APPENDIX O – ERRATA

Page 121:

Ancillary Service and Operating Reserve Net Revenue

In addition to Capacity and Energy Market revenues, generators can receive revenue from the sale of ancillary services, including those from the Synchronized Reserve and Regulation Markets as well as from black start and reactive services. Aggregate ancillary service revenues, displayed for years 1999 through 2007 in Table 3-5, were $4,284 $4,942 per installed MW-year in 2007. While actual, generator-specific ancillary service revenues vary with generator technology, ancillary service revenues are expressed here in terms of a system average per installed MW. New entrant net revenue calculations, addressed later in this section, use more detailed, technology-specific ancillary service estimates.

Page 122:

Table 3-5 System average ancillary service revenue: Calendar years 1999 to 2007

	Dollars per Installed MW-Year
1999	$3,444
2000	$4,509
2001	$3,831
2002	$3,500
2003	$3,986
2004	$3,667
2005	$5,135
2006	$3,926
2007	$4,284 $4,942

Page 287, Paragraph 2:

In 2007, offers at levels greater than the competitive level set the clearing price for regulation in 26 25 percent of hours.[20] Seventeen percent of hours were between $0 and $7.50 per MW above the competitive level; 1 percent of hours were between $7.50 and $10 per MW above the competitive level; and 7 percent of hours were greater than $10 per MW above the competitive level. To put these results in context, the load-weighted, average offer price for all marginal units in the PJM Regulation Market during 2007 was $12.06, so an additional $7.50 per MW is a markup of approximately 62 percent. These results mean that the MMU cannot conclude that the Regulation Market results were competitive in 2007 or that the Regulation Market results were noncompetitive. The absence of a definitive conclusion is a result of the fact that the cost data are based on MMU estimates rather than data submitted by market participants. The MMU recommends that market participants be required to submit the cost of regulation, consistent with the definitions in PJM's "Cost Development Guidelines," when daily regulation offers are submitted in order both to permit analysis and to permit the recommended defined, targeted mitigation.[21]

Page 455

Equation H-1 LMP calculations

	i = 5-minute interval	h = 12 intervals = hour i = 1..12	d = 24 hours = day h = 1..24	y = 365 days = 8,760 hours = year d = 1..365
Bus average	LMP_{bi}	$LMP_{bh} = \dfrac{\sum\limits_{i=1}^{12} LMP_{bi}}{12}$	$LMP_{bd} = \dfrac{\sum\limits_{h=1}^{24} LMP_{bh}}{24}$	$LMP_{by} = \dfrac{\sum\limits_{h=1}^{8760} LMP_{bh}}{8760}$
Bus load-weighted average			$lwLMP_{bd} = \dfrac{\sum\limits_{h=1}^{24}\left(LMP_{bh}\cdot Load_{bh}\right)}{\sum\limits_{h=1}^{24} Load_{bh}}$	$lwLMP_{by} = \dfrac{\sum\limits_{h=1}^{8760}\left(LMP_{bh}\cdot Load_{bh}\right)}{\sum\limits_{h=1}^{8760} Load_{bh}}$
System average	$LMP_{si} = \dfrac{\sum\limits_{b=1}^{B} LMP_{bi}}{B}$	$LMP_{sh} = \dfrac{\sum\limits_{b=1}^{B} LMP_{bh}}{B}$	$LMP_{sd} = \dfrac{\sum\limits_{h=1}^{24} \dfrac{\sum\limits_{b=1}^{B}\left(LMP_{bh}\cdot Load_{bh}\right)}{\sum\limits_{b=1}^{B} Load_{bh}}}{24}$	$LMP_{sy} = \dfrac{\sum\limits_{h=1}^{8760} \dfrac{\sum\limits_{b=1}^{B}\left(LMP_{bh}\cdot Load_{bh}\right)}{\sum\limits_{b=1}^{B} Load_{bh}}}{8760}$
System load-weighted average	$lwLMP_{si} = \dfrac{\sum\limits_{b=1}^{B}\left(LMP_{bi}\cdot Load_{bi}\right)}{\sum\limits_{b=1}^{B} Load_{bi}}$	$lwLMP_{sh} = \dfrac{\sum\limits_{b=1}^{B}\left(LMP_{bh}\cdot Load_{bh}\right)}{\sum\limits_{b=1}^{B} Load_{bh}}$	$lwLMP_{sd} = \dfrac{\sum\limits_{h=1}^{24}\sum\limits_{b=1}^{B}\left(LMP_{bh}\cdot Load_{bh}\right)}{\sum\limits_{h=1}^{24}\sum\limits_{b=1}^{B} Load_{bh}}$	$lwLMP_{sy} = \dfrac{\sum\limits_{h=1}^{8760}\sum\limits_{b=1}^{B}\left(LMP_{bh}\cdot Load_{bh}\right)}{\sum\limits_{h=1}^{8760}\sum\limits_{b=1}^{B} Load_{bh}}$