Systems Performance Index, Residual Heat Removal System	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
UAI ( $\Delta$ CDF)	6.30E-08	-1.09E-07	-1.09E-07	-1.07E-07	-1.12E-07	-1.12E-07	-7.85E-08	1.27E-07
URI ( $\Delta$ CDF)	-2.60E-08	-2.51E-08	-2.51E-08	-2.50E-08	-2.50E-08	-2.50E-08	-2.50E-08	-2.50E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.70E-08	-1.30E-07	-1.30E-07	-1.30E-07	-1.40E-07	-1.40E-07	-1.00E-07	1.00E-07

Licensee Comments:

3Q/11: For RHR system, all Birnbaum values are within 1% change compared to last quarters Birnbaum values.



# Mitigating Systems Performance Index, Cooling Water Systems



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

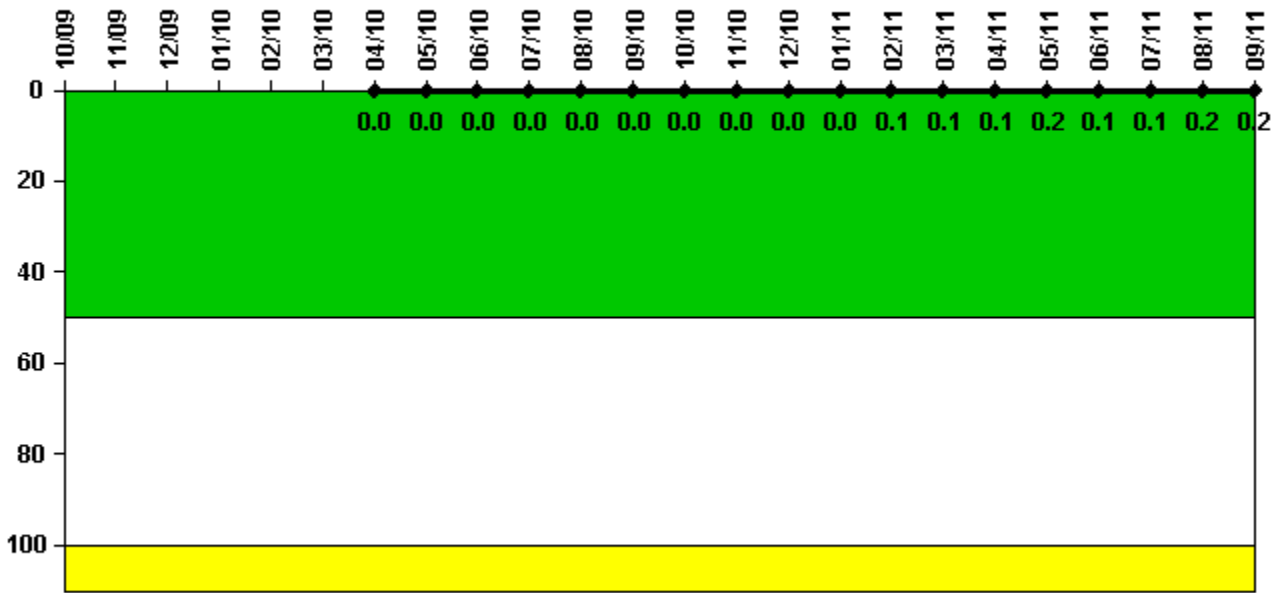
## Notes

Mitigating Systems Performance Index, Cooling Water Systems	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
UAI (ΔCDF)	2.90E-07	1.63E-07	3.26E-07	4.38E-07	5.93E-07	5.34E-07	5.47E-07	4.93E-07
URI (ΔCDF)	-1.20E-07	-1.20E-07	-1.20E-07	-1.19E-07	-1.19E-07	-1.19E-07	-1.19E-07	-1.19E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	1.70E-07	4.30E-08	2.10E-07	3.20E-07	4.70E-07	4.10E-07	4.30E-07	3.70E-07

Licensee Comments:

3Q/11: For Supporting System Cooling system, all Birnbaum values are within 1% change compared to last quarters Birnbaum values.

# Reactor Coolant System Activity



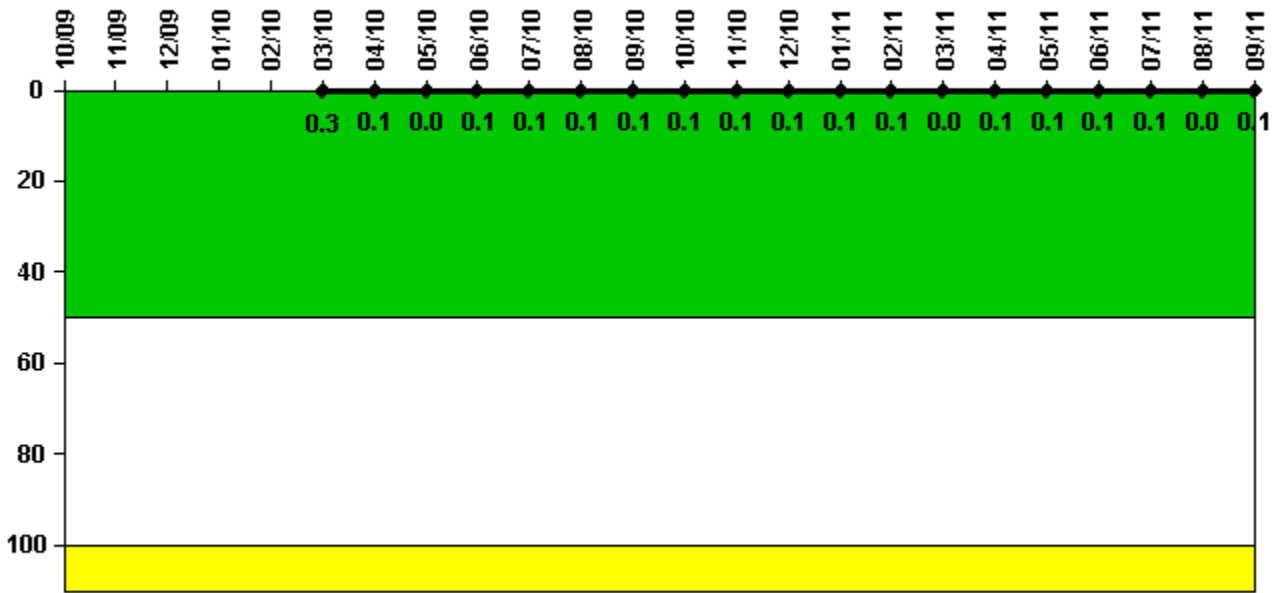
Thresholds: White > 50.0 Yellow > 100.0

## Notes

Reactor Coolant System Activity		10/09	11/09	12/09	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10
Maximum activity		N/A	N/A	N/A	N/A	N/A	N/A	0.000112	0.000110	0.000301	0.000291	0.000266	0.000280
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	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0
Reactor Coolant System Activity		10/10	11/10	12/10	1/11	2/11	3/11	4/11	5/11	6/11	7/11	8/11	9/11
Maximum activity		0.000317	0.000306	0.000335	0.000370	0.000752	0.000962	0.001360	0.001610	0.001230	0.001410	0.001820	0.001670
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	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2

Licensee Comments: none

## Reactor Coolant System Leakage



Thresholds: White > 50.0 Yellow > 100.0

### Notes

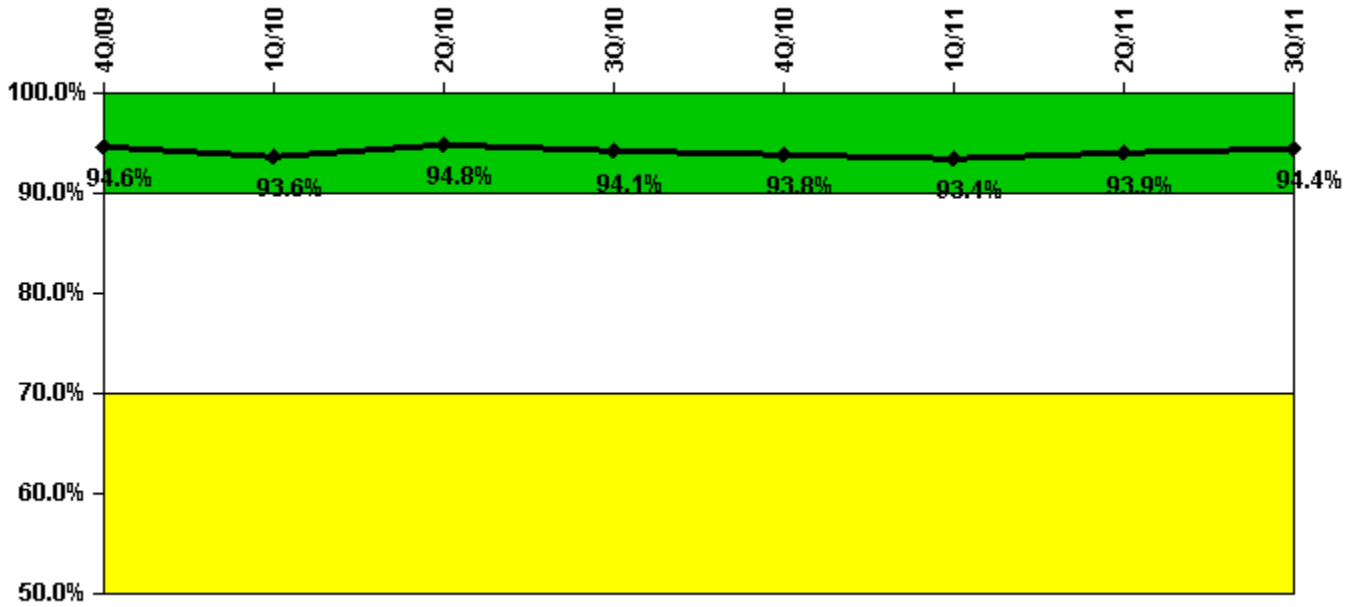
Reactor Coolant System Leakage	10/09	11/09	12/09	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10
Maximum leakage	N/A	N/A	N/A	N/A	N/A	0.030	0.010	0	0.010	0.010	0.010	0.010
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Indicator value	N/A	N/A	N/A	N/A	N/A	0.3	0.1	0	0.1	0.1	0.1	0.1

Reactor Coolant System Leakage	10/10	11/10	12/10	1/11	2/11	3/11	4/11	5/11	6/11	7/11	8/11	9/11
Maximum leakage	0.010	0.010	0.010	0.010	0.010	0	0.010	0.010	0.010	0.010	0	0.010
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	0.1	0.1	0.1	0.1	0	0.1

Licensee Comments: none

## Drill/Exercise Performance



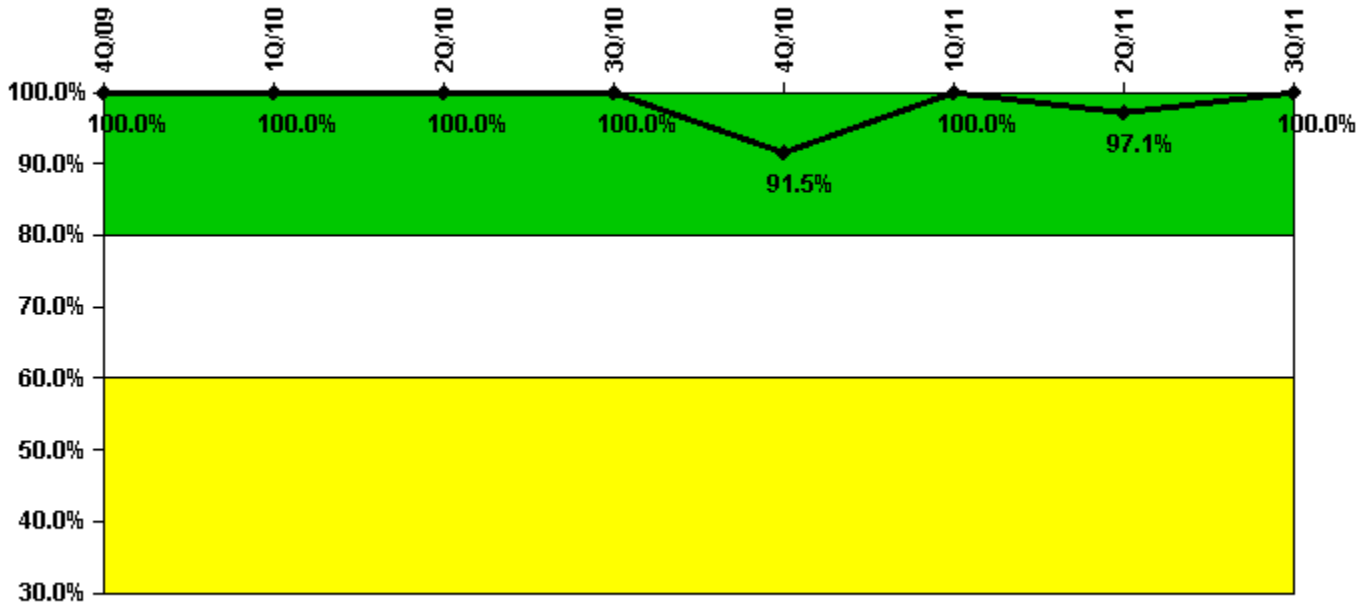
Thresholds: White < 90.0% Yellow < 70.0%

### Notes

Drill/Exercise Performance	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
Successful opportunities	24.0	11.0	52.0	50.0	0	25.0	65.0	60.0
Total opportunities	24.0	15.0	52.0	55.0	0	27.0	66.0	65.0
Indicator value	94.6%	93.6%	94.8%	94.1%	93.8%	93.4%	93.9%	94.4%

License Comments: none

## ERO Drill Participation



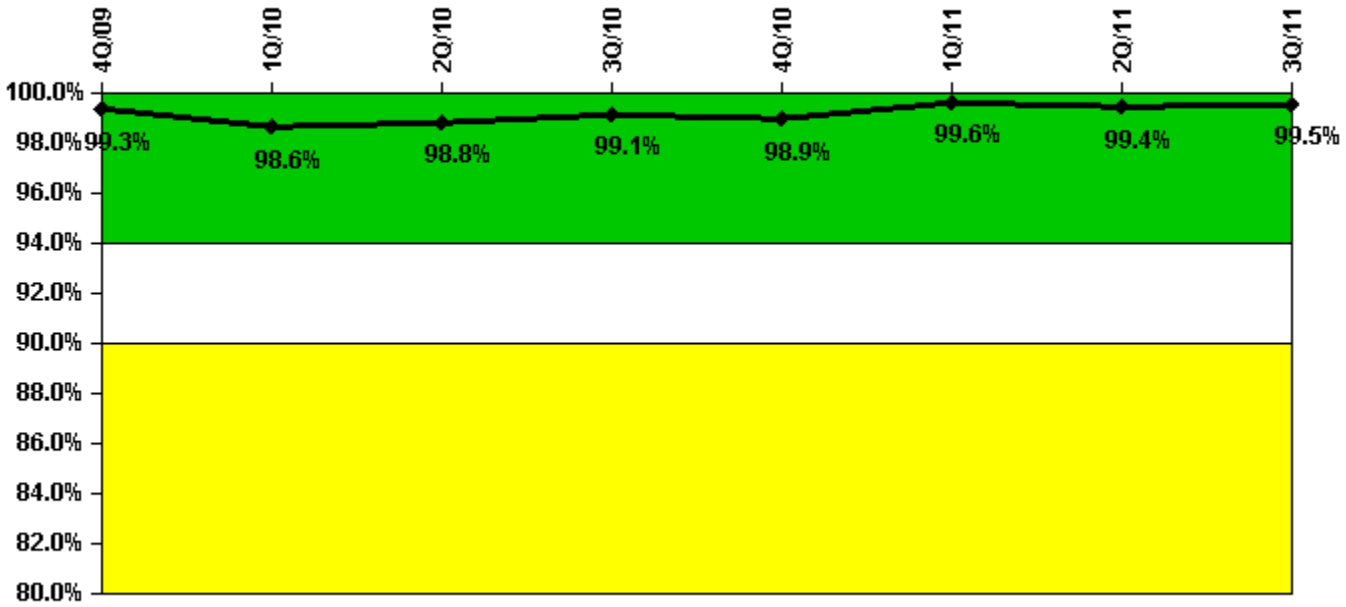
Thresholds: White < 80.0% Yellow < 60.0%

### Notes

ERO Drill Participation	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
Participating Key personnel	79.0	72.0	74.0	65.0	65.0	68.0	66.0	72.0
Total Key personnel	79.0	72.0	74.0	65.0	71.0	68.0	68.0	72.0
Indicator value	100.0%	100.0%	100.0%	100.0%	91.5%	100.0%	97.1%	100.0%

Licensee Comments: none

# Alert & Notification System



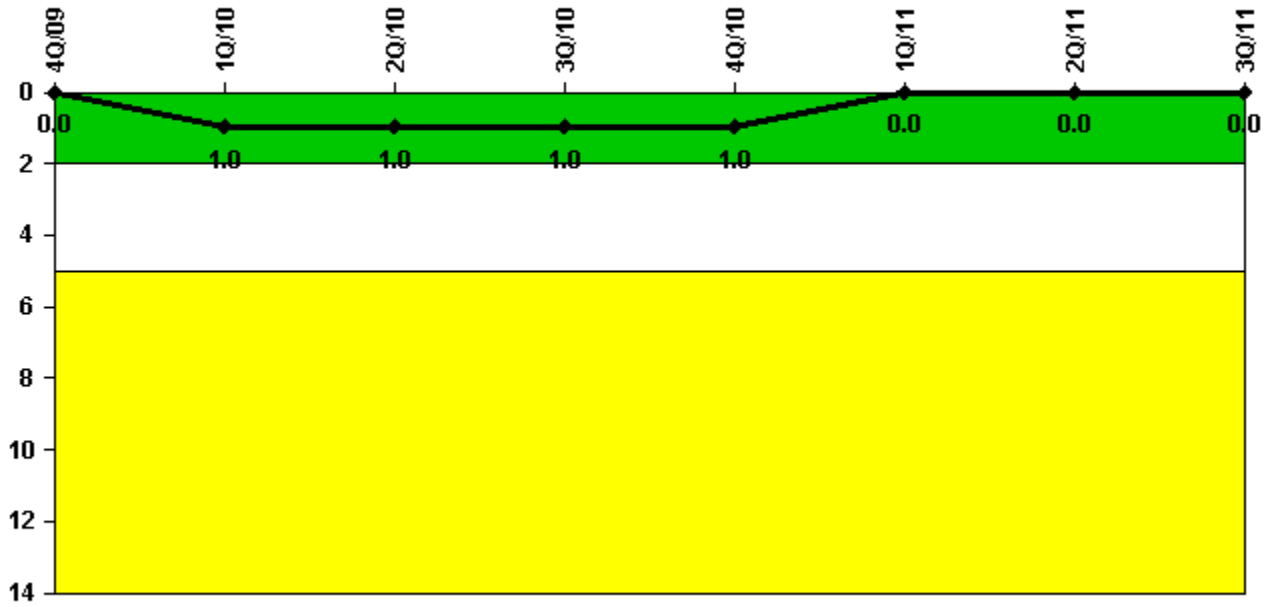
Thresholds: White < 94.0% Yellow < 90.0%

## Notes

Alert & Notification System	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
Successful siren-tests	519	350	405	399	447	394	347	399
Total sirens-tests	520	362	406	400	450	396	350	399
Indicator value	99.3%	98.6%	98.8%	99.1%	98.9%	99.6%	99.4%	99.5%

Licensee Comments: none

## Occupational Exposure Control Effectiveness



Thresholds: White > 2.0 Yellow > 5.0

### Notes

Occupational Exposure Control Effectiveness	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
High radiation area occurrences	0	1	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
<b>Indicator value</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>

Licensee Comments: none

# RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

## Notes

RETS/ODCM Radiological Effluent	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
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.