

# MMU Proposal for Maximum Notification and Start Times

Operating Committee  
December 21, 2010

Matt Thompson  
Bill Dugan



Monitoring Analytics

# Proposed Approach

- **Notification Time and Start Time should remain separate parameters**
- **Start Time, as a physical parameter, should be based on unit history, and be limited to that history on an individual unit basis.**
- **Notification Times should be limited to times in proposed matrix, based on parameter class.**
- **Units may request exceptions to start times or notification times based on historical operating behavior and physical limitations.**
- **Limits should apply to both market-based and cost-based schedules.**



# Recommended Cold Notification Time

Parameter Class	Cold Notification Time
PETROLEUMSTEAMPRE-1985	4
PETROLEUMSTEAMPOST-1985	1
COMBINEDCYCLE	2
SUBCRITICALCOALPLANTS	2
SUPERCRITICALCOALPLANTS	2
SMALLCTSTO29MW	0.25
MEDIUMCTS30TO65MW	0.2
MEDIUMLARGECTS66TO134MW	1
LARGECTS136TO180MW	2

\*Data based on active cost-based offers within one standard deviation of the mean, at the 70<sup>th</sup> percentile distribution, from November 1, 2007 to November 1, 2010



# Cold Notification and Cold Startup Percentiles (In hours)

Parameter Class	Cold Notification Time			Cold Startup Time			CS + CN		
	70th	80th	90th	70th	80th	90th	70th	80th	90th
PETROLEUMSTEAMPRE-1985	4	8.5	18	12.5	14	18	16.5	22.5	36
PETROLEUMSTEAMPOST-1985	1	1	2	6	12	14	7	13	16
COMBINEDCYCLE	2	5	7	5	6.2	8	7	11.2	15
SUBCRITICALCOALPLANTS	2	2	4	15	16	20	17	18	24
SUPERCRITICALCOALPLANTS	2	2	8	19	20	22	21	22	30
SMALLCTSTO29MW	0.25	1	2	0.5	0.5	0.8	0.75	1.5	2.8
MEDIUMCTS30TO65MW	0.2	0.3	1.4	0.3	0.5	0.5	0.5	0.8	1.9
MEDIUMLARGECS66TO134MW	1	2	2	0.5	0.7	1	1.5	2.7	3
LARGECS136TO180MW	2	5	6	0.5	0.7	1	2.5	5.7	7

\*Data based on active cost-based offers within one standard deviation of the mean, since November, 2007.

\*\*Analysis based on calculating notification and startup time distributions independently, then adding together.



# Time-To-Start Percentiles

(In hours)

Parameter Class	All Months			Peak Months			Off-Peak Months		
	70th	80th	90th	70th	80th	90th	70th	80th	90th
PETROLEUMSTEAMPRE-1985	18	20	32	18	20	30	17	19	32
PETROLEUMSTEAMPOST-1985	9	13	14	9	13	14	9	13	14
COMBINEDCYCLE	9	11	14	8.5	10	13.5	9	11	14
SUBCRITICALCOALPLANTS	16.5	18	22	16.5	18	22.5	16	18	22
SUPERCRITICALCOALPLANTS	21	22	30	21	22	30	21	22	30
SMALLCTSTO29MW	1	1.5	2.2	1	1.5	2.2	1	1.5	2.2
MEDIUMCTS30TO65MW	0.5	0.8	1.7	0.5	0.7	1.7	0.5	1	2
MEDIUMLARGECS66TO134MW	2	2	3.3	2	2	3.3	2	2.3	3.4
LARGECS136TO180MW	3	5	6.6	2.5	4.3	6.6	4	5	6.8

\*Data based on active cost-based offers within one standard deviation of the mean since, November, 2007.

\*\*Analysis based on adding notification and startup times together first, then calculating the distribution.

**Monitoring Analytics, LLC**  
**2621 Van Buren Avenue**  
**Suite 160**  
**Eagleville, PA**  
**19403**

**(610) 271-8050**

**MA@monitoringanalytics.com**

**www.MonitoringAnalytics.com**

