

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 *2011 Quarterly State of the Market Report for PJM: January through March* focuses on the Monthly Balance of Planning Period FTR Auctions during the 2010 to 2011 planning period, which is June 1, 2010, through May 31, 2011.

¹ 87 FERC ¶ 61,054 (1999).

Table 8-1 The FTR Auction Markets results were competitive

Market Element	Evaluation	Market Design
Market Structure	Competitive	
Participant Behavior	Competitive	
Market Performance	Competitive	Effective

- The market structure was evaluated as competitive because the FTR auction is voluntary and the ownership positions resulted from the distribution of ARRs and voluntary participation.
- Participant behavior was evaluated as competitive because there was no evidence of anti competitive behavior in the first quarter of 2011 and there is no limit on FTR demand in any FTR auction.
- Performance was evaluated as competitive because it reflected the interaction between participant behavior and FTR supply limited by PJM's analysis of system feasibility.
- Market design was evaluated as effective because the market design provides a wide range of options for market participants to acquire FTRs and a competitive auction mechanism.

Highlights

- FTRs were paid at 87.9 percent of the target allocation level for the 2010 to 2011 planning period through March 31, 2011.
- ARRs reassigned for network load changes in the first ten months of the 2010 to 2011 planning period were 48,637 MW, an increase of 153 percent from the full 12-month 2009 to 2010 planning period.
- There were no transactions in the secondary bilateral FTR obligation market for the first three months of 2011.
- FTRs were profitable overall and were profitable for both physical entities and financial entities in the first three months of 2011. Total

FTR profits were \$174.9 million for physical entities and \$57.0 million for financial entities. Self scheduled FTRs account for a large portion of the FTR profits of physical entities.

Recommendations

- In this *2011 State of the Market Report for PJM: January through March*, the recommendations from the *2010 State of the Market Report for PJM* remain MMU recommendations.

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 most recent Long Term FTR Auction was conducted during the 2010 to 2011 planning period and covers three consecutive planning periods between 2011 and 2014. 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. Market participants can also sell FTRs. In the Monthly Balance of Planning Period FTR Auctions for the first ten months (June 2010 through March 2011) of the 2010 to 2011 planning period, there were 3,622,316 MW of FTR sell offers.
- Demand.** There is no limit on FTR demand in any FTR auction. In the Monthly Balance of Planning Period FTR Auctions for the first ten months (June 2010 through March 2011) of the 2010 to 2011 planning period, total FTR buy bids were 12,615,413 MW. This is a 72 percent increase from 7,354,546 MW for the first ten months (June 2009 through March 2010) of the 2009 to 2010 planning period.
- FTR Credit Issues.** There were no participants that defaulted during the first three months of 2011.
- Patterns of Ownership.** The ownership concentration of cleared FTR buy bids resulting from the Monthly Balance of Planning Period Auctions for the first three months of 2011 was low for peak and off peak FTR obligations and highly concentrated for 24-hour FTR obligations. The ownership concentration was also highly concentrated for 24-hour, peak and off peak FTR buy bid options for the same time period. 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 provide additional information about the ownership of prevailing flow and counter flow FTRs, the 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. Financial entities purchased 85 percent of prevailing flow and 86 percent of counter flow FTRs in the Monthly Balance of Planning Period Auctions for the first three months of 2011. Overall, financial entities purchased 86 percent of all Monthly Balance of Planning Period cleared buy bid FTRs during the same time period. The net position of all FTRs, including all auctions, is calculated for every organization each day. The organization's net position is the difference between all FTR buys and FTR sells from all relevant auctions and bilateral trades for each day. The data is summarized for the first three months of 2011 to show ownership patterns by FTR direction. Physical entities owned 39 percent of all prevailing and counter flow FTRs, including 43 percent of all prevailing flow and 28 percent of all counter flow FTRs. Financial entities owned 61 percent of all prevailing and counter flow FTRs, including 57 percent of all prevailing flow FTRs and 72 percent of all counter flow FTRs and during the same time period.

Market Performance

- **Volume.** For the first ten months of the 2010 to 2011 planning period, the Monthly Balance of Planning Period FTR Auctions cleared 1,681,158 MW (13.3 percent) of FTR buy bids and 404,777 MW (11.2 percent) of FTR sell offers. This is an increase from the first ten months of the 2009 to 2010 planning period, where the Monthly Balance of Planning Period FTR Auctions cleared 820,498 MW (11.2 percent) of FTR buy bids and 229,394 MW (9.0 percent) of FTR sell offers.
- **Price.** The weighted-average price paid for buy bid FTRs in the Monthly Balance of Planning Period FTR Auctions for the first three months of 2011 was \$0.12 per MWh, compared to \$0.15 per MWh for the first three months of 2010.
- **Revenue.** The Monthly Balance of Planning Period FTR Auctions generated \$22.4 million in net revenue for all FTRs during the first ten months of the 2010 to 2011 planning period. This is a \$4.5 million increase from the comparable time period in the 2009 to 2010 planning period.
- **Revenue Adequacy.** FTRs were 96.9 percent revenue adequate for the 2009 to 2010 planning period. FTRs were paid at 87.9 percent of the target allocation level for the first ten months of the 2010 to 2011 planning period. The Market Implementation Committee (MIC) approved the creation of the Financial Transmission Rights Task Force (FTRTF) to investigate the causes of the FTR revenue inadequacy that occurred in the 2010 to 2011 Planning Period and identify potential improvements that could be made to minimize the revenue inadequacy going forward.² Congestion revenues are allocated to FTR holders based on FTR target allocations. PJM collected \$1,354.5 million of FTR revenues during the first ten months of the 2010 to 2011 planning period and \$878.4 million during the 2009 to 2010 planning period. For the first ten months of the 2010 to 2011 planning period, the top sink and top source with the highest positive FTR target allocations were the AP Control Zone and the Western Hub, respectively. Similarly, the top sink and top source with the largest negative FTR target allocations were the Western Hub and PECO Control Zone, respectively.
- **Profitability.** FTR profitability is the difference between the revenue received for an FTR and the cost of the FTR. The cost of self scheduled

FTRs is zero in the FTR profitability calculation. FTRs were profitable overall and were profitable for both physical entities and financial entities in the first three months of 2011.

Auction Revenue Rights

Market Structure

- **Supply and Demand.** ARRs are assigned only for the annual delivery periods.
- **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. In the first ten months of the 2010 to 2011 planning period, 48,637 MW of ARRs were reassigned, an increase of 153 percent (29,407 MW) from the 19,230 MW of ARRs reassigned in the 2009 to 2010 planning period. The reassigned ARRs were associated with approximately \$970,400 of revenue, an increase of 158 percent from the \$375,800 of revenue that were reassigned for the full 2009 to 2010 planning period.

Market Performance

- **Revenue Adequacy.** During the 2010 to 2011 planning period, ARR holders will receive \$1,029.3 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 \$1,029.3 million while PJM collected \$1,097.0 million from the combined Long Term, Annual and Monthly Balance of Planning Period FTR Auctions through March 2011, 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 \$1,273.6 million while PJM collected \$1,368.3 million from the combined Annual and Monthly Balance of Planning Period FTR Auctions, making ARRs revenue adequate.

² PJM Financial Transmission Rights Task Force (FTRTF), <<http://pjm.com/committees-and-groups/task-forces/ftrtf.aspx>>.

- **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 effectiveness of ARRs as a hedge can be measured by comparing the revenue received by ARR holders to the congestion costs experienced by these ARR holders. The effectiveness of ARRs and FTRs as a hedge against congestion can be measured by comparing the revenue received by ARR and FTR holders to total actual congestion costs in the Day-Ahead Energy Market and the balancing energy market. For the 2009 to 2010 planning period, all ARRs and FTRs hedged more than 96.2 percent of the congestion costs within PJM. During the first ten months of the 2010 to 2011 planning period, total ARR and FTR revenues hedged 97.4 percent of the congestion costs within PJM.
- **ARRs and FTRs as a Hedge against Total Energy Costs.** The hedge provided by ARRs and FTRs can also be measured by comparing the value of the ARRs and 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 and FTRs. The total value of ARRs plus FTRs was 4.0 percent of the total real time energy charges in the first three months of 2011.

Conclusion

The annual ARR allocation and the FTR auctions provide market participants with the opportunity to hedge positions or to speculate. 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.

FTRs were paid at 87.9 percent of the target allocation level for the first ten months of the 2010 to 2011 planning period. Revenue adequacy for a planning period is not final until the end of the 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 total of ARR and FTR revenues hedged more than 97.4 percent of the congestion costs in the Day-Ahead Energy Market and the balancing energy market within PJM for the first ten months of the 2010 to 2011 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 ARR and FTR holders, their revenues or those paying congestion.

Financial Transmission Rights

Patterns of Ownership

Table 8-2 Monthly Balance of Planning Period FTR Auction patterns of ownership by FTR direction: January through March 2011 (See 2010 SOM, Table 8-6)

Trade Type	Organization Type	FTR Direction		All
		Prevailing Flow	Counter Flow	
Buy Bids	Physical	14.6%	14.2%	14.5%
	Financial	85.4%	85.8%	85.5%
	Total	100.0%	100.0%	100.0%
Sell Offers	Physical	37.7%	30.9%	36.6%
	Financial	62.3%	69.1%	63.4%
	Total	100.0%	100.0%	100.0%

Table 8-3 Daily FTR net position ownership by FTR direction: January through March 2011 (See 2010 SOM, Table 8-7)

Organization Type	FTR Direction		All
	Prevailing Flow	Counter Flow	
Physical	42.7%	27.5%	38.8%
Financial	57.3%	72.5%	61.2%
Total	100.0%	100.0%	100.0%

Market Performance

Volume

Table 8-4 Monthly Balance of Planning Period FTR Auction market volume: January through March 2011 (See 2010 SOM, Table 8-11)

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-11	Obligations	Buy bids	189,084	1,101,808	164,743	15.0%	937,065	85.0%
		Sell offers	50,981	261,888	28,189	10.8%	233,699	89.2%
	Options	Buy bids	1,040	105,293	8,691	8.3%	96,602	91.7%
		Sell offers	2,927	43,161	12,380	28.7%	30,781	71.3%
Feb-11	Obligations	Buy bids	185,625	1,090,475	181,977	16.7%	908,497	83.3%
		Sell offers	41,609	220,079	20,957	9.5%	199,122	90.5%
	Options	Buy bids	959	93,909	9,372	10.0%	84,537	90.0%
		Sell offers	2,555	33,140	9,643	29.1%	23,497	70.9%
Mar-11	Obligations	Buy bids	192,349	1,154,132	216,165	18.7%	937,967	81.3%
		Sell offers	48,727	256,121	30,492	11.9%	225,629	88.1%
	Options	Buy bids	1,026	96,152	7,254	7.5%	88,898	92.5%
		Sell offers	2,351	41,200	10,587	25.7%	30,613	74.3%
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	2,090,066	11,298,761	1,621,495	14.4%	9,677,266	85.6%
		Sell offers	644,226	3,105,812	275,918	8.9%	2,829,894	91.1%
	Options	Buy bids	14,412	1,316,652	59,663	4.5%	1,256,989	95.5%
		Sell offers	57,073	516,504	128,859	24.9%	387,646	75.1%

* Shows Twelve Months for 2009/2010; ** Shows ten months ended 31-Mar-2011 for 2010/2011

Table 8-5 Monthly Balance of Planning Period FTR Auction buy-bid bid and cleared volume (MW per period): January through March 2011 (See 2010 SOM, Table 8-12)

Monthly Auction	MW Type	Current Month	Second Month	Third Month	Q1	Q2	Q3	Q4	Total
Jan-11	Bid	677,552	197,260	140,265				192,024	1,207,101
	Cleared	134,232	18,200	8,548				12,454	173,434
Feb-11	Bid	705,015	157,482	139,776				182,111	1,184,383
	Cleared	156,562	11,243	11,107				12,438	191,350
Mar-11	Bid	774,291	206,225	205,539				64,228	1,250,283
	Cleared	173,607	22,830	20,602				6,380	223,419

Table 8-6 Secondary bilateral FTR market volume: Planning periods 2009 to 2010 and 2010 to 2011³ (See 2010 SOM, Table 8-13)

Planning Period	Hedge Type	Class Type	Volume (MW)
2009/2010	Obligation	24-Hour	1,535
		On Peak	3,979
		Off Peak	4,132
		Total	9,646
	Option	24-Hour	30
		On Peak	0
		Off Peak	0
		Total	30
2010/2011*	Obligation	24-Hour	1,729
		On Peak	10,573
		Off Peak	12,740
		Total	25,042
	Option	24-Hour	20
		On Peak	0
		Off Peak	0
		Total	20

* Shows ten months ended 31-Mar-2011

Price

Table 8-7 Monthly Balance of Planning Period FTR Auction cleared, weighted-average, buy-bid price per period (Dollars per MWh): January through March 2011 (See 2010 SOM, Table 8-16)

Monthly Auction	Current Month	Second Month	Third Month	Q1	Q2	Q3	Q4	Total
Jan-11	\$0.13	\$0.36	\$0.02				\$0.28	\$0.17
Feb-11	\$0.08	\$0.13	\$0.11				\$0.18	\$0.10
Mar-11	\$0.09	\$0.16	\$0.15				\$0.04	\$0.09

³ The 2010 to 2011 planning period covers bilateral FTRs that are effective for any time between June 1, 2010 through March 31, 2011, which originally had been purchased in a Long Term FTR Auction, Annual FTR Auction or Monthly Balance of Planning Period FTR Auction.

Revenue**Monthly Balance of Planning Period FTR Auction Revenue****Table 8-8 Monthly Balance of Planning Period FTR Auction revenue: January through March 2011 (See 2010 SOM, Table 8-19)**

Monthly Auction	Hedge Type	Trade Type	Class Type			
			24-Hour	On Peak	Off Peak	All
Jan-11	Obligations	Buy bids	(\$1,205,888)	\$7,104,026	\$6,539,294	\$12,437,433
		Sell offers	\$1,138,221	\$2,625,465	\$4,050,289	\$7,813,975
	Options	Buy bids	\$0	\$136,353	\$87,800	\$224,153
		Sell offers	\$0	\$1,812,131	\$686,209	\$2,498,340
Feb-11	Obligations	Buy bids	(\$36,220)	\$4,296,859	\$3,345,841	\$7,606,480
		Sell offers	\$587,026	\$1,938,472	\$2,305,072	\$4,830,570
	Options	Buy bids	\$0	\$126,188	\$25,671	\$151,859
		Sell offers	\$1,947	\$1,218,343	\$389,391	\$1,609,682
Mar-11	Obligations	Buy bids	(\$101,074)	\$4,605,081	\$3,368,274	\$7,872,281
		Sell offers	\$423,197	\$2,274,909	\$1,933,265	\$4,631,371
	Options	Buy bids	\$14,085	\$292,986	\$178,090	\$485,161
		Sell offers	\$5,149	\$1,231,751	\$454,338	\$1,691,239
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	\$3,474,374	\$67,873,636	\$50,551,542	\$121,899,552
		Sell offers	\$7,646,424	\$32,826,512	\$28,525,928	\$68,998,864
	Options	Buy bids	\$37,176	\$2,518,437	\$1,861,753	\$4,417,367
		Sell offers	\$1,874,407	\$19,210,762	\$13,861,271	\$34,946,439

* Shows twelve Months for 2009/2010; ** Shows ten months ended 31-Mar-2011 for 2010/2011

Figure 8-1 Ten largest positive and negative revenue producing FTR sinks purchased in the Monthly Balance of Planning Period FTR Auctions: Planning period 2010 to 2011 through March 31, 2011 (See 2010 SOM, Figure 8-7)

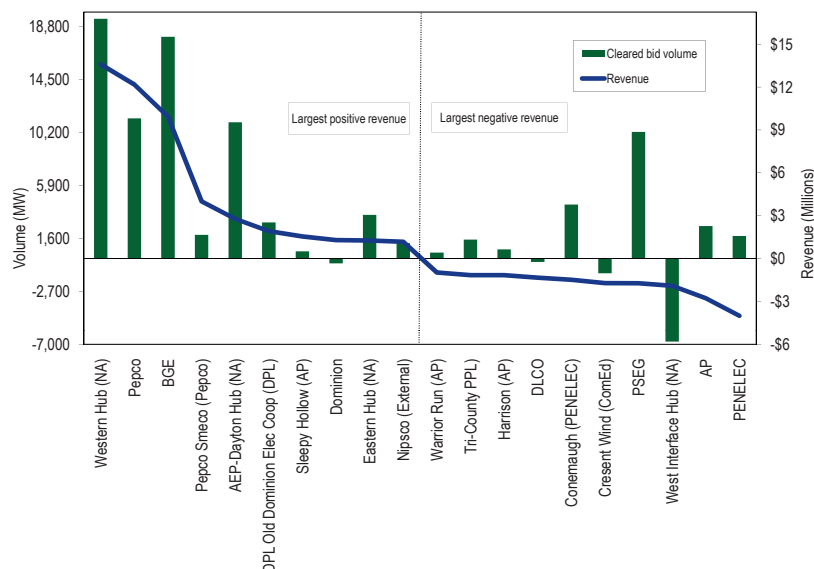
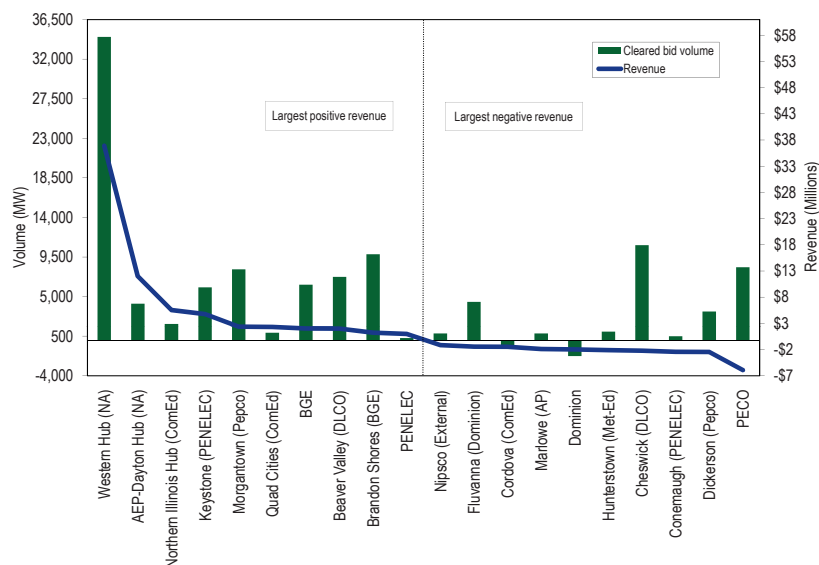


Figure 8-2 Ten largest positive and negative revenue producing FTR sources purchased in the Monthly Balance of Planning Period FTR Auctions: Planning period 2010 to 2011 through March 31, 2011 (See 2010 SOM, Figure 8-8)



Revenue Adequacy

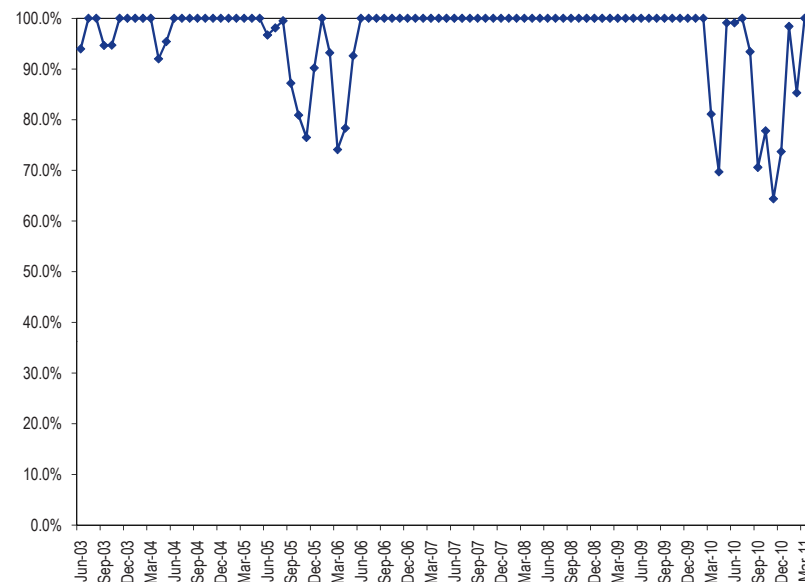
Table 8-9 Total annual PJM FTR revenue detail (Dollars (Millions)): Planning periods 2009 to 2010 and 2010 to 2011 (See 2010 SOM, Table 8-20)

Accounting Element	2009/2010	2010/2011*
ARR information		
ARR target allocations	\$1,276.9	\$858.3
FTR auction revenue	\$1,368.7	\$913.3
ARR excess	\$91.9	\$55.0
FTR targets		
FTR target allocations	\$908.1	\$1,541.8
Adjustments:		
Adjustments to FTR target allocations	(\$1.5)	(\$1.7)
Total FTR targets	\$906.6	\$1,540.1
FTR revenues		
ARR excess	\$91.9	\$55.0
Competing uses	\$0.0	\$0.1
Congestions		
Net Negative Congestion (enter as negative)	(\$37.8)	(\$38.5)
Hourly congestion revenue	\$854.9	\$1,369.6
Midwest ISO M2M (credit to PJM minus credit to Midwest ISO)	(\$31.0)	(\$32.8)
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)	(\$0.8)
Adjustments:		
Excess revenues carried forward into future months	\$27.3	\$0.0
Excess revenues distributed back to previous months	\$9.3	\$4.6
Other adjustments to FTR revenues	\$2.4	\$0.4
Total FTR revenues	\$923.5	\$1,357.7
Excess revenues distributed to other months	(\$45.1)	(\$4.6)
Net Negative Congestion charged to DA Operating Reserves	\$0.0	\$1.4
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	\$1,354.5
Total congestion credits on bill (includes CEPSW and end-of-year distribution)	\$880.3	\$1,355.3
Remaining deficiency	\$28.3	\$185.6

* Shows ten months ended 31-Mar-11

Table 8-10 Monthly FTR accounting summary (Dollars (Millions)): Planning period 2010 to 2011 through March 31, 2011 (See 2010 SOM, Table 8-21)

Period	FTR Revenues (with adjustments)	FTR Target Allocations	FTR Payout Ratio (original)	FTR Credits (with adjustments)	FTR Payout Ratio (with adjustments)	Monthly Credits Excess/Deficiency (with adjustments)
Jun-10	\$194.2	\$196.1	97.8%	\$194.2	99.0%	(\$1.9)
Jul-10	\$275.0	\$273.0	100.0%	\$273.0	100.0%	\$0.0
Aug-10	\$111.3	\$119.2	93.2%	\$111.3	93.4%	(\$7.9)
Sep-10	\$116.7	\$165.3	70.0%	\$116.7	70.6%	(\$48.6)
Oct-10	\$52.4	\$67.4	77.4%	\$52.4	77.8%	(\$14.9)
Nov-10	\$51.5	\$80.0	61.9%	\$51.5	64.4%	(\$28.5)
Dec-10	\$184.9	\$251.1	73.2%	\$184.9	73.6%	(\$66.2)
Jan-11	\$245.4	\$249.5	98.3%	\$245.4	98.4%	(\$4.0)
Feb-11	\$79.4	\$93.0	85.0%	\$79.4	85.4%	(\$13.6)
Mar-11	\$48.2	\$45.7	100.0%	\$45.7	100.0%	\$0.0
Summary for Planning Period 2010 to 2011 through March 31, 2011						
Total	\$1,354.5	\$1,540.1		\$1,354.5	87.9%	(\$185.6)

Figure 8-3 FTR payout ratio by month: June 2003 to March 2011⁴ (See 2010 SOM, Figure 8-9)

⁴ The underlying data for Figure 8-3 and Table 8-11 is from the "FTR Credit" spreadsheet posted on PJM's website at <http://www.pjm.com/markets-and-operations/ftr/revenue-adequacy.aspx> and accessed on April 15, 2011.

Table 8-11 FTR payout ratio by planning period (See 2010 SOM, Table 8-22)

Planning Period	FTR Payout Ratio
2003/2004	97.7%
2004/2005	100.0%
2005/2006	90.7%
2006/2007	100.0%
2007/2008	100.0%
2008/2009	100.0%
2009/2010	96.9%
2010/2011*	87.9%

* through March 31, 2011

Figure 8-4 Ten largest positive and negative FTR target allocations summed by sink: Planning period 2010 to 2011 through March 31, 2011 (See 2010 SOM, Figure 8-10)

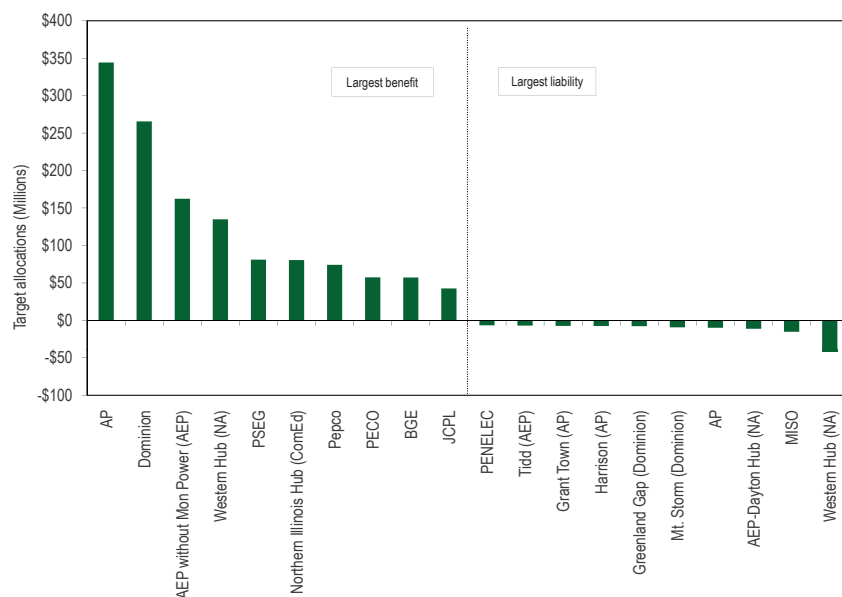
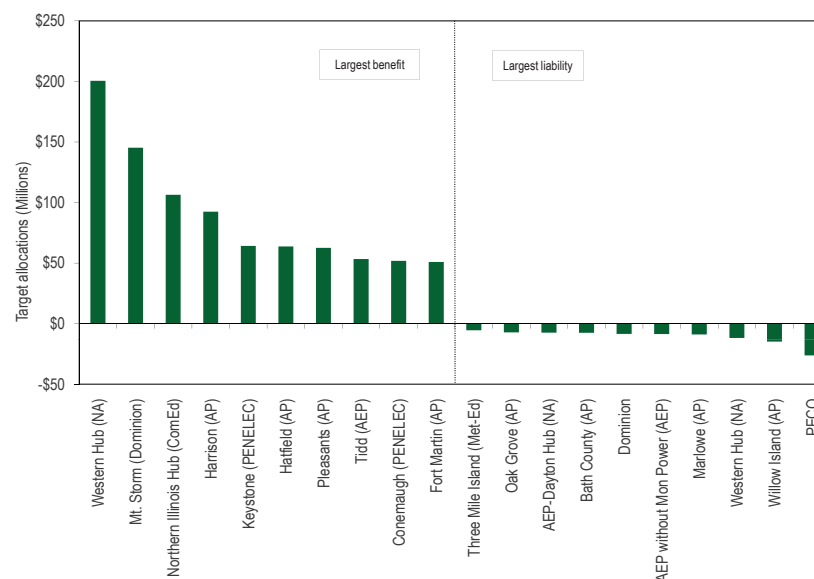


Figure 8-5 Ten largest positive and negative FTR target allocations summed by source: Planning period 2010 to 2011 through March 31, 2011 (See 2010 SOM, Figure 8-11)



Profitability

Table 8-12 FTR profits by organization type and FTR direction: January through March 2011 (See 2010 SOM, Table 8-23)

Organization Type	FTR Direction		All
	Prevailing Flow	Counter Flow	
Physical	\$185,895,964	(\$10,987,905)	\$174,908,059
Financial	\$34,280,070	\$22,742,475	\$57,022,545
Total	\$220,176,035	\$11,754,569	\$231,930,604

Table 8-13 Monthly FTR profits by organization type: January through March 2011 (See 2010 SOM, Table 8-24)

Month	Organization Type		Total
	Physical	Financial	
Jan	\$143,676,404	\$36,993,105	\$180,669,509
Feb	\$41,840,764	\$7,212,012	\$49,052,776
Mar	(\$10,609,108)	\$12,817,427	\$2,208,319
Total	\$174,908,059	\$57,022,545	\$231,930,604

Auction Revenue Rights

Market Structure

ARR Reassignment for Retail Load Switching

Table 8-14 ARR and ARR revenue automatically reassigned for network load changes by control zone: June 1, 2009, through March 31, 2011 (See 2010 SOM, Table 8-28)

Control Zone	ARRs Reassigned (MW)		ARR Revenue Reassigned [Dollars (Thousands)]	
	2009/2010 (12 months)	2010/2011 (10 months)*	2009/2010 (12 months)	2010/2011 (10 months)*
AECO	417	733	\$7.6	\$5.2
AEP	268	634	\$6.3	\$14.4
AP	629	4,839	\$76.9	\$466.7
BGE	3,162	3,228	\$63.2	\$48.7
ComEd	3,145	2,592	\$10.1	\$54.7
DAY	21	161	\$0.1	\$0.5
DLCO	371	1,701	\$1.0	\$7.9
Dominion	0	0	\$0.0	\$0.0
DPL	952	1,032	\$10.9	\$9.4
JCPL	1,151	3,304	\$19.3	\$27.2
Met-Ed	33	3,843	\$0.8	\$50.6
PECO	29	11,963	\$0.5	\$86.9
PENELEC	8	3,614	\$0.2	\$51.7
Pepco	2,511	2,315	\$25.5	\$25.6
PPL	4,489	5,380	\$103.7	\$70.8
PSEG	1,984	3,166	\$49.6	\$50.0
RECO	62	134	\$0.0	\$0.1
Total	19,230	48,637	\$375.8	\$970.4

* Through 31-Mar-11

Revenue Adequacy

Table 8-15 ARR revenue adequacy (Dollars (Millions)): Planning periods 2009 to 2010 and 2010 to 2011⁵ (See 2010 SOM, Table 8-30)

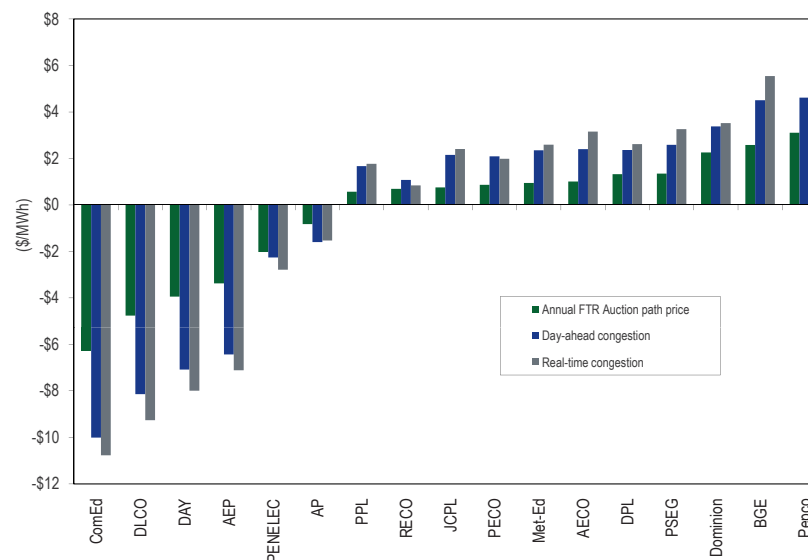
	2009/2010	2010/2011
Total FTR auction net revenue	\$1,368.3	\$1,097.0
Long Term FTR Auction net revenue	\$19.8	\$23.9
Annual FTR Auction net revenue	\$1,329.1	\$1,050.7
Monthly Balance of Planning Period FTR Auction net revenue*	\$19.4	\$22.4
ARR target allocations	\$1,273.6	\$1,029.3
ARR credits	\$1,273.6	\$1,029.3
Surplus auction revenue	\$94.6	\$67.7
ARR payout ratio	100%	100%
FTR payout ratio*	96.9%	87.9%

* Shows twelve months for 2009/2010 and ten months ended 31-Mar-11 for 2010/2011

ARR and FTR Revenue and Congestion

FTR Prices and Zonal Price Differences

Figure 8-6 Annual FTR Auction prices vs. average day-ahead and real-time congestion for all control zones relative to the Western Hub: Planning period 2010 to 2011 through Mar 31, 2011 (See 2010 SOM, Figure 8-12)



⁵ Table 8-15 has been updated from prior *State of the Market Reports* to include the net revenue for applicable FTRs from the Long Term FTR Auctions.

Effectiveness of ARRs as a Hedge against Congestion**Table 8-16 ARR and self scheduled FTR congestion hedging by control zone: Planning period 2010 to 2011 through March 31, 2011 (See 2010 SOM, Table 8-31)**

Control Zone	ARR Credits	Self-Scheduled FTR Credits	Total Revenue	Congestion	Total Revenue - Congestion Difference	Percent Hedged
AECO	\$5,622,671	\$1,310,021	\$6,932,692	\$44,349,044	(\$37,416,353)	15.6%
AEP	\$8,853,266	\$152,660,243	\$161,513,509	\$200,659,883	(\$39,146,374)	80.5%
AP	\$35,547,112	\$299,790,457	\$335,337,569	\$89,628,324	\$245,709,245	>100%
BGE	\$29,986,713	\$4,608,689	\$34,595,402	\$51,278,903	(\$16,683,501)	67.5%
ComEd	\$82,312,055	\$10,797,459	\$93,109,514	(\$234,877,922)	\$327,987,436	>100%
DAY	\$3,657,086	\$2,472,770	\$6,129,856	\$12,127,230	(\$5,997,374)	50.5%
DLCO	\$5,052,309	\$0	\$5,052,309	\$38,350,629	(\$33,298,320)	13.2%
Dominion	\$4,991,988	\$215,247,421	\$220,239,409	\$11,833,868	\$208,405,541	>100%
DPL	\$11,862,147	\$1,700,240	\$13,562,387	\$66,369,256	(\$52,806,869)	20.4%
JCPL	\$15,966,837	\$3,343,027	\$19,309,864	\$69,203,351	(\$49,893,487)	27.9%
Met-Ed	\$13,272,652	\$801,019	\$14,073,671	\$30,409,973	(\$16,336,302)	46.3%
PECO	\$1,707,188	\$41,177,753	\$42,884,941	(\$39,784,213)	\$82,669,154	>100%
PENELEC	\$23,696,177	\$15,027	\$23,711,204	\$62,272,710	(\$38,561,506)	38.1%
Pepco	\$20,673,905	\$2,088,944	\$22,762,849	\$159,029,806	(\$136,266,957)	14.3%
PJM	\$17,922,362	\$3,740,741	\$21,663,103	\$23,084,200	(\$1,421,097)	93.8%
PPL	\$20,247,335	\$5,702,692	\$25,950,027	\$68,570,322	(\$42,620,295)	37.8%
PSEG	\$38,443,768	\$8,184,471	\$46,628,239	(\$1,845,175)	\$48,473,415	>100%
RECO	\$93,249	\$0	\$93,249	\$3,028,127	(\$2,934,878)	3.1%
Total	\$339,908,820	\$753,640,974	\$1,093,549,794	\$653,688,314	\$439,861,480	>100%

Effectiveness of ARRs and FTRs as a Hedge against Congestion**Table 8-17 ARR and FTR congestion hedging by control zone: Planning period 2010 to 2011 through March 31, 2011 (See 2010 SOM, Table 8-32)**

Control Zone	ARR Credits	FTR Credits	FTR Auction Revenue	Total ARR and FTR Hedge	Congestion	Total Hedge - Congestion Difference	Percent Hedged
AECO	\$6,095,666	\$14,480,278	\$8,345,440	\$12,230,504	\$32,287,792	(\$20,057,288)	37.9%
AEP	\$194,446,396	\$179,024,056	\$191,900,881	\$181,569,571	\$153,180,035	\$28,389,536	>100%
AP	\$308,392,416	\$310,779,096	\$266,150,349	\$353,021,163	\$259,568,046	\$93,453,117	>100%
BGE	\$33,678,997	\$74,941,933	\$47,382,877	\$61,238,053	\$82,658,914	(\$21,420,861)	74.1%
ComEd	\$91,566,097	\$86,902,493	\$81,800,781	\$96,667,809	\$238,543,928	(\$141,876,119)	40.5%
DAY	\$5,788,157	\$1,620,109	\$1,889,950	\$5,518,316	\$5,415,642	\$102,674	>100%
DLCO	\$5,052,309	\$3,476,479	(\$4,550,195)	\$13,078,983	\$20,119,944	(\$7,040,961)	65.0%
Dominion	\$176,257,284	\$247,157,883	\$183,588,232	\$239,826,935	\$252,964,141	(\$13,137,206)	94.8%
DPL	\$12,954,039	\$28,140,656	\$20,851,094	\$20,243,601	\$53,185,771	(\$32,942,170)	38.1%
JCPL	\$18,916,996	\$48,991,028	\$22,844,329	\$45,063,695	\$60,326,293	(\$15,262,598)	74.7%
Met-Ed	\$13,935,697	\$18,491,275	\$7,882,099	\$24,544,873	\$3,492,650	\$21,052,223	>100%
PECO	\$23,365,352	\$62,541,602	\$30,892,149	\$55,014,805	(\$5,915,109)	\$60,929,914	>100%
PENELEC	\$23,704,470	\$55,784,419	\$30,540,639	\$48,948,250	\$91,265,200	(\$42,316,950)	53.6%
Pepco	\$22,895,504	\$119,681,619	\$123,451,330	\$19,125,793	\$84,951,923	(\$65,826,130)	22.5%
PJM	\$20,706,621	(\$4,041,689)	(\$7,370,837)	\$24,035,769	(\$6,109,734)	\$30,145,503	>100%
PPL	\$27,383,200	\$29,454,400	\$18,118,020	\$38,719,580	\$908,182	\$37,811,398	>100%
PSEG	\$44,042,595	\$80,159,128	\$73,296,235	\$50,905,488	\$4,175,919	\$46,729,569	>100%
RECO	\$93,249	(\$1,584,318)	(\$1,299,786)	(\$191,283)	\$4,450,508	(\$4,641,791)	0.0%
Total	\$1,029,275,045	\$1,356,000,448	\$1,095,713,587	\$1,289,561,906	\$1,335,470,045	(\$45,908,139)	96.6%

Table 8-18 ARR and FTR congestion hedging: Planning periods 2009 to 2010 and 2010 to 2011⁶ (See 2010 SOM, Table 8-33)

Planning Period	ARR Credits	FTR Credits	FTR Auction Revenue	Total ARR and FTR Hedge	Congestion	Total Hedge - Congestion Difference	Percent Hedged
2009/2010	\$1,274,578,024	\$879,837,129	\$1,368,743,667	\$785,671,486	\$816,996,460	(\$31,324,974)	96.2%
2010/2011*	\$858,274,100	\$1,356,000,446	\$913,291,441	\$1,300,983,106	\$1,335,470,043	(\$34,486,937)	97.4%

* Shows ten months ended 31-Mar-11

ARRs and FTRs as a Hedge against Total Real Time Energy Charges**Table 8-19 ARRs and FTRs as a hedge against energy charges by control zone: January through March 2011 (See 2010 SOM, Table 8-34)**

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	\$1,717,556	\$2,161,395	\$3,878,951	\$138,045,110	2.8%
AEP	\$46,975,152	\$2,459,339	\$49,434,490	\$1,391,430,768	3.6%
AP	\$79,466,492	\$5,267,398	\$84,733,890	\$579,568,681	14.6%
BGE	\$8,518,116	(\$7,054,555)	\$1,463,561	\$454,670,031	0.3%
ComEd	\$22,545,926	(\$4,451,644)	\$18,094,282	\$866,205,482	2.1%
DAY	\$1,647,509	(\$658,242)	\$989,267	\$168,505,772	0.6%
DLCO	\$1,245,775	\$113,530	\$1,359,305	\$135,200,549	1.0%
Dominion	\$55,649,859	\$1,231,809	\$56,881,668	\$1,242,792,880	4.6%
DPL	\$3,191,903	\$3,167,520	\$6,359,423	\$255,900,862	2.5%
JCPL	\$4,210,545	\$13,805,301	\$18,015,846	\$302,077,306	6.0%
Met-Ed	\$3,272,105	\$1,570,973	\$4,843,078	\$202,216,285	2.4%
PECO	\$17,814,978	\$6,555,425	\$24,370,403	\$540,978,873	4.5%
PENELEC	\$5,846,893	(\$3,625,903)	\$2,220,990	\$212,400,115	1.0%
Pepco	\$5,401,901	(\$8,639,879)	(\$3,237,979)	\$418,374,513	(0.8%)
PJM	\$5,635,457	\$675,452	\$6,310,909	NA	NA
PPL	\$5,025,482	\$18,347,083	\$23,372,566	\$589,122,253	4.0%
PSEG	\$13,254,909	\$16,553,303	\$29,808,212	\$578,740,424	5.2%
RECO	\$22,993	(\$558,822)	(\$535,829)	\$17,258,551	(3.1%)
Total	\$281,443,550	\$46,919,483	\$328,363,033	\$8,107,952,612	4.0%

⁶ The FTR credits do not include after-the-fact adjustments. For the 2010 to 2011 planning period, the ARR credits were the total credits allocated to all ARR holders for the first ten months (June 2010 through March 2011) of this planning period, and the FTR Auction Revenue includes the net revenue in the Monthly Balance of Planning Period FTR Auctions for the first ten months of this planning period and the portion of Annual FTR Auction revenue distributed to the first ten months.

