

# North Anna 1

## 4Q/2010 Performance Indicators

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



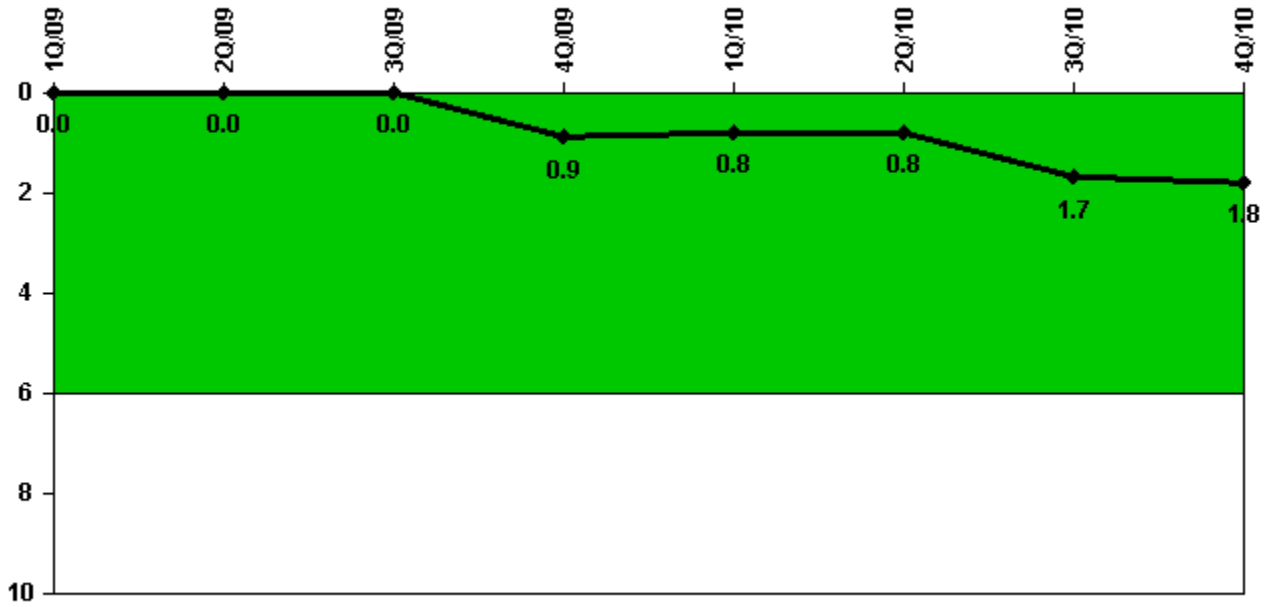
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
Unplanned scrams	0	0	0	0	0	0	0	1.0
Critical hours	1585.2	2171.5	2208.0	2080.7	2159.0	2184.0	1653.7	1696.2
Indicator value	0	0	0	0	0	0	0	0.9

Licensee Comments: none

## Unplanned Power Changes per 7000 Critical Hrs



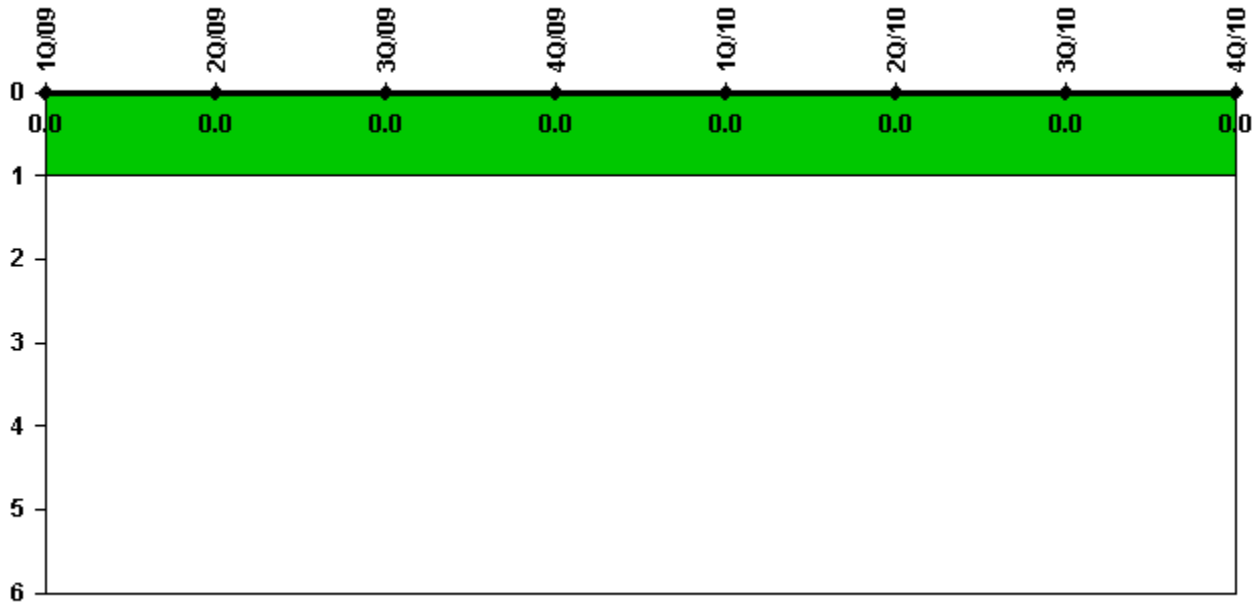
Thresholds: White > 6.0

### Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
Unplanned power changes	0	0	0	1.0	0	0	1.0	1.0
Critical hours	1585.2	2171.5	2208.0	2080.7	2159.0	2184.0	1653.7	1696.2
Indicator value	0	0	0	0.9	0.8	0.8	1.7	1.8

Licensee Comments: none

## Unplanned Scrams with Complications



Thresholds: White > 1.0

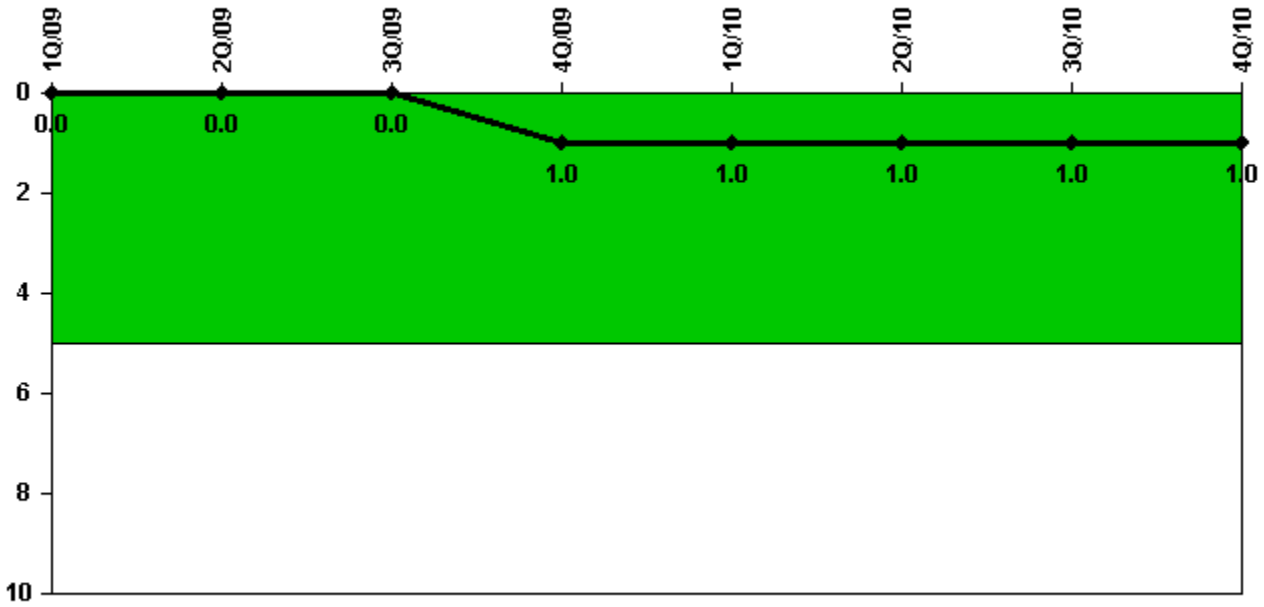
### Notes

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

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## Safety System Functional Failures (PWR)



Thresholds: White > 5.0

### Notes

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

Licensee Comments: none

# Mitigating Systems Performance Index, Emergency AC Power System



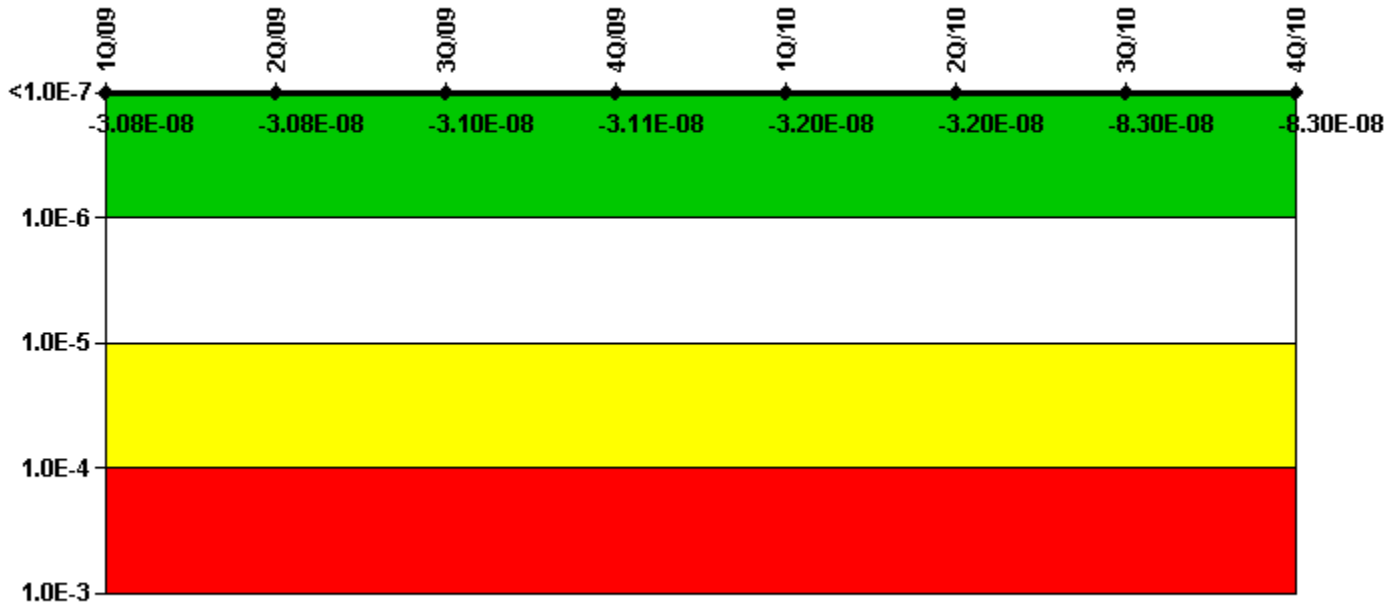
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

## Notes

Mitigating Systems Performance Index, Emergency AC Power System	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
UAI ( $\Delta$ CDF)	1.10E-08	3.10E-08	9.00E-08	9.20E-08	8.46E-08	5.90E-08	4.10E-08	4.16E-08
URI ( $\Delta$ CDF)	-1.50E-07	-1.50E-07	-1.50E-07	-1.50E-07	-1.51E-07	-1.51E-07	-2.29E-08	-2.29E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.39E-07	-1.19E-07	-6.00E-08	-5.80E-08	-6.60E-08	-9.20E-08	1.80E-08	1.90E-08

Licensee Comments: none

# Mitigating Systems Performance Index, High Pressure Injection System



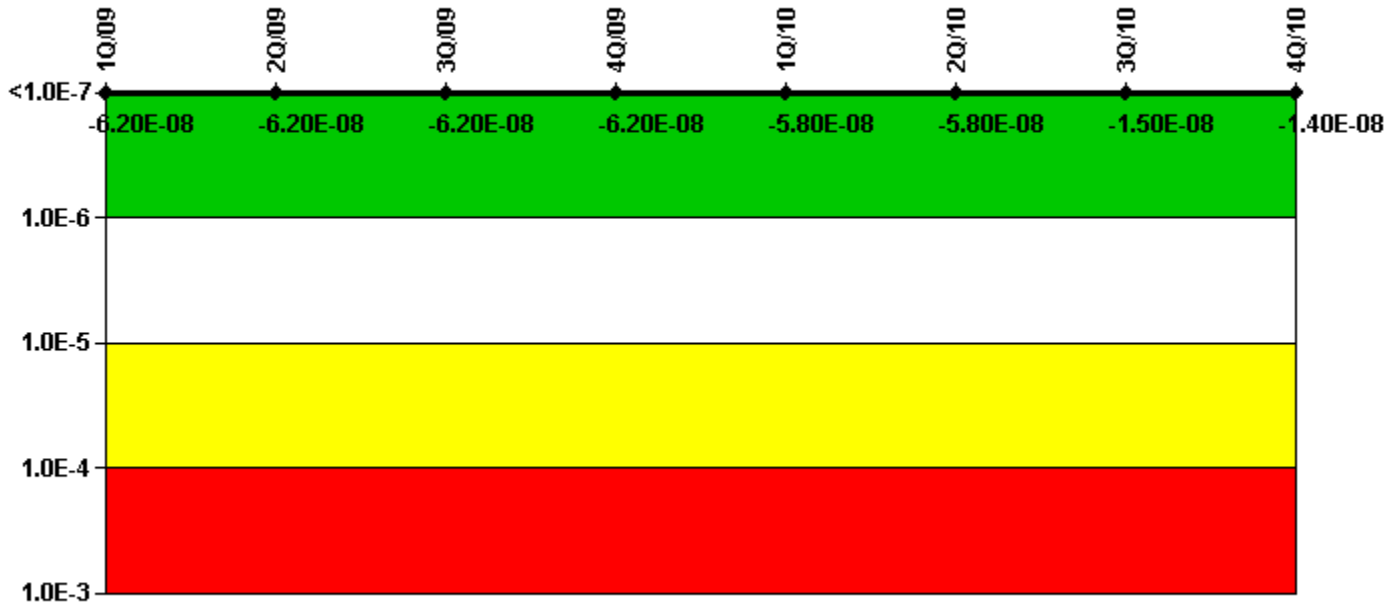
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

## Notes

Mitigating Systems Performance Index, High Pressure Injection System	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
UAI ( $\Delta$ CDF)	-2.20E-08	-2.20E-08	-2.20E-08	-2.20E-08	-2.26E-08	-2.26E-08	-7.00E-08	-7.00E-08
URI ( $\Delta$ CDF)	-8.80E-09	-8.80E-09	-9.00E-09	-9.10E-09	-9.08E-09	-9.08E-09	-1.28E-08	-1.28E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-3.08E-08	-3.08E-08	-3.10E-08	-3.11E-08	-3.20E-08	-3.20E-08	-8.30E-08	-8.30E-08

Licensee Comments: none

# Mitigating Systems Performance Index, Heat Removal System



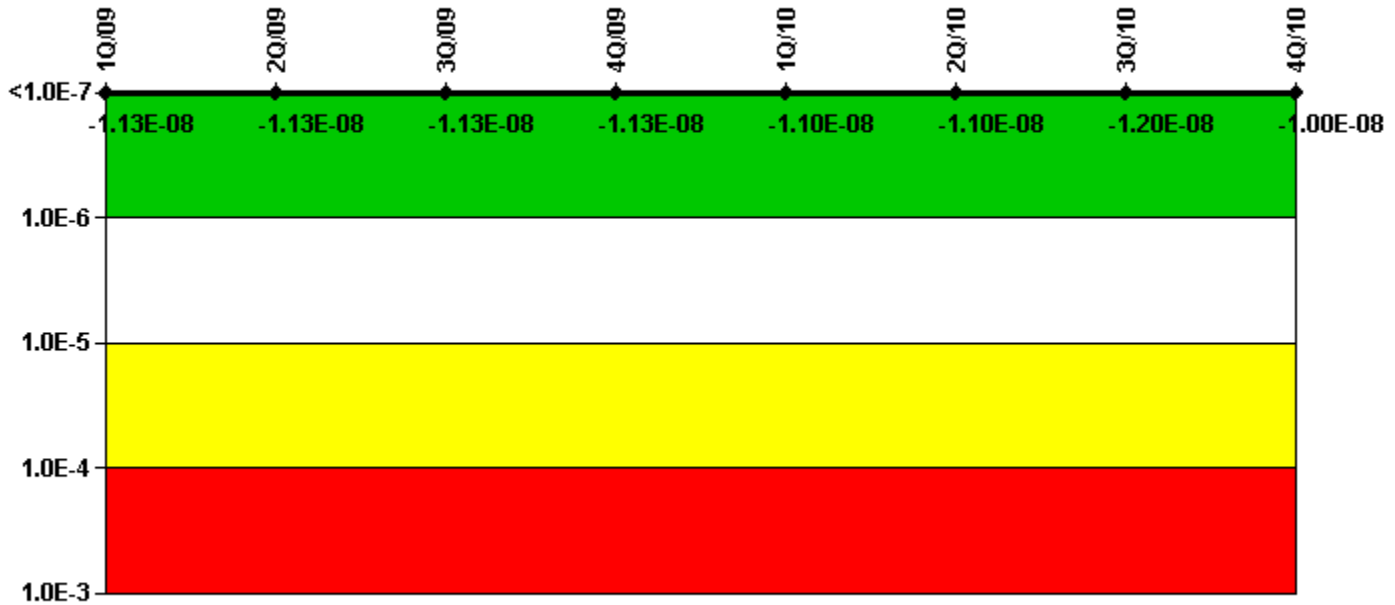
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

## Notes

Mitigating Systems Performance Index, Heat Removal System	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
UAI ( $\Delta$ CDF)	-2.20E-08	-2.20E-08	-2.20E-08	-2.20E-08	-2.24E-08	-2.24E-08	-5.23E-09	-5.23E-09
URI ( $\Delta$ CDF)	-4.00E-08	-4.00E-08	-4.00E-08	-4.00E-08	-3.57E-08	-3.57E-08	-9.60E-09	-9.14E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-6.20E-08	-6.20E-08	-6.20E-08	-6.20E-08	-5.80E-08	-5.80E-08	-1.50E-08	-1.40E-08

Licensee Comments: none

# Mitigating Systems Performance Index, Residual Heat Removal System



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

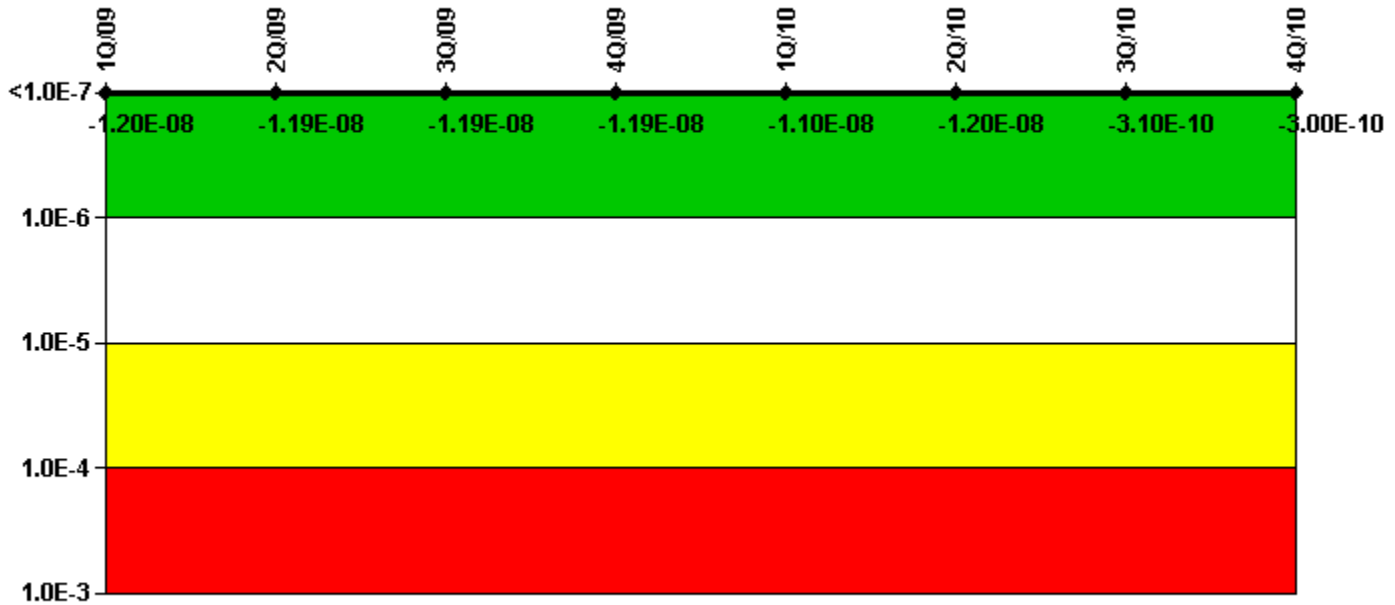
## Notes

Mitigating Systems Performance Index, Residual Heat Removal System	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
UAI ( $\Delta$ CDF)	-3.70E-09	-3.70E-09	-3.70E-09	-3.70E-09	-3.87E-09	-3.87E-09	-3.75E-09	-2.47E-09
URI ( $\Delta$ CDF)	-7.60E-09	-7.60E-09	-7.60E-09	-7.60E-09	-7.61E-09	-7.61E-09	-7.86E-09	-7.75E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.13E-08	-1.13E-08	-1.13E-08	-1.13E-08	-1.10E-08	-1.10E-08	-1.20E-08	-1.00E-08

Licensee Comments: none



# Mitigating Systems Performance Index, Cooling Water Systems



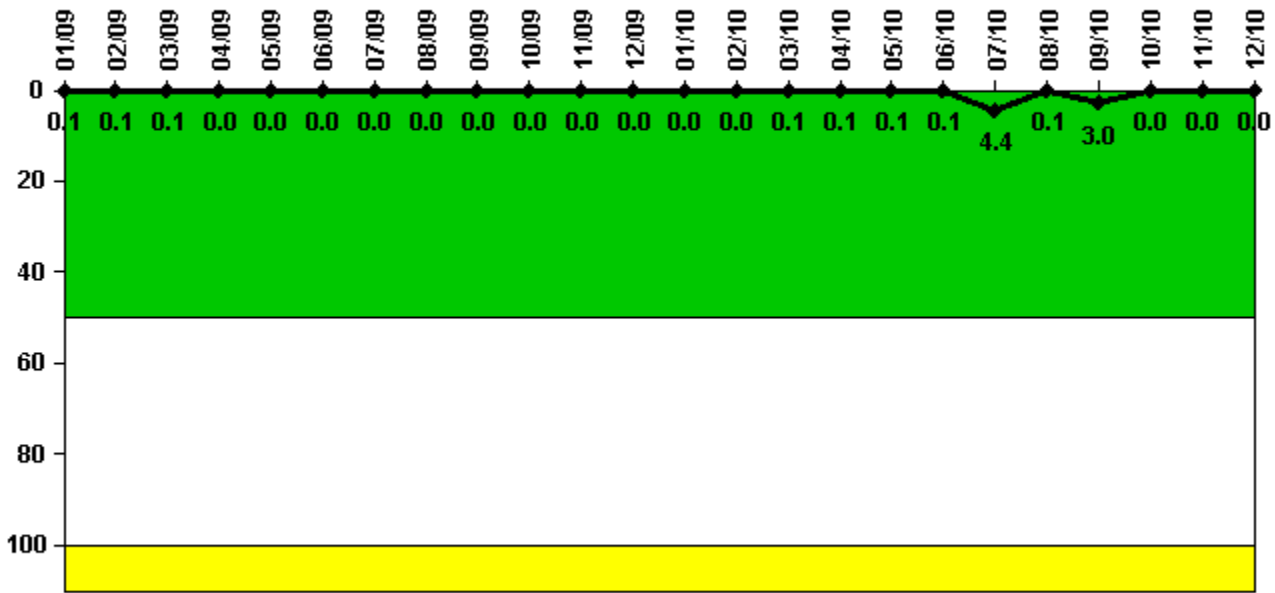
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

## Notes

Mitigating Systems Performance Index, Cooling Water Systems	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
UAI ( $\Delta$ CDF)	-4.30E-11	1.10E-10	1.10E-10	1.10E-10	1.06E-10	-1.42E-10	-2.62E-11	-1.38E-11
URI ( $\Delta$ CDF)	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.16E-08	-1.14E-08	-2.85E-10	-2.85E-10
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-1.20E-08	-1.19E-08	-1.19E-08	-1.19E-08	-1.10E-08	-1.20E-08	-3.10E-10	-3.00E-10

Licensee Comments: none

# Reactor Coolant System Activity



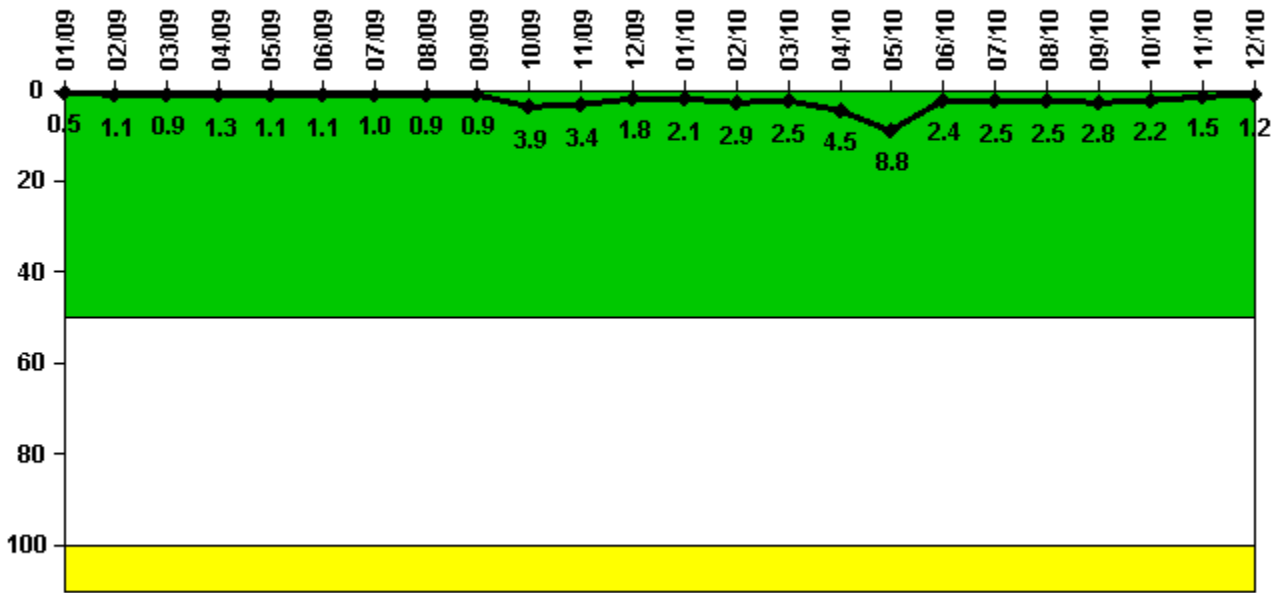
Thresholds: White > 50.0 Yellow > 100.0

## Notes

Reactor Coolant System Activity	1/09	2/09	3/09	4/09	5/09	6/09	7/09	8/09	9/09	10/09	11/09	12/09
Maximum activity	0.000803	0.000897	0.000926	0.000230	0.000255	0.000285	0.000284	0.000294	0.000312	0.000373	0.000441	0.000479
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	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
Reactor Coolant System Activity	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	10/10	11/10	12/10
Maximum activity	0.000462	0.000492	0.000520	0.000535	0.000557	0.000527	0.043700	0.000800	0.029900	0.000166	0.000238	0.000203
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	0.1	0.1	0.1	0.1	4.4	0.1	3.0	0	0	0

Licensee Comments: none

## Reactor Coolant System Leakage



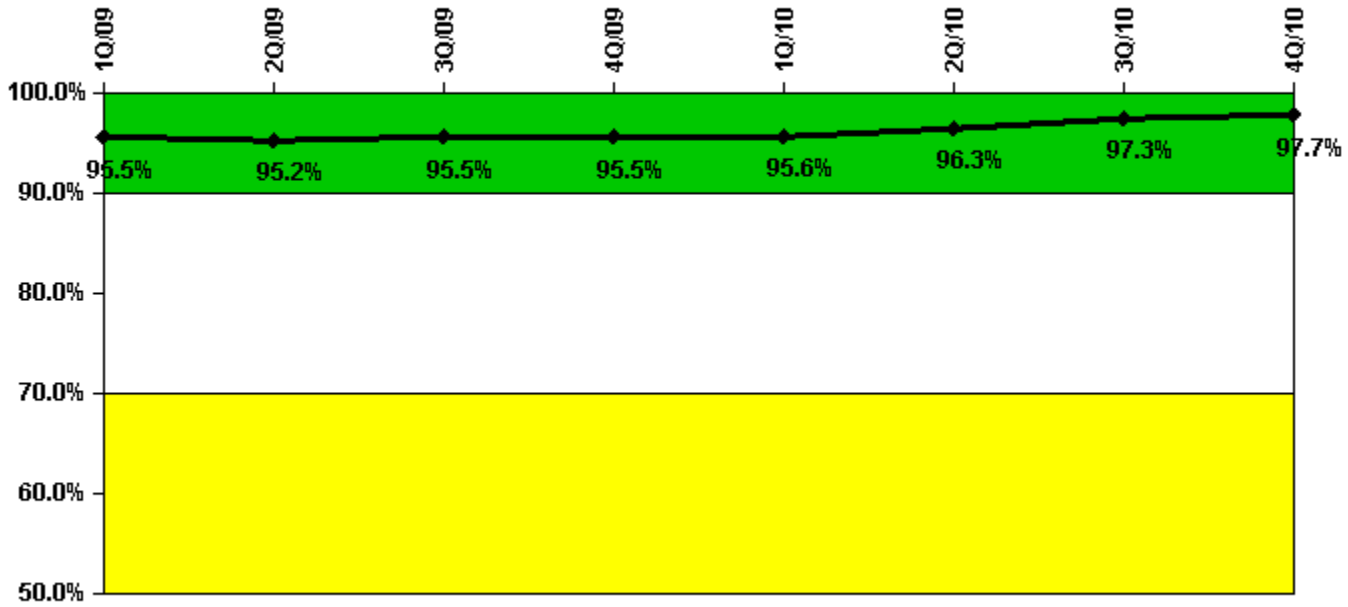
Thresholds: White > 50.0 Yellow > 100.0

### Notes

Reactor Coolant System Leakage	1/09	2/09	3/09	4/09	5/09	6/09	7/09	8/09	9/09	10/09	11/09	12/09
Maximum leakage	0.050	0.107	0.092	0.131	0.108	0.109	0.096	0.094	0.087	0.390	0.342	0.181
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	1.1	0.9	1.3	1.1	1.1	1.0	0.9	0.9	3.9	3.4	1.8
Reactor Coolant System Leakage	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	10/10	11/10	12/10
Maximum leakage	0.213	0.288	0.251	0.452	0.878	0.235	0.250	0.253	0.275	0.218	0.147	0.123
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	2.1	2.9	2.5	4.5	8.8	2.4	2.5	2.5	2.8	2.2	1.5	1.2

Licensee Comments: none

## Drill/Exercise Performance



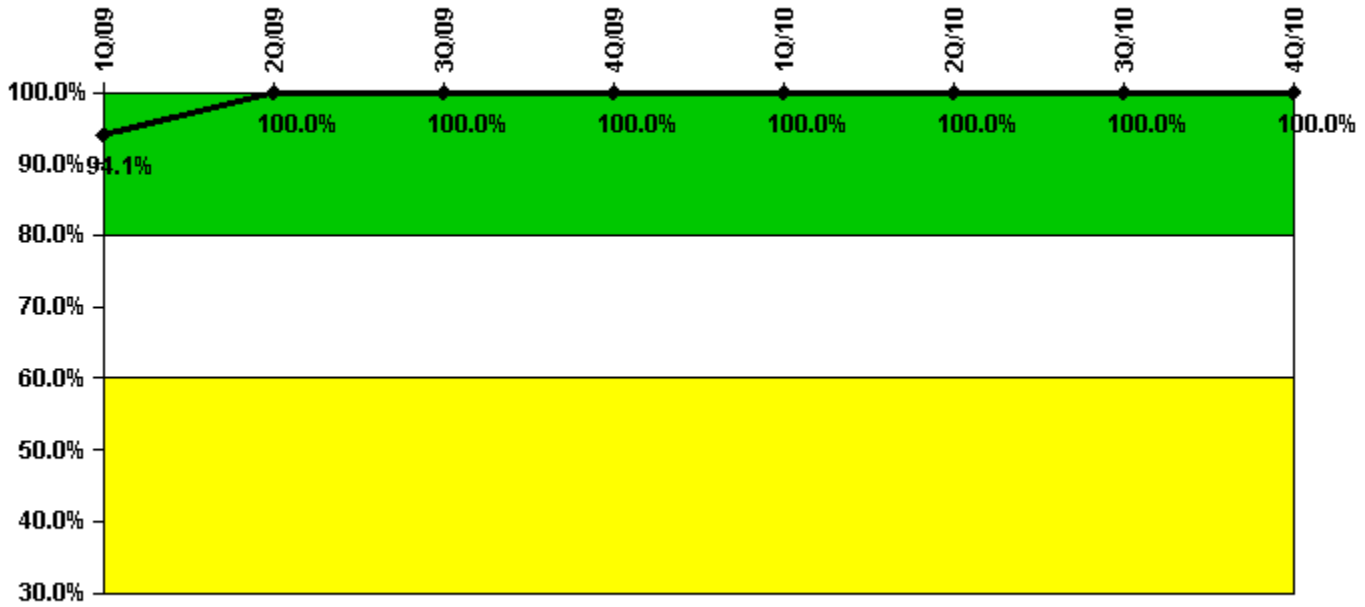
Thresholds: White < 90.0% Yellow < 70.0%

### Notes

Drill/Exercise Performance	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
Successful opportunities	30.0	28.0	42.0	28.0	31.0	50.0	38.0	46.0
Total opportunities	31.0	29.0	43.0	29.0	33.0	50.0	39.0	46.0
Indicator value	95.5%	95.2%	95.5%	95.5%	95.6%	96.3%	97.3%	97.7%

License Comments: none

# ERO Drill Participation



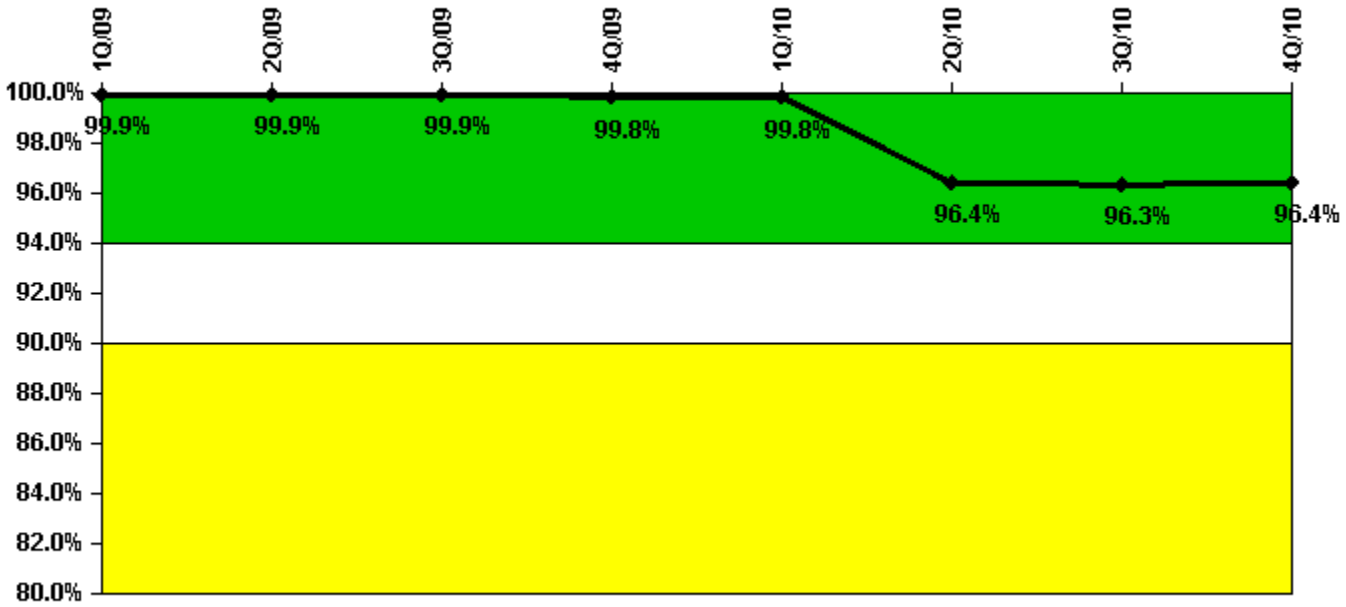
Thresholds: White < 80.0% Yellow < 60.0%

## Notes

ERO Drill Participation	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
Participating Key personnel	160.0	175.0	177.0	179.0	177.0	175.0	165.0	163.0
Total Key personnel	170.0	175.0	177.0	179.0	177.0	175.0	165.0	163.0
Indicator value	94.1%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Licensee Comments: none

# Alert & Notification System



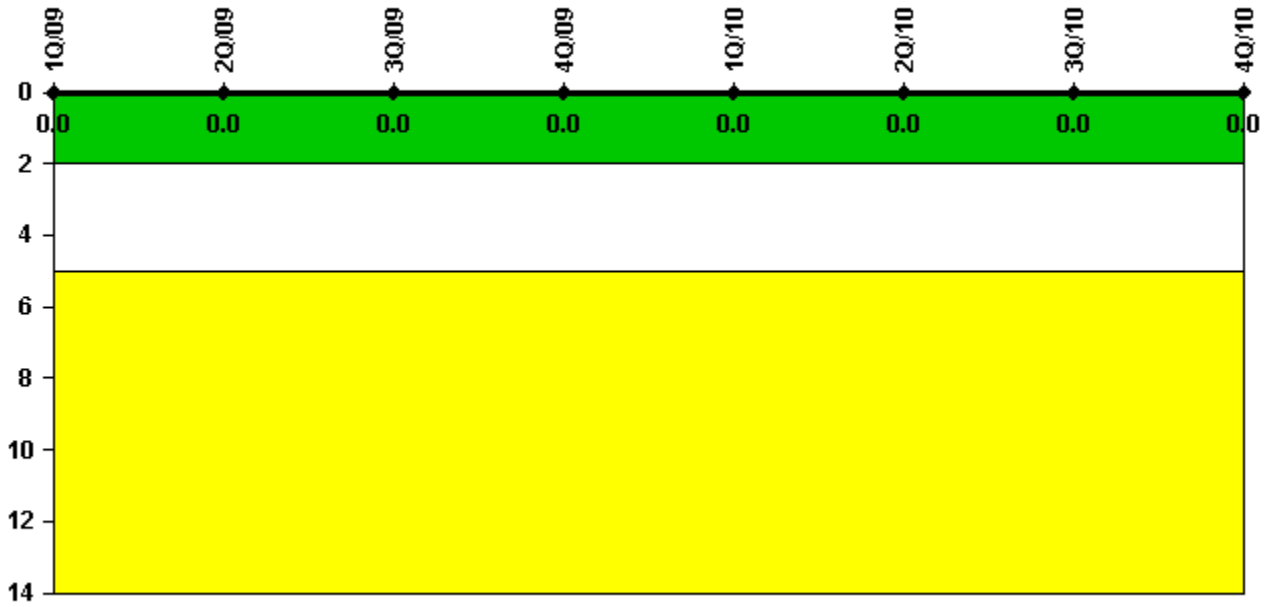
Thresholds: White < 94.0% Yellow < 90.0%

## Notes

Alert & Notification System	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
Successful siren-tests	476	474	476	475	476	408	475	476
Total sirens-tests	476	476	476	476	476	476	476	476
Indicator value	99.9%	99.9%	99.9%	99.8%	99.8%	96.4%	96.3%	96.4%

Licensee Comments: none

# Occupational Exposure Control Effectiveness



**Thresholds: White > 2.0 Yellow > 5.0**

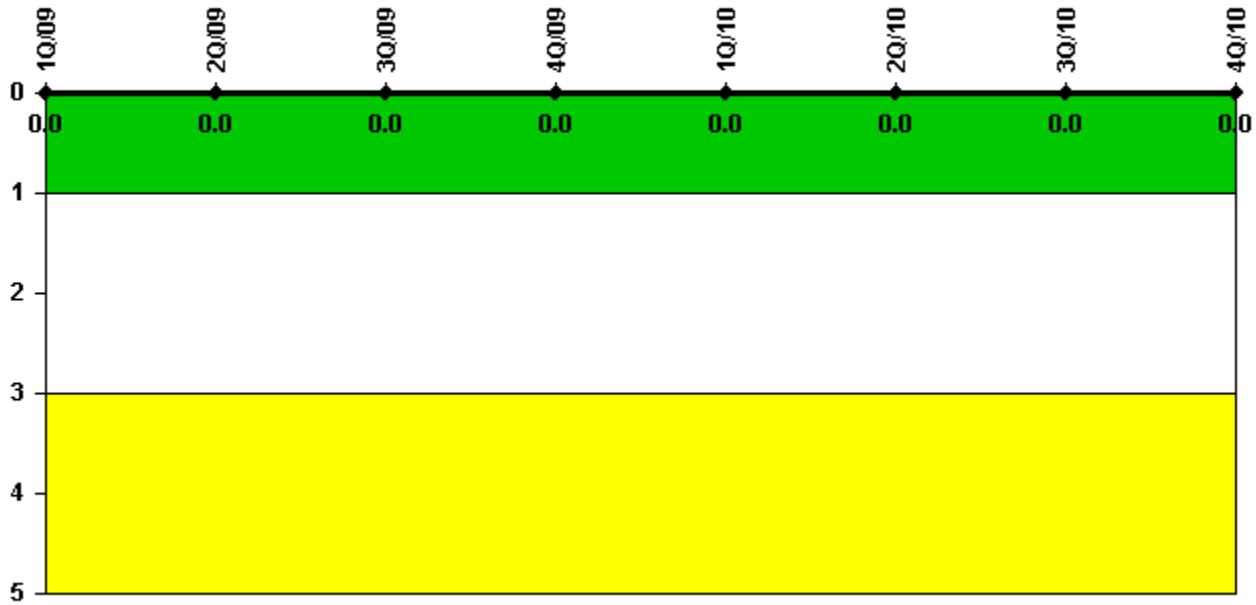
## Notes

Occupational Exposure Control Effectiveness	1Q/09	2Q/09	3Q/09	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10
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
<b>Indicator value</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Licensee Comments: none

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# RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

## Notes

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