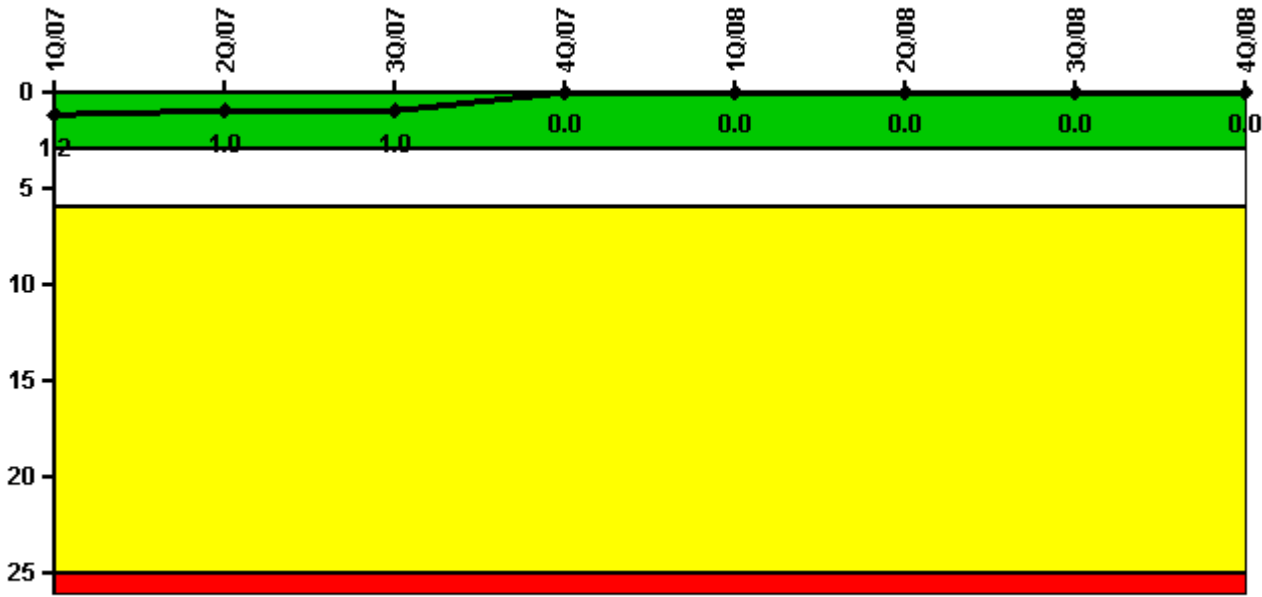


# Palo Verde 1

## 4Q/2008 Performance Indicators

Licensee's General Comments: none

### Unplanned Scrams per 7000 Critical Hrs



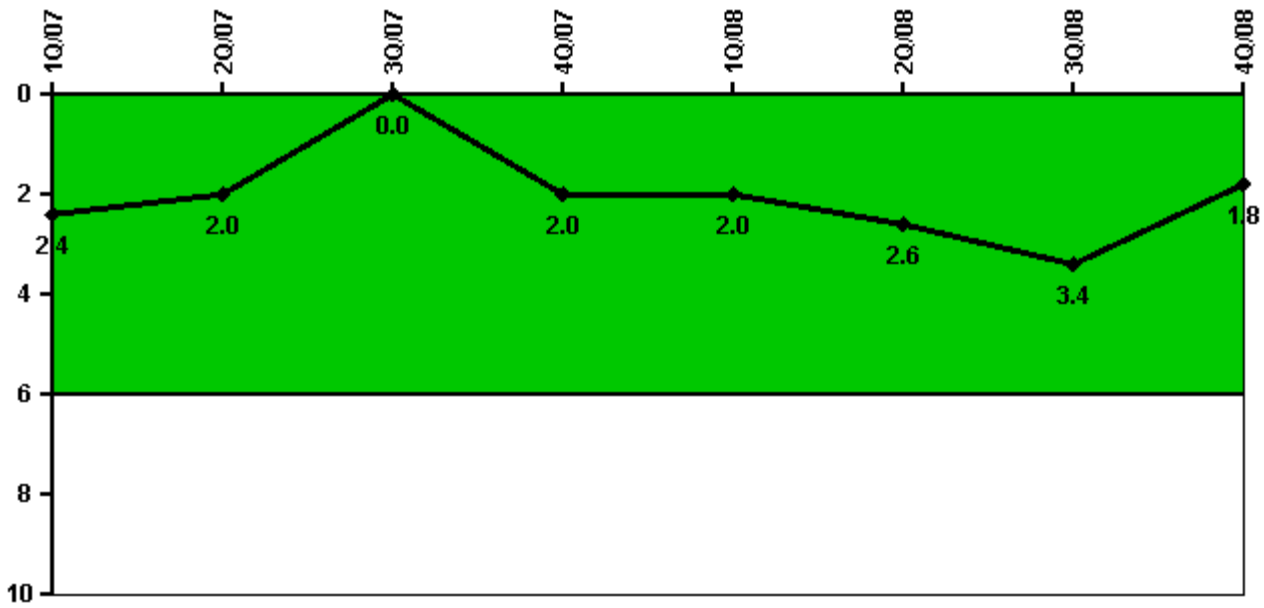
Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

### Notes

Unplanned Scrams per 7000 Critical Hrs	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
Unplanned scrams	0	0	0	0	0	0	0	0
Critical hours	2160.0	1152.0	1878.4	1803.3	2184.0	2131.1	2208.0	1155.6
Indicator value	1.2	1.0	1.0	0	0	0	0	0

Licensee Comments: none

## Unplanned Power Changes per 7000 Critical Hrs



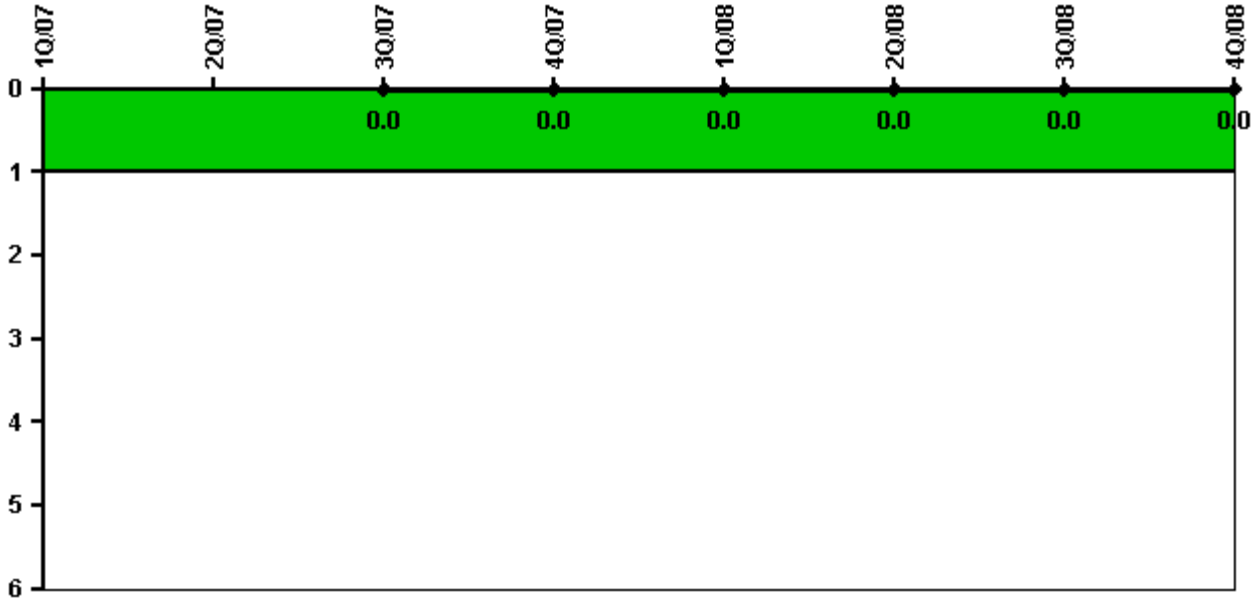
Thresholds: White > 6.0

### Notes

Unplanned Power Changes per 7000 Critical Hrs	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
Unplanned power changes	0	0	0	2.0	0	1.0	1.0	0
Critical hours	2160.0	1152.0	1878.4	1803.3	2184.0	2131.1	2208.0	1155.6
Indicator value	2.4	2.0	0	2.0	2.0	2.6	3.4	1.8

Licensee Comments: none

# Unplanned Scrams with Complications



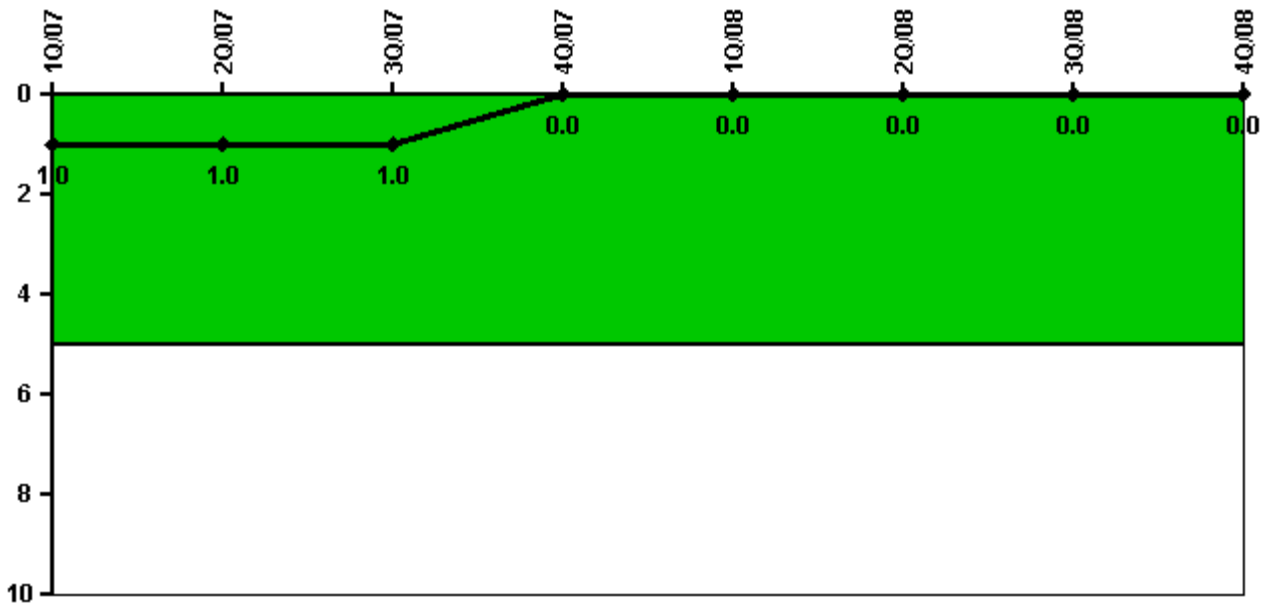
Thresholds: White > 1.0

**Notes**

Unplanned Scrams with Complications	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
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

Licensee Comments: none

## Safety System Functional Failures (PWR)



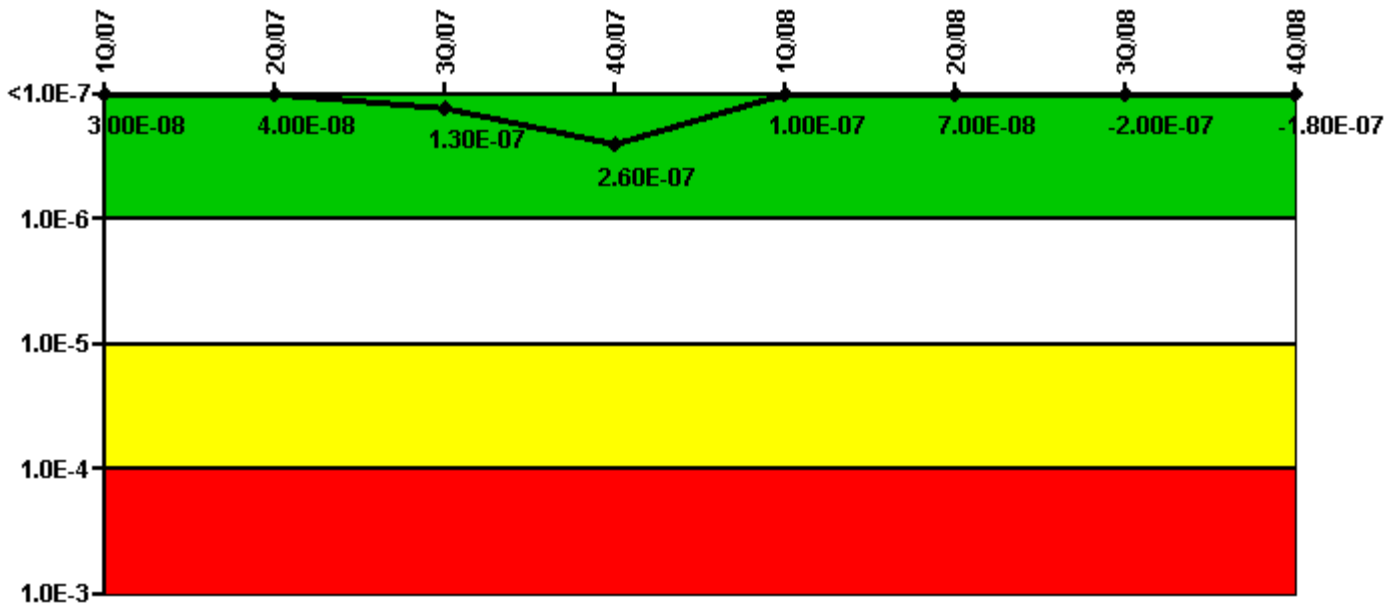
Thresholds: White > 5.0

### Notes

Safety System Functional Failures (PWR)	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
Safety System Functional Failures	0	0	0	0	0	0	0	0
Indicator value	1	1	1	0	0	0	0	0

Licensee Comments: none

# Mitigating Systems Performance Index, Emergency AC Power System



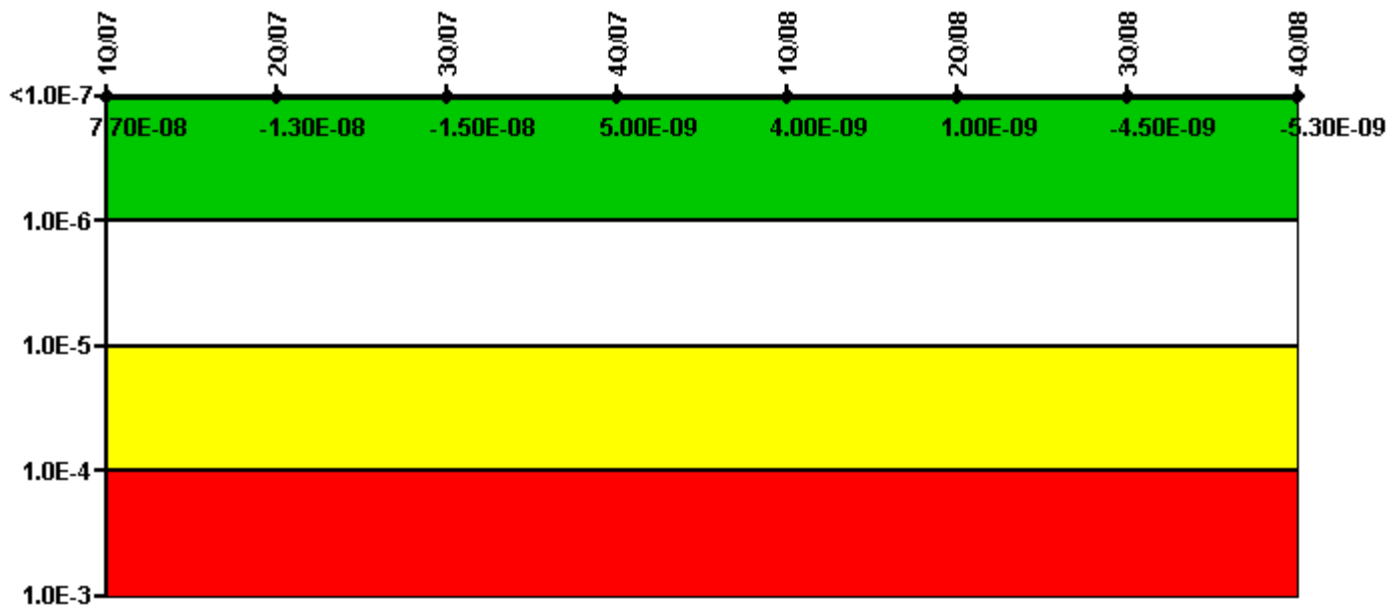
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

## Notes

Mitigating Systems Performance Index, Emergency AC Power System	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
UAI (ΔCDF)	4.80E-07	4.80E-07	5.70E-07	3.50E-07	3.20E-07	2.90E-07	1.80E-07	2.00E-07
URI (ΔCDF)	-4.50E-07	-4.40E-07	-4.40E-07	-9.00E-08	-2.20E-07	-2.20E-07	-3.80E-07	-3.80E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.00E-08	4.00E-08	1.30E-07	2.60E-07	1.00E-07	7.00E-08	-2.00E-07	-1.80E-07

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/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
UAI ( $\Delta$ CDF)	3.90E-08	4.00E-08	3.80E-08	1.70E-08	1.60E-08	1.30E-08	7.50E-09	6.70E-09
URI ( $\Delta$ CDF)	3.80E-08	-5.30E-08	-5.30E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08	-1.20E-08
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	7.70E-08	-1.30E-08	-1.50E-08	5.00E-09	4.00E-09	1.00E-09	-4.50E-09	-5.30E-09

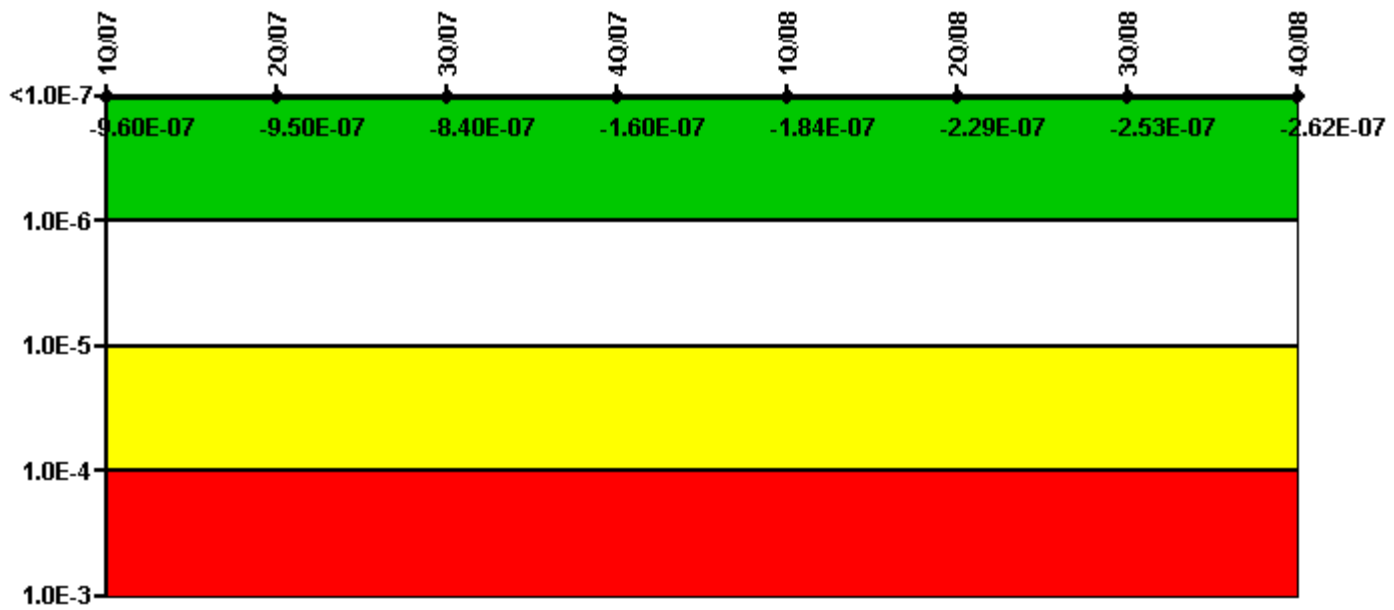
## Licensee Comments:

4Q/08: An adverse error was detected in Safety Injection valve group demand estimates since MSPI inception. The error was corrected and MSPI model updated. No color change resulted.

3Q/08: An adverse error was detected in Safety Injection valve group demand estimates since MSPI inception. The error was corrected and MSPI model updated. No color change resulted.

4Q/06: Data revision: Excessive leakage of a single containment recirculation isolation valve that occurred in October 2006 was evaluated in January 2007 and determined to be a maintenance rule functional failure. This impacted MSPI high pressure safety injection and residual heat removal indicators, however indicators' color did not change (green).

# Mitigating Systems Performance Index, Heat Removal System



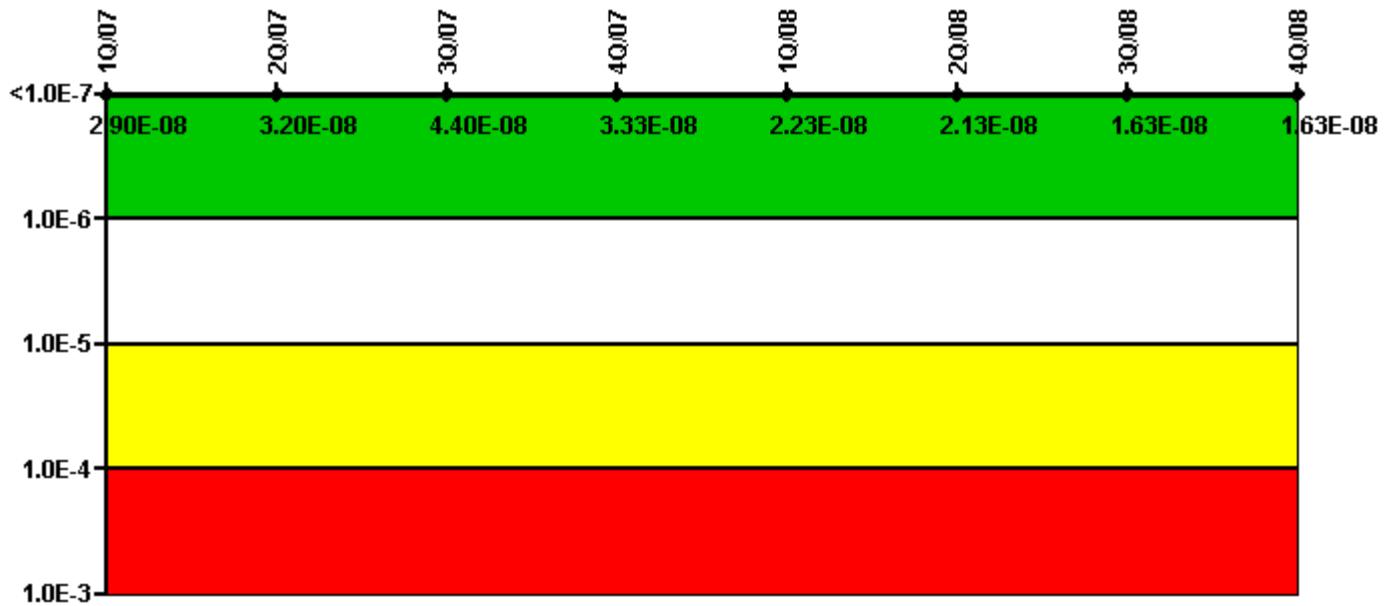
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

## Notes

Mitigating Systems Performance Index, Heat Removal System	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
UAI ( $\Delta$ CDF)	-3.40E-07	-3.30E-07	-2.20E-07	7.00E-08	4.60E-08	9.50E-10	-2.30E-08	-3.20E-08
URI ( $\Delta$ CDF)	-6.20E-07	-6.20E-07	-6.20E-07	-2.30E-07	-2.30E-07	-2.30E-07	-2.30E-07	-2.30E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	-9.60E-07	-9.50E-07	-8.40E-07	-1.60E-07	-1.84E-07	-2.29E-07	-2.53E-07	-2.62E-07

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/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
UAI ( $\Delta$ CDF)	5.50E-08	5.80E-08	7.00E-08	4.00E-08	2.90E-08	2.80E-08	2.30E-08	2.30E-08
URI ( $\Delta$ CDF)	-2.60E-08	-2.60E-08	-2.60E-08	-6.70E-09	-6.70E-09	-6.70E-09	-6.70E-09	-6.70E-09
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	2.90E-08	3.20E-08	4.40E-08	3.33E-08	2.23E-08	2.13E-08	1.63E-08	1.63E-08

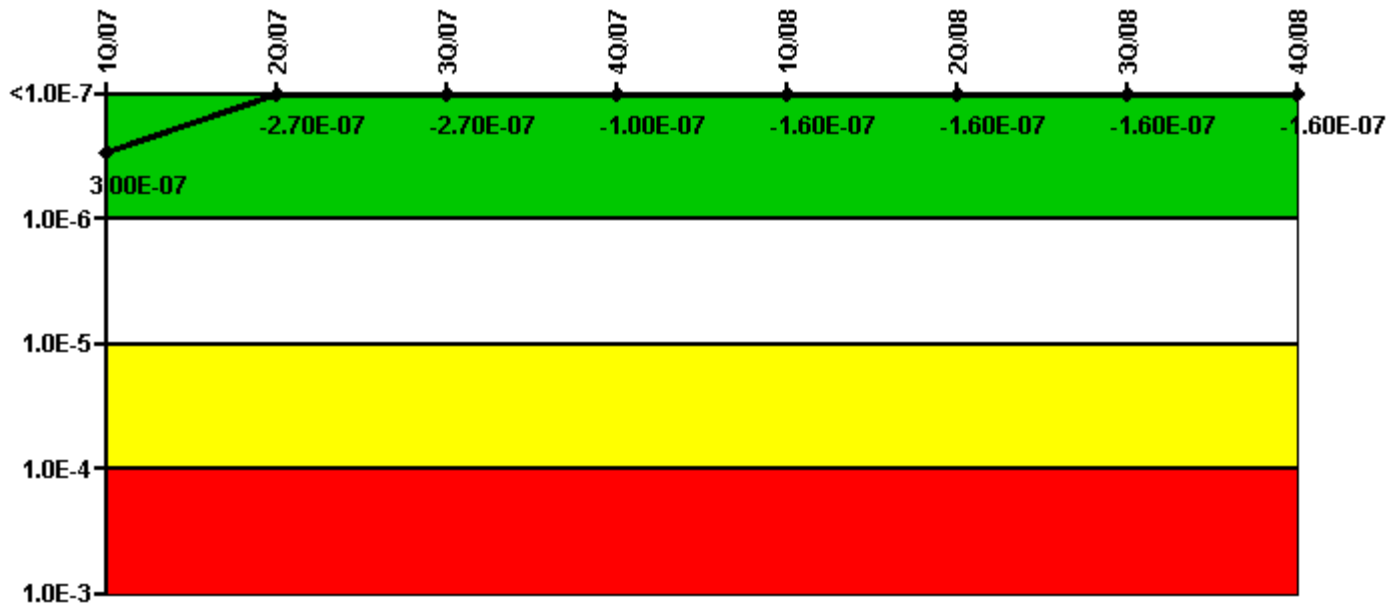
Licensee Comments:

4Q/08: An adverse error was detected in Safety Injection valve group demand estimates since MSPI inception. The error was corrected and MSPI model updated. No color change resulted.

3Q/08: An adverse error was detected in Safety Injection valve group demand estimates since MSPI inception. The error was corrected and MSPI model updated. No color change resulted.



# Mitigating Systems Performance Index, Cooling Water Systems



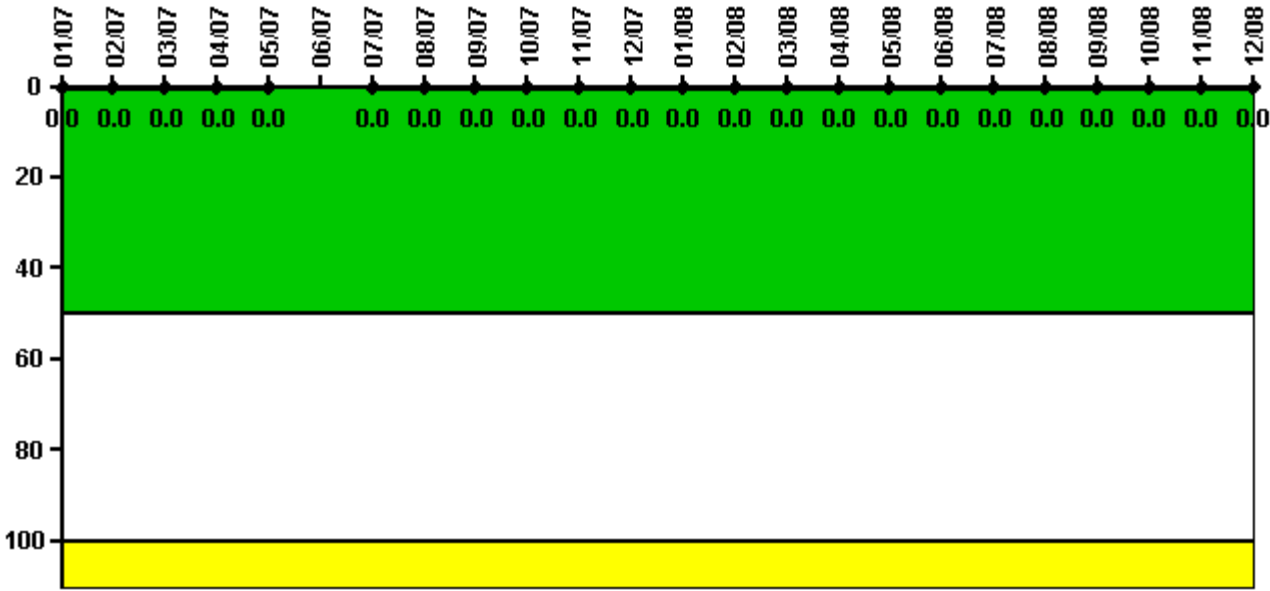
Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

## Notes

Mitigating Systems Performance Index, Cooling Water Systems	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
UAI (ΔCDF)	5.70E-07	-2.60E-11	-2.50E-11	-2.20E-11	-5.20E-11	-5.20E-11	-5.20E-11	-5.20E-11
URI (ΔCDF)	-2.70E-07	-2.70E-07	-2.70E-07	-1.00E-07	-1.60E-07	-1.60E-07	-1.60E-07	-1.60E-07
PLE	NO	NO	NO	NO	NO	NO	NO	NO
Indicator value	3.00E-07	-2.70E-07	-2.70E-07	-1.00E-07	-1.60E-07	-1.60E-07	-1.60E-07	-1.60E-07

Licensee Comments: none

## Reactor Coolant System Activity



Thresholds: White > 50.0 Yellow > 100.0

### Notes

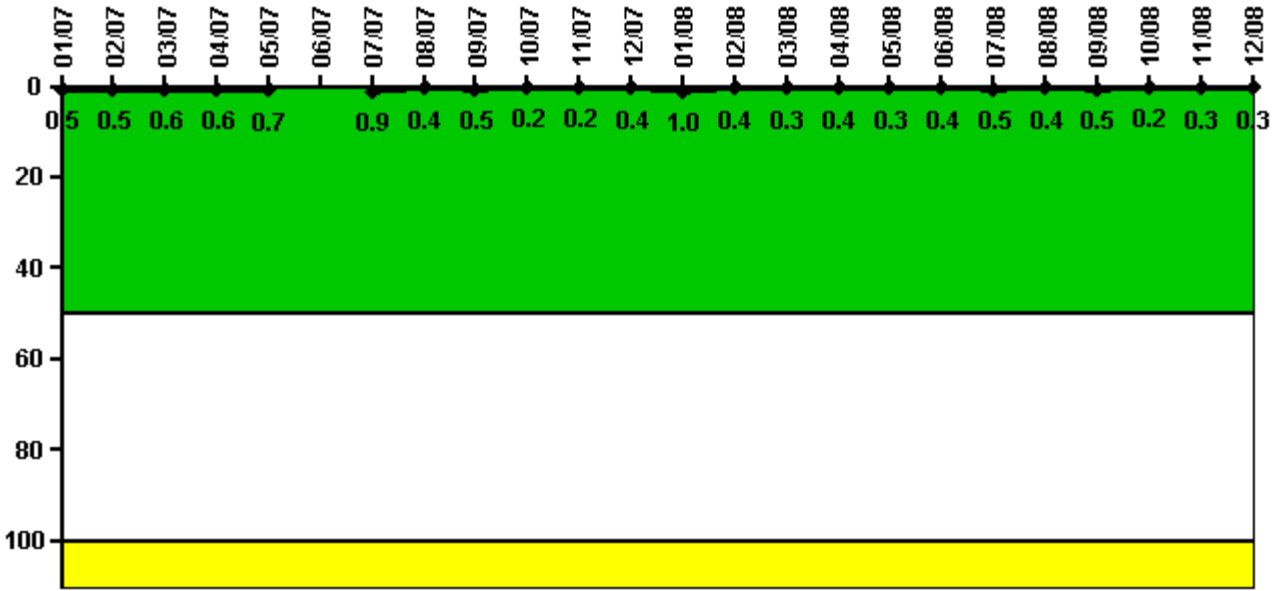
Reactor Coolant System Activity	1/07	2/07	3/07	4/07	5/07	6/07	7/07	8/07	9/07	10/07	11/07	12/07
Maximum activity	0.000444	0.000441	0.000477	0.000480	0.000453	N/A	0.000253	0.000279	0.000296	0.000303	0.000281	0.000322
Technical specification limit	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Indicator value	0	0	0	0	0	N/A	0	0	0	0	0	0

Reactor Coolant System Activity	1/08	2/08	3/08	4/08	5/08	6/08	7/08	8/08	9/08	10/08	11/08	12/08
Maximum activity	0.000338	0.000331	0.000348	0.000347	0.000360	0.000378	0.000386	0.000388	0.000405	0.000385	0.000225	0.000246
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

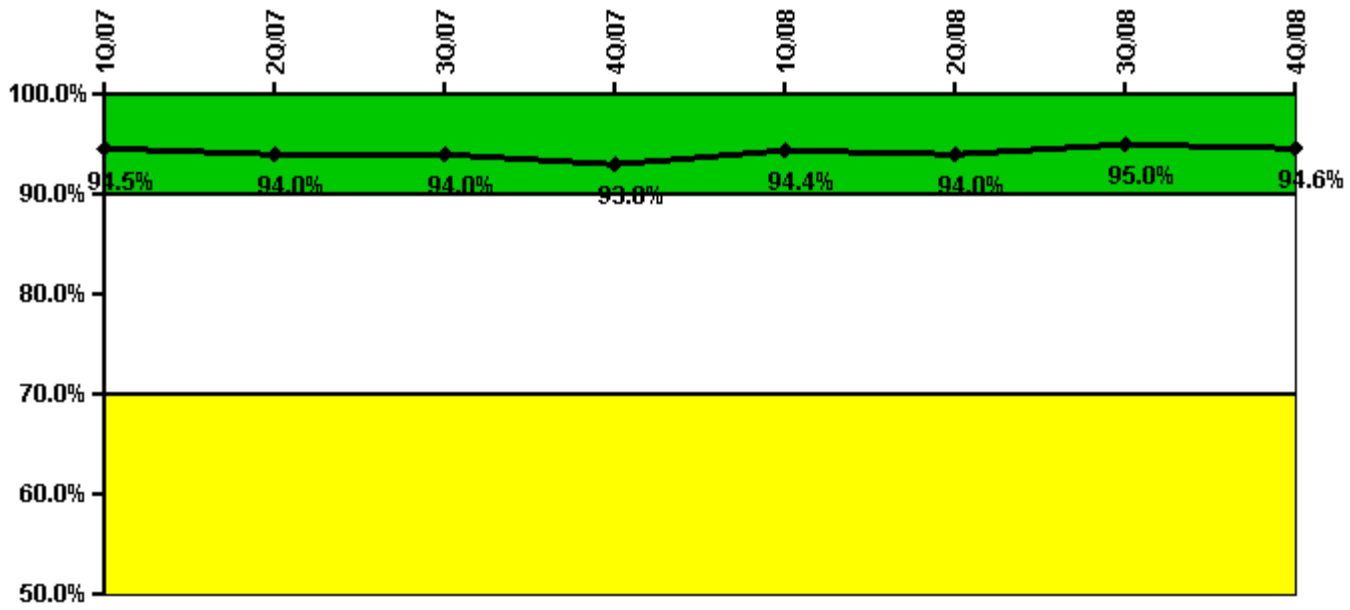
Reactor Coolant System Leakage	1/07	2/07	3/07	4/07	5/07	6/07	7/07	8/07	9/07	10/07	11/07	12/07
Maximum leakage	0.053	0.045	0.061	0.063	0.065	N/A	0.089	0.042	0.052	0.019	0.024	0.037
Technical specification limit	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Indicator value	0.5	0.5	0.6	0.6	0.7	N/A	0.9	0.4	0.5	0.2	0.2	0.4

Reactor Coolant System Leakage	1/08	2/08	3/08	4/08	5/08	6/08	7/08	8/08	9/08	10/08	11/08	12/08
Maximum leakage	0.100	0.040	0.031	0.043	0.033	0.039	0.052	0.035	0.048	0.024	0.028	0.025
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	1.0	0.4	0.3	0.4	0.3	0.4	0.5	0.4	0.5	0.2	0.3	0.3

Licensee Comments: none

## Drill/Exercise Performance



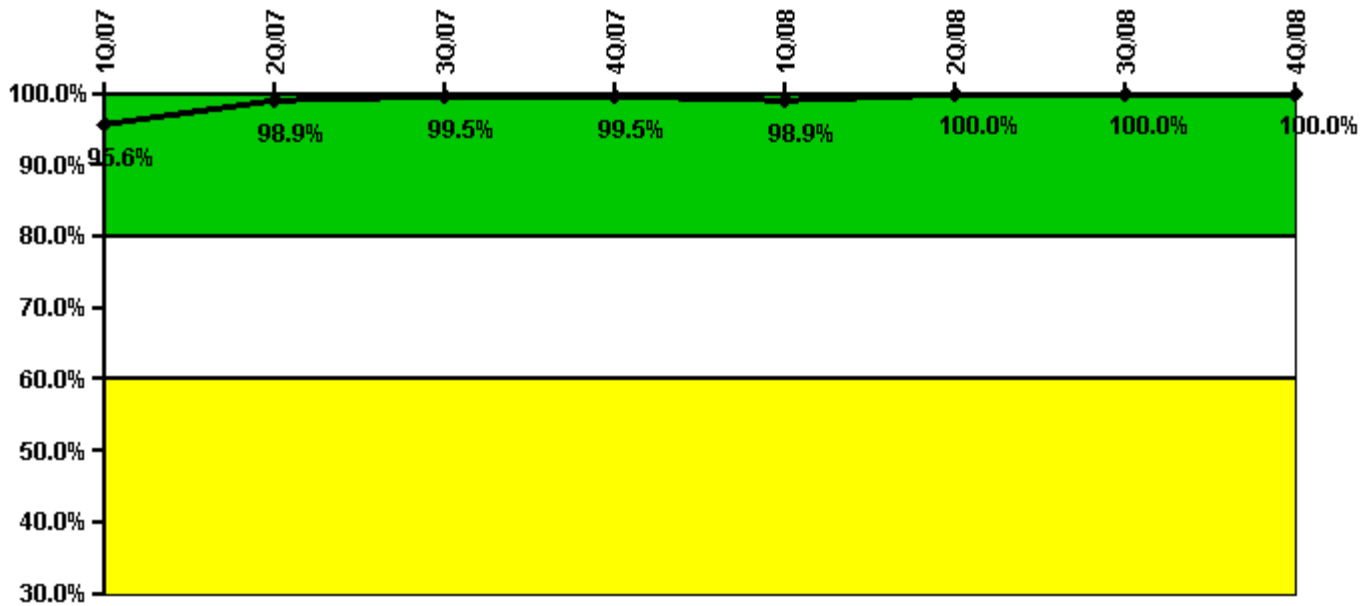
Thresholds: White < 90.0% Yellow < 70.0%

### Notes

Drill/Exercise Performance	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
Successful opportunities	18.0	13.0	188.0	12.0	130.0	35.0	43.0	35.0
Total opportunities	19.0	16.0	200.0	12.0	133.0	39.0	43.0	39.0
Indicator value	94.5%	94.0%	94.0%	93.0%	94.4%	94.0%	95.0%	94.6%

Licensee Comments: none

## ERO Drill Participation



Thresholds: White < 80.0% Yellow < 60.0%

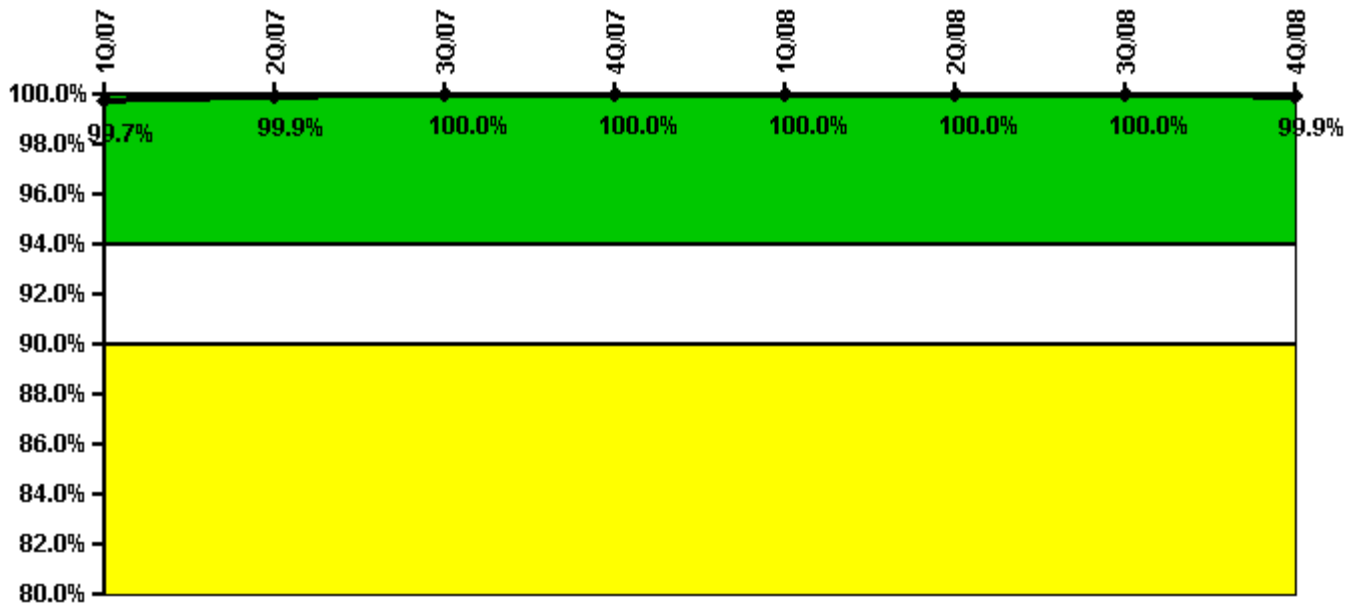
### Notes

ERO Drill Participation	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
Participating Key personnel	175.0	181.0	199.0	192.0	188.0	191.0	183.0	85.0
Total Key personnel	183.0	183.0	200.0	193.0	190.0	191.0	183.0	85.0
Indicator value	95.6%	98.9%	99.5%	99.5%	98.9%	100.0%	100.0%	100.0%

Licensee Comments:

4Q/08: The station changed the number of ERO key personnel by consolidating similar key functions into one single control room position. There is an open question concerning counting participations this position. NEI 99-02 is not clear and additional industry research is required with possible FAQ. This has been entered into site corrective action program. Resolution will not result in a color change.

## Alert & Notification System



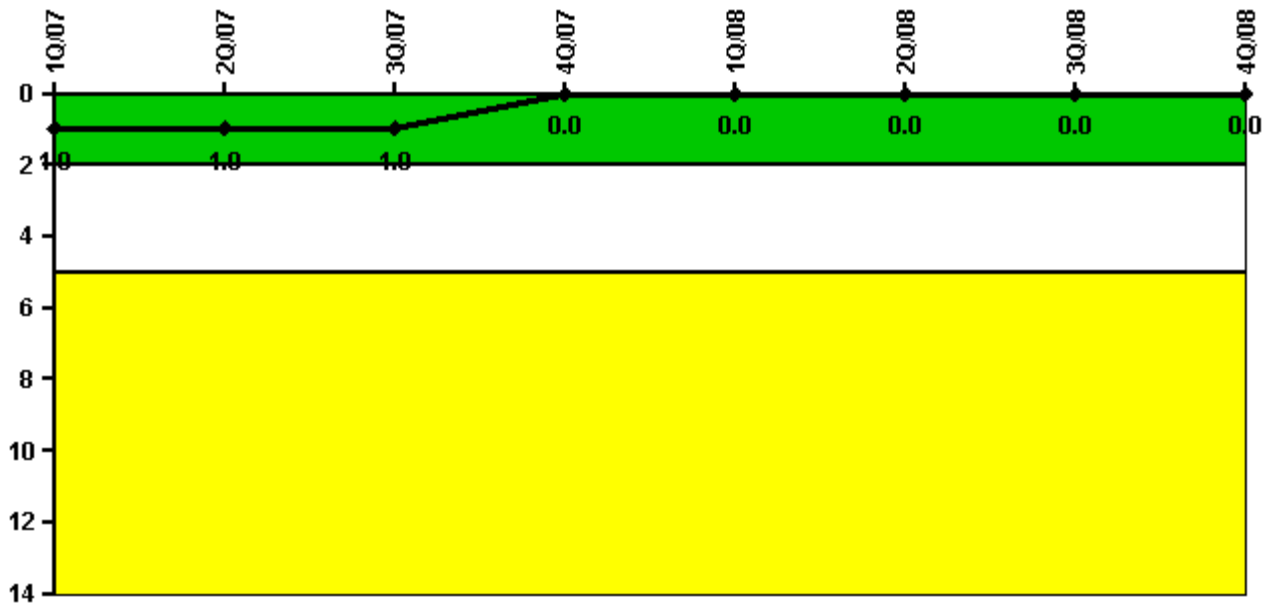
Thresholds: White < 94.0% Yellow < 90.0%

### Notes

Alert & Notification System	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
Successful siren-tests	798	798	756	882	755	756	798	879
Total sirens-tests	798	798	756	882	756	756	798	882
Indicator value	99.7%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	99.9%

Licensee Comments: none

## Occupational Exposure Control Effectiveness



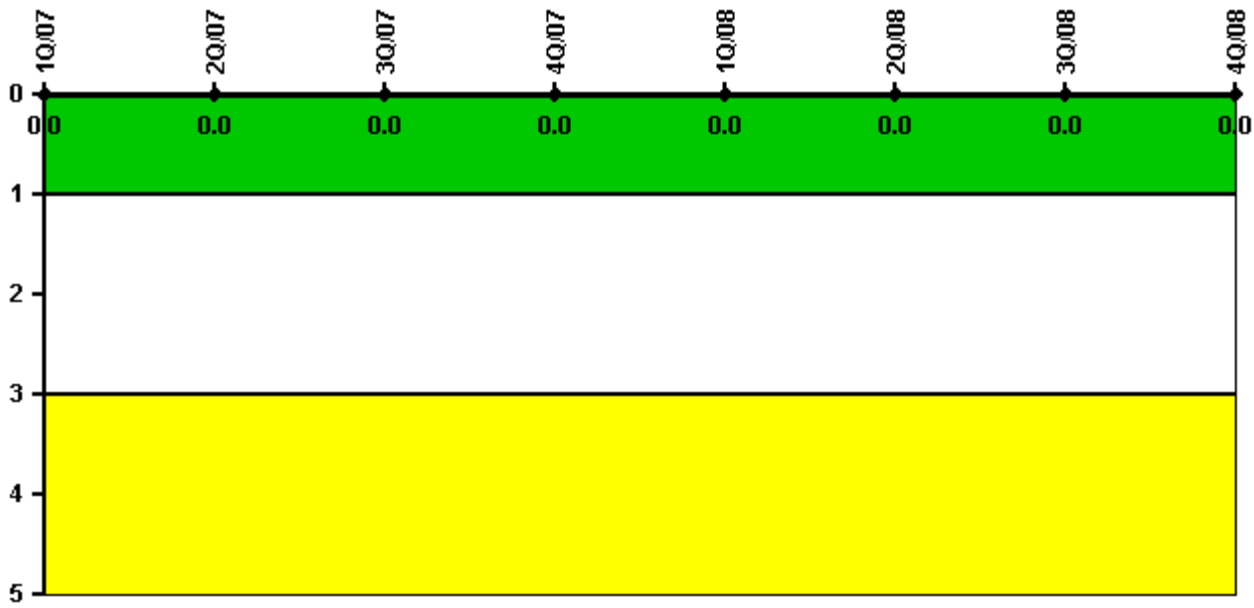
Thresholds: White > 2.0 Yellow > 5.0

### Notes

Occupational Exposure Control Effectiveness	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
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	1	1	1	0	0	0	0	0

Licensee Comments: none

## RETS/ODCM Radiological Effluent



Thresholds: White > 1.0 Yellow > 3.0

### Notes

RETS/ODCM Radiological Effluent	1Q/07	2Q/07	3Q/07	4Q/07	1Q/08	2Q/08	3Q/08	4Q/08
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.