

PJM Tier 1 Compensation

Tier 1 Compensation Education Planning

January 5, 2015

Monitoring Analytics



Monitoring Analytics

Tier 1 Synchronized Reserve Credits

- **Tier 1 resources are awarded credits under two circumstance**
 - **Response to a spinning event. Tier 1 resources are paid a locational Synchronized Energy Premium Price (integrated increase in output over the length of the event times average of the 5-min LMPs plus \$50/MWh).**
 - **When the NSRMCP is $> \$0$. Resources are paid the zonal SRMCP.**

Payments for NSRMCP > \$0

- 445 hours in 2014 (Jan 1 – Dec 15)

Year	Month	Total Hours When NSRMCP > \$0	Weighted Average SRMCP For Hours When NSRMCP > \$0	Total Tier 1 MW Credited for Hours When NSRMCP > \$0	Total Tier 1 Credits Paid When NSRMCP > \$0	Average Tier 1 MW Paid
2014	Jan	155	\$93.26	706,479	\$64,956,018	4,557.9
2014	Feb	15	\$40.18	65,332	\$2,625,303	4,355.5
2014	Mar	67	\$44.56	240,625	\$10,665,198	3,591.4
2014	Apr	99	\$16.07	308,759	\$4,959,232	3,118.8
2014	May	61	\$15.85	253,076	\$4,012,285	4,148.8
2014	Jun	4	\$35.46	15,970	\$566,292	3,992.4
2014	Jul	5	\$17.02	9,150	\$155,744	1,829.9
2014	Aug	0	NA	NA	NA	NA
2014	Sep	0	NA	NA	NA	NA
2014	Oct	3	\$21.59	2,146	\$46,319	715.2
2014	Nov	28	\$15.73	38,188	\$599,147	1,363.8
2014	Dec	8	\$2.67	12,191	\$32,538	1,523.8
	Total	445	\$30.24	1,651,914	\$88,618,076	2,919.8

Payment for Response to Spin Events

- 7 hours in 2014 (Jan 1 - Dec 15)

Year	Month	Spinning Event Response Hours	Total Tier 1 Spinning Event Response MW	Total Tier 1 Spinning Event Response Credits	Tier 1 Synchronized Reserve Response Cost	Average Tier 1 MW Response
2014	Jan	15	7,828	\$965,846	\$123.39	560.8
2014	Feb	1	273	\$11,153	\$40.82	293.1
2014	Mar	5	3,030	\$175,902	\$58.06	605.9
2014	Apr	2	389	\$6,378	\$16.39	199.8
2014	May	3	717	\$34,906	\$48.68	242.0
	Jun	0	NA	NA	NA	
2014	Jul	2	616	\$35,179	\$57.15	307.9
	Aug	0	NA	NA	NA	NA
2014	Sep	3	1,936	\$143,574	\$74.15	645.7
2014	Oct	2	1,132	\$83,901	\$74.14	585.5
2014	Nov	4	1,350	\$38,895	\$28.81	356.0
2014	Dec	0	NA	NA	NA	NA
	Total	37	17,270	\$1,495,733	\$57.95	421.9

Incorrect Calculation of Tier 1 MW in Settlements.

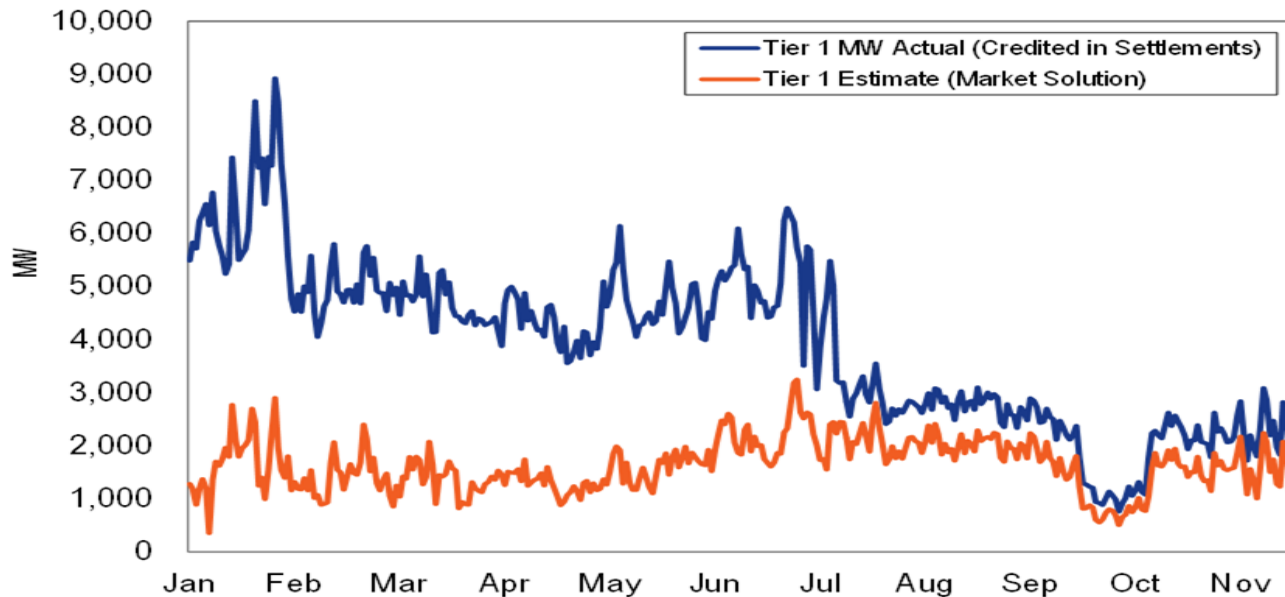
- **MMU notes that payments have been incorrectly calculated. Settled tier 1 MW should be based on tier 1 estimated by the market solution(s). Tier 1 MW credited are based on eMeter (Power Meter) and (until late June, 2014) were 3 times greater than the tier 1 estimate. The impact of this is shown in the table below.**

Effect of using Power Meter tier 1 MW instead of estimated tier 1 MW when NSRMCP>\$0 (Oct 1, 2012 – Dec 10, 2014)

Year	Month	MAD Tier 1 Credits Actually Paid	MAD Tier 1 Credits If Tier 1 Estimate Used	RTO Tier 1 Credits Actually Paid	RTO Tier 1 Credits If Tier 1 Estimate Used	Total Tier 1 Credits Actually Paid	Total Tier 1 Credits If Tier 1 Estimate Used	Difference
2012	Oct	\$655,254	\$233,764	\$1,603	\$458	\$656,858	\$234,223	\$422,635
2012	Nov	\$3,865,259	\$1,277,486	\$140,128	\$45,751	\$4,005,387	\$1,323,237	\$2,682,150
2012	Dec	\$439,238	\$209,864	\$0	\$0	\$439,238	\$209,864	\$229,373
2013	Jan	\$1,099,271	\$254,695	\$0	\$0	\$1,099,271	\$254,695	\$844,576
2013	Feb	\$180,211	\$73,781	\$0	\$0	\$180,211	\$73,781	\$106,430
2013	Mar	\$2,408,969	\$952,776	\$0	\$0	\$2,408,969	\$952,776	\$1,456,193
2013	Apr	\$1,185,455	\$479,173	\$47,812	\$14,773	\$1,233,268	\$493,946	\$739,321
2013	May	\$681,357	\$215,651	\$16,688	\$5,260	\$698,046	\$220,910	\$477,135
2013	Jun	\$247,188	\$61,479	\$1,520	\$321	\$248,707	\$61,800	\$186,907
2013	Jul	\$2,178,731	\$421,124	\$17,716	\$3,367	\$2,196,447	\$424,491	\$1,771,956
2013	Aug	\$1,213,299	\$278,125	\$581,718	\$110,764	\$1,795,017	\$388,888	\$1,406,129
2013	Sep	\$2,056,147	\$216,591	\$279,570	\$52,282	\$2,335,717	\$268,873	\$2,066,844
2013	Oct	\$84,208	\$20,083	\$14,695	\$2,147	\$98,903	\$22,229	\$76,673
2013	Nov	\$6,459	\$1,216	\$3,304	\$1,471	\$9,763	\$2,687	\$7,076
2013	Dec	\$100,461	\$9,219	\$70,197	\$8,915	\$170,658	\$18,134	\$152,524
2014	Jan	\$43,637,118	\$3,568,087	\$18,679,375	\$1,306,227	\$62,316,492	\$4,874,314	\$57,442,178
2014	Feb	\$1,766,397	\$228,579	\$858,906	\$109,324	\$2,625,303	\$337,903	\$2,287,400
2014	Mar	\$7,800,331	\$1,188,555	\$2,639,757	\$325,081	\$10,440,088	\$1,513,636	\$8,926,452
2014	Apr	\$2,648,456	\$525,691	\$2,304,403	\$390,583	\$4,952,859	\$916,275	\$4,036,584
2014	May	\$1,659,372	\$483,967	\$2,352,913	\$315,944	\$4,012,285	\$799,911	\$3,212,374
2014	Jun	\$227,198	\$73,258	\$339,094	\$45,015	\$566,292	\$118,273	\$448,019
2014	Jul	\$65,760	\$37,224	\$89,985	\$29,854	\$155,744	\$67,078	\$88,667
2014	Aug	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2014	Sep	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2014	Oct	\$18,596	\$17,636	\$27,722	\$4,700	\$46,319	\$22,336	\$23,983
2014	Nov	\$212,960	\$122,832	\$383,377	\$183,679	\$596,337	\$306,511	\$289,827
2014	Dec	\$12,606	\$12,997	\$19,932	\$9,387	\$32,538	\$22,383	\$10,155
Total		\$74,450,301	\$10,963,852	\$28,870,416	\$2,965,303	\$103,320,717	\$13,929,155	\$89,391,561

Tier 1 Estimate (Mkt Ops) vs Tier 1 Credits (Mkt Settlements)

- In late June credited MW more closely aligned with Operational Tier 1 Estimate.



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