SECTION 8 – FINANCIAL TRANSMISSION AND AUCTION REVENUE RIGHTS

Financial Transmission Rights (FTRs) and Auction Revenue Rights (ARRs) give transmission service customers and PJM members an offset against congestion costs in the Day-Ahead Energy Market. An FTR provides the holder with revenues, or charges, equal to the difference in congestion prices in the Day-Ahead Energy Market across the specific FTR transmission path. An ARR is a related product that provides the holder with revenues, or charges, based on the price differences across the specific ARR transmission path that result from the Annual FTR Auction. FTRs and ARRs provide a hedge against congestion costs, but neither FTRs nor ARRs provide a guarantee that transmission service customers will not pay congestion charges. ARR and FTR holders do not need to physically deliver energy to receive ARR or FTR credits and neither instrument represents a right to the physical delivery of energy.

In PJM, FTRs have been available to network service and long-term, firm, point-to-point transmission service customers as a hedge against congestion costs since the inception of locational marginal pricing (LMP) on April 1, 1998. Effective June 1, 2003, PJM replaced the allocation of FTRs with an allocation of ARRs and an associated Annual FTR Auction.¹ Since the introduction of this auction, FTRs have been available to all transmission service customers and PJM members. Network service and firm point-to-point transmission service customers can take allocated ARRs or the underlying FTRs through a self scheduling process. On June 1, 2007, PJM implemented marginal losses in the calculation of LMP. Since then, FTRs have been valued based on the difference in congestion prices rather than the difference in LMPs.

Firm transmission service customers have access to ARRs/FTRs because they pay the costs of the transmission system that enables firm energy delivery. Firm transmission service customers receive requested ARRs/ FTRs to the extent that they are consistent both with the physical capability of the transmission system and with ARR/FTR requests of other eligible customers.

The 2010 Quarterly State of the Market Report for PJM: January through June focuses on the annual ARR allocations, the Annual FTR Auctions and the Monthly Balance of Planning Period FTR Auctions during two FTR/ARR planning periods: the 2009 to 2010 planning period which covers June 1,

1 87 FERC ¶ 61,054 (1999).

2009, through May 31, 2010, and the 2010 to 2011 planning period which covers June 1, 2010, through May 31, 2011.

Overview

Financial Transmission Rights

Market Structure

Supply. PJM operates an Annual FTR Auction for all control zones in the PJM footprint. PJM conducts Monthly Balance of Planning Period FTR Auctions for the remaining months of the planning period, to allow participants to buy and sell any residual transmission capability. PJM also runs a Long Term FTR Auction for the three consecutive planning years immediately following the planning year during which the Long Term FTR Auction is conducted. The first Long Term FTR Auction was conducted during the 2008 to 2009 planning period and covers three consecutive planning periods between 2009 and 2012. The second Long Term FTR Auction was conducted during the 2009 to 2010 planning period and covers three consecutive planning periods between 2010 and 2013. The 2011 to 2014 Long Term FTR Auction results are not presented in this report because the second round has not yet been conducted. In addition, PJM administers a secondary bilateral market to allow participants to buy and sell existing FTRs. FTR products include FTR obligations and FTR options. FTR options are not available in the Long Term FTR Auction. For each time period, there are three FTR products: 24-hour, on peak and off peak. FTRs have terms varying from one month to three years. FTR supply is limited by the capability of the transmission system to accommodate simultaneously the set of requested FTRs and the numerous combinations of FTRs. The principal binding constraints limiting the supply of FTRs in the Annual FTR Auction for the 2010 to 2011 planning period include the Doubs transformer and the Messick Road - Ridgeley line. Market participants can also sell FTRs. In the Annual FTR Auction for the 2010 to 2011 planning period, total FTR sell offers were 178,248 MW, up from 142,154 MW during the 2009 to 2010 planning period. In the Monthly Balance of Planning Period FTR Auctions for the first month





FINANCIAL TRANSMISSION AND AUCTION REVENUE RIGHTS

(June 2010) of the 2010 to 2011 planning period, there were 487,426 MW of FTR sell offers.

- **Demand.** There is no limit on FTR demand in any FTR auction. In the ٠ Annual FTR Auction for the 2010 to 2011 planning period, total FTR buy bids were 1,708,556 MW, up from 1,436,335 MW during the 2009 to 2010 planning period. Total FTR self scheduled bids were 55,732 MW for the 2010 to 2011 planning period, a decrease from 68,589 MW for the 2009 to 2010 planning period. In the Monthly Balance of Planning Period FTR Auctions for the first month (June 2010) of the 2010 to 2011 planning period, total FTR buy bids were 1,065,658 MW.
- FTR Credit Issues. Effective June 1, 2009, PJM implemented a number of improvements to the PJM credit management rules. There were no participant defaults during the first six months of 2010.
- Patterns of Ownership. The ownership concentration of cleared FTR ٠ buy bids resulting from the 2010 to 2011 Annual FTR Auction was low to moderate for FTR obligations and moderate to high for FTR options. The level of concentration is only descriptive and is not a measure of the competitiveness of FTR market structure as the ownership positions resulted from a competitive auction. In order to evaluate the ownership of prevailing flow and counter flow FTRs, the Market Monitoring Unit (MMU) categorized all participants owning FTRs in PJM as either physical or financial. Physical entities include utilities and customers which primarily take physical positions in PJM markets. Financial entities include banks and hedge funds which primarily take financial positions in PJM markets. During the 2010 to 2011 planning period, physical entities own 53 percent of prevailing flow Annual FTRs while financial entities own 71 percent of counter flow Annual FTRs. Overall, financial entities own about 54 percent of all Annual FTRs. Financial entities own about 66 percent of prevailing flow and 77 percent of counter flow Monthly Balance of Planning Period FTRs from January 2010 through June 2010. Overall, financial entities own about 71 percent of all Monthly Balance of Planning Period FTRs.

Market Performance

٠ **Volume.** For the 2010 to 2011 planning period, the Annual FTR Auction cleared 231,663 MW (13.6 percent) of FTR buy bids, up from 155,612 MW (10.8 percent of demand) for the 2009 to 2010 planning period. The Annual FTR Auction also cleared 10,315 MW (5.8 percent) of FTR sell offers for the 2009 to 2010 planning period, up from 7,399 MW (5.2 percent) for the 2009 to 2010 planning period. For the first month of the 2010 to 2011 planning period, the Monthly Balance of Planning Period FTR Auctions cleared 110,608 MW (10.4 percent) of FTR buy bids and 40,045 MW (8.2 percent) of FTR sell offers.

- Price. For the 2010 to 2011 planning period, 87.4 percent of the Annual FTRs were purchased for less than \$1 per MWh and 93.7 percent for less than \$2 per MWh. For the 2010 to 2011 planning period, the weighted-average prices paid for annual buy-bid FTR obligations were \$0.43 per MWh for 24-hour FTRs, \$0.35 per MWh for on peak FTRs and \$0.32 per MWh for off peak FTRs. Comparable, weighted-average prices paid for annual buy-bid FTR obligations for the 2009 to 2010 planning period were \$0.66 per MWh for 24-hour FTRs and \$0.57 per MWh for on peak FTRs and \$0.40 per MWh for off peak FTRs. The weighted-average prices paid for 2010 to 2011 planning period annual buy-bid FTR obligations and options were \$0.35 per MWh and \$0.26 per MWh, respectively, compared to \$0.53 per MWh and \$0.35 per MWh, respectively, in the 2009 to 2010 planning period.² The weightedaverage price paid for buy-bid FTRs in the Monthly Balance of Planning Period FTR Auctions for the first month of the 2010 to 2011 planning period was \$0.29 per MWh, compared with \$0.18 per MWh in the Monthly Balance of Planning Period FTR Auctions for the full 12-month 2009 to 2010 planning period.
- Revenue. The Annual FTR Auction generated \$1,049.8 million of net revenue for all FTRs during the 2010 to 2011 planning period, down from \$1,329.8 million for the 2009 to 2010 planning period. The Monthly Balance of Planning Period FTR Auctions generated \$2.5 million in net revenue for all FTRs during the first month of the 2010 to 2011 planning period.
- Revenue Adequacy. FTRs were 96.9 percent revenue adequate for the 2009 to 2010 planning period. FTRs were paid at 97.8 percent of the target allocation level for the first month of the 2010 to 2011 planning period. Congestion revenues are allocated to FTR holders based on FTR target allocations. PJM collected \$192.1 million of FTR revenues during the first month of the 2010 to 2011 planning period and \$878.4 million during the 2009 to 2010 planning period. For the full twelve months of the 2009 to 2010 planning period, the top sink and top source with the highest positive FTR target allocations were

² Weighted-average prices for FTRs in the Long Term FTR Auction, Annual FTR Auction and Monthly Balance of Planning Period FTR Auctions are the average prices weighted by the MW and hours in a time period (planning period or month) for each FTR class type: 24-hour, on peak and off peak. For example, FTRs in the 2010 to 2011 Annual FTR Auction would be weighted by their MW and the hours in that time period for each FTR class type: 24-hour (8,760 hours), on peak (4,112 hours) and off peak (4,648 hours).

the AP Control Zone and the Mount Storm aggregate, respectively. Similarly, the top sink and top source with the largest negative FTR target allocation was the Western Hub.

Auction Revenue Rights

Market Structure

- Supply. ARR supply is limited by the capability of the transmission system to simultaneously accommodate the set of requested ARRs and the numerous combinations of feasible ARRs. The principal binding constraints that limited supply in the annual ARR allocation for the 2010 to 2011 planning period were the AP South Interface and the Nelson – Electric Junction Line. Long Term ARRs are in effect for 10 consecutive planning periods and are available in Stage 1A of the annual ARR allocation. Residual ARRs were also introduced and are available to holders with prorated Stage 1A or 1B ARRs if additional transmission capability is added during the planning period.
- **Demand.** Total demand in the annual ARR allocation was 135,614 MW for the 2010 to 2011 planning period with 61,793 MW bid in Stage 1A, 27,850 MW bid in Stage 1B and 45,971 MW bid in Stage 2. This is down from 140,038 MW for the 2009 to 2010 planning period with 64,988 MW bid in Stage 1A, 26,517 MW bid in Stage 1B and 48,533 MW bid in Stage 2. ARR demand is limited by the total amount of network service and firm point-to-point transmission service.
- ARR Reassignment for Retail Load Switching. When retail load switches among load-serving entities (LSEs), a proportional share of the ARRs and their associated revenue are reassigned from the LSE losing load to the LSE gaining load. ARR reassignment occurs only if the LSE losing load has ARRs with a net positive economic value. An LSE gaining load in the same control zone is allocated a proportional share of positively valued ARRs within the control zone based on the shifted load. There were 4,660 MW of ARRs associated with approximately \$67,700 per MW-day of revenue that were reassigned in the first month of the 2010 to 2011 planning period. There were 19,061 MW of ARRs associated with approximately \$362,400 per MW-day of revenue that were reassigned for the full 2009 to 2010 planning period.

Market Performance

- Volume. Of 135,614 MW in ARR requests for the 2010 to 2011 planning period, 101,843 MW (75.1 percent) were allocated. There were 61,793 MW allocated in Stage 1A, 27,850 MW allocated in Stage 1B and 12,200 MW allocated in Stage 2. Eligible market participants self scheduled 55,732 MW (54.7 percent) of these allocated ARRs as Annual FTRs. Of 140,038 MW in ARR requests for the 2009 to 2010 planning period, 109,414 MW (78.1 percent) were allocated. There were 64,914 MW allocated in Stage 1A, 26,514 MW allocated in Stage 1B and 17,986 MW allocated in Stage 2. Eligible market participants self scheduled 68,589 MW (62.7 percent) of these allocated ARRs as Annual FTRs.
- **Revenue.** As ARRs are allocated to qualifying customers rather than sold, there is no ARR revenue comparable to the revenue that results from the FTR auctions.
- **Revenue Adequacy.** During the 2010 to 2011 planning period, ARR holders will receive \$1,028.8 million in ARR credits, with an average hourly ARR credit of \$1.15 per MWh. During the 2010 to 2011 planning period, the ARR target allocations were \$1,028.8 million while PJM collected \$1,052.3 million from the combined Annual and Monthly Balance of Planning Period FTR Auctions through Jun 30, 2010, making ARRs revenue adequate. During the 2009 to 2010 planning period, ARR holders received \$1,273.5 million in ARR credits, with an average hourly ARR credit of \$1.33 per MWh. For the 2009 to 2010 planning period, the ARR target allocations were \$1,273.5 million while PJM collected \$1,349.3 million from the combined Annual and Monthly Balance of Planning Period FTR Auctions, making ARRs revenue adequate.
- **ARR Proration.** When ARRs were allocated for the 2010 to 2011 planning period, some of the requested ARRs were prorated in Stage 2 as a result of binding transmission constraints. No ARRs were prorated in Stage 1A and Stage 1B since there were no constraints limiting the ARR allocation in these two stages.
- **ARRs and FTRs as a Hedge against Congestion.** The effectiveness of ARRs and FTRs as a hedge against actual congestion can be measured several ways. The first is to compare the revenue received by ARR holders to the congestion costs experienced by these ARR holders. The second is to compare the revenue received by FTR holders



FINANCIAL TRANSMISSION AND AUCTION REVENUE RIGHTS

to the total congestion costs within PJM. The final and comprehensive method is to compare the revenue received by all ARR and FTR holders to total actual congestion costs in the Day-Ahead Energy Market and the balancing energy market within PJM. During the 2008 to 2009 planning period, total ARR and FTR revenues hedged more than 100 percent of the congestion costs within PJM. For the 2009 to 2010 planning period, all ARRs and FTRs hedged 96.4 percent of the congestion costs within PJM.

• ARRs and FTRs as a Hedge against Total Energy Costs. The hedge provided by ARRs can also be measured by comparing the value of the ARR and self-scheduled FTRs that sink in a zone to the cost of real time energy in the zone. This is a measure of the value of the hedge against real time energy costs provided by ARRs received by loads during this period. The total value of ARRs was 3.9 percent of the total real time energy charges for January through June of 2010. The hedge provided by FTRs can also be measured by comparing the value of the FTRs that sink in a zone to the cost of real time energy in the zone. The total net value of FTRs was 0.3 percent of the total real time energy charges for January through June 2010. When combined, the sum is a measure of the total value of ARRs plus FTRs. The total value of ARRs plus FTRs was 4.2 percent of the total real time energy charges for January through June 2010.

Conclusion

The annual ARR allocation and the FTR auctions provide market participants with hedging instruments. These instruments can be used for hedging positions or for speculation. The Long Term FTR Auction, the Annual FTR Auction and the Monthly Balance of Planning Period FTR Auctions provide a market valuation of FTRs. The FTR auction results for the 2010 to 2011 planning period were competitive and succeeded in providing all qualified market participants with equal access to FTRs. The MMU recommends that the rules for ARR reassignment when load shifts should address the fact that in the case of ARRs self scheduled as FTRs, the underlying FTRs do not follow the load while the ARRs do.

ARRs were 100 percent revenue adequate for both the 2009 to 2010 and the 2010 to 2011 planning periods. FTRs were paid at 96.9 percent of the target allocation level for the 12-month period of the 2009 to 2010 planning period, and at 97.8 percent of the target allocation level for the first month of the 2010 to 2011 planning period.

Revenue adequacy must be distinguished from the adequacy of FTRs as a hedge against congestion. Revenue adequacy is a narrower concept that compares the revenues available to cover congestion across specific paths for which FTRs were available and purchased. The adequacy of FTRs as a hedge against congestion compares FTR revenues to total congestion on the system as a measure of the extent to which FTRs hedged market participants against actual, total congestion across all paths, regardless of the availability or purchase of FTRs.

The total of ARR and FTR revenues hedged more than 100 percent of the congestion costs in the Day-Ahead Energy Market and the balancing energy market within PJM for the 2008 to 2009 planning period and 96.4 percent of the congestion costs in PJM during the 2009 to 2010 planning period. The ARR and FTR revenue adequacy results are aggregate results and all those paying congestion charges were not necessarily hedged at that level. Aggregate numbers do not reveal the underlying distribution of FTR holders, their revenues or those paying congestion.

Financial Transmission Rights

Supply

Table 8-1Top 10 principal binding transmission constraints limiting the Annual FTR Auction:Planning period 2010 to 2011 (See 2009 SOM Table 8-2)

			Severity Ranking by Auction Round				
Constraint	Туре	Control Zone	1	2	3	4	
Doubs	Transformer	AP	2	1	2	1	
Messick Road - Ridgeley	Line	AP	1	2	1	5	
Mahans Lane - Tidd	Line	AEP	3	5	8	9	
Middlebourne - Williow Island	Line	AP	4	4	4	3	
AP South	Interface	AP	5	3	3	2	
Endless Caverns	Transformer	Dominion	8	6	6	4	
Tiltonsville - Windsor	Line	AP	43	29	7	6	
Smith - Wylie Ridge	Line	AP	13	7	5	7	
Roxbury - Shade Gap	Line	PENELEC	6	8	12	15	
Krendale - Seneca	Line	AP	7	9	10	8	

Rection N

Patterns of Ownership

Table 8-2 Annual FTR Auction patterns of ownership by FTR direction: Planning period 2010 to 2011 (See 2009 SOM Table 8-4)

		FTR Direction			
Organization Type	Self-Scheduled FTRs	Prevailing Flow	Counter Flow	All	
Physical	Yes	25.0%	2.7%	18.7%	
	No	27.5%	26.3%	27.1%	
	Total	52.5%	29.0%	45.8%	
Financial	No	47.5%	71.0%	54.2%	
Total		100.0%	100.0%	100.0%	

Table 8-3 Monthly Balance of Planning Period FTR Auction patterns of ownership by FTR direction: January through June 2010 (See 2009 SOM Table 8-5)

	FTR Direction						
Organization Type	Prevailing Flow	Counter Flow	All				
Physical	34.4%	23.0%	29.3%				
Financial	65.6%	77.0%	70.7%				
Total	100.0%	100.0%	100.0%				

Market Performance

Volume

Table 8-4 Comparison of self scheduled FTRs: Planning periods 2008 to 2009, 2009 to 2010 and 2010 to 2011 (See 2009 SOM Table 8-8)

Planning Period	Self-Scheduled FTRs (MW)	Maximum Possible Self-Scheduled FTRs (MW)	Percent of ARRs Self-Scheduled as FTRs
2008/2009	72,851	112,011	65.0%
2009/2010	68,589	109,413	62.7%
2010/2011	55,732	101,843	54.7%



FINANCIAL TRANSMISSION AND AUCTION REVENUE RIGHTS

Table 8-5 Annual FTR Auction market volume: Planning period 2010 to 2011 (See 2009 SOM Table 8-7)

Trade Type	Hedge Type	FTR Direction	Bid and Requested Count	Bid and Requested Volume (MW)	Cleared Volume (MW)	Cleared Volume	Uncleared Volume (MW)	Uncleared Volume
Buy bids	Obligations	Counter Flow	76,794	300,085	73,956	24.6%	226,129	75.4%
		Prevailing Flow	195,599	1,233,329	127,366	10.3%	1,105,963	89.7%
		Total	272,393	1,533,414	201,322	13.1%	1,332,092	86.9%
	Options	Counter Flow	100	10,855	5,455	50.3%	5,400	49.7%
		Prevailing Flow	7,569	164,287	24,885	15.1%	139,402	84.9%
		Total	7,669	175,142	30,340	17.3%	144,802	82.7%
	Total	Counter Flow	76,894	310,940	79,411	25.5%	231,529	74.5%
		Prevailing Flow	203,168	1,397,616	152,251	10.9%	1,245,365	89.1%
		Total	280,062	1,708,556	231,663	13.6%	1,476,893	86.4%
Self-scheduled bids	Obligations	Counter Flow	160	2,253	2,253	100.0%	0	0.0%
		Prevailing Flow	8,644	53,479	53,479	100.0%	0	0.0%
		Total	8,804	55,732	55,732	100.0%	0	0.0%
Buy and self-scheduled bids	Obligations	Counter Flow	76,954	302,338	76,209	25.2%	226,129	74.8%
		Prevailing Flow	204,243	1,286,808	180,845	14.1%	1,105,963	85.9%
		Total	281,197	1,589,146	257,054	16.2%	1,332,092	83.8%
	Options	Counter Flow	100	10,855	5,455	50.3%	5,400	49.7%
		Prevailing Flow	7,569	164,287	24,885	15.1%	139,402	84.9%
		Total	7,669	175,142	30,340	17.3%	144,802	82.7%
	Total	Counter Flow	77,054	313,193	81,664	26.1%	231,529	73.9%
		Prevailing Flow	211,812	1,451,095	205,730	14.2%	1,245,365	85.8%
		Total	288,866	1,764,288	287,394	16.3%	1,476,893	83.7%
Sell offers	Obligations	Counter Flow	18,898	60,966	2,360	3.9%	58,606	96.1%
		Prevailing Flow	28,599	106,947	7,914	7.4%	99,033	92.6%
		Total	47,497	167,912	10,274	6.1%	157,638	93.9%
	Options	Counter Flow	136	3,060	0	0.0%	3,060	100.0%
		Prevailing Flow	1,747	7,455	41	0.5%	7,415	99.5%
		Total	1,883	10,515	41	0.4%	10,475	99.6%
	Total	Counter Flow	19,034	64,026	2,360	3.7%	61,666	96.3%
		Prevailing Flow	30,346	114,402	7,955	7.0%	106,447	93.0%
		Total	49,380	178,428	10,315	5.8%	168,113	94.2%

Table 8-6 Monthly Balance of Planning Period FTR Auction market volume: January through June 2010 (See 2009 SOM Table 8-9)

Monthly Auction	Hedge Type	Trade Type	Bid and Requested Count	Bid and Requested Volume (MW)	Cleared Volume (MW)	Cleared Volume	Uncleared Volume (MW)	Uncleared Volume
Jan-10	Obligations	Buy bids	156,274	716,812	79,724	11.1%	637,088	88.9%
		Sell offers	46,206	165,858	11,224	6.8%	154,635	93.2%
	Options	Buy bids	391	11,953	1,621	13.6%	10,332	86.4%
		Sell offers	1,579	33,020	5,686	17.2%	27,334	82.8%
Feb-10	Obligations	Buy bids	129,946	656,279	78,354	11.9%	577,925	88.1%
		Sell offers	40,605	146,757	10,364	7.1%	136,393	92.9%
	Options	Buy bids	622	13,993	1,119	8.0%	12,874	92.0%
		Sell offers	1,702	33,125	6,955	21.0%	26,170	79.0%
Mar-10	Obligations	Buy bids	120,727	607,270	90,189	14.9%	517,081	85.1%
		Sell offers	56,858	201,797	12,542	6.2%	189,255	93.8%
	Options	Buy bids	331	8,420	749	8.9%	7,672	91.1%
		Sell offers	1,224	23,960	5,326	22.2%	18,634	77.8%
Apr-10	Obligations	Buy bids	104,078	483,995	78,853	16.3%	405,142	83.7%
		Sell offers	30,097	127,238	9,844	7.7%	117,394	92.3%
	Options	Buy bids	185	5,643	481	8.5%	5,161	91.5%
		Sell offers	980	17,098	3,474	20.3%	13,625	79.7%
May-10	Obligations	Buy bids	83,069	372,583	63,260	17.0%	309,323	83.0%
		Sell offers	16,709	74,617	8,385	11.2%	66,233	88.8%
	Options	Buy bids	396	3,229	209	6.5%	3,020	93.5%
		Sell offers	623	9,657	3,049	31.6%	6,609	68.4%
Jun-10	Obligations	Buy bids	204,305	998,923	107,676	10.8%	891,247	89.2%
		Sell offers	94,433	417,735	24,228	5.8%	393,507	94.2%
	Options	Buy bids	1,725	66,735	2,932	4.4%	63,804	95.6%
		Sell offers	11,073	69,691	15,816	22.7%	53,874	77.3%
2009/2010*	Obligations	Buy bids	1,908,766	8,003,573	946,107	11.8%	7,057,466	88.2%
		Sell offers	649,057	2,337,381	181,810	7.8%	2,155,571	92.2%
	Options	Buy bids	4,904	216,423	17,194	7.9%	199,228	92.1%
		Sell offers	29,328	458,584	72,335	15.8%	386,248	84.2%
2010/2011*	Obligations	Buy bids	204,305	998,923	107,676	10.8%	891,247	89.2%
		Sell offers	94,433	417,735	24,228	5.8%	393,507	94.2%
	Options	Buy bids	1,725	66,735	2,932	4.4%	63,804	95.6%
		Sell offers	11,073	69,691	15,816	22.7%	53,874	77.3%

 * Shows twelve months for 2009/2010 and one month ended 30-Jun-2010 for 2010/2011

Table 8-7 Monthly Balance of Planning Period FTR Auction buy-bid bid and cleared volume (MW per period): January through June 2010 (See 2009 SOM Table 8-10)

Monthly Auction	MW Type	Current Month	Second Month	Third Month	Q1	Q2	Q3	Q4	Total
Jan-10	Bid	393,426	127,235	90,338				117,766	728,765
	Cleared	55,052	10,039	5,963				10,290	81,345
Feb-10	Bid	363,548	100,591	91,281				114,853	670,272
	Cleared	53,791	9,948	6,304				9,430	79,473
Mar-10	Bid	374,155	108,329	106,100				27,107	615,690
	Cleared	66,677	10,555	9,864				3,842	90,938
Apr-10	Bid	366,026	123,612						489,638
	Cleared	67,471	11,863						79,334
May-10	Bid	375,812							375,812
	Cleared	63,469							63,469
Jun-10	Bid	398,343	134,107	127,474	27,614	129,012	126,849	122,260	1,065,658
	Cleared	65,245	9,590	9,386	2,996	10,408	7,927	5,054	110,608

Table 8-8 Secondary bilateral FTR market volume: Planning periods 2009 to 2010 and 2010 to 2011³ (See 2009 SOM Table 8-11)

Planning Period	Hedge Type	Class Type	Volume (MW)	Price
2009/2010	Obligation	24-Hour	1,468	\$0.38
		On Peak	3,544	(\$0.01)
		Off Peak	3,798	(\$0.06)
		Total	8,811	\$0.31
	Option	24-Hour	30	\$5.93
		On Peak	0	NA
		Off Peak	0	NA
		Total	30	\$5.93
2010/2011*	Obligation	24-Hour	1,537	\$0.06
		On Peak	69	\$0.03
		Off Peak	77	\$0.02
		Total	1,683	\$0.06
	Option	24-Hour	20	\$0.40
		On Peak	0	NA
		Off Peak	0	NA
		Total	20	\$0.40

* Shows one month ended 30-Jun-2010

3 The 2010 to 2011 planning period covers the 2010 to 2011 Annual FTR Auction and the Monthly Balance of Planning Period FTR Auctions through June 30, 2010.

BECTION

Price

Table 8-9 Annual FTR Auction weighted-average cleared prices by FTR direction (Dollars per MWh): Planning period 2010 to 2011 (See 2009 SOM Table 8-13)

			Class Type				
Trade Type	Hedge Type	FTR Direction	24-Hour	On Peak	Off Peak	All	
Buy bids	Obligations	Counter Flow	(\$0.56)	(\$0.34)	(\$0.28)	(\$0.35)	
		Prevailing Flow	\$0.97	\$0.73	\$0.69	\$0.75	
		Total	\$0.43	\$0.35	\$0.32	\$0.35	
	Options	Counter Flow	\$0.00	\$0.00	\$0.00	\$0.00	
		Prevailing Flow	\$1.00	\$0.41	\$0.17	\$0.31	
		Total	\$1.00	\$0.33	\$0.14	\$0.26	
Self-scheduled bids	Obligations	Counter Flow	(\$0.15)	NA	NA	(\$0.15)	
		Prevailing Flow	\$1.48	NA	NA	\$1.48	
		Total	\$1.41	NA	NA	\$1.41	
Buy and self- scheduled bids	Obligations	Counter Flow	(\$0.46)	(\$0.34)	(\$0.28)	(\$0.34)	
		Prevailing Flow	\$1.38	\$0.73	\$0.69	\$1.07	
		Total	\$1.17	\$0.35	\$0.32	\$0.71	
	Options	Counter Flow	\$0.00	\$0.00	\$0.00	\$0.00	
		Prevailing Flow	\$1.00	\$0.41	\$0.17	\$0.31	
		Total	\$1.00	\$0.33	\$0.14	\$0.26	
Sell offers	Obligations	Counter Flow	(\$0.15)	(\$0.57)	(\$0.43)	(\$0.47)	
		Prevailing Flow	\$0.45	\$0.53	\$0.32	\$0.43	
		Total	\$0.22	\$0.32	\$0.12	\$0.22	
	Options	Counter Flow	NA	NA	NA	NA	
		Prevailing Flow	\$0.00	\$1.11	\$0.33	\$0.66	
		Total	\$0.00	\$1.11	\$0.33	\$0.66	

FINANCIAL TRANSMISSION AND AUCTION REVENUE RIGHTS

Figure 8-1 Annual FTR auction clearing price duration curves: Planning period 2010 to 2011 (See 2009 SOM Figure 8-2)

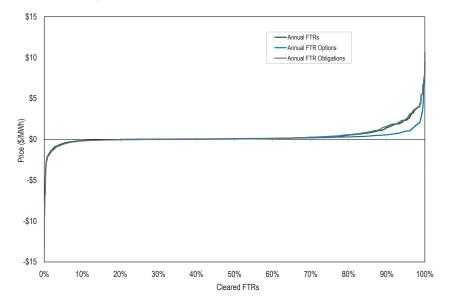


Table 8-10 Monthly Balance of Planning Period FTR Auction cleared, weighted-average, buybid price per period (Dollars per MWh): January through June 2010 (See 2009 SOM Table 8-14)

Monthly Auction	Current Month	Second Month	Third Month	Q1	Q2	Q3	Q4	Total
Jan-10	\$0.09	\$0.34	(\$0.01)				\$0.16	\$0.13
Feb-10	\$0.09	\$0.31	\$0.17				\$0.31	\$0.19
Mar-10	\$0.14	\$0.30	\$0.34				(\$0.07)	\$0.15
Apr-10	\$0.10	\$0.24					. ,	\$0.12
May-10	\$0.06							\$0.06
Jun-10	\$0.11	\$0.36	\$0.35	\$0.80	\$0.33	\$0.40	\$0.37	\$0.29

Revenue

Annual FTR Auction Revenue

Table 8-11 Annual FTR Auction revenue by FTR direction: Planning period 2010 to 2011 (See 2009 SOM Table 8-16)

				Class Type		
Trade Type	Hedge Type	FTR Direction	24-Hour	On Peak	Off Peak	All
Buy bids	Obligations	Counter Flow	(\$31,703,144)	(\$48,028,679)	(\$43,231,947)	(\$122,963,770)
		Prevailing Flow	\$101,156,043	\$184,829,000	\$172,777,067	\$458,762,110
		Total	\$69,452,899	\$136,800,321	\$129,545,120	\$335,798,340
	Options	Counter Flow	\$0	\$0	\$0	\$0
		Prevailing Flow	\$4,190,505	\$20,643,158	\$9,781,679	\$34,615,342
		Total	\$4,190,505	\$20,643,158	\$9,781,679	\$34,615,342
	Total	Counter Flow	(\$31,703,144)	(\$48,028,679)	(\$43,231,947)	(\$122,963,770)
		Prevailing Flow	\$105,346,548	\$205,472,159	\$182,558,746	\$493,377,453
		Total	\$73,643,404	\$157,443,479	\$139,326,799	\$370,413,682
Self-scheduled bids	Obligations	Counter Flow	(\$3,013,115)	NA	NA	(\$3,013,115)
		Prevailing Flow	\$692,601,293	NA	NA	\$692,601,293
		Total	\$689,588,178	NA	NA	\$689,588,178
Buy and self-scheduled bids	Obligations	Counter Flow	(\$34,716,259)	(\$48,028,679)	(\$43,231,947)	(\$125,976,885)
		Prevailing Flow	\$793,757,336	\$184,829,000	\$172,777,067	\$1,151,363,403
		Total	\$759,041,077	\$136,800,321	\$129,545,120	\$1,025,386,518
	Options	Counter Flow	\$0	\$0	\$0	\$0
		Prevailing Flow	\$4,190,505	\$20,643,158	\$9,781,679	\$34,615,342
		Total	\$4,190,505	\$20,643,158	\$9,781,679	\$34,615,342
	Total	Counter Flow	(\$34,716,259)	(\$48,028,679)	(\$43,231,947)	(\$125,976,885)
		Prevailing Flow	\$797,947,840	\$205,472,159	\$182,558,746	\$1,185,978,745
		Total	\$763,231,581	\$157,443,479	\$139,326,799	\$1,060,001,860
Sell offers	Obligations	Counter Flow	(\$100,949)	(\$2,404,436)	(\$2,499,147)	(\$5,004,532)
		Prevailing Flow	\$492,925	\$9,363,404	\$5,201,761	\$15,058,090
		Total	\$391,976	\$6,958,967	\$2,702,614	\$10,053,558
	Options	Counter Flow	\$0	\$0	\$0	\$0
		Prevailing Flow	\$0	\$85,206	\$34,159	\$119,365
		Total	\$0	\$85,206	\$34,159	\$119,365
	Total	Counter Flow	(\$100,949)	(\$2,404,436)	(\$2,499,147)	(\$5,004,532)
		Prevailing Flow	\$492,925	\$9,448,610	\$5,235,920	\$15,177,455
		Total	\$391,976	\$7,044,173	\$2,736,773	\$10,172,923

FINANCIAL TRANSMISSION AND AUCTION REVENUE RIGHTS

Figure 8-2 Ten largest positive and negative revenue producing FTR sinks purchased in the Annual FTR Auction: Planning period 2010 to 2011⁴ (See 2009 SOM Figure 8-5)

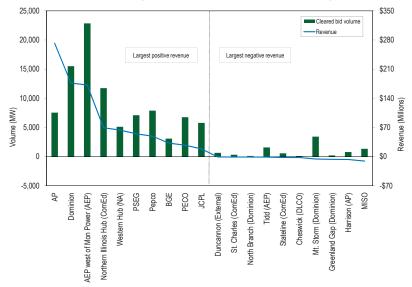
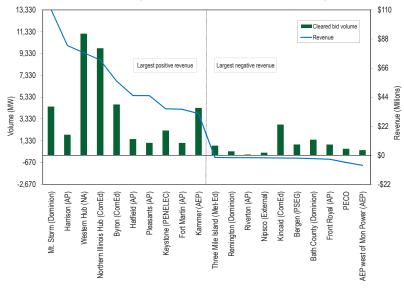


Figure 8-3 Ten largest positive and negative revenue producing FTR sources purchased in the Annual FTR Auction: Planning period 2010 to 2011 (See 2009 SOM Figure 8-6)



4 For Figure 8-2 through Figure 8-7, each FTR sink and source that is not a control zone has its corresponding control zone listed in parentheses after its name. Most FTR sink and source control zone identifications for hubs and interface pricing points are listed as NA because they cannot be assigned to a specific control zone.

Monthly Balance of Planning Period FTR Auction Revenue

Table 8-12 Monthly Balance of Planning Period FTR Auction revenue: January through June 2010 (See 2009 SOM Table 8-17)

				Class Typ	De	
Monthly Auction	Hedge Type	Trade Type	24-Hour	On Peak	Off Peak	All
Jan-10	Obligations	Buy bids	(\$358,507)	\$3,027,607	\$1,763,504	\$4,432,604
		Sell offers	\$383,960	\$1,556,699	\$561,863	\$2,502,522
	Options	Buy bids	\$0	\$341,524	\$118,211	\$459,735
		Sell offers	\$83,413	\$542,599	\$261,153	\$887,164
Feb-10	Obligations	Buy bids	\$530,509	\$2,872,273	\$2,657,432	\$6,060,214
		Sell offers	(\$116,080)	\$1,524,315	\$1,983,143	\$3,391,378
	Options	Buy bids	\$0	\$241,692	\$234,325	\$476,018
		Sell offers	\$8,606	\$825,079	\$709,563	\$1,543,248
Mar-10	Obligations	Buy bids	(\$549,382)	\$4,005,065	\$2,109,386	\$5,565,069
		Sell offers	\$565,634	\$1,299,894	\$578,118	\$2,443,646
	Options	Buy bids	\$972	\$27,948	\$25,433	\$54,353
		Sell offers	\$80,862	\$900,428	\$434,215	\$1,415,505
Apr-10	Obligations	Buy bids	(\$455,673)	\$1,949,169	\$1,914,146	\$3,407,643
Opti	-	Sell offers	\$411,821	\$303,177	\$711,735	\$1,426,734
	Options	Buy bids	\$0	\$31,664	\$7,685	\$39,348
		Sell offers	\$397	\$619,455	\$222,426	\$842,278
May-10	Obligations	Buy bids	(\$174,016)	\$796,256	\$742,930	\$1,365,170
		Sell offers	\$55,656	\$98,700	\$324,803	\$479,159
	Options	Buy bids	\$0	\$38,754	\$2,044	\$40,798
		Sell offers	\$30	\$400,162	\$143,440	\$543,632
Jun-10	Obligations	Buy bids	\$3,248,555	\$8,066,567	\$6,097,873	\$17,412,995
		Sell offers	\$953,733	\$3,876,255	\$3,725,334	\$8,555,322
	Options	Buy bids	\$5,802	\$158,851	\$116,761	\$281,415
		Sell offers	\$16,839	\$4,265,630	\$2,393,988	\$6,676,457
2009/2010*	Obligations	Buy bids	(\$121,010)	\$45,775,003	\$33,593,366	\$79,247,359
		Sell offers	\$3,920,764	\$21,760,177	\$17,779,192	\$43,460,133
	Options	Buy bids	\$98,620	\$1,940,920	\$834,871	\$2,874,411
		Sell offers	\$263,053	\$11,631,451	\$7,274,458	\$19,168,962
2010/2011*	Obligations	Buy bids	\$3,248,555	\$8,066,567	\$6,097,873	\$17,412,995
		Sell offers	\$953,733	\$3,876,255	\$3,725,334	\$8,555,322
	Options	Buy bids	\$5,802	\$158,851	\$116,761	\$281,415
		Sell offers	\$16,839	\$4,265,630	\$2,393,988	\$6,676,457

* Shows twelve months for 2009/2010 and one month ended 30-Jun-2010 for 2010/2011

Figure 8-4 Ten largest positive and negative revenue producing FTR sinks purchased in the Monthly Balance of Planning Period FTR Auctions: Planning period 2009 to 2010 (See 2009 SOM Figure 8-7)

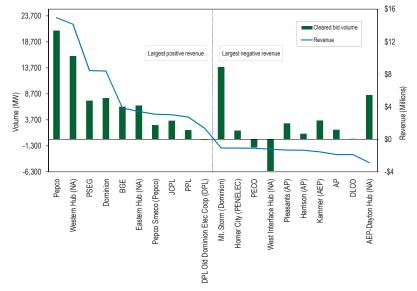
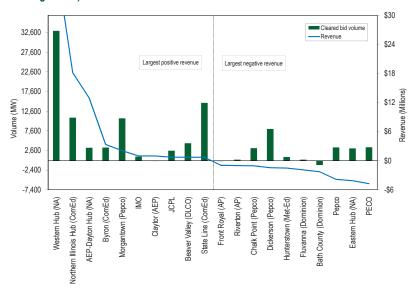


Figure 8-5 Ten largest positive and negative revenue producing FTR sources purchased in the Monthly Balance of Planning Period FTR Auctions: Planning period 2009 to 2010 (See 2009 SOM Figure 8-8)



Revenue Adequacy

Table 8-13 Total annual PJM FTR revenue detail (Dollars (Millions)): Planning periods 2009 to2010 and 2010 to 2011 (See 2009 SOM Table 8-18)

Accounting Element	2009/2010	2010/2011*
ARR information		
ARR target allocations	\$1,276.9	\$84.6
FTR auction revenue	\$1,368.7	\$89.1
ARR excess	\$91.9	\$4.5
FTR targets		
FTR target allocations	\$908.1	\$196.4
Adjustments:		
Adjustments to FTR target allocations	(\$1.5)	\$0.0
Total FTR targets	\$906.6	\$196.4
FTR revenues		
ARR excess	\$91.9	\$4.5
Competing uses	\$0.0	\$0.0
Congestions		
Net Negative Congestion (enter as negative)	(\$37.8)	(\$0.6
Hourly congestion revenue	\$854.9	\$189.2
Midwest ISO M2M (credit to PJM minus credit to Midwest ISO)	(\$31.0)	(\$0.9
Consolidated Edison Company of New York and Public Service Electric and Gas Company Wheel (CEPSW) congestion credit to Con Edison (enter as negative)	(\$2.0)	(\$0.1)
Adjustments:		
Excess revenues carried forward into future months	\$27.3	\$0.0
Excess revenues distributed back to previous months	\$9.2	\$0.0
Other adjustments to FTR revenues	\$2.4	\$0.0
Total FTR revenues	\$923.5	\$192.1
Excess revenues distributed to other months	(\$45.1)	\$0.0
Excess revenues distributed to CEPSW for end-of-year distribution	\$0.0	\$0.0
Excess revenues distributed to FTR holders	\$0.0	\$0.0
Total FTR congestion credits	\$878.4	\$192.1
Total congestion credits on bill (includes CEPSW and end-of-year distribution)	\$880.3	\$192.2
Remaining deficiency	\$28.3	\$4.3

* Shows one month ended 30-Jun-10

Table 8-14 Monthly FTR accounting summary (Dollars (Millions)): Planning periods 2009 to 2010 and 2010 to 2011 (See 2009 SOM Table 8-19)

Period	FTR Revenues (with adjustments)	FTR Target Allocations	FTR Payout Ratio (original)	FTR Credits (with adjustments)	FTR Payout Ratio (with adjustments)	Credits Deficiency (with adjustments)	Credits Excess (with adjustments)
Jun-09	\$54.6	\$43.9	100.0%	\$43.9	100.0%	\$0.0	\$0.0
Jul-09	\$53.2	\$40.4	100.0%	\$40.4	100.0%	\$0.0	\$0.0
Aug-09	\$92.4	\$92.4	81.3%	\$92.4	100.0%	\$0.0	\$0.0
Sep-09	\$31.4	\$31.4	87.4%	\$31.4	100.0%	\$0.0	\$0.0
Oct-09	\$57.8	\$57.8	83.4%	\$57.8	100.0%	\$0.0	\$0.0
Nov-09	\$38.2	\$37.9	100.0%	\$37.9	100.0%	\$0.0	\$0.0
Dec-09	\$101.9	\$93.7	100.0%	\$93.7	100.0%	\$0.0	\$0.0
Jan-10	\$223.7	\$213.0	100.0%	\$213.0	100.0%	\$0.0	\$0.0
Feb-10	\$113.3	\$110.9	100.0%	\$110.9	100.0%	\$0.0	\$0.0
Mar-10	\$29.0	\$35.8	73.9%	\$29.0	81.1%	\$6.8	\$0.0
Apr-10	\$47.7	\$68.5	69.3%	\$47.7	69.7%	\$20.8	\$0.0
May-10	\$80.2	\$80.9	99.1%	\$80.2	99.1%	\$0.7	\$0.0
Summary for	or Planning Period 2009 to 20	10					
Total		\$906.6		\$878.4	96.9%	\$28.3	\$0.0
Jun-10	\$192.1	\$196.4	97.8%	\$192.1	97.8%	\$4.3	\$0.0
Summary fo	or Planning Period 2010 to 20	11 through June 30,	2010				
Total		\$196.4		\$192.1	97.8%	\$4.3	\$0.0

Figure 8-6 Ten largest positive and negative FTR target allocations summed by sink: Planning period 2009 to 2010 (See 2009 SOM Figure 8-9)

Auction Revenue Rights

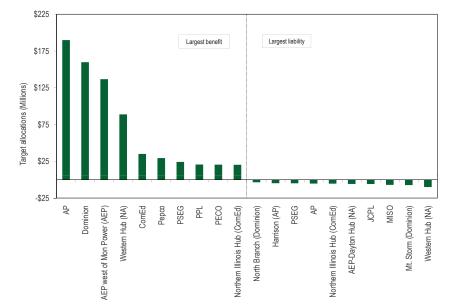
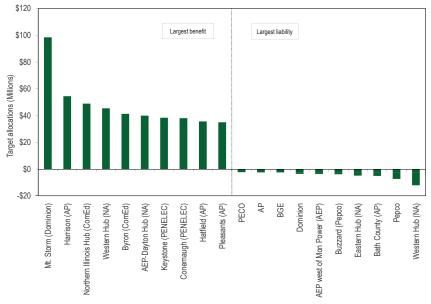


Figure 8-7 Ten largest positive and negative FTR target allocations summed by source: Planning period 2009 to 2010 (See 2009 SOM Figure 8-10)



Market Structure

Supply

Incremental ARRs

Table 8-15 Incremental ARR allocation volume: Planning periods 2008 to 2009, 2009 to 2010and 2010 to 2011 (See 2009 SOM Table 8-20)

Planning Period	Bid and Requested Count	Bid and Requested Volume (MW)	Cleared Volume (MW)	Cleared Volume	Uncleared Volume (MW)	Uncleared Volume
2008/2009	15	891	891	100%	0	0%
2009/2010	14	531	531	100%	0	0%
2010/2011	15	595	595	100%	0	0%

Table 8-16 Top 10 principal binding transmission constraints limiting the annual ARR allocation: Planning period 2010 to 2011 (See 2009 SOM Table 8-21)

Constraint	Туре	Control Zone
AP South	Interface	AP
Nelson - Electric Junction	Line	ComEd
State Line - Wolf Lake	Flowgate	MISO
Cedar Grove - Clifton	Line	PSEG
Roseland - Whippany	Line	JCPL
Brandon Shores - Riverside	Line	BGE
Waterman	Interface	ComEd
Linden - North Ave	Line	PSEG
Bayonne - Pleasant Valley	Line	PSEG
Cumberland - Juniata	Line	PPL



ARR Reassignment for Retail Load Switching

Table 8-17 ARRs and ARR revenue automatically reassigned for network load changes by control zone: June 1, 2009, through June 30, 2010 (See 2009 SOM Table 8-22)

	ARRs Rea (MW-c			e Reassigned nds) per MW-day]
	2009/2010	2010/2011	2009/2010	2010/2011
Control Zone	(12 months)	(1 month)*	(12 months)	(1 month)*
AECO	417	101	\$7.6	\$0.5
AEP	268	35	\$6.3	\$0.7
AP	629	227	\$77.2	\$22.0
BGE	2,992	698	\$62.9	\$9.4
ComEd	3,145	809	\$10.2	\$9.2
DAY	21	26	\$0.1	\$0.1
DLCO	371	68	\$1.0	\$0.4
Dominion	0	0	\$0.0	\$0.0
DPL	952	251	\$10.9	\$2.0
JCPL	1,151	476	\$17.7	\$3.4
Met-Ed	33	52	\$0.8	\$0.7
PECO	29	5	\$0.5	\$0.0
PENELEC	8	7	\$0.2	\$0.1
Рерсо	2,511	620	\$25.6	\$6.2
PPL	4,489	763	\$91.4	\$7.5
PSEG	1,984	441	\$50.0	\$5.5
RECO	62	83	\$0.0	\$0.0
Total	19,061	4,660	\$362.4	\$67.7

* Through 30-Jun-10



Market Performance

Volume

Table 8-18 Annual ARR allocation volume: Planning periods 2009 to 2010 and 2010 to 2011 (See 2009 SOM Table 8-23)

Planning Period	Stage	Round	Bid and Requested Count	Bid and Requested Volume (MW)	Cleared Volume (MW)	Cleared Volume	Uncleared Volume (MW)	Uncleared Volume
2009/2010	1A	0	7,527	64,988	64,914	99.9%	74	0.1%
	1B	1	3,582	26,517	26,514	100.0%	3	0.0%
	2	2	1,580	16,521	5,680	34.4%	10,841	65.6%
		3	1,157	16,413	6,013	36.6%	10,400	63.4%
		4	994	15,599	6,293	40.3%	9,306	59.7%
		Total	3,731	48,533	17,986	37.1%	30,547	62.9%
	Total		14,840	140,038	109,414	78.1%	30,624	21.9%
2010/2011	1A	0	8,862	61,793	61,793	100.0%	0	0.0%
	1B	1	3,885	27,850	27,850	100.0%	0	0.0%
	2	2	1,901	15,333	4,161	27.1%	11,172	72.9%
		3	1,374	15,321	4,167	27.2%	11,154	72.8%
		4	1,247	15,317	3,872	25.3%	11,445	74.7%
		Total	4,522	45,971	12,200	26.5%	33,771	73.5%
	Total		17,269	135,614	101,843	75.1%	33,771	24.9%

Revenue Adequacy

Table 8-19 ARR revenue adequacy (Dollars (Millions)): Planning periods 2009 to 2010 and 2010 to 2011 (See 2009 SOM Table 8-24)

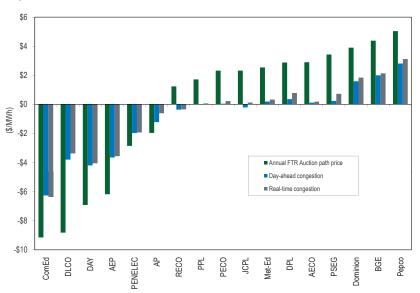
	2009/2010	2010/2011
Total FTR auction net revenue	\$1,349.3	\$1,052.3
Annual FTR Auction net revenue	\$1,329.8	\$1,049.8
Monthly Balance of Planning Period FTR Auction net revenue*	\$19.5	\$2.5
ARR target allocations	\$1,273.5	\$1,028.8
ARR credits	\$1,273.5	\$1,028.8
Surplus auction revenue	\$75.8	\$23.5
ARR payout ratio	100%	100%
FTR payout ratio*	96.9%	97.8%

* Shows twelve months for 2009/2010 and one month ended 30-Jun-10 for 2010/2011

ARR and FTR Revenue and Congestion

FTR Prices and Zonal Price Differences

Figure 8-8 Annual FTR Auction prices vs. average day-ahead and real-time congestion for all control zones relative to the Western Hub: Planning period 2009 to 2010 (See 2009 SOM Figure 8-11)



Effectiveness of ARRs as a Hedge against Congestion

Table 8-20 ARR and self scheduled FTR congestion hedging by control zone: Planning period 2009 to 2010 (See 2009 SOM Table 8-25)

Control Zone	ARR Credits	Self-Scheduled FTR Credits	Total Revenue	Congestion	Total Revenue - Congestion Difference	Percent Hedged
AECO	\$16,334,067	\$594,669	\$16,928,736	\$16,326,233	\$602,503	>100%
AEP	\$4,284,698	\$144,069,787	\$148,354,485	\$113,350,311	\$35,004,174	>100%
AP	\$45,451,856	\$183,064,919	\$228,516,775	\$44,321,527	\$184,195,248	>100%
BGE	\$46,459,694	\$2,847,697	\$49,307,391	\$7,167,019	\$42,140,372	>100%
ComEd	\$14,549,758	\$30,963,973	\$45,513,731	\$72,332,001	(\$26,818,270)	62.9%
DAY	\$6,207,117	\$801,013	\$7,008,130	\$10,354,069	(\$3,345,940)	67.7%
DLCO	\$2,450,918	\$1,801	\$2,452,719	\$21,999,718	(\$19,546,999)	11.1%
Dominion	\$6,134,065	\$145,819,810	\$151,953,875	\$64,100,854	\$87,853,021	>100%
DPL	\$16,378,603	\$799,792	\$17,178,395	\$28,137,137	(\$10,958,742)	61.1%
JCPL	\$28,119,166	\$954,861	\$29,074,027	\$20,415,639	\$8,658,387	>100%
Met-Ed	\$108,900	\$11,784,177	\$11,893,077	\$18,641,318	(\$6,748,241)	63.8%
PECO	\$1,932,121	\$18,391,851	\$20,323,972	(\$20,878,937)	\$41,202,909	>100%
PENELEC	\$22,966,832	\$12,204,795	\$35,171,627	\$12,468,345	\$22,703,282	>100%
Рерсо	\$21,798,040	\$1,724,179	\$23,522,219	\$141,758,785	(\$118,236,566)	16.6%
PJM	\$7,727,385	(\$153,147)	\$7,574,238	\$2,456,107	\$5,118,131	>100%
PPL	\$1,102,352	\$14,750,503	\$15,852,855	(\$24,767,326)	\$40,620,180	>100%
PSEG	\$83,906,675	\$3,078,677	\$86,985,352	\$9,011,915	\$77,973,437	>100%
RECO	(\$41,455)	\$0	(\$41,455)	\$1,285,257	(\$1,326,712)	0%
Total	\$325,870,792	\$571,699,358	\$897,570,150	\$538,479,974	\$359,090,175	>100%

Effectiveness of FTRs as a Hedge against Congestion

Table 8-21 FTR congestion hedging by control zone: Planning period 2009 to 2010 (See 2009 SOM Table 8-26)

Control Zone	FTR Direction	FTR Credits	FTR Auction Revenue	FTR Hedge	Congestion	FTR Hedge - Congestion Difference	Percent Hedged
AECO	Counter Flow	(\$574,550)	(\$2,125,313)	\$1,532,321			
	Prevailing Flow	\$4,794,271	\$26,600,621	(\$21,652,461)			
	Total	\$4,219,721	\$24,475,307	(\$20,120,140)	\$10,817,043	(\$30,937,183)	<0%
AEP	Counter Flow	(\$16,529,319)	(\$35,070,154)	\$18,010,272			
	Prevailing Flow	\$174,448,337	\$253,485,172	(\$73,437,348)			
	Total	\$157,919,018	\$218,415,019	(\$55,427,076)	\$101,031,029	(\$156,458,105)	<0%
AP	Counter Flow	(\$18,280,127)	(\$26,190,585)	\$7,323,698			
	Prevailing Flow	\$204,054,777	\$354,899,348	(\$144,294,768)			
	Total	\$185,774,650	\$328,708,762	(\$136,971,070)	\$132,996,453	(\$269,967,523)	<0%
BGE	Counter Flow	\$558,288	(\$3,704,741)	\$4,280,949			
	Prevailing Flow	\$29,219,788	\$39,534,833	(\$9,377,141)			
	Total	\$29,778,076	\$35,830,093	(\$5,096,193)	\$40,787,754	(\$45,883,947)	<0%
ComEd	Counter Flow	(\$9,514,021)	(\$26,767,299)	\$16,947,895			
	Prevailing Flow	\$71,215,921	\$39,946,826	\$33,555,002			
	Total	\$61,701,900	\$13,179,527	\$50,502,897	\$192,953,092	(\$142,450,195)	26.2%
DAY	Counter Flow	(\$1,630,951)	(\$3,269,555)	\$1,586,254			
	Prevailing Flow	\$2,839,802	\$3,425,410	(\$494,455)			
	Total	\$1,208,852	\$155,855	\$1,091,799	\$7,993,310	(\$6,901,511)	13.7%
DLCO	Counter Flow	\$1,356,126	(\$7,042,462)	\$8,442,117			
	Prevailing Flow	\$9,417,471	\$3,500,693	\$6,219,062			
	Total	\$10,773,597	(\$3,541,768)	\$14,661,179	\$25,084,077	(\$10,422,898)	58.4%
Dominion	Counter Flow	(\$13,657,681)	(\$22,663,539)	\$8,567,470			
	Prevailing Flow	\$170,375,880	\$256,508,243	(\$80,663,595)			
	Total	\$156,718,199	\$233,844,704	(\$72,096,125)	\$150,288,685	(\$222,384,810)	<0%
DPL	Counter Flow	(\$1,298,257)	(\$3,516,003)	\$2,176,074			
	Prevailing Flow	\$14,579,703	\$38,653,745	(\$23,606,058)			
	Total	\$13,281,446	\$35,137,741	(\$21,429,984)	\$28,398,375	(\$49,828,359)	<0%
JCPL	Counter Flow	(\$2,387,439)	(\$4,574,033)	\$2,109,961			
	Prevailing Flow	\$1,497,365	\$48,058,948	(\$46,513,520)			
	Total	(\$890,074)	\$43,484,916	(\$44,403,559)	\$18,958,788	(\$63,362,348)	<0%

Table 8-21 FTR congestion hedging by control zone: Planning period 2009 to 2010 (See 2009 SOM Table 8-26) [continued]

Control Zone	FTR Direction	FTR Credits	FTR Auction Revenue	FTR Hedge	Congestion	FTR Hedge - Congestion Difference	Percent Hedged
Met-Ed	Counter Flow	(\$1,585,783)	(\$2,404,120)	\$767,436			
	Prevailing Flow	\$17,054,016	\$35,665,942	(\$18,064,522)			
	Total	\$15,468,232	\$33,261,822	(\$17,297,086)	\$4,609,666	(\$21,906,752)	<0%
PECO	Counter Flow	(\$294,222)	(\$2,663,493)	\$2,359,827			
	Prevailing Flow	\$21,761,652	\$58,250,992	(\$35,790,829)			
	Total	\$21,467,430	\$55,587,499	(\$33,431,002)	(\$22,617,637)	(\$10,813,365)	<0%
PENELEC	Counter Flow	(\$11,053,769)	(\$33,363,362)	\$21,954,786			
	Prevailing Flow	\$72,862,608	\$103,902,070	(\$28,700,699)			
	Total	\$61,808,839	\$70,538,708	(\$6,745,913)	\$58,884,119	(\$65,630,032)	<0%
Рерсо	Counter Flow	\$2,751,544	(\$17,578,229)	\$20,418,092			
	Prevailing Flow	\$108,481,057	\$110,673,874	\$1,289,236			
	Total	\$111,232,601	\$93,095,645	\$21,707,328	\$66,040,760	(\$44,333,432)	32.9%
PJM	Counter Flow	(\$7,409,025)	(\$10,469,858)	\$2,823,017			
	Prevailing Flow	\$2,474,268	\$6,199,137	(\$3,645,449)			
	Total	(\$4,934,756)	(\$4,270,721)	(\$822,432)	\$8,551,453	(\$9,373,885)	<0%
PPL	Counter Flow	(\$1,063,123)	(\$8,578,713)	\$7,481,466			
	Prevailing Flow	\$22,095,877	\$69,681,584	(\$46,876,468)			
	Total	\$21,032,754	\$61,102,871	(\$39,395,002)	(\$8,203,127)	(\$31,191,875)	<0%
PSEG	Counter Flow	\$607,455	(\$10,115,255)	\$10,742,209			
	Prevailing Flow	\$33,855,967	\$123,238,031	(\$88,295,346)			
	Total	\$34,463,423	\$113,122,776	(\$77,553,137)	(\$1,140,092)	(\$76,413,045)	<0%
RECO	Counter Flow	(\$1,140,833)	(\$4,314,908)	\$3,137,456			
	Prevailing Flow	(\$45,946)	\$1,453,174	(\$1,500,595)			
	Total	(\$1,186,779)	(\$2,861,734)	\$1,636,862	\$1,562,712	\$74,149	104.7%
Total	Counter Flow	(\$81,145,687)	(\$224,411,623)	\$140,661,301			
	Prevailing Flow	\$960,982,817	\$1,573,678,643	(\$581,849,954)			
	Total	\$879,837,129	\$1,349,267,020	(\$441,188,653)	\$816,996,461	(\$2,163,536,265)	<0%

Effectiveness of ARRs and FTRs as a Hedge against Congestion

Table 8-22 ARR and FTR congestion hedging by control zone: Planning period 2009 to 2010 (See 2009 SOM Table 8-27)

Control Zone	ARR Credits	FTR Credits	FTR Auction Revenue	Total ARR and FTR Hedge	Congestion	Total Hedge - Congestion Difference	Percent Hedged
AECO	\$19,253,322	\$4,219,286	\$24,404,104	(\$931,496)	\$11,668,534	(\$12,600,030)	<0%
AEP	\$223,262,229	\$157,902,719	\$217,879,838	\$163,285,110	\$116,052,957	\$47,232,153	>100%
AP	\$365,048,488	\$185,755,476	\$329,392,239	\$221,411,725	\$127,452,651	\$93,959,074	>100%
BGE	\$52,131,739	\$29,775,002	\$36,152,570	\$45,754,171	\$38,375,399	\$7,378,772	>100%
ComEd	\$27,261,279	\$61,695,532	\$13,172,043	\$75,784,768	\$214,320,006	(\$138,535,238)	35.4%
DAY	\$7,505,314	\$1,208,727	\$301,370	\$8,412,671	\$7,251,176	\$1,161,495	>100%
DLCO	\$2,454,337	\$10,772,485	(\$3,168,727)	\$16,395,549	\$23,090,875	(\$6,695,326)	71.0%
Dominion	\$213,840,239	\$156,702,023	\$233,943,347	\$136,598,915	\$144,663,009	(\$8,064,094)	94.4%
DPL	\$17,792,090	\$13,280,075	\$35,171,391	(\$4,099,226)	\$25,523,871	(\$29,623,097)	<0%
JCPL	\$34,924,192	(\$889,982)	\$43,756,129	(\$9,721,919)	\$19,798,670	(\$29,520,589)	<0%
Met-Ed	\$27,312,021	\$15,466,636	\$33,289,557	\$9,489,100	\$3,372,231	\$6,116,869	>100%
PECO	\$49,863,646	\$21,465,214	\$55,525,390	\$15,803,470	(\$23,582,715)	\$39,386,185	>100%
PENELEC	\$49,412,326	\$61,802,460	\$69,940,862	\$41,273,924	\$52,397,326	(\$11,123,402)	78.8%
Рерсо	\$23,702,306	\$111,221,120	\$92,127,593	\$42,795,833	\$60,979,815	(\$18,183,982)	70.2%
PJM	\$9,979,482	(\$4,934,247)	(\$4,320,705)	\$9,365,940	(\$5,687,389)	\$15,053,329	>100%
PPL	\$55,143,860	\$21,030,583	\$61,139,754	\$15,034,689	(\$9,016,274)	\$24,050,963	>100%
PSEG	\$94,609,270	\$34,459,866	\$112,939,182	\$16,129,954	\$3,593,597	\$12,536,357	>100%
RECO	(\$41,455)	(\$1,186,657)	(\$2,841,361)	\$1,613,249	\$1,390,092	\$223,157	>100%
Total	\$1,273,454,685	\$879,746,321	\$1,348,804,576	\$804,396,430	\$811,643,831	(\$7,247,401)	99.1%

Table 8-23 ARR and FTR congestion hedging: Planning periods 2008 to 2009 and 2009 to 2010 (See 2009 SOM Table 8-28)

Planning Period	ARR Credits	FTR Credits	FTR Auction Revenue	Total ARR and FTR Hedge	Congestion	Total Hedge - Congestion Difference	Percent Hedged
2008/2009	\$2,361,292,807	\$1,748,201,585	\$2,489,609,470	\$1,619,884,922	\$1,489,647,665	\$130,237,257	>100%
2009/2010	\$1,276,852,551	\$879,858,494	\$1,368,744,320	\$787,966,725	\$816,996,461	(\$29,029,736)	96.4%

8

ARRs and FTRs as a Hedge against Total Real Time Energy Charges

Table 8-24 ARRs and self-scheduled FTR credits as a hedge against energy charges by control zone: January through June 2010 (See 2009 SOM, Table 8-29)

Control Zone	ARR Credits	Self-Scheduled FTR Credits	Total Hedge	Total Energy Charges	Percent of Energy Charges Covered by ARR and Self-Scheduled FTR Credits
AECO	\$7,219,021	\$751,254	\$7,970,276	\$271,513,214	2.9%
AEP	\$2,480,069	\$98,203,487	\$100,683,556	\$2,624,894,987	3.8%
AP	\$21,725,051	\$161,824,339	\$183,549,390	\$1,038,462,004	17.7%
BGE	\$21,684,973	\$2,514,327	\$24,199,300	\$906,573,516	2.7%
ComEd	\$12,784,592	\$9,277,997	\$22,062,589	\$1,709,282,695	1.3%
DAY	\$2,868,458	\$1,042,618	\$3,911,076	\$329,224,754	1.2%
DLCO	\$1,429,200	\$488	\$1,429,688	\$280,788,853	0.5%
Dominion	\$2,947,981	\$123,382,623	\$126,330,604	\$2,545,936,995	5.0%
DPL	\$7,722,753	\$621,469	\$8,344,222	\$471,469,578	1.8%
JCPL	\$12,947,621	\$1,488,435	\$14,436,056	\$580,651,089	2.5%
Met-Ed	\$1,135,955	\$7,003,783	\$8,139,737	\$371,324,980	2.2%
PECO	\$939,633	\$15,901,854	\$16,841,487	\$1,011,524,525	1.7%
PENELEC	\$11,448,978	\$7,144,243	\$18,593,221	\$365,980,867	5.1%
Рерсо	\$10,717,044	\$1,185,424	\$11,902,469	\$856,973,155	1.4%
PJM	\$4,669,879	\$1,603,965	\$6,273,844	NA	NA
PPL	\$2,120,206	\$8,965,617	\$11,085,823	\$967,273,370	1.1%
PSEG	\$37,871,812	\$3,017,675	\$40,889,487	\$1,125,125,064	3.6%
RECO	(\$9,486)	\$0	(\$9,486)	\$36,400,979	(0.0%)
Total	\$162,703,742	\$443,929,599	\$606,633,341	\$15,519,070,251	3.9%

Table 8-25 FTRs as a hedge against energy charges by control zone: January through June 2010 (See 2009 SOM, Table 8-30)

Control Zone	FTR Credits (Excluding Self-Scheduled FTRs)	FTR Auction Revenue (Excluding Self-Scheduled FTRs)	Total FTR Hedge (Excluding Self-Scheduled FTRs)	Total Energy Charges	Percent of Energy Charges Covered by FTR Credits (Excluding Self-Scheduled FTRs)
AECO	\$4,665,132	\$8,540,145	(\$3,875,013)	\$271,513,214	(1.4%)
AEP	\$6,384,508	(\$1,298,303)	\$7,682,812	\$2,624,894,987	0.3%
AP	(\$5,056,742)	\$86,557	(\$5,143,299)	\$1,038,462,004	(0.5%)
BGE	\$20,058,477	\$15,606,242	\$4,452,235	\$906,573,516	0.5%
ComEd	\$27,010,525	\$6,220,467	\$20,790,058	\$1,709,282,695	1.2%
DAY	(\$377,899)	(\$512,603)	\$134,704	\$329,224,754	0.0%
DLCO	\$12,291,134	(\$2,633,100)	\$14,924,233	\$280,788,853	5.3%
Dominion	\$14,470,372	\$10,671,051	\$3,799,321	\$2,545,936,995	0.1%
DPL	\$8,859,853	\$15,336,161	(\$6,476,308)	\$471,469,578	(1.4%)
JCPL	\$4,312,092	\$17,663,388	(\$13,351,297)	\$580,651,089	(2.3%)
Met-Ed	\$6,070,972	\$2,982,318	\$3,088,655	\$371,324,980	0.8%
PECO	\$3,356,273	\$3,675,675	(\$319,402)	\$1,011,524,525	(0.0%)
PENELEC	\$36,505,723	\$23,640,178	\$12,865,544	\$365,980,867	3.5%
Рерсо	\$68,831,642	\$51,625,849	\$17,205,793	\$856,973,155	2.0%
PJM	(\$3,460,897)	(\$3,954,214)	\$493,317	NA	NA
PPL	\$3,565,366	\$4,294,064	(\$728,697)	\$967,273,370	(0.1%)
PSEG	\$35,613,845	\$49,462,696	(\$13,848,851)	\$1,125,125,064	(1.2%)
RECO	(\$759,509)	(\$1,357,902)	\$598,393	\$36,400,979	1.6%
Total	\$242,340,867	\$200,048,670	\$42,292,198	\$15,519,070,251	0.3%

Table 8-26 ARRs and FTRs as a hedge against energy charges by control zone: January through June 2010 (See 2009 SOM, Table 8-31)

Control Zone	ARR Related Hedge (Including Self-Scheduled FTRs)	FTR Hedge (Excluding Self-Scheduled FTRs)	Total ARR and FTR Hedge	Total Energy Charges	Percent of Energy Charges Covered by ARR and FTR Credits
AECO	\$7,970,276	(\$3,875,013)	\$4,095,263	\$271,513,214	1.5%
AEP	\$100,683,556	\$7,682,812	\$108,366,368	\$2,624,894,987	4.1%
AP	\$183,549,390	(\$5,143,299)	\$178,406,091	\$1,038,462,004	17.2%
BGE	\$24,199,300	\$4,452,235	\$28,651,536	\$906,573,516	3.2%
ComEd	\$22,062,589	\$20,790,058	\$42,852,647	\$1,709,282,695	2.5%
DAY	\$3,911,076	\$134,704	\$4,045,780	\$329,224,754	1.2%
DLCO	\$1,429,688	\$14,924,233	\$16,353,921	\$280,788,853	5.8%
Dominion	\$126,330,604	\$3,799,321	\$130,129,925	\$2,545,936,995	5.1%
DPL	\$8,344,222	(\$6,476,308)	\$1,867,914	\$471,469,578	0.4%
JCPL	\$14,436,056	(\$13,351,297)	\$1,084,760	\$580,651,089	0.2%
Met-Ed	\$8,139,737	\$3,088,655	\$11,228,392	\$371,324,980	3.0%
PECO	\$16,841,487	(\$319,402)	\$16,522,084	\$1,011,524,525	1.6%
PENELEC	\$18,593,221	\$12,865,544	\$31,458,765	\$365,980,867	8.6%
Рерсо	\$11,902,469	\$17,205,793	\$29,108,262	\$856,973,155	3.4%
PJM	\$6,273,844	\$493,317	\$6,767,162	NA	NA
PPL	\$11,085,823	(\$728,697)	\$10,357,126	\$967,273,370	1.1%
PSEG	\$40,889,487	(\$13,848,851)	\$27,040,636	\$1,125,125,064	2.4%
RECO	(\$9,486)	\$598,393	\$588,907	\$36,400,979	1.6%
Total	\$606,633,341	\$42,292,198	\$648,925,539	\$15,519,070,251	4.2%

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