



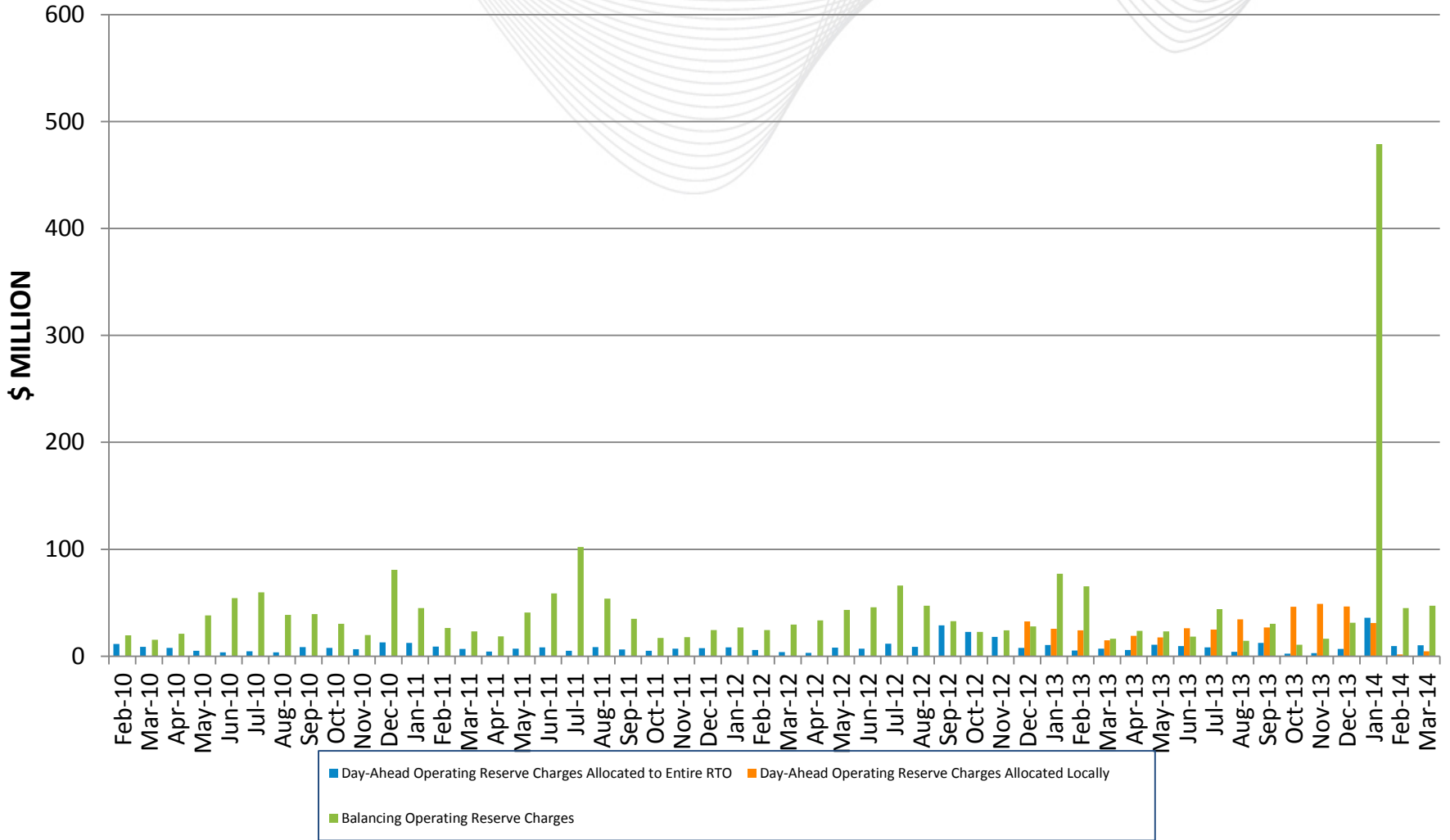
MIC Market Operations Report

April 9, 2014



PJM Operating Reserve Costs

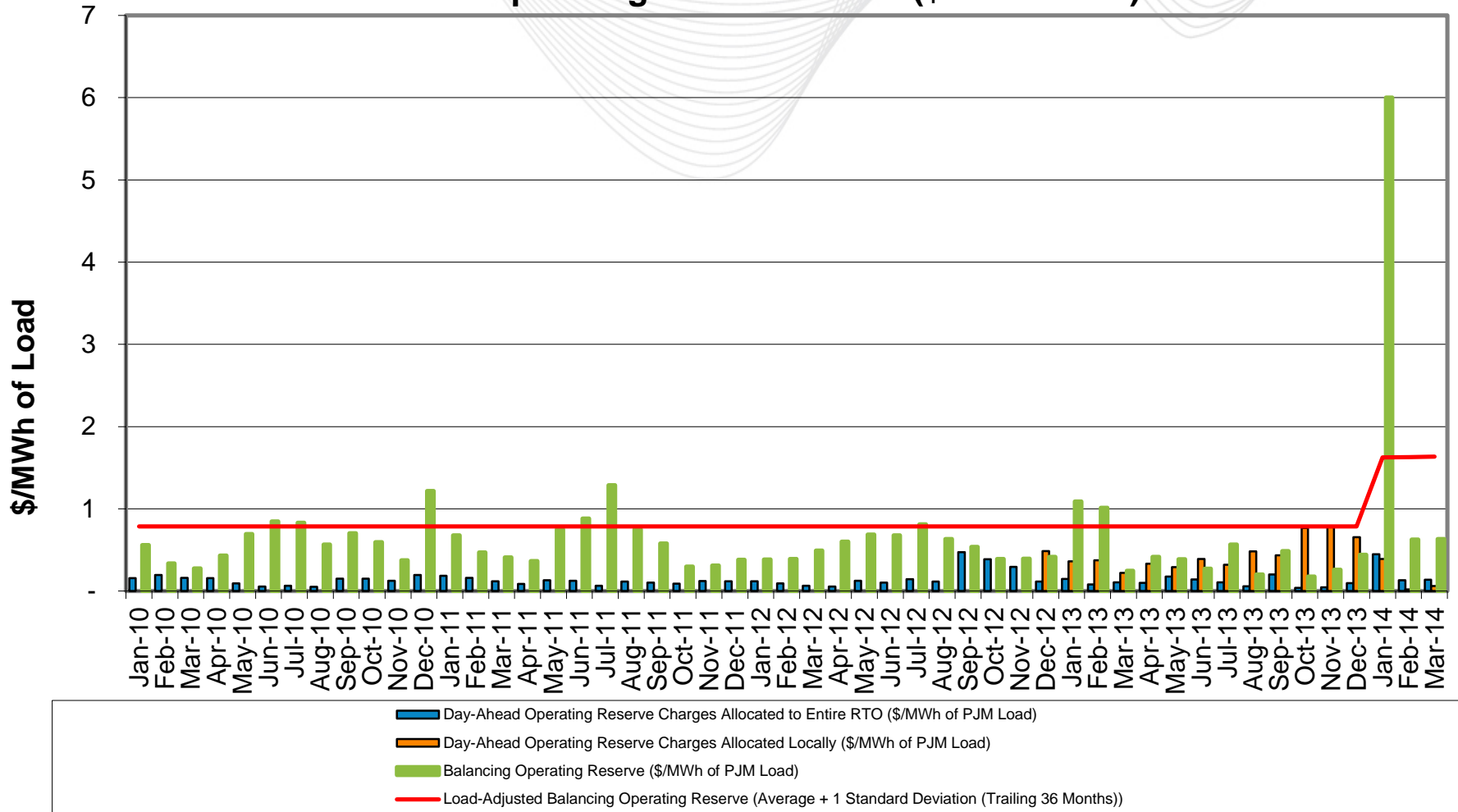
PJM Monthly Operating Reserve Costs





PJM Operating Reserve Costs

PJM Operating Reserve Costs (\$/MWh Load)

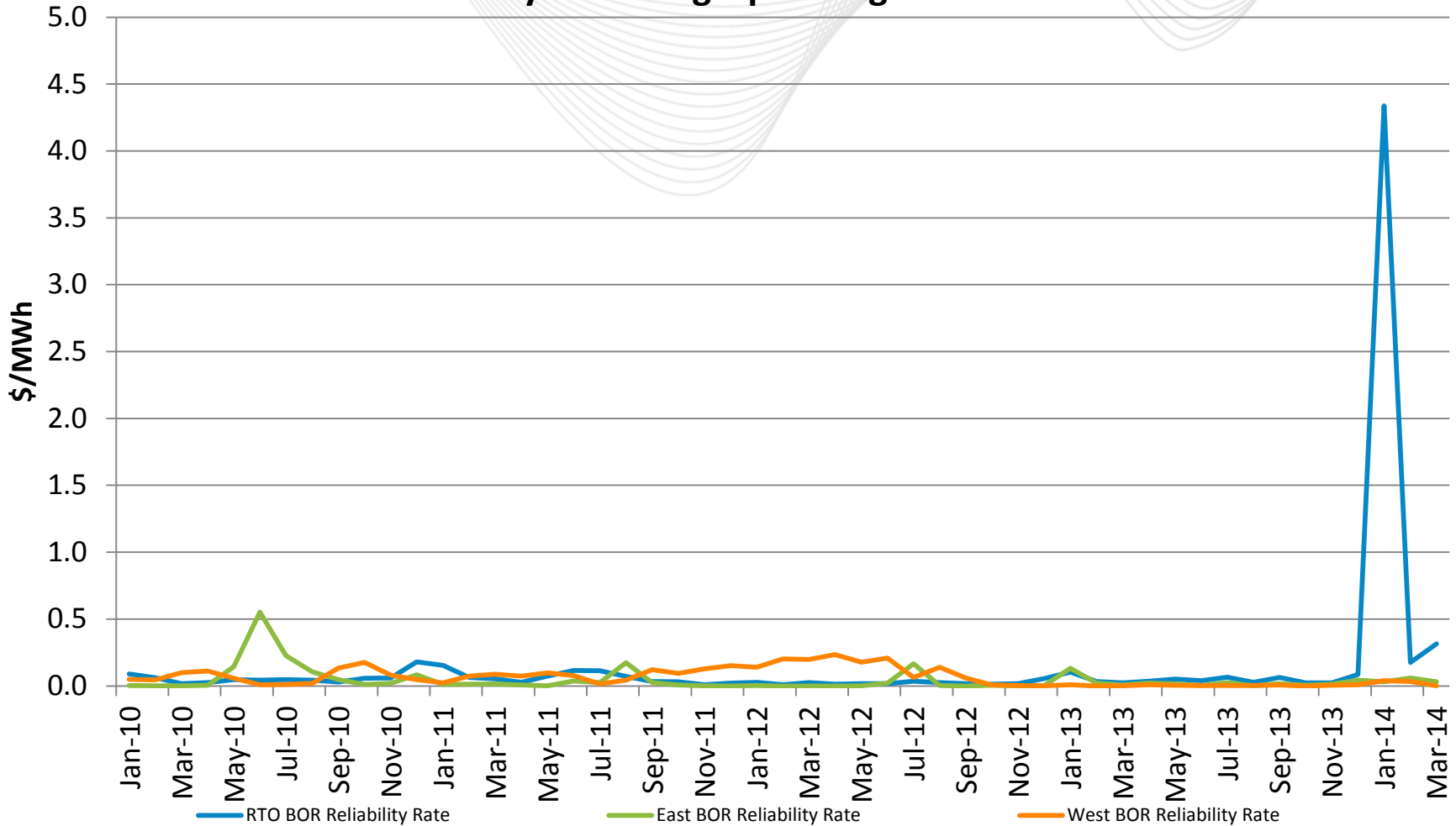


- Beginning in December 2008, the daily Balancing Operating Reserves (BOR) rate was replaced with six different BOR rates: RTO BOR for Reliability Rate, RTO BOR for Deviations Rate, East BOR for Reliability Rate, East BOR for Deviations Rate, West BOR for Reliability Rate, West BOR for Deviations Rate.
- Reliability rates are charged to all real-time load and exports, whereas deviation rates, as before, are charged only to real-time deviations. RTO rates are charged to the whole footprint, whereas East and West rate adders are charged based on location.
- The table in the following slide shows average daily balancing operating reserves rates for each month since the implementation of the new regime.



Balancing Operating Reserves

PJM Reliability Balancing Operating Reserve Rates

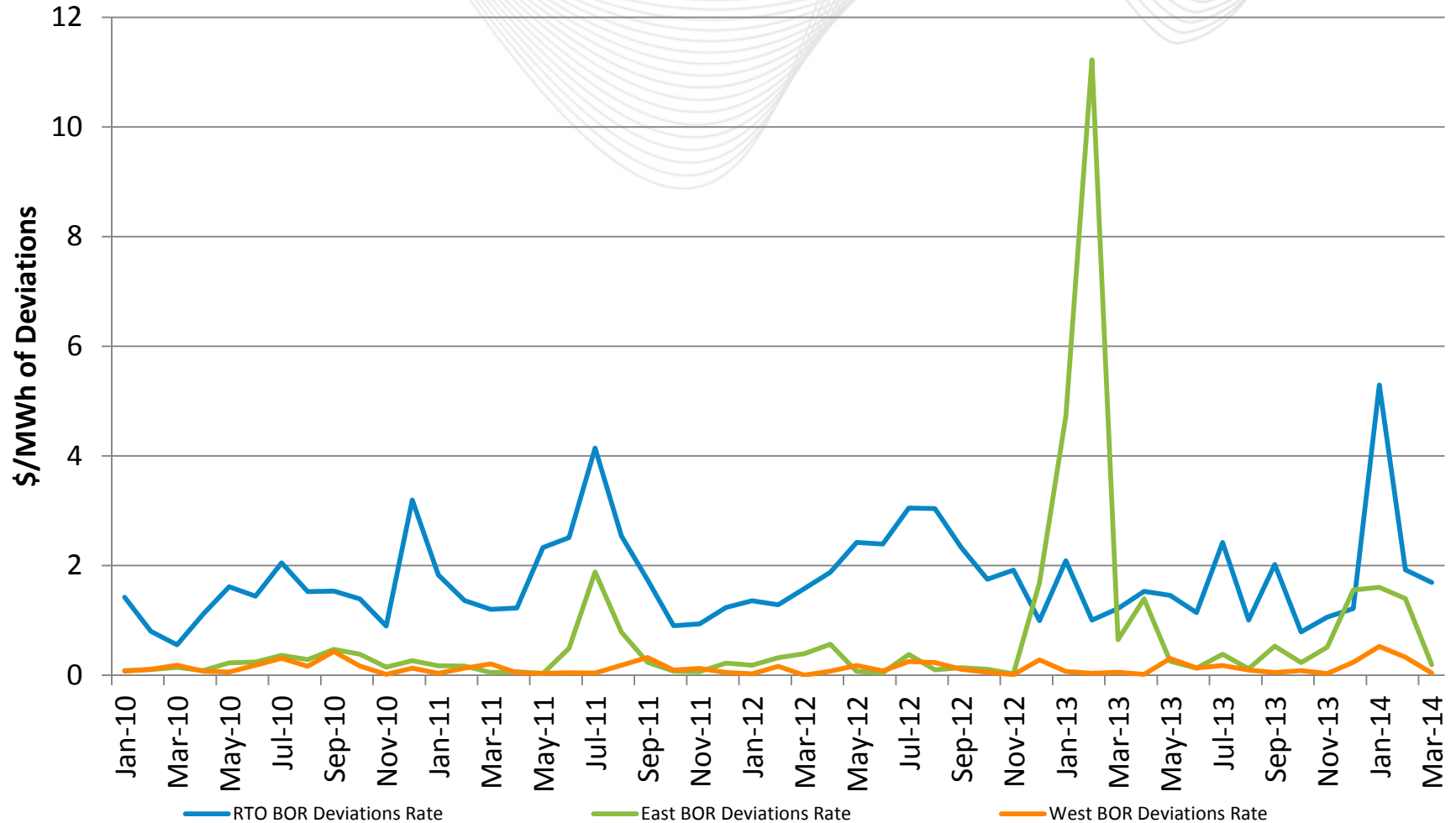


*Reliability rates are \$/MWh of Real-Time Load plus Exports.



Balancing Operating Reserves

PJM Deviations Balancing Operating Reserve Rates



*Deviations rates are \$/MWh of Real-Time Deviations.



- Section 3.2.3(b)(iii) of Attachment K-Appendix of the PJM Open Access Transmission Tariff and the parallel provisions of Schedule 1 of the Operating Agreement provide, in relevant part, that:
 - PJM shall post on its Web site the aggregate amount of MWs committed that meet the criteria referenced in subsections (b)(i) and (b)(ii) hereof.
- The table in the next slide depicting daily Balancing Operating Reserve quantities, with breakdown by region and by reason, is presented to comply with the above mentioned Tariff requirement. This table enhances the data that PJM had already been posting by way of the “PJM Average Committed MW Post Day Ahead” chart below in this report.
- These data will continue to be presented as part of the monthly MIC Market Operations Report in the future.



Balancing Operating Reserves

Daily Balancing Operating Reserve Quantities by Region and by Reason (All Quantities are in MWHs)

Date	Allocation by Region			Allocation by Reason				Total
	RTO	East	West	RA Reliability	RA Deviation	RE Reliability	RT Deviation	
3/1/2014	46,783	2,045	117			3,033	45,913	48,945
3/2/2014	51,099	4,053			1,475	15,001	38,676	55,152
3/3/2014	75,452	295	2,202		2,202	7,815	67,932	77,949
3/4/2014	56,231	1,623		11,919		11,132	34,801	57,853
3/5/2014	36,879	1,163	184		1,886	17,471	18,870	38,227
3/6/2014	19,151	1,066	1,162			8,187	13,191	21,378
3/7/2014	14,459	349				3,657	11,152	14,808
3/8/2014	4,510					1,354	3,156	4,510
3/9/2014	16,052					835	15,217	16,052
3/10/2014	12,901	737	499		4,416	2,814	6,907	14,137
3/11/2014	18,529				4,864	459	13,206	18,529
3/12/2014	59,261	165			5,523	6,690	47,213	59,426
3/13/2014	57,023			2,613	3,620	13,319	37,470	57,023
3/14/2014	18,795	269			3,243	7,057	8,764	19,064
3/15/2014	40,558	7,437	1,599		1,599	28,552	19,443	49,594
3/16/2014	40,549					3,156	37,392	40,549
3/17/2014	10,813	7,364	1,619			4,672	15,123	19,795
3/18/2014	6,663	441	80			2,269	4,915	7,184
3/19/2014	12,097	414				8,501	4,010	12,511
3/20/2014	55,974	68	4,496		23,666	1,675	35,197	60,538
3/21/2014	14,833					1,824	13,009	14,833
3/22/2014	38,779					14,673	24,106	38,779
3/23/2014	52,026					2,973	49,053	52,026
3/24/2014	24,520	1,687	799		7,863	9,115	10,029	27,007
3/25/2014	38,469	889	1,030		12,971	11,573	15,844	40,388
3/26/2014	42,682	1,542			13,475	20,801	9,948	44,224
3/27/2014	19,280		1,214			4,250	16,243	20,494
3/28/2014	10,289	141				6,682	3,748	10,430
3/29/2014	18,635					2,060	16,575	18,635
3/30/2014	36,107	189				5,376	30,920	36,296
3/31/2014	21,901	4,523				3,575	22,849	26,424



Balancing Operating Reserves

Daily Balancing Operating Reserve Dollars by Region and by Reason

Date	Allocation by Region			Allocation by Reason				Total
	RTO	East	West	RA Reliability	RA Deviation	RE Reliability	RT Deviation	
3/1/2014	978,191	171,773	1,419			262,025	889,358	1,151,383
3/2/2014	1,201,591	466,335			19,455	1,117,769	530,703	1,667,927
3/3/2014	5,696,990	17,584	48,453		48,453	1,570,262	4,144,312	5,763,027
3/4/2014	7,581,055	114,198		2,145,231		2,827,141	2,722,880	7,695,252
3/5/2014	3,885,800	135,319	7,269		200,922	2,913,275	914,190	4,028,388
3/6/2014	1,346,759	86,348	44,844			722,967	754,984	1,477,951
3/7/2014	1,170,744	78,403				601,777	647,370	1,249,147
3/8/2014	37,681					32,367	5,314	37,681
3/9/2014	141,958					36,010	105,949	141,958
3/10/2014	330,880	4,142	3,109		147,583	81,718	108,830	338,131
3/11/2014	225,863				154,232	6,679	64,952	225,863
3/12/2014	1,025,731	3,644			114,762	451,576	463,037	1,029,376
3/13/2014	3,583,312			634,316	19,228	1,453,877	1,475,892	3,583,312
3/14/2014	823,340	20,375			162,905	526,841	153,970	843,715
3/15/2014	690,245	3,565	52,662		52,662	543,878	149,932	746,471
3/16/2014	394,165					91,415	302,750	394,165
3/17/2014	424,866	111,620	25,755			289,801	272,440	562,241
3/18/2014	156,981	21,122	4,323			132,597	49,829	182,426
3/19/2014	1,265,014	95,928				1,228,723	132,220	1,360,943
3/20/2014	385,939	4,784	6,032		230,828	56,925	109,002	396,755
3/21/2014	337,420					47,070	290,350	337,420
3/22/2014	158,097					113,425	44,671	158,097
3/23/2014	349,754					121,269	228,485	349,754
3/24/2014	2,730,752	108,156	6,457		497,764	1,295,405	1,052,197	2,845,366
3/25/2014	2,561,564	50,501	28,346		686,581	1,823,162	130,668	2,640,410
3/26/2014	4,064,414	141,546			1,191,659	2,691,496	322,805	4,205,960
3/27/2014	891,776		43,513			468,500	466,789	935,288
3/28/2014	213,213	11,344				207,747	16,809	224,556
3/29/2014	73,384					45,464	27,920	73,384
3/30/2014	446,334	43,207				213,275	276,265	489,540
3/31/2014	360,423	396,282				109,021	647,684	756,705



Balancing Operating Reserves

Daily BOR Lost Opportunity Cost Credits (\$)

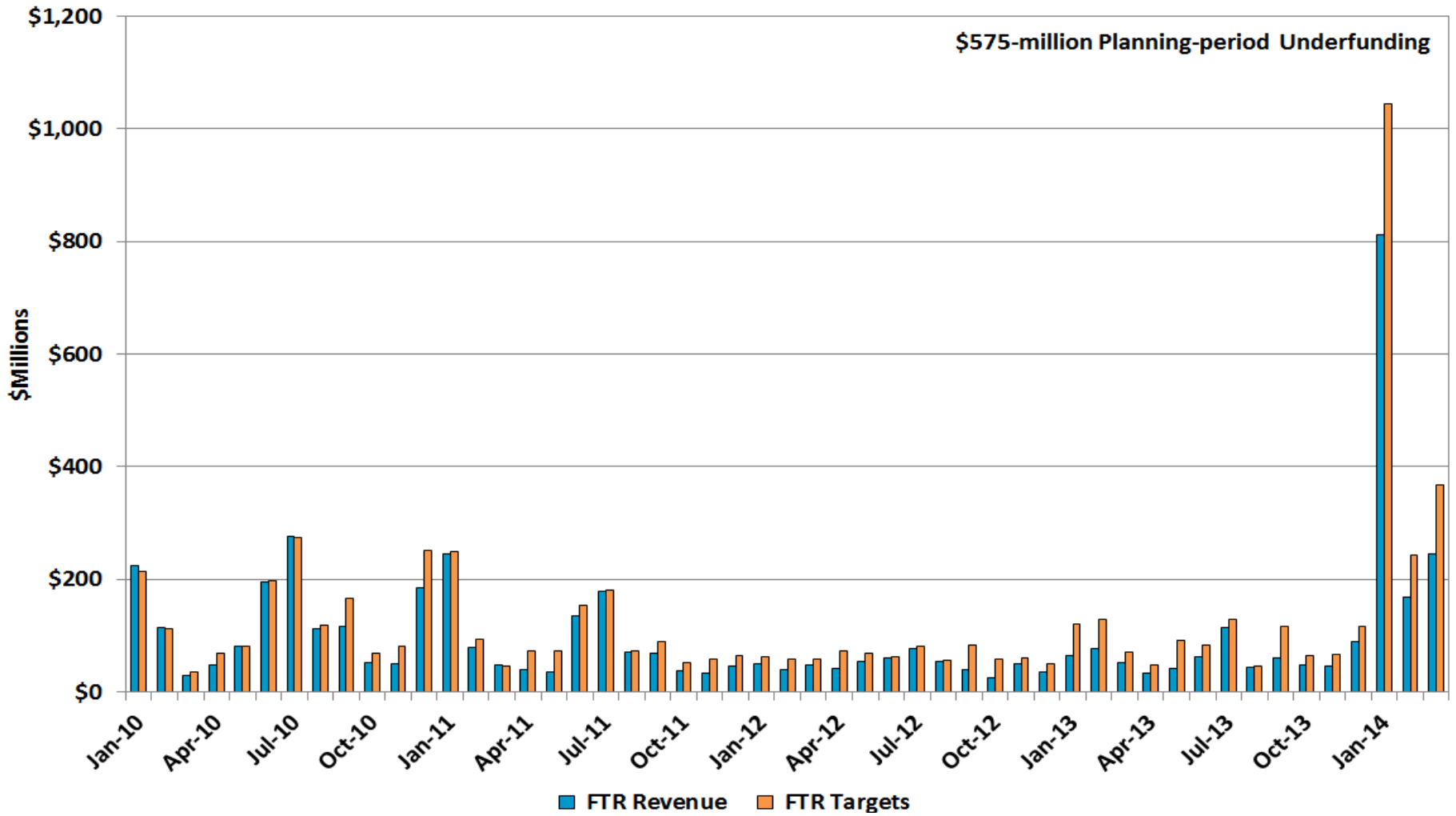
	Wind LOC	Total PJM LOC
1-Mar-14	\$ -	\$ 200,483
2-Mar-14	\$ -	\$ 37,376
3-Mar-14	\$ -	\$ 1,455,552
4-Mar-14	\$ -	\$ 3,304,849
5-Mar-14	\$ -	\$ 925,079
6-Mar-14	\$ -	\$ 484,104
7-Mar-14	\$ -	\$ 283,353
8-Mar-14	\$ -	\$ 58,043
9-Mar-14	\$ -	\$ 51,258
10-Mar-14	\$ 11,501	\$ 194,918
11-Mar-14	\$ -	\$ 26,049
12-Mar-14	\$ 166,477	\$ 235,420
13-Mar-14	\$ 9,860	\$ 1,377,504
14-Mar-14	\$ 20,784	\$ 405,379
15-Mar-14	\$ 11,076	\$ 12,779
16-Mar-14	\$ 6,408	\$ 40,312
17-Mar-14	\$ 3,045	\$ 971,646
18-Mar-14	\$ 12,358	\$ 178,839
19-Mar-14	\$ 45,583	\$ 554,268
20-Mar-14	\$ 33,696	\$ 170,477
21-Mar-14	\$ -	\$ 128,510
22-Mar-14	\$ 13,329	\$ 16,913
23-Mar-14	\$ -	\$ 8,359
24-Mar-14	\$ -	\$ 161,290
25-Mar-14	\$ -	\$ 111,305
26-Mar-14	\$ 5,774	\$ 199,834
27-Mar-14	\$ 170,629	\$ 1,083,777
28-Mar-14	\$ 22,260	\$ 41,151
29-Mar-14	\$ -	\$ 17
30-Mar-14	\$ -	\$ 2,412
31-Mar-14	\$ 36,989	\$ 91,774
Grand Total	\$569,768.31	\$12,813,030.36

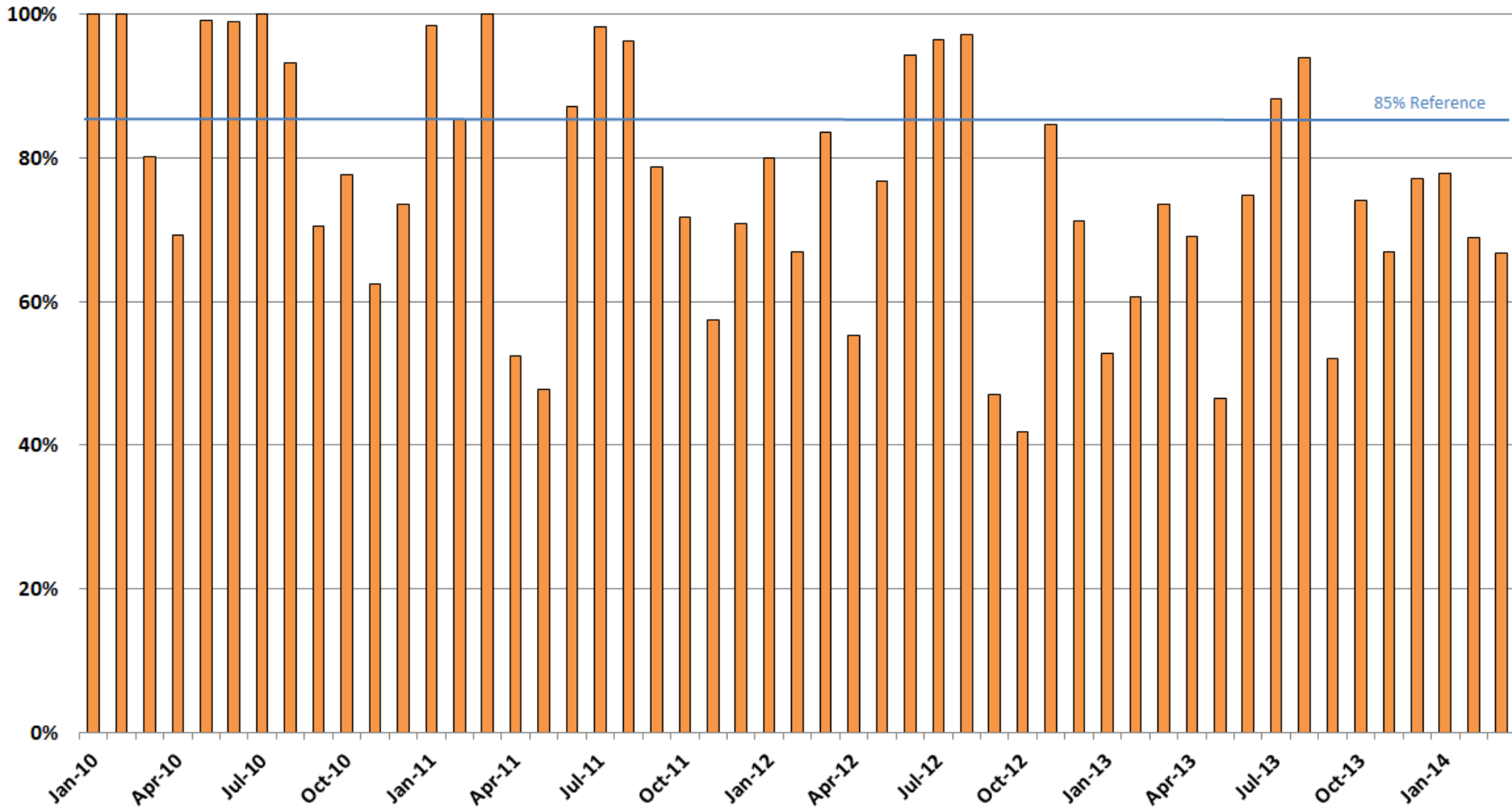
Monthly BOR Lost Opportunity Cost Credits (\$)

	Wind MWh Reduced	Wind LOC	Total PJM LOC
Jun-12	2,500	\$ 119,146	\$ 15,037,254
Jul-12	548	\$ 63,805	\$ 30,696,682
Aug-12	5,438	\$ 213,304	\$ 26,761,644
Sep-12	17,169	\$ 878,565	\$ 21,511,950
Oct-12	73,725	\$ 3,311,199	\$ 20,337,092
Nov-12	6,032	\$ 241,718	\$ 18,573,547
Dec-12	20,022	\$ 595,316	\$ 6,307,990
Jan-13	52,680	\$ 1,670,966	\$ 11,481,302
Feb-13	80,526	\$ 2,440,098	\$ 4,730,662
Mar-13	43,351	\$ 1,927,844	\$ 7,127,313
Apr-13	23,718	\$ 1,191,147	\$ 5,781,873
May-13	51,943	\$ 2,207,533	\$ 8,518,358
Jun-13	7,094	\$ 258,206	\$ 7,029,836
Jul-13	1,351	\$ 59,610	\$ 19,492,274
Aug-13	533	\$ 24,687	\$ 5,666,954
Sep-13	2,856	\$ 152,843	\$ 10,974,087
Oct-13	11,031	\$ 477,631	\$ 3,085,323
Nov-13	11,810	\$ 423,848	\$ 2,144,870
Dec-13	434	\$ 31,119	\$ 1,092,196
Jan-14	12,460	\$ 1,641,186	\$ 76,055,241
Feb-14	10,315	\$ 593,903	\$ 11,070,230
Mar-14	7,312	\$ 569,768	\$ 12,813,030



FTR Revenue vs. FTR Target Allocation







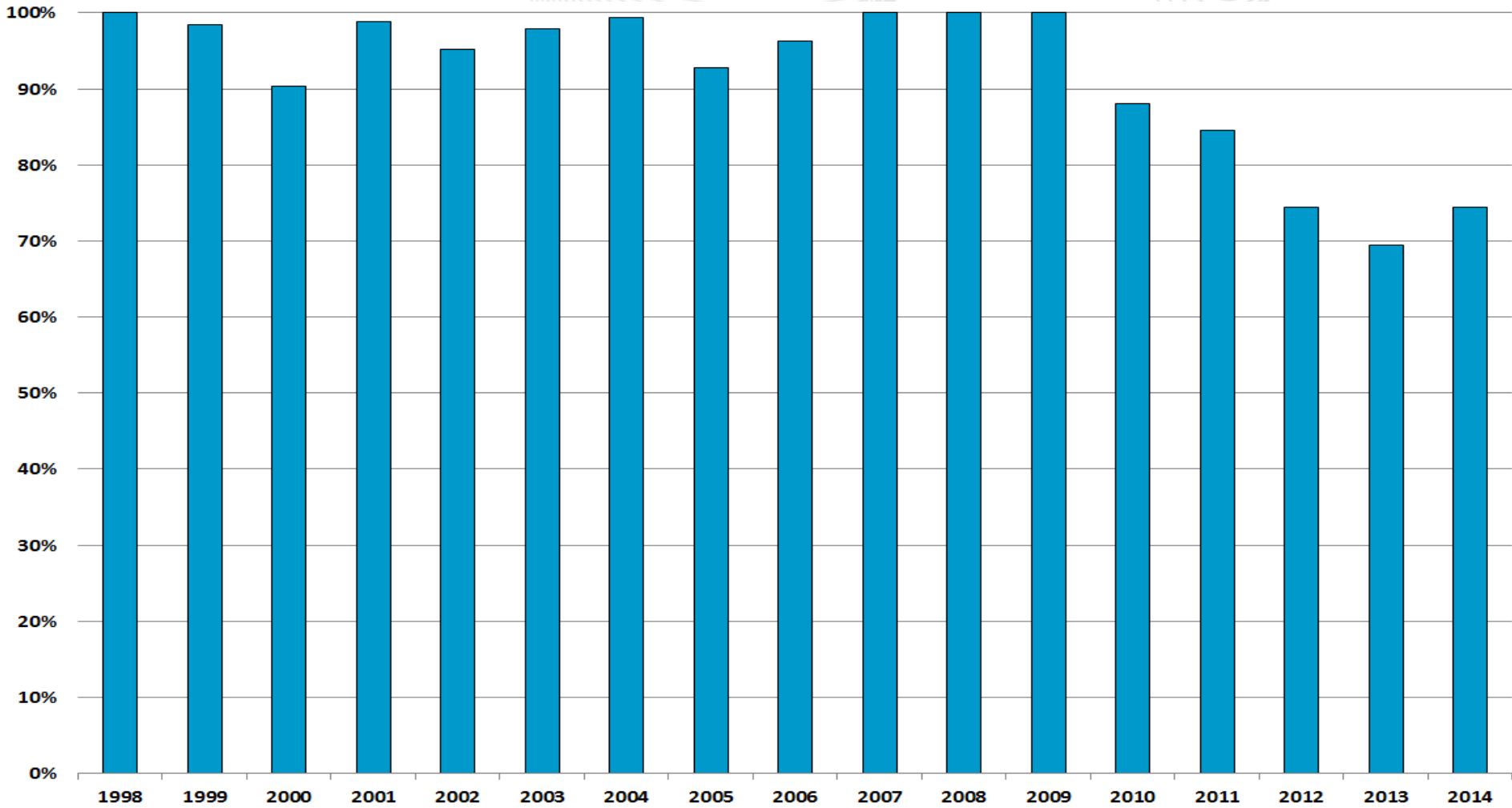
Period	Underfunding	Payout
Month	\$122M	67%
Year	\$425M	74%
Planning-period	\$575M	75%

The following transmission elements accounted for the bulk of this month's FTR underfunding

Facility	Underfunding	%Total
Rising 45TR1 (MISO)	\$27.6M	23%
APSOUTH (APS)	\$21.8M	18%
Monticello-East Winamac (MISO)	\$13.7M	11%
Breed-Wheatland 345kV (MISO)	\$8.9M	7%
BERGENFI 230 KV BER-NEWO (PSEG)	\$7.6M	6%
155 NELS345KV 15503 (COMED)	\$6.4M	5%
Wake-Carson 500 kV (DOM)	\$6.2M	5%
CEDARGRO230KV CED-CLIK (PSEG)	\$5.3M	4%
LOCKWOOD 138 KV LOC-SHI1 (AEP)	\$4.5M	4%
USAP 138 KV USA-WOO (DUQ)	\$4.1M	3%
	\$106.1M	87%

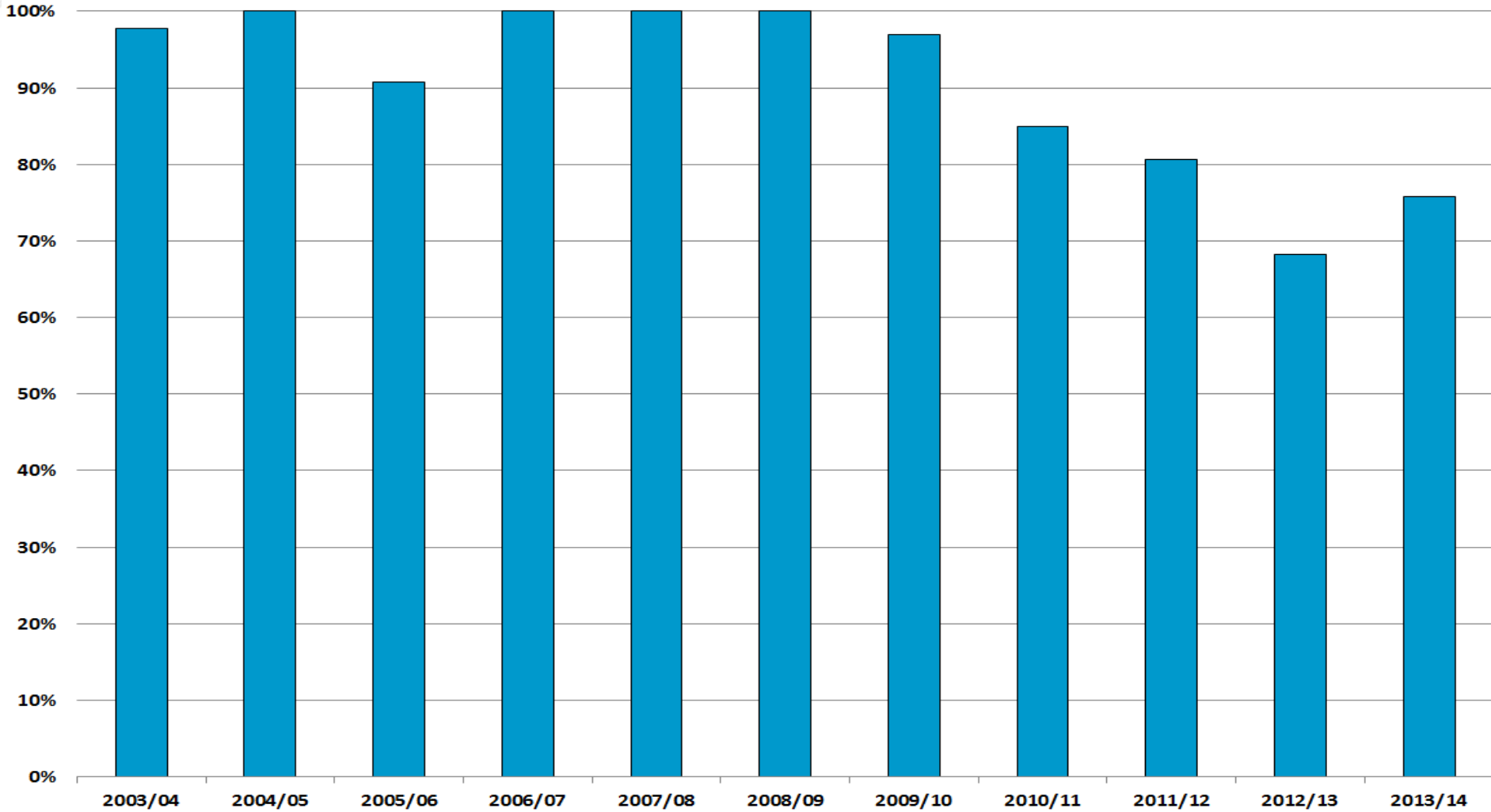


Calendar-year FTR Payout





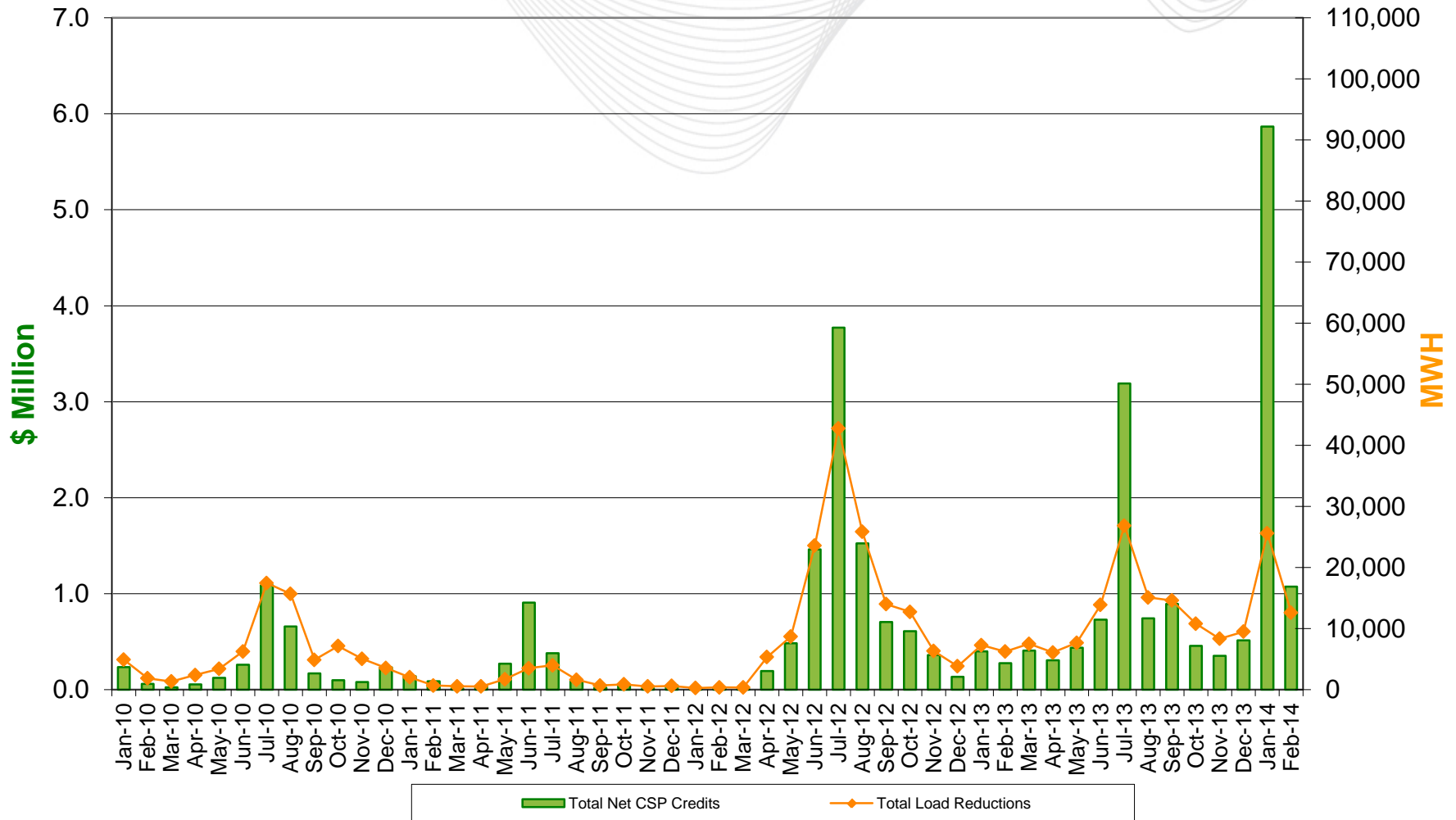
Planning-period FTR Payout





PJM Economic Demand Response Activity

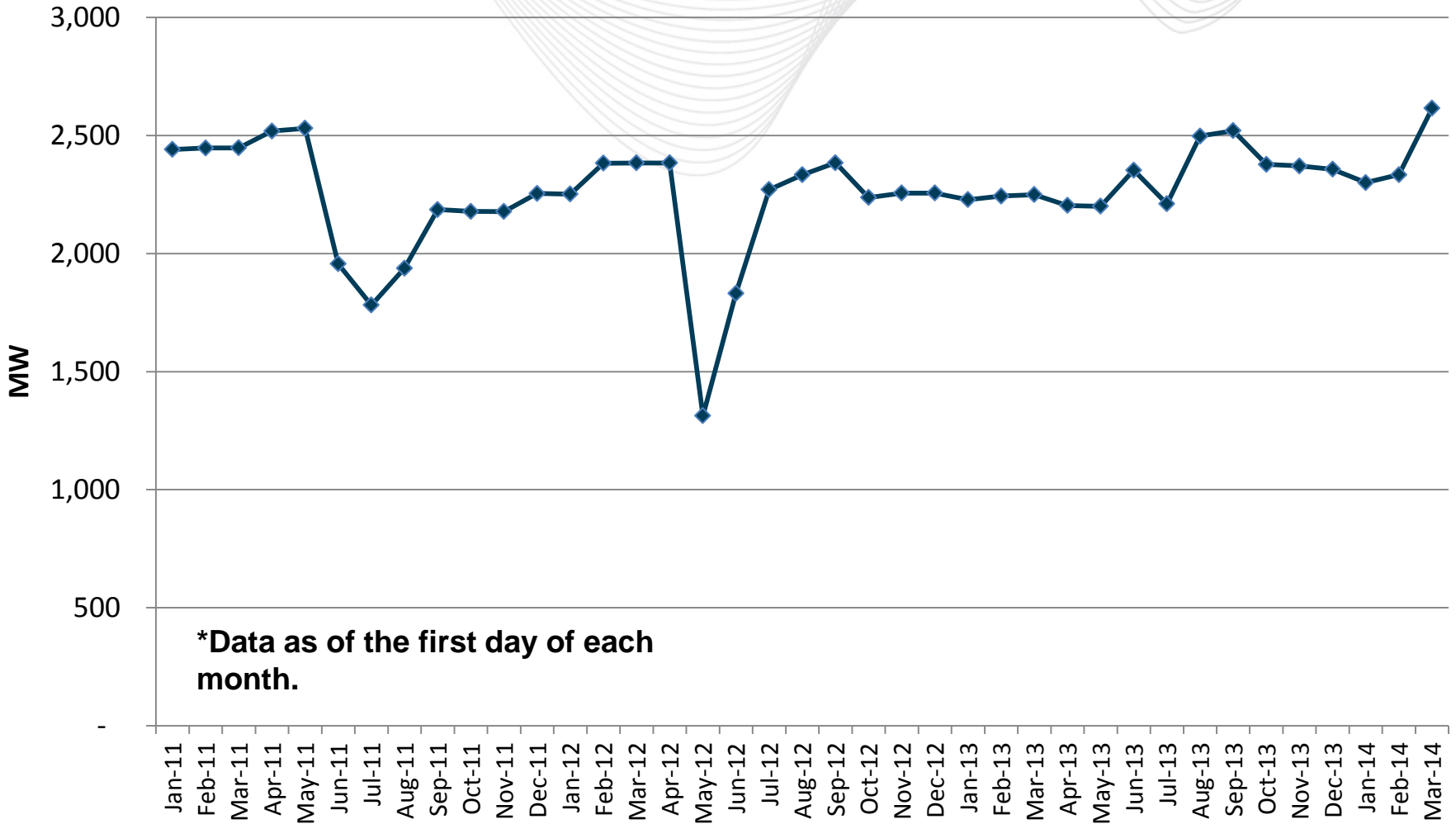
*Data for last few months are subject to significant change due to





PJM DSR Registrations

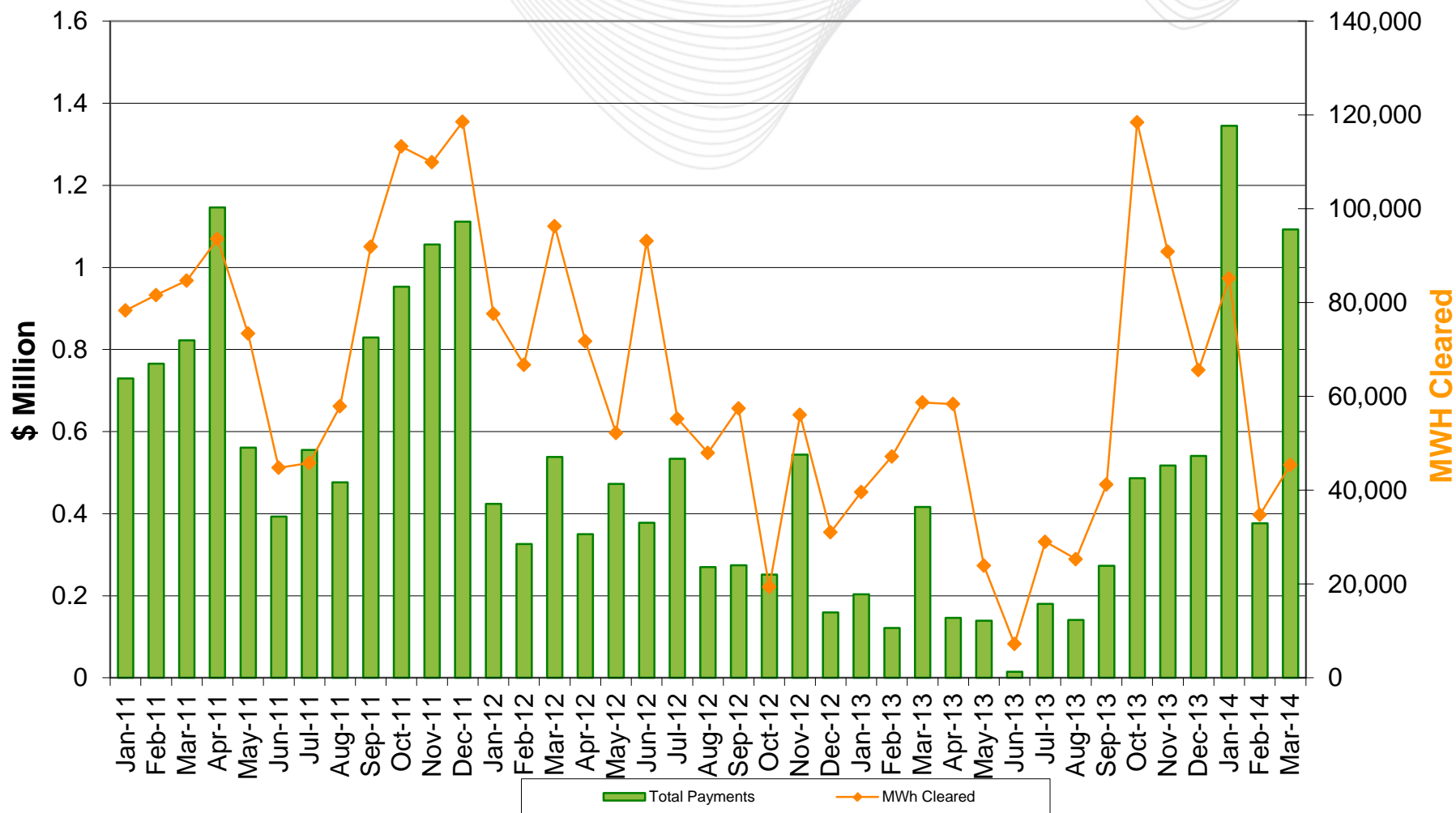
Total Registered MW in PJM's Economic Demand Response





DSR as Synchronized Reserve

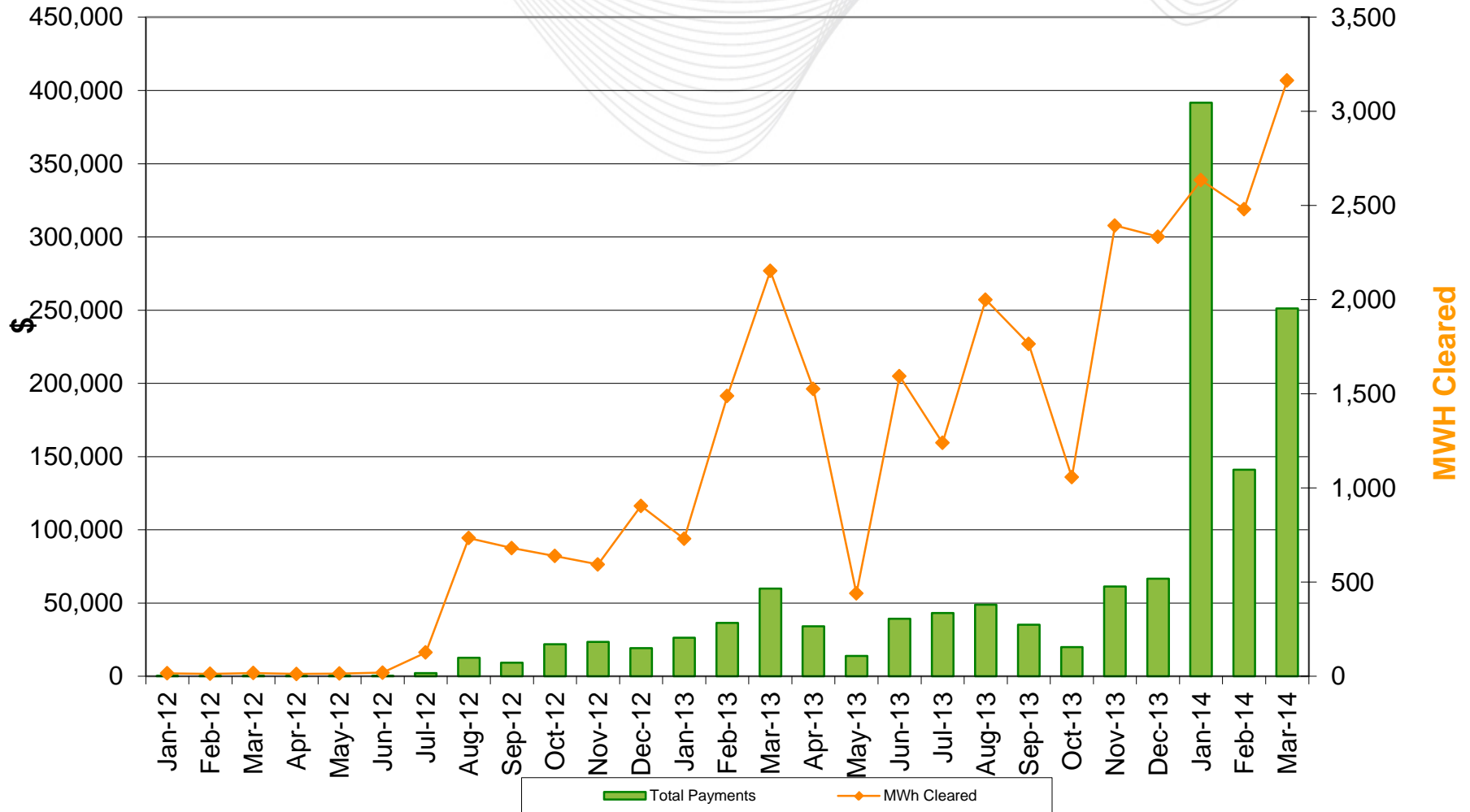
DSR Participation in PJM Synchronized Reserve Markets





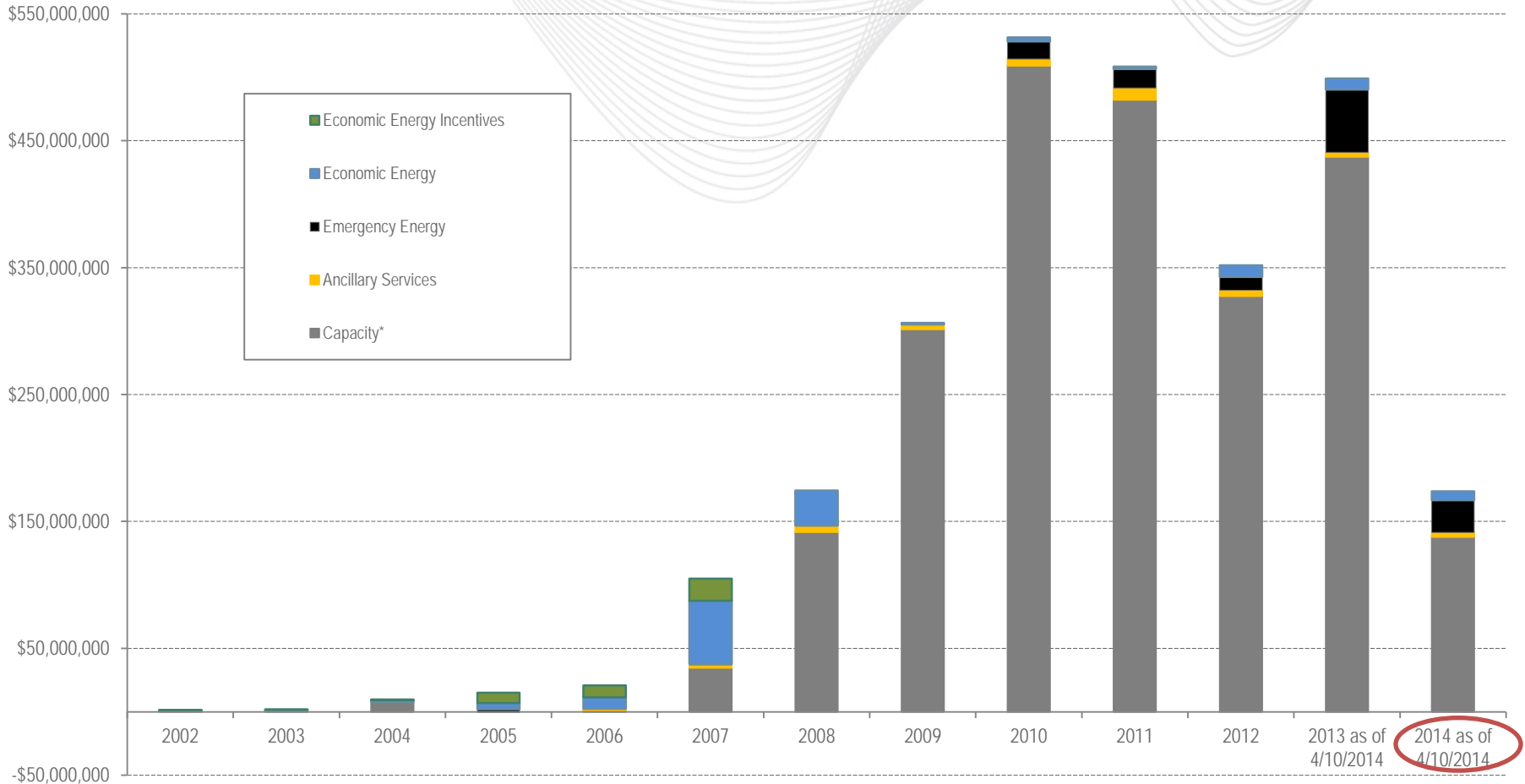
DSR Participation Regulation

DSR Participation in PJM Regulation Market



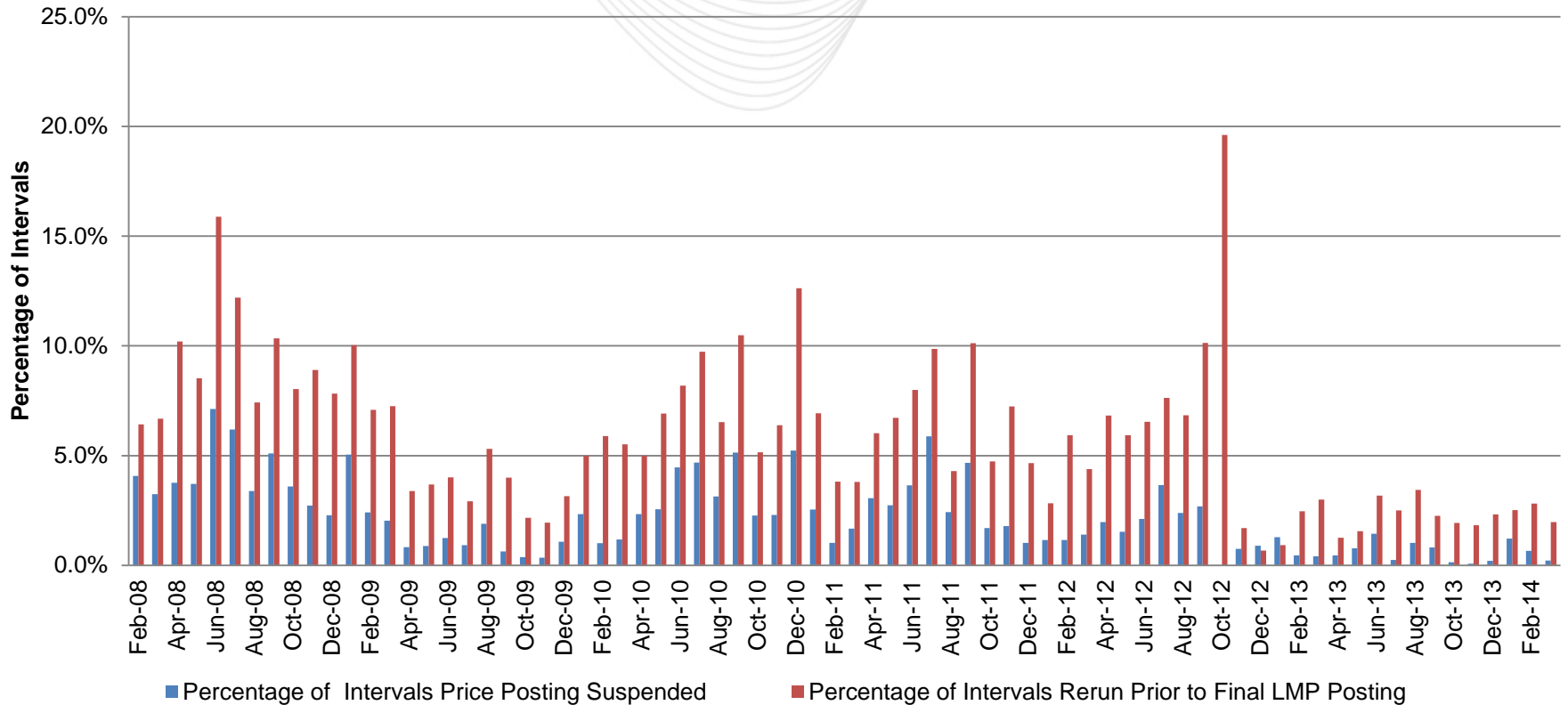


PJM Demand Side Response Estimated Revenue



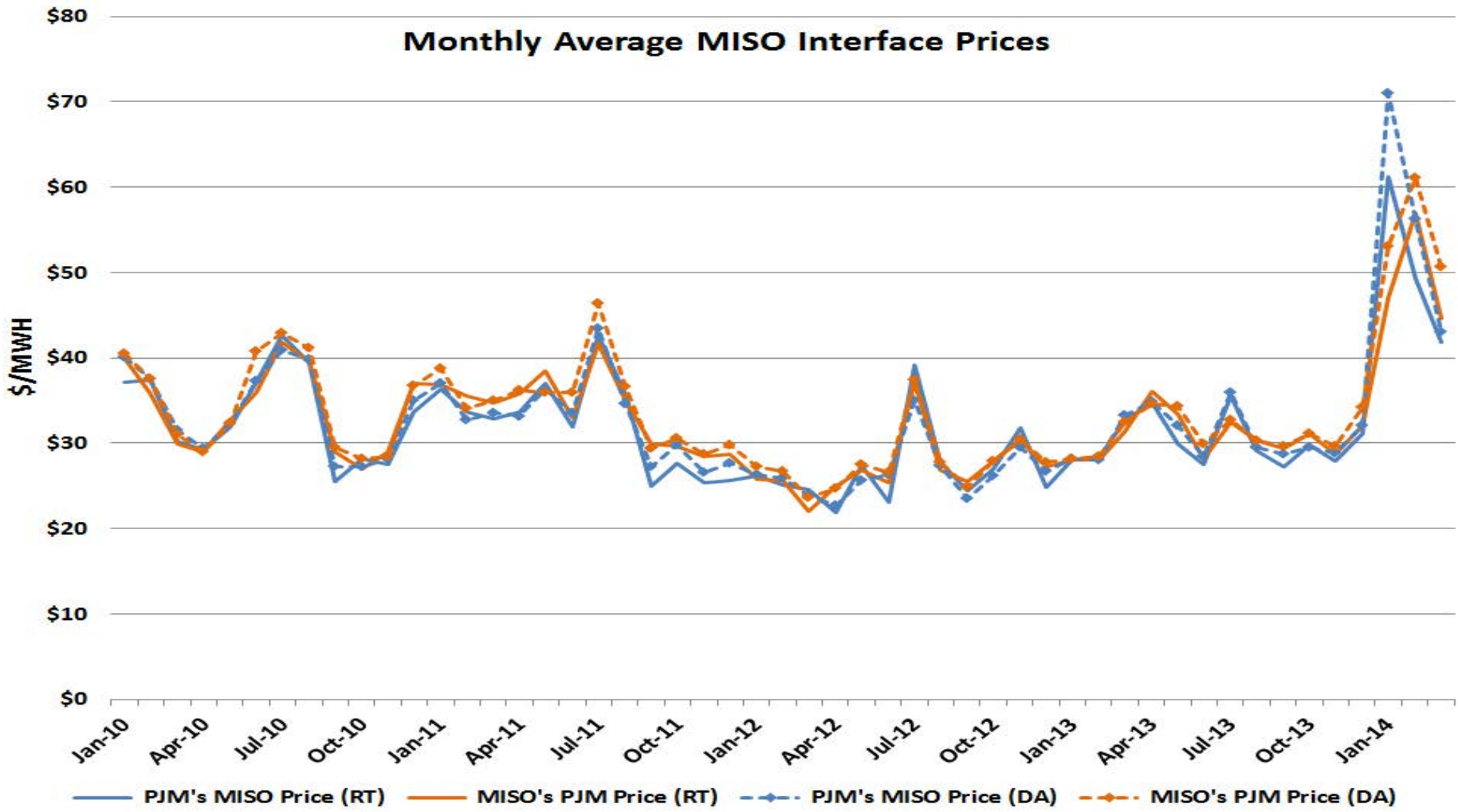
***Capacity revenue prior RPM implementation on 6/1/07 estimated based on average daily ALM capacity credits and weighted average daily PJM capacity market clearing price.**

Price Posting Suspensions and Reruns Percentage of 5-Minute Intervals





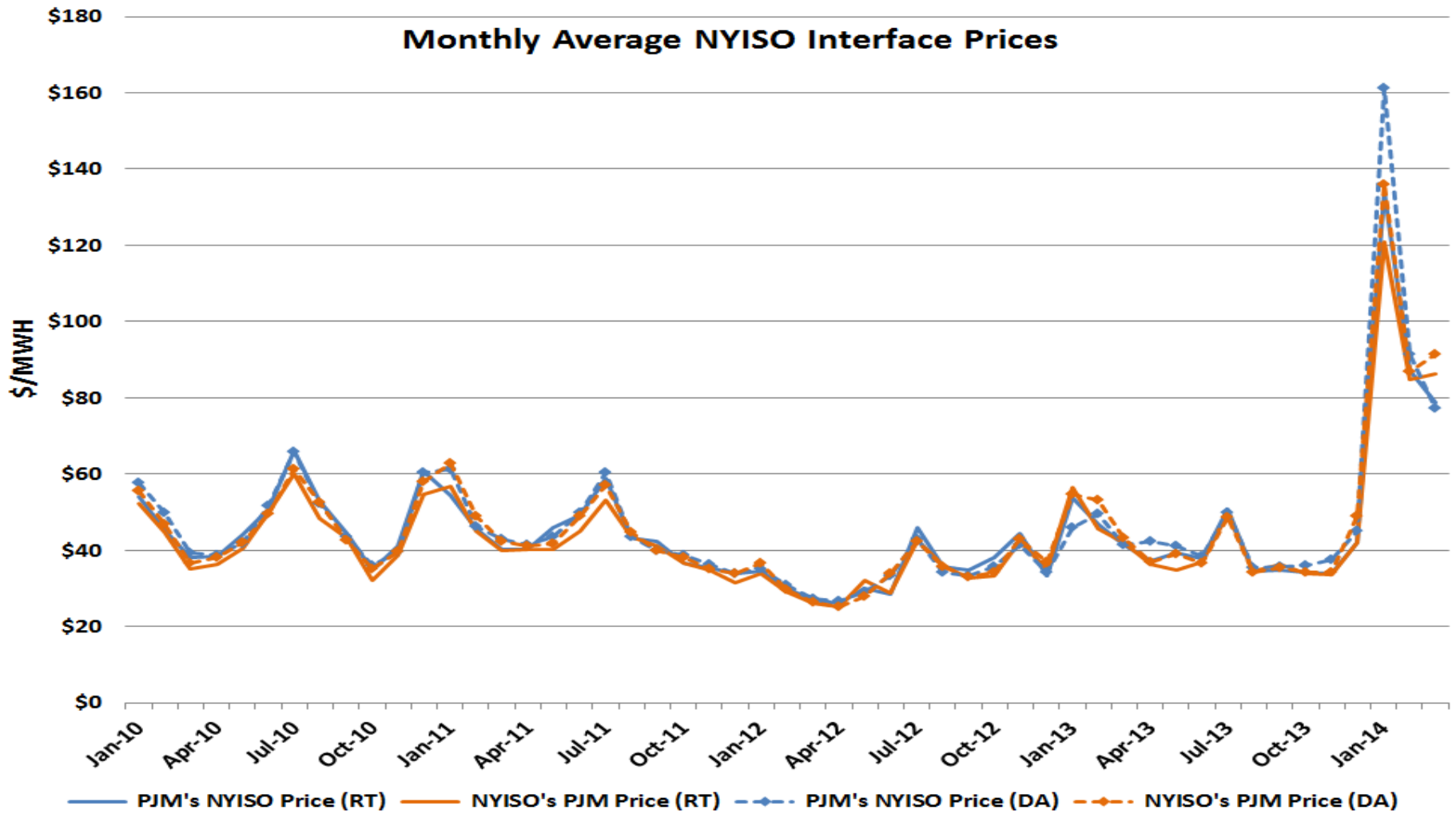
PJM-MISO Interface Pricing





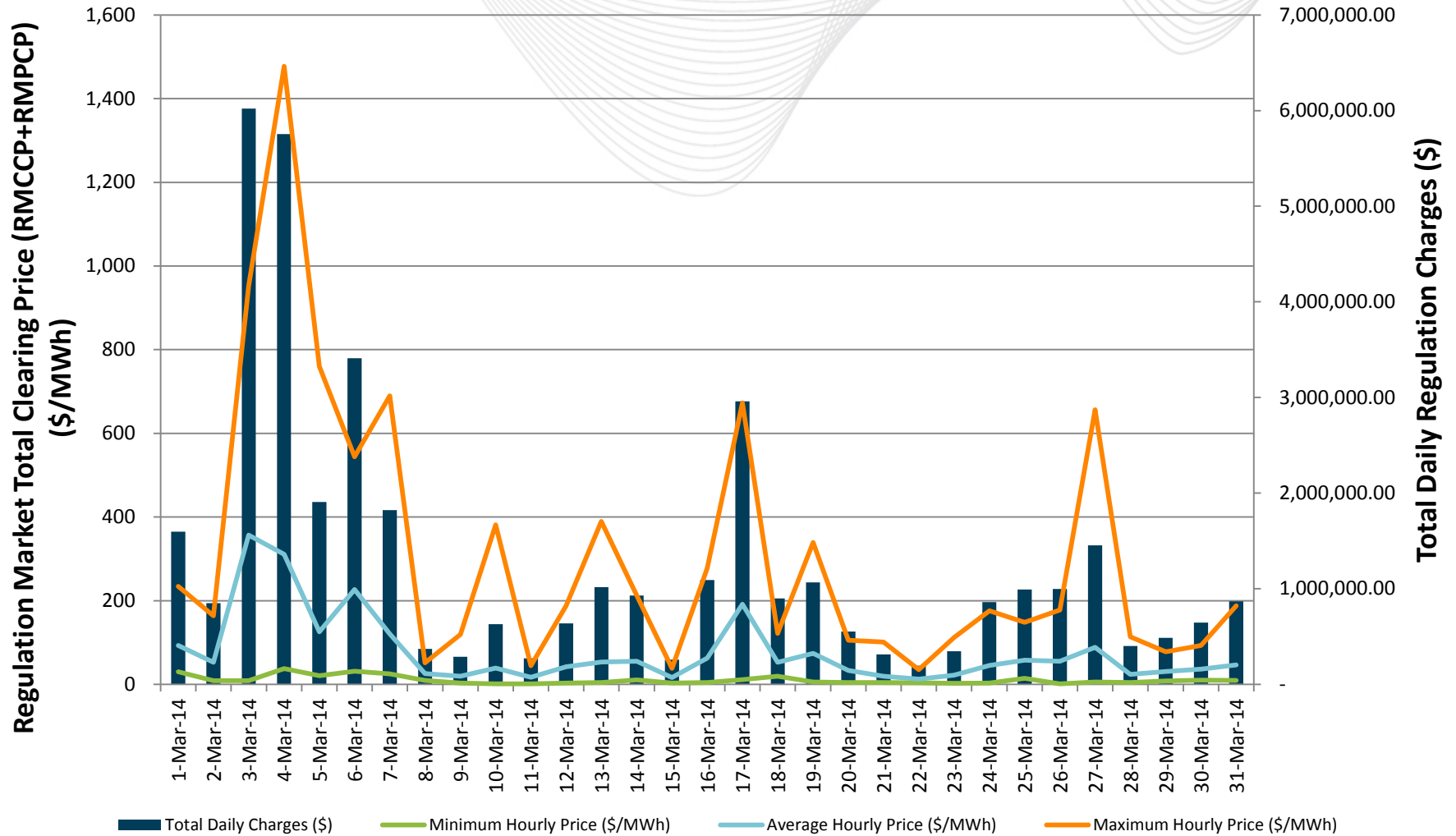
PJM-NYISO Interface Pricing

Monthly Average NYISO Interface Prices





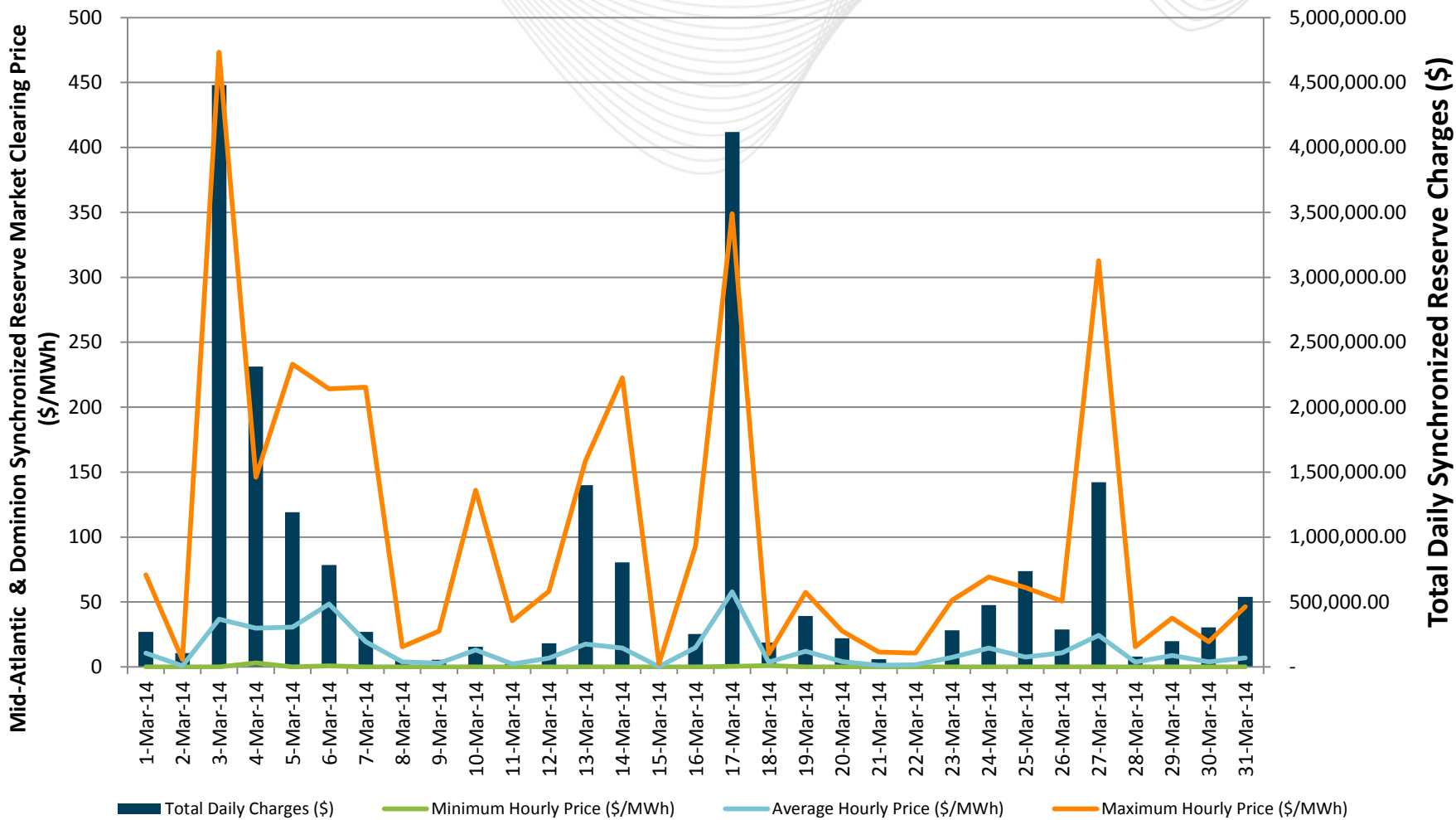
Regulation Market Daily Prices and Charges





Synchronized Reserve Market

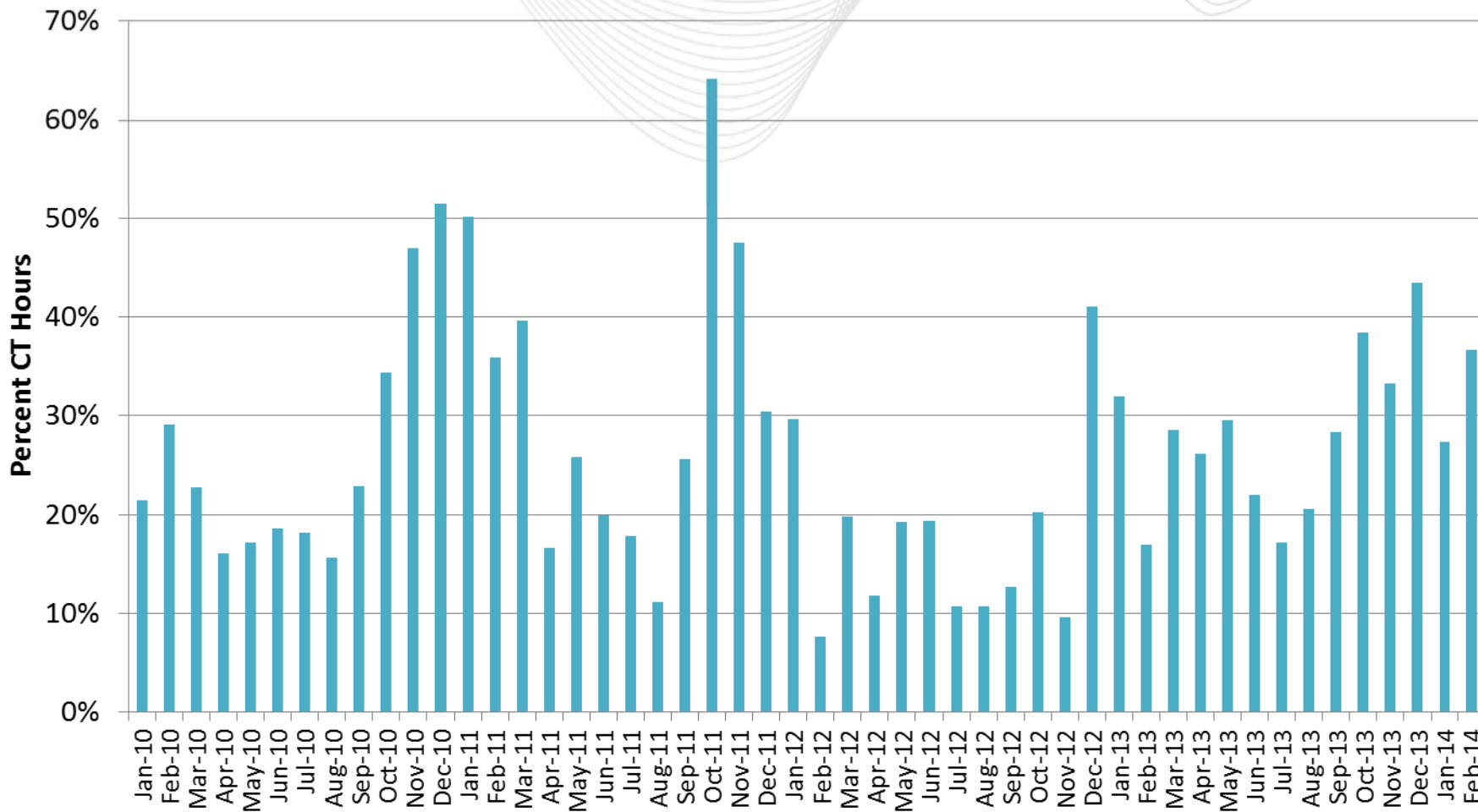
Synchronized Reserve Market Daily Prices and Charges





PJM CT Uneconomic Operation

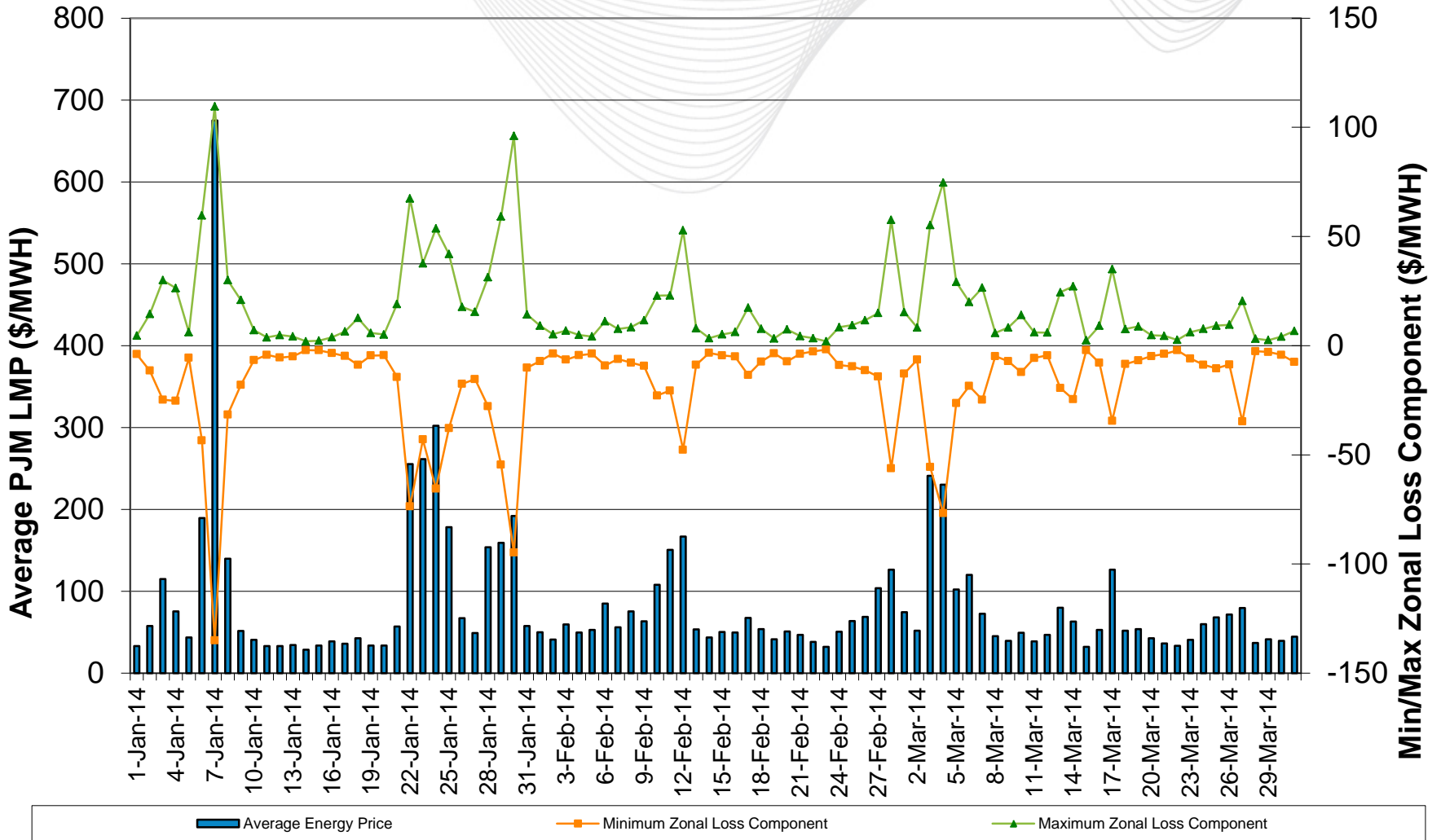
% of Total CT Hours with LMP < Offer





Real Time Marginal Loss Summary Data

Daily Real-Time Marginal Loss Summary





Daily Marginal Loss Surplus

