

Market Monitor Report

MC Webinar
June 23, 2014

Joe Bowring



Monitoring Analytics

Energy Uplift Related Issues Update

- **Phase 1: Credits.**
 - **PJM and MMU agree.**
 - **Main changes:**
 - **Elimination of DAOR. Eliminate overcompensation.**
 - **LOC compensation. Include no load and startup cost.**
 - **Include energy uplift costs in RTEP evaluations.**
 - **Three items need clarification for full agreement with PJM.**
- **Phase 2: Allocation/collection of charges.**
 - **MMU Proposal: Improve current method.**
 - **PJM Proposal: New approach. Single fixed rate for all resources/transactions**



Current Allocation Issues

- **UTC and wheels do not pay energy uplift.**
- **IBTs do pay energy uplift and are used as offsets.**
- **Energy uplift to units scheduled/committed to support PSEG – Con Ed wheeling contracts are allocated regionally to PJM market participants as DAOR or BOR.**
- **Some costs associated with reactive support are charged to deviations.**
- **MMU's proposed main changes:**
 - **Include UTCs/Wheels in allocation**
 - **Exclude IBTs as offset**
 - **Charge deviations based on commitment timing.**

Fixed Rate Issue

- **Creates mismatch between transactions at the time that uplift costs are incurred, and transactions that pay costs.**
 - **Creates ability of voluntary virtual transactions to avoid paying uplift that was incurred at the time of transactions**
- **Creates incentive issues:**
 - **Reduces incentive to load to bid in the Day-Ahead Energy Market.**
 - **Reduces incentive to generators to follow dispatch.**
 - **Reduces incentive to virtuals to bid/offer transactions that reflect real time conditions.**
 - **Reduces incentive to interchange transactions to participate in the Day-Ahead Energy Market.**



Fixed Rate Issue

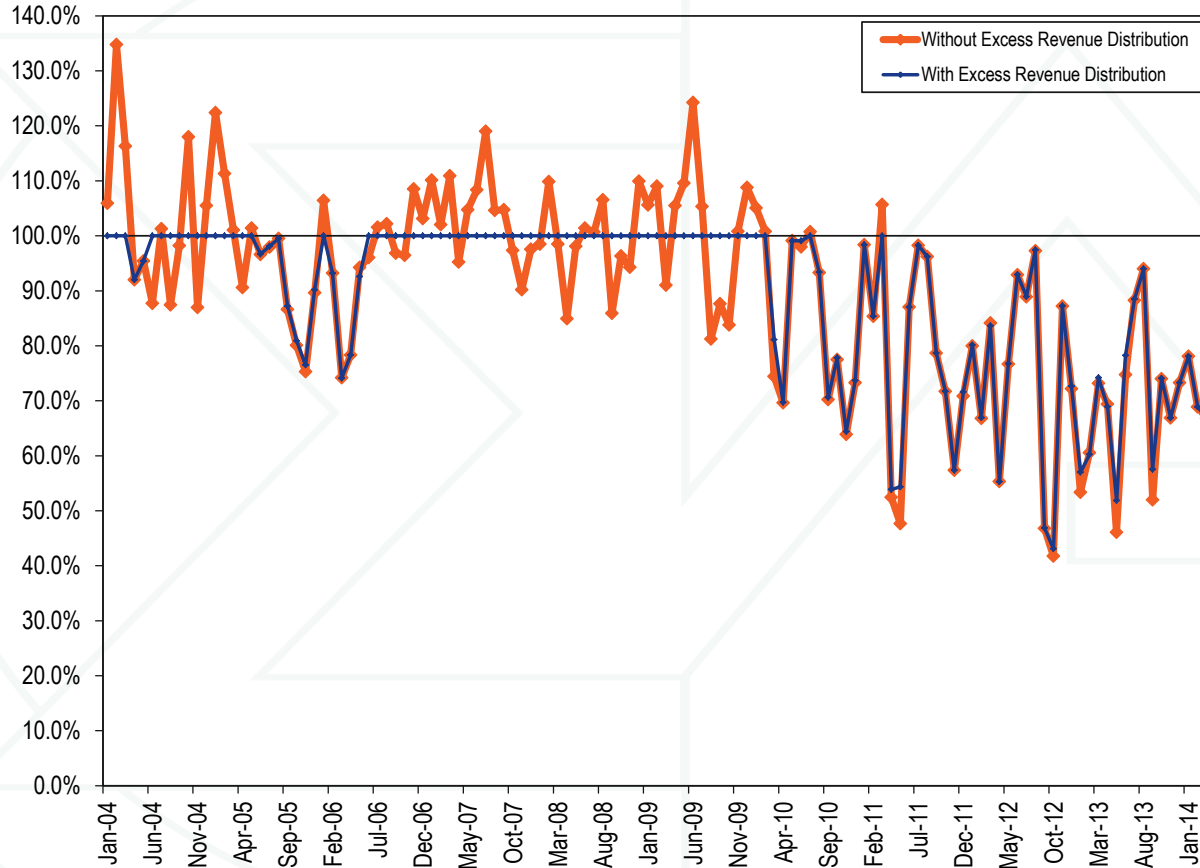
- **Creates potential need for new credit requirement.**
 - **To cover obligation to pay unrecovered uplift costs over the balance of the year**



FTR Revenue Adequacy

	Reported Monthly Payout Ratio	Actual Monthly Payout Ratio
Jun-13	78.3%	79.5%
Jul-13	88.8%	89.3%
Aug-13	94.1%	94.7%
Sep-13	57.5%	61.0%
Oct-13	74.1%	76.2%
Nov-13	66.9%	69.1%
Dec-13	73.3%	74.9%
Jan-14	78.1%	78.9%
Feb-14	69.0%	70.7%
Mar-14	66.8%	68.1%

FTR Revenue Adequacy January 2004 through March 2013



Elimination of Portfolio Netting

	Net Positive Target Allocations	Net Negative Target Allocations	Per FTR Positive Target Allocations	Per FTR Negative Target Allocations	Total Congestion Revenue	Reported Payout Ratio (Current)	No Netting Payout Ratio (Proposed)
Jun-13	\$ 86,723,727	\$ (4,836,912)	\$ 164,066,220	\$ (82,101,063)	\$64,060,468	78.3%	79.5%
Jul-13	\$ 134,302,957	\$ (6,017,378)	\$ 255,724,128	\$ (127,113,708)	\$113,548,567	88.8%	89.3%
Aug-13	\$ 51,545,380	\$ (5,741,003)	\$ 104,601,365	\$ (58,796,985)	\$43,059,687	94.1%	94.7%
Sep-13	\$ 126,168,822	\$ (10,172,695)	\$ 279,972,757	\$ (163,977,565)	\$66,719,631	57.5%	61.0%
Oct-13	\$ 69,748,034	\$ (5,779,197)	\$ 158,354,017	\$ (94,365,761)	\$47,353,545	74.1%	76.2%
Nov-13	\$ 71,460,441	\$ (4,566,566)	\$ 156,649,135	\$ (89,755,253)	\$44,748,426	66.9%	69.1%
Dec-13	\$ 123,125,598	\$ (7,182,127)	\$ 256,139,289	\$ (140,195,812)	\$84,974,997	73.3%	74.9%
Jan-14	\$ 1,081,718,330	\$ (37,626,711)	\$ 2,042,537,214	\$ (998,445,595)	\$815,789,461	78.1%	78.9%
Feb-14	\$ 257,630,277	\$ (14,286,013)	\$ 581,660,982	\$ (338,316,718)	\$167,731,282	69.0%	70.7%
Mar-14	\$ 381,568,930	\$ (14,281,323)	\$ 823,861,546	\$ (456,573,940)	\$245,465,062	66.8%	68.1%
2012/2013 Total	\$ 992,878,752	\$ (86,061,137)	\$ 1,897,830,880	\$ (990,471,801)	\$614,014,377	67.7%	84.5%
2013/2014 Total	\$ 2,383,992,495	\$ (110,489,924)	\$ 4,823,566,653	\$ (2,549,642,399)	\$1,693,451,127	74.5%	88.0%

Elimination of Counter Flow Subsidies

	Positive Target Allocations	Negative Target Allocations	Total Target Allocations	Total Congestion Revenue	Reported Payout Ratio*	Total Revenue Available	Adjusted Counterflow Payout Ratio	Adjusted Counter Flow Revenue Available
Jun-13	\$164,066,220	(\$82,101,063)	\$81,965,157	\$64,060,468	78.2%	\$146,161,531	91.9%	\$150,770,760
Jul-13	\$255,724,128	(\$127,113,708)	\$128,610,420	\$113,548,567	88.3%	\$240,662,275	95.6%	\$244,362,737
Aug-13	\$104,601,365	(\$58,796,985)	\$45,804,380	\$43,059,687	94.0%	\$101,856,672	98.1%	\$102,592,928
Sep-13	\$279,972,757	(\$163,977,565)	\$115,995,192	\$66,719,631	57.5%	\$230,697,196	87.3%	\$244,550,556
Oct-13	\$158,354,017	(\$94,365,761)	\$63,988,256	\$47,353,545	74.0%	\$141,719,306	92.5%	\$146,446,632
Nov-13	\$156,649,135	(\$89,755,253)	\$66,893,882	\$44,748,426	66.9%	\$134,503,679	89.9%	\$140,751,323
Dec-13	\$256,139,289	(\$140,195,812)	\$115,943,477	\$84,974,997	73.3%	\$225,170,809	91.3%	\$233,817,126
Jan-14	\$2,042,537,214	(\$998,445,595)	\$1,044,091,619	\$815,789,461	78.1%	\$1,814,235,056	91.8%	\$1,874,258,807
Feb-14	\$581,660,982	(\$338,316,718)	\$243,344,264	\$167,731,282	68.9%	\$506,048,000	90.9%	\$528,451,343
Mar-14	\$823,861,546	(\$456,573,940)	\$367,287,606	\$245,465,062	66.8%	\$702,039,002	89.4%	\$736,678,623
Total 2012/2013	\$1,897,830,880	(\$990,471,801)	\$907,359,079	\$614,537,096	67.7%	\$1,605,008,896	88.6%	\$1,681,443,058
Total 2013/2014	\$4,823,566,653	(\$2,549,642,399)	\$2,273,924,253	\$1,693,451,127	74.5%	\$4,243,093,526	91.3%	\$4,402,680,835

* Reported payout ratios may vary due to rounding differences when netting

MMU Proposed Options

- 1. Report correct monthly payout ratios**
- 2. Eliminate portfolio netting subsidizations**
- 3. Eliminate counter flow FTR subsidizations**
- 4. Eliminate cross geographic subsidies**
- 5. Improve outage modeling in FTR auctions**
- 6. Reduce FTR availability on persistently underfunded paths/facilities**
- 7. Implement seasonal ARR and FTR allocation methods**
- 8. Eliminate over allocation of Stage 1A ARRs**



RPM Sensitivity Results: 2.5 Percent Offset

LDA	Product Type	Actual Auction Results		No Short-Term Resource Procurement Target Reduction	
		Clearing Prices (\$ per MW-day)	Cleared UCAP (MW)	Clearing Prices (\$ per MW-day)	Cleared UCAP (MW)
RTO	Limited	\$106.02	2,322.1	\$145.02	2,322.1
	Extended Summer	\$120.00	7,163.3	\$157.80	7,288.7
	Annual	\$120.00	157,518.3	\$157.80	160,751.7
PSEG	Limited	\$201.02	177.5	\$207.22	175.4
	Extended Summer	\$215.00	154.8	\$220.00	157.0
	Annual	\$215.00	5,778.4	\$220.00	6,056.7
PPL	Limited	\$40.00	41.7	\$75.00	63.4
	Extended Summer	\$53.98	183.3	\$87.78	161.6
	Annual	\$120.00	9,123.5	\$157.80	10,421.5

RPM Sensitivity Results: Limited/Summer DR

LDA	Product Type	Actual Auction Results		Annual Resources Only	
		Clearing Prices (\$ per MW-day)	Cleared UCAP (MW)	Clearing Prices (\$ per MW-day)	Cleared UCAP (MW)
RTO	Limited	\$106.02	2,322.1		
	Extended Summer	\$120.00	7,163.3		
	Annual	\$120.00	157,518.3	\$157.80	166,237.1
PSEG	Limited	\$201.02	177.5		
	Extended Summer	\$215.00	154.8		
	Annual	\$215.00	5,778.4	\$220.00	6,103.4
PPL	Limited	\$40.00	41.7		
	Extended Summer	\$53.98	183.3		
	Annual	\$120.00	9,123.5	\$157.80	10,543.8

RPM Sensitivity Results: 2.5 Percent Plus Ltd/Summer DR

LDA	Product Type	Actual Auction Results		No Short-Term Resource Procurement Target Reduction and Annual Resources Only	
		Clearing Prices (\$ per MW-day)	Cleared UCAP (MW)	Clearing Prices (\$ per MW-day)	Cleared UCAP (MW)
RTO	Limited	\$106.02	2,322.1		
	Extended Summer	\$120.00	7,163.3		
	Annual	\$120.00	157,518.3	\$173.76	170,037.8
PSEG	Limited	\$201.02	177.5		
	Extended Summer	\$215.00	154.8		
	Annual	\$215.00	5,778.4	\$225.00	6,381.6
PPL	Limited	\$40.00	41.7		
	Extended Summer	\$53.98	183.3		
	Annual	\$120.00	9,123.5	\$173.76	10,546.7

RPM Sensitivity Results: Revenue Impacts

	RPM Revenue (\$ per Delivery Year)
Actual Results	\$7,512,229,630
No Short-Term Resource Procurement Target Reduction	\$9,947,329,539
Annual Resources Only	\$9,738,222,922
No Short-Term Resource Procurement Target Reduction and Annual Resources Only	\$10,932,522,889



UTC

- **Premature to expand the product**
- **Appropriate to limit the buses at which the product can be used**
- **No evidence that the current rules regarding allowed nodes and price spread are preventing effective use of the product**
- **Evidence that product is having an effect on the system**
 - **Unit commitment and dispatch**
 - **Congestion**
 - **FTR revenues**
 - **Day ahead market solution issues**

UTC Analysis: Impact on unit commitment

- **PJM and the IMM agree that the data from the May and December studies indicated that UTCs affect unit commitment and dispatch in the day ahead market.**
- **PJM and the IMM agree that the data from the December study indicated that INCs and DECAs affect unit commitment and dispatch in the day ahead market.**
- **PJM and the IMM agree that the magnitude of the impact on unit commitment status and unit output varies by day.**

May UTC Analysis: Impact on congestion

- **Study results show that UTCs significantly increased day ahead congestion.**
 - **UTCs increased the number of constraints that bind in the day ahead market.**
 - **UTCs affected the hours that the constraints bind.**
 - **UTCs affected the shadow prices of the constraints in the day ahead market.**

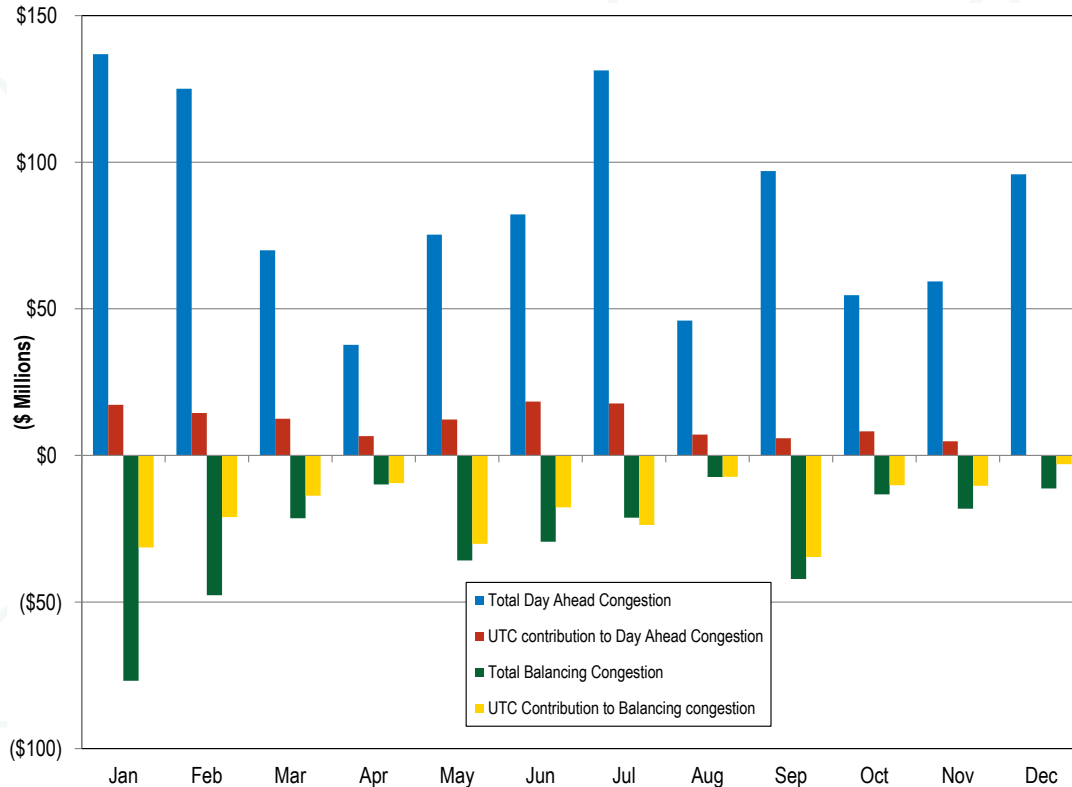
May UTC Analysis: Impact on congestion

- **Study results show that UTCs increase negative balancing congestion.**
 - **Removing UTCs reduced the number of day ahead constraints and day ahead congestion.**
 - **Removing UTCs made day ahead results more consistent with real time constraints and real time congestion.**
 - **Removing UTCs reduced negative balancing congestion.**

UTC analysis: Contributions to congestion in 2013

- **Analysis shows that UTCs pay day ahead congestion, in net.**
- **Analysis shows that UTCs are paid balancing congestion, in net.**
- **Analysis shows that UTCs contribute significantly to negative balancing congestion, in net.**

2013 Day Ahead and Balancing Congestion: UTC Relative Contributions



May UTC Analysis: FTR Funding

- **Study results show that UTCs contributed significantly to FTR underfunding relative to target allocations.**
- **For the five days studied, the removal of UTCs changed FTR funding relative to target allocations from a deficit of -\$4.1 million to a net surplus of \$537 thousand, a gain in funding relative to target allocations of \$4.7 million.**
- **For the five days studied, removing UTCs reduced target allocations from \$16,241,505 to \$7,780,223. The reduction was \$8,461,282, or 52 percent.**

Monitoring Analytics, LLC

2621 Van Buren Avenue

Suite 160

Eagleville, PA

19403

(610) 271-8050

MA@monitoringanalytics.com

www.MonitoringAnalytics.com

