

SECTION 7 – CONGESTION

Congestion occurs when available, least-cost energy cannot be delivered to all loads for a period because transmission facilities are not adequate to deliver that energy. When the least-cost available energy cannot be delivered to load in a transmission-constrained area, higher cost units in the constrained area must be dispatched to meet that load.¹ The result is that the price of energy in the constrained area is higher than in the unconstrained area because of the combination of transmission limitations and the cost of local generation. Locational marginal prices (LMPs) reflect the price of the lowest-cost resources available to meet loads, taking into account actual delivery constraints imposed by the transmission system. Thus LMP is an efficient way to price energy when transmission constraints exist. Congestion reflects this efficient pricing.

Congestion reflects the underlying characteristics of the power system including the nature and capability of transmission facilities and the cost and geographical distribution of generation facilities. Congestion is neither good nor bad but is a direct measure of the extent to which there are differences in the cost of generation that cannot be equalized because of transmission constraints. A complete set of markets would require direct competition between investments in transmission and generation. The transmission system provides a physical hedge against congestion. The transmission system is paid for by firm load and, as a result, firm load receives the corollary financial hedge in the form of Auction Revenue Rights (ARRs) and/or Financial Transmission Rights (FTRs). While the transmission system and, therefore, ARRs/FTRs are not guaranteed to be a complete hedge against congestion, ARRs/FTRs do provide a substantial offset to the cost of congestion to firm load.²

The Market Monitoring Unit (MMU) analyzed congestion and its influence on PJM markets in the first six months of 2011.

Highlights

- Congestion costs in the first six months of 2011 decreased by 13 percent over congestion costs in the first six months of 2010 (Table 7-2).

¹ This is referred to as dispatching units out of economic merit order. Economic merit order is the order of all generator offers from lowest to highest cost. Congestion occurs when loadings on transmission facilities mean the next unit in merit order cannot be used and a higher cost unit must be used in its place.

² See the *2010 State of the Market Report for PJM*, Volume II, Section 8, "Financial Transmission and Auction Revenue Rights," at "ARR and FTR Revenue and Congestion."

- Net balancing congestion costs were -\$132.6 million in the first six months of 2011 and -\$89.4 million in the first six months of 2010. Negative balancing congestion costs indicates that the congestion payments in the Day-Ahead market exceeded congestion payments in the Real-Time market.
- In the first six months of 2011, ComEd was the most congested zone. ComEd accounted for nearly 21 percent of the total congestion cost (Table 7-17). In the first six months of 2010, Dominion was the most congested zone, accounting for nearly 20 percent of the total congestion cost.
- May and June congestion costs were significantly lower compared to 2010 (48.2 percent and 33.2 percent). March congestion costs were substantially higher compared to 2010 (120.8 percent). (Table 7-3).
- PJM backbone projects are a subset of significant baseline upgrades. The backbone upgrades are typically intended to resolve a wide range of reliability criteria violations and congestion issues and have substantial impacts on energy and capacity markets.

On February 28, 2011, PJM announced that the Board has decided to hold the Potomac – Appalachian Transmission Highline (PATH) project in abeyance in its 2011 Regional Transmission Expansion Plan (RTEP), but did not direct the sponsoring Transmission Owners to cancel or abandon the PATH project.

On February 28, 2011, American Electric Power and FirstEnergy Corp., the sponsoring Transmission Owners, announced that they would file to withdraw their applications for state regulatory approval of the PATH.

Recommendations

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

Overview

Congestion Cost

- **Total Congestion.** Total congestion costs decreased by \$83.7 million or 13 percent, from \$644.6 million in the first six months of 2010 to \$560.9 million in the first six months of 2011. Day-ahead congestion costs decreased by \$40.5 million or 5.5 percent, from \$733.9 million in the first six months of 2010 to \$693.5 million in the first six months of 2011. Balancing congestion costs decreased by \$43.2 million or 48.3 percent from -\$89.4 million in the first six months of 2010 to -\$132.6 million in the first six months of 2011. Total congestion costs have ranged from three percent to nine percent of PJM annual total billings since 2003. Congestion costs were three percent of total PJM billings in the first six months of 2011, which is comparable to the four percent share for calendar year 2010, but lower than the share of total billings from 2003 through 2008. Total PJM billings in the first six months of 2011 were \$18.705 billion. On June 1, 2011, PJM integrated the American Transmission Systems, Inc. (ATSI) Control Zone. All metrics associated with ATSI reported in this section represent activity within the month of June 2011.
- **Monthly Congestion.** Fluctuations in monthly congestion costs continued to be substantial. In the first six months of 2011, these differences were driven by varying load and energy import levels, different patterns of generation, weather-induced changes in demand and variations in congestion frequency on constraints affecting large portions of PJM load. Monthly congestion costs in the first six months of 2011 ranged from \$35.0 million in May to \$241.8 million in January.

Congestion Component of LMP and Facility or Zonal Congestion

- **Congestion Component of Locational Marginal Price (LMP).** To provide an indication of the geographic dispersion of congestion costs, the congestion component of LMP (CLMP) was calculated for control zones in PJM. Price separation among eastern, southern and western control zones in PJM was primarily a result of congestion on the AP South interface, the 5004/5005 interface, the Belmont transformer, the AEP-Dominion interface and the Bedington – Black Oak interface, (Table 7-13). The AP South interface had the effect of increasing prices in eastern and southern control zones located on the constrained side

of the affected facilities while reducing prices in the unconstrained western control zones.

- **Congested Facilities.** Congestion frequency continued to be significantly higher in the Day-Ahead Market than in the Real-Time Market in 2011.³ Day-ahead congestion frequency increased by 27.5 percent from 45,432 congestion event hours in the first six months of 2010 to 57,925 congestion event hours in the first six months of 2011. Day-ahead, congestion-event hours decreased on internal PJM interfaces and transmission lines while congestion-event hours increased on transformers and reciprocally coordinated flowgates between PJM and the Midwest Independent Transmission System Operator, Inc. (MISO).

Real-time congestion frequency increased by 3.0 percent from 9,236 congestion event hours in the first six months of 2010 to 9,510 congestion event hours in the first six months of 2011. Real-time, congestion-event hours decreased on the internal PJM interfaces and lines, while congestion-event hours increased on transformers and reciprocally coordinated flowgates between PJM and the MISO.

The AP South Interface was the largest contributor to congestion costs in the first six months of 2011. With \$172 million in total congestion costs, it accounted for 31 percent of the total PJM congestion costs in the first six months of 2011. The top five constraints in terms of congestion costs together contributed \$322.6 million, or 57 percent, of the total PJM congestion costs in the first six months of 2011. The top five constraints were the AP South interface, the 5004/5005 interface, the Belmont transformer, the AEP – Dominion interface and the Bedington – Black Oak interface. Facilities were constrained in the Day-Ahead market more frequently than in the real-time market. During the first six months of 2011, among the hours for which a facility is constrained in the day-ahead market, the facilities were also constrained in the real-time market for only 6.6 percent of those hours.

- **Zonal Congestion.** In the first six months of 2011, the ComEd Control Zone experienced the highest congestion costs of the control zones in PJM with \$120.9 million. The Crete – St. Johns flowgate, the AP South interface, Electric Junction – Nelson transmission line, the 5004/5005 interface and Bunsonville – Eugene flowgate contributed \$46.1 million, or 38 percent of the total ComEd Control Zone congestion costs (Table

³ In order to have a consistent metric for real-time and day-ahead congestion frequency, real-time congestion frequency is measured using the convention that an hour is constrained if any of its component five-minute intervals is constrained.

7-56). The AEP Control Zone recorded the second highest congestion cost in PJM in the first six months of 2011. The congestion costs in the AEP Control Zone increased from \$76.5 million in the first six months of 2010 to \$106.3 million or 38 percent in the first six months of 2011. The AP South interface contributed \$24.0 million, or 22.6 percent of the total AEP Control Zone congestion cost in the first six months of 2011. Continuing the trend observed in the first three months of 2011, increases in day-ahead congestion frequency and congestion costs from the AP South interface and the Belmont transformer contributed to the increase in congestion cost in the AEP Control Zone in the first six months of 2011. The AP South interface contributed \$28.5 million to the AEP Control Zone congestion costs and the Belmont transformer contributed \$28.4 million to the AEP Control Zone congestion costs.

- Ownership.** In the PJM market, both physical and financial participants use virtual supply (increments) and virtual demand (decrements). A participant is classified as a physical entity if the entity primarily takes physical positions (fixed demand and generation) in PJM markets. Physical entities include utilities and wholesale customers. Financial entities include banks, hedge funds, retail service providers and speculators, who primarily take financial positions in PJM markets. All affiliates are grouped as a single entity for this categorization. For example, under this classification, the trading affiliate of a utility would be treated as a physical company. In the first six months of 2011, financial companies as a group were net recipients of congestion charges, whereas physical companies were net payers of congestion charges. In the first six months of 2011, the financial companies collected \$55.8 million, a decrease of \$4.2 million or 7.1 percent compared to the first six months of 2010. In the first six months of 2011, the physical companies paid \$616.7 million toward congestion charges, a decrease of 87.9 million or 12.5 percent compared to the first six months of 2010.

Key Backbone Facilities

PJM baseline projects are implemented to resolve reliability criteria violations. PJM backbone projects are a subset of significant baseline projects. The backbone projects are typically intended to resolve a wide range of reliability criteria violations and congestion issues and have substantial impacts on energy and capacity markets. The current backbone projects are: Mount Storm – Doubs; Carson – Suffolk; Jacks Mountain; Mid-Atlantic Power Pathway (MAPP); Potomac – Appalachian Transmission

Highline (PATH); Susquehanna – Roseland; and the Trans Allegheny Line (TrAIL). The total planned costs for all of these projects are \$6,048.4 million.

On February 28, 2011, PJM issued a press release stating that preliminary analysis of the 2011 RTEP revealed the expected reliability violations that necessitated PATH have moved several years into the future. As a result, the Board decided to hold the PATH project in abeyance in its 2011 RTEP. The Board noted that this decision was not a directive by PJM to cancel or abandon the PATH project. PJM will perform more rigorous analysis to determine the need for PATH as part of the RTEP process.⁴ As a result, American Electric Power and FirstEnergy Corp. withdrew their applications for state regulatory approval of the PATH project.⁵

On May 19, 2011, the final section of the TrAIL project (the 502 Junction to Mt. Storm 500kV line) was energized. With the TrAIL line in service, the AP South interface definition was updated to include the Mt. Storm to Meadow Brook 500kV line section. Prior to the final section of the TrAIL project being energized, the AP South interface definition included the Mt. Storm to Doubs 500kV line, the Greenland Gap to Meadow Brook 500kV line and the Mt. Storm to Valley 500kV lines. The interface limit increased by 543 MW as a result of the implementation of the TrAIL line (from 725 MW prior to implementation to 1,268 MW after implementation).⁶

Conclusion

Congestion reflects the underlying characteristics of the power system, including the nature and capability of transmission facilities, the cost and geographical distribution of generation facilities and the geographical distribution of load. Total congestion costs have ranged from three percent to nine percent of PJM annual total billings since 2003. Congestion costs were three percent of total PJM billings in the first half of 2011. Total congestion costs decreased by \$83.7 million or 13 percent, from \$644.6 million in the first six months of 2010 to \$560.9 million in the first six months of 2011. Day-ahead congestion costs decreased by \$40.5 million or 5.5 percent, from \$733.9 million in the first six months of 2010 to \$693.5 million in the first six months of 2011. Balancing congestion costs decreased by \$43.2 million or 48.3 percent, from -\$89.4 million in the first six months of 2010 to -\$132.6 million in the first six month of 2011. Congestion costs were significantly

⁴ See "Statement of Terry Boston, President and CEO, on behalf of the PJM Board of Managers". <<http://www.pjm.com/-/media/documents/reports/20110228-bom-statement-planning-for-transmission.ashx>>

⁵ See "PATH Seeks to Withdraw Applications for Electric Transmission Project". <<http://www.pathtransmission.com>>

⁶ See "TrAIL Project Impacts to the APSouth IROL" (January 11, 2011) (Accessed August 3, 2011) <<http://www.pjm.com/-/media/committees-groups/committees/mic/20110111/20110111-item-13-trail-apsouth-interface-changes.ashx>> (233KB).

higher in the Day-Ahead Market than in the Real-Time Market. Congestion frequency was also significantly higher in the Day-Ahead Market than in the Real-Time Market. Day-ahead congestion frequency increased from 45,432 congestion event hours in the first six months of 2010 to 57,925 congestion event hours or 27.5 percent in the first six months of 2011. Real-time congestion frequency increased from 9,236 congestion event hours in the first six months of 2010 to 9,510 congestion event hours or 3.0 percent in the first six months of 2011.

ARRs and FTRs served as an effective, but not complete, hedge against congestion. ARR and FTR revenues hedged 96.2 percent of the total congestion costs in the Day-Ahead Energy Market and the balancing energy market within PJM for the 2009 to 2010 planning period. For the full 2010 to 2011 planning period, total ARR and FTR revenues hedged 96.9 percent of the congestion costs within PJM.⁷ FTRs were paid at 84.9 percent of the target allocation level for the full 2010 to 2011 planning period, and at 86.9 percent of the target allocation level for the first six months of the 2011 to 2012 planning period.⁸

The AP South Interface was the largest contributor to congestion costs in the first six months of 2011, accounting for 31 percent of total congestion costs in the first six months of 2010. The top five constraints accounted for 57 percent of total congestion costs.

Congestion

Total Calendar Year Congestion

Table 7-1 Total annual PJM congestion (Dollars (Millions)): Calendar years 2003 through June 2011 (See 2010 SOM, Table 7-1)

	Congestion Charges	Percent Change	Total PJM Billing	Percent of PJM Billing
2003	\$464	NA	\$6,900	7%
2004	\$750	62%	\$8,700	9%
2005	\$2,092	179%	\$22,630	9%
2006	\$1,603	(23%)	\$20,945	8%
2007	\$1,846	15%	\$30,556	6%
2008	\$2,117	15%	\$34,306	6%
2009	\$719	(66%)	\$26,550	3%
2010	\$1,428	99%	\$34,770	4%
2011 (Jan - Jun)	\$560		\$18,705	3%
Total	\$11,579		\$204,062	6%

Table 7-2 Total annual PJM congestion costs by category (Dollars (Millions)): January through June, 2010 and 2011 (See 2010 SOM, Table 7-2)

Year	Congestion Costs (Millions)			
	Load Payments	Generation Credits	Explicit	Total
2010 (Jan - Jun)	\$148.8	(\$521.2)	(\$25.5)	\$644.6
2011 (Jan - Jun)	\$278.7	(\$363.3)	(\$81.2)	\$560.9

⁷ See the 2011 Quarterly State of the Market Report for PJM: January through June Section 8, "Financial Transmission and Auction Revenue Rights," at Table 8-30, "ARR and FTR congestion hedging: Planning periods 2009 to 2010 and 2010 to 2011."

⁸ See the 2011 Quarterly State of the Market Report for PJM: January through June, Section 8, "Financial Transmission and Auction Revenue Rights," at Table 8-16, "Monthly FTR accounting summary (Dollars (Millions)): Planning periods 2010 to 2011 and 2011 to 2012 through June 30, 2011"

Monthly Congestion

Table 7-3 Monthly PJM congestion charges (Dollars (Millions)): Calendar year 2010 through June 2011 (See 2010 SOM, Table 7-3)

	2010	2011	Change	Percent Change
Jan	\$218.5	\$241.8	\$23.3	10.7%
Feb	\$106.4	\$74.0	(\$32.4)	(30.4%)
Mar	\$20.4	\$45.0	\$24.6	120.8%
Apr	\$42.6	\$39.0	(\$3.6)	(8.5%)
May	\$68.5	\$35.5	(\$33.0)	(48.2%)
Jun	\$188.5	\$125.0	(\$63.5)	(33.7%)
Jul	\$268.9			
Aug	\$105.1			
Sep	\$119.9			
Oct	\$50.3			
Nov	\$52.0			
Dec	\$187.1			
Total	\$1,428.1	\$560.3		

Congestion Component of LMP

Table 7-4 Annual average congestion component of LMP: January through June 2010 and 2011 (See 2010 SOM, Table 7-4)

Control Zone	2010 (Jan - Jun)		2011 (Jan - Jun)	
	Day Ahead	Real Time	Day Ahead	Real Time
AECO	\$2.18	\$2.24	\$3.76	\$3.70
AEP	(\$3.60)	(\$3.81)	(\$3.26)	(\$3.76)
AP	(\$0.46)	(\$0.37)	\$0.04	(\$0.18)
ATSI	\$0.00	\$0.00	(\$3.93)	(\$5.05)
BGE	\$4.87	\$4.72	\$4.20	\$4.62
ComEd	(\$6.00)	(\$6.74)	(\$6.99)	(\$7.78)
DAY	(\$4.33)	(\$4.52)	(\$4.08)	(\$4.18)
DLCO	(\$3.36)	(\$3.88)	(\$4.53)	(\$4.41)
DPL	\$2.28	\$2.52	\$3.25	\$2.99
Dominion	\$6.21	\$5.35	\$3.93	\$4.01
JCPL	\$1.57	\$1.79	\$3.37	\$3.62
Met-Ed	\$2.34	\$2.04	\$2.97	\$2.90
PECO	\$1.93	\$1.92	\$3.34	\$3.07
PENELEC	(\$1.55)	(\$2.13)	(\$0.54)	(\$0.74)
PPL	\$1.52	\$1.36	\$3.53	\$3.52
PSEG	\$2.37	\$2.96	\$4.19	\$4.43
Pepco	\$6.83	\$5.57	\$5.86	\$4.66
RECO	\$1.52	\$1.25	\$1.07	(\$1.79)

Congested Facilities

Congestion by Facility Type and Voltage

Table 7-5 Congestion summary (By facility type): January through June 2011 (See 2010 SOM, Table 7-5)

Congestion Costs (Millions)											
Type	Day Ahead				Balancing				Event Hours		
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
Flowgate	(\$0.5)	(\$52.8)	\$6.2	\$58.5	\$5.8	\$7.3	(\$42.8)	(\$44.3)	\$14.2	9,629	2,676
Interface	\$86.5	(\$233.5)	(\$6.2)	\$313.9	\$16.7	\$17.8	\$4.2	\$3.0	\$316.9	4,727	1,095
Line	\$77.4	(\$94.0)	\$12.2	\$183.7	\$7.9	\$22.7	(\$40.0)	(\$54.7)	\$128.9	30,528	3,802
Other	\$0.5	(\$0.4)	\$0.6	\$1.5	\$0.9	\$1.2	\$0.1	(\$0.1)	\$1.3	449	71
Transformer	\$82.8	(\$37.7)	\$9.0	\$129.5	(\$1.5)	\$7.3	(\$26.8)	(\$35.6)	\$93.9	12,592	1,866
Unclassified	\$1.5	(\$1.2)	\$3.8	\$6.5	\$0.7	(\$0.0)	(\$1.6)	(\$0.9)	\$5.6	NA	NA
Total	\$248.2	(\$419.6)	\$25.6	\$693.5	\$30.5	\$56.3	(\$106.8)	(\$132.6)	\$560.9	57,925	9,510

Table 7-6 Congestion summary (By facility type): January through June 2010 (See 2011 SOM, Table 7-6)

Congestion Costs (Millions)											
Type	Day Ahead				Balancing				Event Hours		
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
Flowgate	\$1.9	(\$19.6)	\$5.1	\$26.6	(\$1.4)	\$3.2	(\$16.2)	(\$20.8)	\$5.8	3,471	1,033
Interface	\$44.1	(\$348.9)	\$4.0	\$397.0	\$9.2	\$5.5	(\$2.3)	\$1.4	\$398.4	5,141	1,546
Line	\$59.0	(\$143.2)	\$23.8	\$226.0	(\$13.9)	\$7.8	(\$39.0)	(\$60.7)	\$165.3	30,816	5,406
Transformer	\$48.2	(\$28.1)	\$3.5	\$79.8	(\$0.0)	\$3.0	(\$6.2)	(\$9.3)	\$70.5	6,004	1,251
Unclassified	\$1.8	(\$1.0)	\$1.8	\$4.6	\$0.0	\$0.0	\$0.0	\$0.0	\$4.6	NA	NA
Total	\$155.0	(\$540.7)	\$38.1	\$733.9	(\$6.2)	\$19.5	(\$63.6)	(\$89.4)	\$644.6	45,432	9,236

Table 7-7 Congestion Event Hours (Day Ahead against Real Time): January through June 2010 and 2011 (See 2010 SOM, Table 7-7)

Type	Congestion Event Hours					
	2011 (Jan - Jun)			2010 (Jan - Jun)		
	Day Ahead Constrained	Corresponding Real Time Constrained	Percent	Day Ahead Constrained	Corresponding Real Time Constrained	Percent
Flowgate	9,629	1,195	12.4%	3,471	330	9.5%
Interface	4,727	774	16.4%	5,141	1,035	20.1%
Line	30,528	968	3.2%	30,816	2,082	6.8%
Other	449	0	0.0%	0	0	0.0%
Transformer	12,592	914	7.3%	6,004	487	8.1%
Total	57,925	3,851	6.6%	45,432	3,934	8.7%

Table 7-8 Congestion Event Hours (Real Time against Day Ahead): January through June 2010 and 2011 (See 2010 SOM, Table 7-8)

Type	Congestion Event Hours					
	2011 (Jan - Jun)			2010 (Jan - Jun)		
	Real Time Constrained	Corresponding Day Ahead Constrained	Percent	Real Time Constrained	Corresponding Day Ahead Constrained	Percent
Flowgate	2,676	1,201	44.9%	1,033	348	33.7%
Interface	1,095	773	70.6%	1,546	1,035	66.9%
Line	3,802	941	24.8%	5,406	2,004	37.1%
Other	71	0	0.0%	0	0	0.0%
Transformer	1,866	903	48.4%	1,251	422	33.7%
Total	9,510	3,818	40.1%	9,236	3,809	41.2%

Table 7-9 Congestion summary (By facility voltage): January through June 2011 (See 2010 SOM, Table 7-9)

Congestion Costs (Millions)											
Voltage (kV)	Day Ahead				Balancing				Grand Total	Event Hours	
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total		Day Ahead	Real Time
765	\$0.0	(\$0.9)	\$0.3	\$1.3	\$1.7	\$1.0	(\$2.2)	(\$1.6)	(\$0.3)	15	20
500	\$91.8	(\$239.7)	(\$4.9)	\$326.6	\$16.8	\$24.0	(\$4.6)	(\$11.9)	\$314.7	5,734	1,632
345	\$48.2	(\$35.4)	\$8.6	\$92.3	\$9.0	\$15.9	(\$43.8)	(\$50.8)	\$41.5	12,487	2,161
230	\$38.3	(\$51.9)	\$6.2	\$96.4	\$4.9	\$6.9	(\$21.0)	(\$23.0)	\$73.5	9,771	1,359
161	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.3)	(\$0.3)	(\$0.3)	0	21
138	\$57.5	(\$81.9)	\$9.6	\$148.9	(\$1.8)	\$5.9	(\$32.7)	(\$40.4)	\$108.5	21,945	3,817
115	\$3.2	(\$6.0)	\$2.0	\$11.2	(\$0.6)	\$0.6	(\$0.5)	(\$1.7)	\$9.6	3,689	257
69	\$7.8	(\$2.1)	(\$0.1)	\$9.8	(\$1.0)	\$0.8	(\$0.3)	(\$2.1)	\$7.8	4,234	182
34	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.8	\$1.0	\$0.1	(\$0.0)	(\$0.0)	0	61
14	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	7	0
12	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	43	0
Unclassified	\$1.5	(\$1.6)	\$3.8	\$6.9	\$0.7	(\$0.0)	(\$1.6)	(\$0.9)	\$6.1	NA	NA
Total	\$248.2	(\$419.6)	\$25.6	\$693.5	\$30.5	\$56.3	(\$106.8)	(\$132.6)	\$560.9	57,925	9,510

Table 7-10 Congestion summary (By facility voltage): January through June 2010 (See 2010 SOM, Table 7-10)

Voltage (kV)	Congestion Costs (Millions)								Event Hours		
	Day Ahead				Balancing						
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
765	\$0.5	(\$1.8)	\$0.5	\$2.8	(\$1.1)	(\$0.1)	(\$3.2)	(\$4.2)	(\$1.4)	77	74
500	\$53.0	(\$362.1)	\$6.6	\$421.7	\$7.3	(\$1.1)	(\$11.0)	(\$2.6)	\$419.1	6,247	2,305
345	\$7.9	(\$42.6)	\$8.7	\$59.3	(\$4.9)	\$5.9	(\$28.1)	(\$38.9)	\$20.4	4,828	1,576
230	\$34.5	(\$56.0)	\$11.9	\$102.4	(\$3.1)	\$11.8	(\$13.4)	(\$28.4)	\$74.0	10,075	1,686
138	\$32.9	(\$78.2)	\$8.3	\$119.4	(\$2.4)	\$2.0	(\$7.5)	(\$11.9)	\$107.5	18,009	2,796
115	\$21.3	\$0.6	\$0.2	\$21.0	\$0.3	\$0.5	(\$0.4)	(\$0.6)	\$20.4	2,445	665
69	\$3.0	\$0.3	\$0.0	\$2.8	(\$2.2)	\$0.4	(\$0.1)	(\$2.7)	\$0.1	3,342	134
34	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	37	0
14	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	21	0
12	\$0.1	\$0.1	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	351	0
Unclassified	\$1.8	(\$1.0)	\$1.8	\$4.6	\$0.0	\$0.0	\$0.0	\$0.0	\$4.6	NA	NA
Total	\$155.0	(\$540.7)	\$38.1	\$733.9	(\$6.2)	\$19.5	(\$63.6)	(\$89.4)	\$644.6	45,432	9,236

Constraint Duration

Table 7-11 Top 25 constraints with frequent occurrence: January through June 2010 to 2011 (See 2010 SOM, Table 7-11)

No.	Constraint	Type	Event Hours						Percent of Annual Hours					
			Day Ahead			Real Time			Day Ahead			Real Time		
			2010	2011	Change	2010	2011	Change	2010	2011	Change	2010	2011	Change
1	South Mahwah - Waldwick	Line	0	2,943	2,943	2	419	417	0%	34%	34%	0%	5%	5%
2	Belmont	Transformer	344	2,538	2,194	9	251	242	4%	29%	25%	0%	3%	3%
3	Crete - St Johns Tap	Flowgate	330	2,095	1,765	82	605	523	4%	24%	20%	1%	7%	6%
4	AP South	Interface	2,090	2,045	(45)	1,010	629	(381)	24%	23%	(1%)	12%	7%	(4%)
5	Wylie Ridge	Transformer	51	1,842	1,791	53	354	301	1%	21%	20%	1%	4%	3%
6	Cox's Corner - Marlton	Line	1	1,637	1,636	0	0	0	0%	19%	19%	0%	0%	0%
7	Wolfcreek	Transformer	28	1,257	1,229	0	128	128	0%	14%	14%	0%	1%	1%
8	Fairview	Transformer	0	1,311	1,311	0	0	0	0%	15%	15%	0%	0%	0%
9	Oak Grove - Galesburg	Flowgate	61	891	830	72	397	325	1%	10%	9%	1%	5%	4%
10	Danville - East Danville	Line	0	1,258	1,258	0	0	0	0%	14%	14%	0%	0%	0%
11	Bunsonville - Eugene	Flowgate	31	1,164	1,133	0	0	0	0%	13%	13%	0%	0%	0%
12	Brues - West Bellaire	Line	0	846	846	4	283	279	0%	10%	10%	0%	3%	3%
13	Michigan City - Laporte	Flowgate	0	852	852	0	276	276	0%	10%	10%	0%	3%	3%
14	Linden - VFT	Line	2	1,128	1,126	0	0	0	0%	13%	13%	0%	0%	0%
15	Electric Jct - Nelson	Line	393	1,009	616	76	56	(20)	4%	12%	7%	1%	1%	(0%)
16	AEP-DOM	Interface	471	905	434	84	98	14	5%	10%	5%	1%	1%	0%
17	Emilie - Falls	Line	2	978	976	0	0	0	0%	11%	11%	0%	0%	0%
18	Cumberland - Bush	Flowgate	0	835	835	15	140	125	0%	10%	10%	0%	2%	1%
19	Pinehill - Stratford	Line	794	959	165	0	0	0	9%	11%	2%	0%	0%	0%
20	Carnegie - Tidd	Line	0	852	852	0	0	0	0%	10%	10%	0%	0%	0%
21	5004/5005 Interface	Interface	1,050	523	(527)	367	293	(74)	12%	6%	(6%)	4%	3%	(1%)
22	Clover	Transformer	57	543	486	53	246	193	1%	6%	6%	1%	3%	2%
23	Cedar Grove - Roseland	Line	89	759	670	0	26	26	1%	9%	8%	0%	0%	0%
24	Cloverdale - Lexington	Line	578	448	(130)	343	325	(18)	7%	5%	(1%)	4%	4%	(0%)
25	Pleasant Prairie - Zion	Flowgate	945	606	(339)	174	144	(30)	11%	7%	(4%)	2%	2%	(0%)

Table 7-12 Top 25 constraints with largest year-to-year change in occurrence: January through June 2010 to 2011 (See 2010 SOM, Table 7-12)

No.	Constraint	Type	Event Hours						Percent of Annual Hours					
			Day Ahead			Real Time			Day Ahead			Real Time		
			2010	2011	Change	2010	2011	Change	2010	2011	Change	2010	2011	Change
1	South Mahwah - Waldwick	Line	0	2,943	2,943	2	419	417	0%	34%	34%	0%	5%	5%
2	Athenia - Saddlebrook	Line	2,591	458	(2,133)	321	2	(319)	30%	5%	(24%)	4%	0%	(4%)
3	Belmont	Transformer	344	2,538	2,194	9	251	242	4%	29%	25%	0%	3%	3%
4	Crete - St Johns Tap	Flowgate	330	2,095	1,765	82	605	523	4%	24%	20%	1%	7%	6%
5	Wylie Ridge	Transformer	51	1,842	1,791	53	354	301	1%	21%	20%	1%	4%	3%
6	Waterman - West Dekalb	Line	1,496	0	(1,496)	223	0	(223)	17%	0%	(17%)	3%	0%	(3%)
7	Cox's Corner - Marlton	Line	1	1,637	1,636	0	0	0	0%	19%	19%	0%	0%	0%
8	East Frankfort - Crete	Line	1,650	731	(919)	604	7	(597)	19%	8%	(10%)	7%	0%	(7%)
9	Wolfcreek	Transformer	28	1,257	1,229	0	128	128	0%	14%	14%	0%	1%	1%
10	Fairview	Transformer	0	1,311	1,311	0	0	0	0%	15%	15%	0%	0%	0%
11	Tiltsville - Windsor	Line	1,564	519	(1,045)	270	52	(218)	18%	6%	(12%)	3%	1%	(2%)
12	Danville - East Danville	Line	0	1,258	1,258	0	0	0	0%	14%	14%	0%	0%	0%
13	Oak Grove - Galesburg	Flowgate	61	891	830	72	397	325	1%	10%	9%	1%	5%	4%
14	Bunsonville - Eugene	Flowgate	31	1,164	1,133	0	0	0	0%	13%	13%	0%	0%	0%
15	Michigan City - Laporte	Flowgate	0	852	852	0	276	276	0%	10%	10%	0%	3%	3%
16	Linden - VFT	Line	2	1,128	1,126	0	0	0	0%	13%	13%	0%	0%	0%
17	Brues - West Bellaire	Line	0	846	846	4	283	279	0%	10%	10%	0%	3%	3%
18	Doubs	Transformer	915	41	(874)	283	51	(232)	10%	0%	(10%)	3%	1%	(3%)
19	Pleasant Valley - Belvidere	Line	1,277	317	(960)	220	97	(123)	15%	4%	(11%)	3%	1%	(1%)
20	Emilie - Falls	Line	2	978	976	0	0	0	0%	11%	11%	0%	0%	0%
21	Cumberland - Bush	Flowgate	0	835	835	15	140	125	0%	10%	10%	0%	2%	1%
22	Carnegie - Tidd	Line	0	852	852	0	0	0	0%	10%	10%	0%	0%	0%
23	Bedington - Black Oak	Interface	1,328	624	(704)	43	1	(42)	15%	7%	(8%)	0%	0%	(0%)
24	Cedar Grove - Roseland	Line	89	759	670	0	26	26	1%	9%	8%	0%	0%	0%
25	Danville - East Danville	Line	879	0	(879)	85	284	199	10%	0%	(10%)	1%	3%	2%

Constraint Costs

Table 7-13 Top 25 constraints affecting annual PJM congestion costs (By facility): January through June 2011 (See 2010 SOM, Table 7-13)

Congestion Costs (Millions)													Percent of Total PJM Congestion Costs
Day Ahead							Balancing						
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	
													2011 (Jan - Jun)
1	AP South	Interface	500	(\$3.6)	(\$175.6)	\$0.4	\$172.3	\$9.1	\$9.2	(\$0.1)	(\$0.2)	\$172.0	31%
2	5004/5005 Interface	Interface	500	\$50.6	(\$13.2)	(\$4.4)	\$59.4	\$6.7	\$7.2	\$4.4	\$3.9	\$63.3	11%
3	Belmont	Transformer	AP	\$21.3	(\$17.9)	(\$2.6)	\$36.5	(\$2.0)	(\$1.5)	(\$0.7)	(\$1.2)	\$35.4	6%
4	AEP-DOM	Interface	500	\$2.3	(\$25.2)	\$1.5	\$29.0	\$0.6	\$0.4	(\$0.1)	\$0.0	\$29.1	5%
5	Bedington - Black Oak	Interface	500	\$5.4	(\$19.5)	(\$2.0)	\$22.9	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$22.9	4%
6	West	Interface	500	\$26.0	\$2.8	(\$1.3)	\$21.8	\$0.2	\$0.0	\$0.1	\$0.3	\$22.1	4%
7	Crete - St Johns Tap	Flowgate	MISO	\$1.4	(\$19.6)	(\$3.8)	\$17.1	\$4.4	\$3.4	(\$2.4)	(\$1.5)	\$15.6	3%
8	Susquehanna	Transformer	PPL	\$6.1	(\$8.4)	(\$0.1)	\$14.4	\$0.0	\$0.0	\$0.0	\$0.0	\$14.4	3%
9	Dickerson - Quince Orchard	Line	Pepco	\$17.0	\$1.1	(\$1.5)	\$14.5	\$2.6	\$5.7	\$2.5	(\$0.5)	\$14.0	2%
10	Wylie Ridge	Transformer	AP	\$36.1	\$25.3	\$1.7	\$12.5	\$2.0	\$0.9	(\$2.5)	(\$1.4)	\$11.1	2%
11	Waldwick	Transformer	PSEG	\$0.7	(\$1.0)	\$2.1	\$3.7	(\$0.1)	\$1.2	(\$12.5)	(\$13.8)	(\$10.0)	(2%)
12	Dooms	Transformer	Dominion	(\$0.1)	(\$0.6)	\$0.2	\$0.7	(\$2.4)	\$2.9	(\$4.6)	(\$9.9)	(\$9.2)	(2%)
13	Clover	Transformer	Dominion	\$1.5	(\$9.0)	\$2.1	\$12.7	\$0.2	\$0.9	(\$3.7)	(\$4.5)	\$8.2	1%
14	Electric Jct - Nelson	Line	ComEd	(\$0.4)	(\$12.5)	\$3.3	\$15.3	\$0.6	\$2.6	(\$5.3)	(\$7.3)	\$8.0	1%
15	South Mahwah - Waldwick	Line	PSEG	\$7.8	(\$9.3)	(\$1.1)	\$16.0	(\$1.1)	\$5.2	(\$16.6)	(\$22.9)	(\$6.9)	(1%)
16	East	Interface	500	\$4.5	(\$3.1)	(\$0.2)	\$7.5	\$0.1	\$1.2	\$0.1	(\$1.0)	\$6.5	1%
17	Bunsonville - Eugene	Flowgate	MISO	(\$1.1)	(\$6.4)	\$1.1	\$6.4	\$0.0	\$0.0	\$0.0	\$0.0	\$6.4	1%
18	Cloverdale - Lexington	Line	AEP	\$3.4	(\$3.1)	\$0.8	\$7.3	\$2.2	\$0.9	(\$2.5)	(\$1.1)	\$6.2	1%
19	Brues - West Bellaire	Line	AEP	\$9.9	\$0.4	\$0.3	\$9.8	(\$1.3)	\$1.5	(\$0.9)	(\$3.7)	\$6.1	1%
20	Oak Grove - Galesburg	Flowgate	MISO	(\$2.2)	(\$6.1)	\$4.0	\$7.9	(\$0.8)	\$2.3	(\$10.8)	(\$13.8)	(\$6.0)	(1%)
21	Unclassified	Unclassified	Unclassified	\$1.0	(\$1.1)	\$3.8	\$5.9	\$0.7	(\$0.0)	(\$1.6)	(\$0.9)	\$5.0	1%
22	Yukon	Transformer	AP	(\$0.4)	(\$4.7)	(\$0.2)	\$4.2	\$0.4	(\$0.1)	\$0.3	\$0.7	\$4.9	1%
23	Danville - East Danville	Line	AEP	(\$2.6)	(\$9.2)	(\$2.0)	\$4.7	\$0.0	\$0.0	\$0.0	\$0.0	\$4.7	1%
24	East Frankfort - Crete	Line	ComEd	\$0.0	(\$4.4)	\$0.2	\$4.5	\$0.0	\$0.0	(\$0.0)	\$0.0	\$4.5	1%
25	Cloverdale	Transformer	AEP	\$1.1	(\$2.6)	\$0.8	\$4.4	\$0.2	\$0.2	\$0.1	\$0.1	\$4.5	1%

Table 7-14 Top 25 constraints affecting annual PJM congestion costs (By facility): January through June 2010 (See 2010 SOM, Table 7-14)

Congestion Costs (Millions)														Percent of Total PJM Congestion Costs
No.	Constraint	Type	Location	Day Ahead				Balancing				Grand Total		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total			
1	AP South	Interface	500	(\$0.8)	(\$232.7)	\$2.4	\$234.4	\$6.1	\$4.8	(\$1.7)	(\$0.3)	\$234.1	36%	
2	Bedington - Black Oak	Interface	500	\$5.2	(\$55.4)	\$1.2	\$61.8	\$0.1	(\$0.9)	(\$0.5)	\$0.5	\$62.3	10%	
3	AEP-DOM	Interface	500	\$9.4	(\$37.9)	\$0.9	\$48.3	\$0.1	(\$1.3)	(\$0.1)	\$1.3	\$49.6	8%	
4	5004/5005 Interface	Interface	500	\$26.2	(\$21.7)	(\$0.6)	\$47.4	\$2.5	\$2.2	(\$0.1)	\$0.2	\$47.5	7%	
5	Doubs	Transformer	AP	\$16.7	(\$10.7)	\$0.9	\$28.2	(\$0.2)	\$1.2	(\$2.2)	(\$3.6)	\$24.6	4%	
6	East Frankfort - Crete	Line	ComEd	\$4.3	(\$20.7)	\$2.9	\$27.9	(\$2.7)	\$1.0	(\$5.5)	(\$9.2)	\$18.7	3%	
7	Cloverdale - Lexington	Line	AEP	\$6.9	(\$6.2)	\$1.3	\$14.4	(\$1.8)	(\$1.9)	(\$3.4)	(\$3.3)	\$11.1	2%	
8	Crescent	Transformer	DLCO	\$6.1	(\$3.4)	\$0.4	\$9.9	\$0.2	(\$0.6)	(\$0.5)	\$0.2	\$10.1	2%	
9	Tiltonsville - Windsor	Line	AP	\$8.9	(\$0.5)	\$0.2	\$9.6	(\$1.1)	\$0.3	\$0.3	(\$1.1)	\$8.5	1%	
10	Pleasant Valley - Belvidere	Line	ComEd	(\$5.3)	(\$15.8)	\$1.3	\$11.8	(\$0.0)	\$2.1	(\$2.1)	(\$4.2)	\$7.5	1%	
11	Limerick	Transformer	PECO	\$1.4	(\$2.0)	(\$0.1)	\$3.2	\$0.8	(\$3.4)	(\$0.1)	\$4.1	\$7.3	1%	
12	Graceton - Raphael Road	Line	BGE	(\$2.4)	(\$7.6)	\$0.6	\$5.8	\$0.6	(\$0.7)	(\$0.1)	\$1.1	\$6.9	1%	
13	Mount Storm - Pruntytown	Line	AP	\$0.6	(\$3.5)	\$0.1	\$4.1	\$0.4	(\$3.5)	(\$1.5)	\$2.4	\$6.5	1%	
14	Pleasant View	Transformer	Dominion	(\$0.1)	(\$0.4)	\$0.0	\$0.3	(\$2.4)	\$3.5	(\$0.3)	(\$6.2)	(\$5.9)	(1%)	
15	Pleasant Prairie - Zion	Flowgate	MISO	(\$2.8)	(\$7.0)	\$2.1	\$6.3	(\$0.4)	\$1.1	(\$10.4)	(\$12.0)	(\$5.7)	(1%)	
16	Branchburg - Readington	Line	PSEG	\$2.9	(\$4.1)	\$0.3	\$7.3	(\$0.3)	\$1.6	\$0.0	(\$1.9)	\$5.4	1%	
17	Rising	Flowgate	MISO	\$0.3	(\$4.2)	\$0.6	\$5.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$5.0	1%	
18	Reid - Ringgold	Line	AP	(\$0.4)	(\$5.0)	\$0.3	\$4.9	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$5.0	1%	
19	Unclassified	Unclassified	Unclassified	\$1.8	(\$1.0)	\$1.8	\$4.6	\$0.0	\$0.0	\$0.0	\$0.0	\$4.6	1%	
20	Nipetown - Reid	Line	AP	\$1.1	(\$3.2)	\$0.2	\$4.5	(\$0.0)	(\$0.1)	(\$0.1)	\$0.0	\$4.5	1%	
21	Hunterstown	Transformer	Met-Ed	\$2.1	(\$2.1)	\$0.2	\$4.3	\$0.1	\$0.0	(\$0.0)	\$0.0	\$4.4	1%	
22	Hawthorn - Waldwick	Line	PSEG	\$0.1	(\$0.0)	(\$0.0)	\$0.0	(\$0.6)	\$0.9	(\$2.5)	(\$4.0)	(\$4.0)	(1%)	
23	Ox - Francona	Line	Dominion	\$2.6	(\$1.4)	\$0.0	\$4.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4.0	1%	
24	Danville - East Danville	Line	Dominion	(\$3.5)	(\$8.2)	(\$0.8)	\$3.9	\$0.1	\$0.2	\$0.1	\$0.0	\$4.0	1%	
25	Seward	Transformer	PENELEC	\$10.2	\$6.0	(\$0.1)	\$4.1	(\$0.1)	\$0.1	\$0.0	(\$0.1)	\$4.0	1%	

Table 7-15 Congestion cost by the type of the participant: January through June 2011 (New table)

Participant Type	Congestion Costs (Millions)								Grand Total
	Day Ahead				Balancing				
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	
Financial	\$33.5	\$1.9	\$30.9	\$62.5	(\$16.7)	\$2.7	(\$98.9)	(\$118.3)	(\$55.8)
Physical	\$214.7	(\$421.6)	(\$5.3)	\$631.0	\$47.2	\$53.6	(\$7.9)	(\$14.3)	\$616.7
Total	\$248.2	(\$419.6)	\$25.6	\$693.5	\$30.5	\$56.3	(\$106.8)	(\$132.6)	\$560.9

Table 7-16 Congestion cost by the type of the participant: January through June 2010 (New table)

Participant Type	Congestion Costs (Millions)								Grand Total
	Day Ahead				Balancing				
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	
Financial	\$9.2	(\$0.2)	\$31.3	\$40.7	(\$29.5)	\$10.0	(\$61.3)	(\$100.8)	(\$60.1)
Physical	\$145.8	(\$540.6)	\$6.9	\$693.2	\$23.3	\$9.6	(\$2.4)	\$11.4	\$704.6
Total	\$155.0	(\$540.7)	\$38.1	\$733.9	(\$6.2)	\$19.5	(\$63.6)	(\$89.4)	\$644.6

Congestion-Event Summary for MISO Flowgates

Table 7-17 Top congestion cost impacts from MISO flowgates affecting PJM dispatch (By facility): January through June 2011 (See 2010 SOM, Table 7-15)

Congestion Costs (Millions)												
		Day Ahead				Balancing				Event Hours		
No.	Constraint	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
2	Crete - St Johns Tap	\$1.4	(\$19.6)	(\$3.8)	\$17.1	\$4.4	\$3.4	(\$2.4)	(\$1.5)	\$15.6	2,095	605
3	Bunsonville - Eugene	(\$1.1)	(\$6.4)	\$1.1	\$6.4	\$0.0	\$0.0	\$0.0	\$0.0	\$6.4	1,164	0
4	Oak Grove - Galesburg	(\$2.2)	(\$6.1)	\$4.0	\$7.9	(\$0.8)	\$2.3	(\$10.8)	(\$13.8)	(\$6.0)	891	397
5	Lakeview - Pleasant Prairie	(\$0.0)	(\$0.1)	\$0.2	\$0.3	(\$0.2)	\$0.0	(\$4.2)	(\$4.4)	(\$4.1)	24	174
6	Pleasant Prairie - Zion	(\$0.1)	(\$0.8)	\$1.7	\$2.5	(\$0.1)	(\$0.2)	(\$6.5)	(\$6.3)	(\$3.8)	606	144
7	Crete - St. Johns	(\$0.2)	(\$3.4)	\$0.0	\$3.2	\$0.0	\$0.0	\$0.0	\$0.0	\$3.2	349	0
8	Cook - Palisades	\$0.9	(\$2.1)	\$0.2	\$3.2	\$0.0	\$0.0	\$0.0	\$0.0	\$3.2	338	0
9	Michigan City - Laporte	\$0.7	(\$2.5)	\$1.0	\$4.2	(\$0.9)	(\$1.0)	(\$2.0)	(\$1.8)	\$2.4	852	276
10	Eugene - Bunsonville	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$1.6)	(\$1.7)	(\$1.7)	0	71
11	Nucor - Whitestown	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.4	(\$0.7)	(\$1.2)	(\$1.2)	0	14
12	Monticello - Schahfer	\$0.2	(\$0.6)	\$0.5	\$1.3	(\$0.1)	\$0.1	(\$2.3)	(\$2.5)	(\$1.2)	207	100
13	Benton Harbor - Palisades	\$0.7	(\$0.1)	\$0.2	\$1.0	\$1.1	\$0.8	(\$2.4)	(\$2.1)	(\$1.2)	67	75
14	Rantoul - Rising	(\$0.3)	(\$1.3)	\$0.1	\$1.1	\$0.0	\$0.0	\$0.0	\$0.0	\$1.1	62	0
15	Cumberland - Bush	(\$0.1)	(\$2.4)	\$0.7	\$2.9	\$0.1	\$0.1	(\$2.1)	(\$2.0)	\$0.9	835	140
16	Kenosha - Lakeview	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.9)	(\$0.8)	(\$0.8)	0	61
17	Burr Oak	\$0.3	(\$0.5)	\$0.0	\$0.9	\$0.1	(\$0.0)	(\$0.2)	(\$0.0)	\$0.8	124	18
18	Rantoul - Rantoul Jct	(\$0.0)	(\$0.7)	\$0.0	\$0.7	\$0.0	(\$0.0)	(\$0.2)	(\$0.1)	\$0.6	147	52
19	Tanners - Miami Fort	(\$0.0)	(\$0.6)	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	96	0
20	State Line - Wolf Lake	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	(\$0.5)	(\$0.5)	(\$0.5)	0	22
21	Rising	(\$0.6)	(\$3.2)	(\$0.1)	\$2.6	(\$0.0)	\$0.5	(\$2.5)	(\$3.0)	(\$0.5)	497	95

Table 7-18 Top congestion cost impacts from MISO flowgates affecting PJM dispatch (By facility): January through June 2010 (See 2010 SOM, Table 7-16)

Congestion Costs (Millions)												
		Day Ahead				Balancing				Event Hours		
No.	Constraint	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	Pleasant Prairie - Zion	(\$2.8)	(\$7.0)	\$2.1	\$6.3	(\$0.4)	\$1.1	(\$10.4)	(\$12.0)	(\$5.7)	945	174
2	Rising	\$0.3	(\$4.2)	\$0.6	\$5.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$5.0	776	36
3	Crete - St Johns Tap	\$0.3	(\$3.9)	\$0.1	\$4.4	(\$0.1)	\$0.2	(\$0.8)	(\$1.1)	\$3.2	330	82
4	Palisades - Vergennes	\$2.8	(\$0.6)	\$0.5	\$3.9	(\$0.1)	\$0.5	(\$1.0)	(\$1.5)	\$2.3	235	91
5	Dunes Acres - Michigan City	\$0.6	(\$1.1)	\$0.4	\$2.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$2.1	142	3
6	State Line - Wolf Lake	\$0.3	(\$0.6)	\$0.6	\$1.5	\$0.0	\$0.0	\$0.0	\$0.0	\$1.5	363	0
7	Breed - Wheatland	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.7)	(\$0.7)	(\$0.7)	0	16
8	Beaver Valley - Sammis	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.1	(\$0.2)	(\$0.4)	(\$0.4)	0	8
9	Burr Oak	\$0.1	(\$0.2)	\$0.0	\$0.3	\$0.0	\$0.2	(\$0.4)	(\$0.6)	(\$0.4)	76	97
10	Marktown - Inland Steel	\$0.6	(\$0.9)	\$0.6	\$2.1	(\$0.6)	\$0.8	(\$1.2)	(\$2.5)	(\$0.4)	400	242
11	Lanesville	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.3)	(\$0.3)	(\$0.3)	0	33
12	Stillwell - Dumont	\$0.0	(\$0.2)	\$0.1	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	42	0
13	Bunsonville - Eugene	(\$0.0)	(\$0.3)	\$0.1	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	31	0
14	DC Cook - Palisades	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	(\$0.0)	(\$0.2)	(\$0.3)	(\$0.3)	0	6
15	Palisades - Roosevelt	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	(\$0.2)	(\$0.3)	(\$0.3)	0	30
16	Oak Grove - Galesburg	(\$0.1)	(\$0.3)	\$0.1	\$0.3	\$0.0	\$0.1	(\$0.4)	(\$0.4)	(\$0.2)	61	72
17	Cumberland - Bush	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.2)	0	15
18	Kenosha - Lakeview	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	49	0
19	Benton Harbor - Palisades	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	(\$0.1)	0	8
20	Powerton Jct. - Lilly	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	(\$0.1)	0	15

Congestion-Event Summary for the 500 kV System

Table 7-19 Regional constraints summary (By facility): January through June 2011 (See 2010 SOM, Table 7-17)

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Day Ahead				Balancing				Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	AP South	Interface	500	(\$3.6)	(\$175.6)	\$0.4	\$172.3	\$9.1	\$9.2	(\$0.1)	(\$0.2)	\$172.0	2,045	629
2	5004/5005 Interface	Interface	500	\$50.6	(\$13.2)	(\$4.4)	\$59.4	\$6.7	\$7.2	\$4.4	\$3.9	\$63.3	523	293
3	AEP-DOM	Interface	500	\$2.3	(\$25.2)	\$1.5	\$29.0	\$0.6	\$0.4	(\$0.1)	\$0.0	\$29.1	905	98
4	Bedington - Black Oak	Interface	500	\$5.4	(\$19.5)	(\$2.0)	\$22.9	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$22.9	624	1
5	West	Interface	500	\$26.0	\$2.8	(\$1.3)	\$21.8	\$0.2	\$0.0	\$0.1	\$0.3	\$22.1	452	14
6	East	Interface	500	\$4.5	(\$3.1)	(\$0.2)	\$7.5	\$0.1	\$1.2	\$0.1	(\$1.0)	\$6.5	127	22
7	Central	Interface	500	\$1.4	\$0.3	(\$0.1)	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	51	0
8	Harrison - Pruntytown	Line	500	\$0.1	(\$0.0)	\$0.0	\$0.1	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.1	10	4
9	Dominion East	Interface	500	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	(\$0.2)	\$0.0	\$0.0	0	38
10	Doubs - Mount Storm	Line	500	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	0	4
11	Conemaugh - Hunterstown	Line	500	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	0	9

Table 7-20 Regional constraints summary (By facility): January through June 2010 (See 2010 SOM, Table 7-18)

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Day Ahead				Balancing				Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	AP South	Interface	500	(\$0.8)	(\$232.7)	\$2.4	\$234.4	\$6.1	\$4.8	(\$1.7)	(\$0.3)	\$234.1	2,090	1,010
2	Bedington - Black Oak	Interface	500	\$5.2	(\$55.4)	\$1.2	\$61.8	\$0.1	(\$0.9)	(\$0.5)	\$0.5	\$62.3	1,328	43
3	AEP-DOM	Interface	500	\$9.4	(\$37.9)	\$0.9	\$48.3	\$0.1	(\$1.3)	(\$0.1)	\$1.3	\$49.6	471	84
4	5004/5005 Interface	Interface	500	\$26.2	(\$21.7)	(\$0.6)	\$47.4	\$2.5	\$2.2	(\$0.1)	\$0.2	\$47.5	1,050	367
5	West	Interface	500	\$2.9	(\$0.2)	\$0.1	\$3.2	\$0.3	\$0.7	\$0.2	(\$0.2)	\$3.0	84	41
6	East	Interface	500	\$1.0	(\$0.8)	(\$0.0)	\$1.8	\$0.0	\$0.0	\$0.0	\$0.0	\$1.8	75	0
7	Harrison - Pruntytown	Line	500	\$1.0	(\$0.9)	\$0.3	\$2.2	(\$0.3)	(\$0.4)	(\$0.6)	(\$0.5)	\$1.7	79	91
8	Central	Interface	500	\$0.1	(\$0.0)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	43	1
9	Harrison Tap - North Longview	Line	500	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	6	0
10	Doubs - Mount Storm	Line	500	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	0	2

Zonal Congestion

Summary

Table 7-21 Congestion cost summary (By control zone): January through June 2011 (See 2010 SOM, Table 7-19)

Control Zone	Congestion Costs (Millions)								Grand Total
	Load Payments	Day Ahead Generation Credits	Explicit	Total	Load Payments	Balancing Generation Credits	Explicit	Total	
AECO	\$23.5	\$7.6	\$0.5	\$16.4	(\$0.4)	(\$0.5)	(\$0.8)	(\$0.7)	\$15.7
AEP	(\$44.4)	(\$175.5)	\$3.3	\$134.4	(\$0.3)	\$17.1	(\$10.7)	(\$28.1)	\$106.3
ATSI	(\$18.5)	(\$9.8)	\$0.1	(\$8.6)	(\$2.1)	\$2.8	(\$0.1)	(\$5.0)	(\$13.6)
BGE	\$69.9	\$50.0	\$3.5	\$23.5	\$4.6	(\$0.0)	(\$4.7)	(\$0.2)	\$23.3
ComEd	(\$238.0)	(\$363.9)	(\$2.7)	\$123.1	\$27.2	\$15.4	(\$14.0)	(\$2.3)	\$120.9
DAY	(\$9.7)	(\$14.3)	\$0.1	\$4.7	\$1.3	\$3.2	(\$1.8)	(\$3.8)	\$1.0
DLCO	(\$30.1)	(\$47.3)	(\$0.4)	\$16.7	(\$2.7)	(\$0.1)	(\$0.1)	(\$2.7)	\$14.0
DPL	\$36.0	\$9.7	\$0.6	\$26.9	\$0.6	\$2.0	(\$1.0)	(\$2.3)	\$24.6
Dominion	\$76.0	(\$125.3)	\$8.4	\$209.7	(\$2.6)	\$5.7	(\$21.5)	(\$29.8)	\$179.9
External	(\$17.1)	(\$25.9)	\$0.9	\$9.8	(\$0.8)	(\$9.4)	(\$19.3)	(\$10.7)	(\$0.9)
JCPL	\$43.7	\$17.4	\$0.3	\$26.6	\$1.0	\$0.7	(\$0.6)	(\$0.4)	\$26.3
Met-Ed	\$25.2	\$29.7	\$0.3	(\$4.1)	\$1.2	\$0.2	(\$0.5)	\$0.5	(\$3.6)
PECO	\$75.7	\$77.6	\$0.7	(\$1.2)	\$0.3	\$2.6	(\$0.8)	(\$3.1)	(\$4.3)
PENELEC	(\$13.9)	(\$48.2)	\$0.1	\$34.4	\$1.3	\$3.0	(\$1.1)	(\$2.9)	\$31.6
PPL	\$78.2	\$79.7	\$3.2	\$1.7	\$6.0	(\$0.4)	(\$1.9)	\$4.4	\$6.1
PSEG	\$82.2	\$59.6	\$2.8	\$25.4	(\$1.3)	\$13.5	(\$23.2)	(\$37.9)	(\$12.5)
Pepco	\$108.5	\$59.6	\$3.7	\$52.6	(\$2.7)	(\$0.6)	(\$4.6)	(\$6.7)	\$45.9
RECO	\$1.1	(\$0.2)	\$0.1	\$1.4	\$0.0	\$1.0	(\$0.1)	(\$1.0)	\$0.3
Total	\$248.2	(\$419.6)	\$25.6	\$693.5	\$30.5	\$56.3	(\$106.8)	(\$132.6)	\$560.9

Table 7-22 Congestion cost summary (By control zone): January through June 2010 (See 2010 SOM, Table 7-20)

Control Zone	Congestion Costs (Millions)								Grand Total
	Load Payments	Day Ahead Generation Credits	Explicit	Total	Load Payments	Balancing Generation Credits	Explicit	Total	
AECO	\$12.1	\$4.0	\$0.1	\$8.1	(\$0.9)	\$0.1	(\$0.1)	(\$1.1)	\$7.0
AEP	(\$54.8)	(\$150.6)	\$5.7	\$101.4	(\$8.8)	\$8.0	(\$8.1)	(\$24.9)	\$76.5
AP	(\$12.3)	(\$143.9)	\$0.1	\$131.7	\$7.5	\$11.6	(\$1.4)	(\$5.6)	\$126.1
BGE	\$77.2	\$56.0	\$3.2	\$24.5	\$6.7	(\$4.4)	(\$3.3)	\$7.8	\$32.2
ComEd	(\$174.1)	(\$294.2)	(\$0.0)	\$120.0	(\$7.9)	\$7.0	(\$5.8)	(\$20.7)	\$99.3
DAY	(\$6.9)	(\$12.5)	\$1.9	\$7.5	\$0.4	\$1.1	(\$2.7)	(\$3.4)	\$4.1
DLCO	(\$46.2)	(\$74.4)	(\$0.1)	\$28.2	(\$4.6)	(\$1.4)	(\$0.0)	(\$3.3)	\$24.9
DPL	\$22.8	\$5.9	\$0.3	\$17.2	\$0.9	\$0.2	(\$0.4)	\$0.2	\$17.5
Dominion	\$127.9	(\$7.7)	\$7.5	\$143.1	(\$4.7)	(\$0.7)	(\$7.9)	(\$11.9)	\$131.2
External	(\$54.3)	(\$64.0)	(\$1.9)	\$7.8	\$8.3	(\$6.2)	(\$15.3)	(\$0.8)	\$7.0
JCPL	\$18.8	\$4.5	\$0.2	\$14.5	\$1.2	(\$0.4)	(\$0.3)	\$1.3	\$15.8
Met-Ed	\$20.0	\$12.9	\$0.3	\$7.3	\$0.1	(\$0.1)	(\$0.2)	\$0.0	\$7.4
PECO	\$15.9	\$24.2	\$0.0	(\$8.2)	\$0.2	(\$2.5)	(\$0.0)	\$2.7	(\$5.6)
PENELEC	(\$42.5)	(\$91.5)	(\$0.0)	\$48.9	\$9.1	\$1.4	\$0.2	\$7.9	\$56.7
PPL	\$32.5	\$37.6	\$1.4	(\$3.7)	\$3.4	\$2.1	(\$0.0)	\$1.2	(\$2.5)
PSEG	\$45.9	\$33.9	\$15.7	\$27.6	(\$6.5)	\$8.5	(\$13.9)	(\$28.9)	(\$1.3)
Pepco	\$172.2	\$119.0	\$3.9	\$57.1	(\$10.8)	(\$4.9)	(\$4.2)	(\$10.1)	\$47.0
RECO	\$1.1	\$0.1	(\$0.0)	\$1.0	\$0.2	\$0.0	\$0.0	\$0.2	\$1.1
Total	\$155.0	(\$540.7)	\$38.1	\$733.9	(\$6.2)	\$19.5	(\$63.6)	(\$89.4)	\$644.6

Details of Regional and Zonal Congestion

Mid-Atlantic Region Congestion-Event Summaries

AECO Control Zone

Table 7-23 AECO Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-21)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	\$5.4	\$2.4	\$0.0	\$3.0	\$0.2	(\$0.5)	(\$0.0)	\$0.6	\$3.6	1,046	586
2	Sherman Avenue	Transformer	AECO	\$2.4	(\$0.1)	\$0.0	\$2.5	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.0)	\$2.5	502	24
3	Wylie Ridge	Transformer	AP	\$2.7	\$1.0	\$0.0	\$1.7	\$0.1	(\$0.1)	(\$0.0)	\$0.2	\$2.0	3,684	708
4	West	Interface	500	\$3.0	\$1.1	\$0.0	\$1.9	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$1.9	904	28
5	Crete - St Johns Tap	Flowgate	MISO	\$1.0	\$0.3	(\$0.0)	\$0.8	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.9	4,190	1,210
6	Dickerson - Quince Orchard	Line	Pepco	\$1.2	\$0.6	\$0.0	\$0.6	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.7	210	118
7	East	Interface	500	\$1.1	\$0.5	\$0.0	\$0.6	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.6	254	44
8	Shieldalloy - Vineland	Line	AECO	\$2.0	\$0.3	\$0.1	\$1.8	(\$1.0)	\$0.4	(\$0.3)	(\$1.7)	\$0.2	626	176
9	AP South	Interface	500	\$0.8	\$0.4	\$0.1	\$0.5	\$0.0	(\$0.1)	(\$0.0)	\$0.0	\$0.6	4,090	1,258
10	South Mahwah - Waldwick	Line	PSEG	\$0.6	\$0.1	\$0.1	\$0.5	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.5	5,886	838
11	Bridgewater - Middlesex	Line	PSEG	\$0.4	\$0.1	\$0.0	\$0.3	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.3	754	38
12	Waldwick	Transformer	PSEG	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.2)	(\$0.1)	(\$0.1)	272	186
13	Cedar Grove - Roseland	Line	PSEG	(\$0.3)	(\$0.1)	(\$0.0)	(\$0.2)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.2)	1,518	52
14	Graceton - Raphael Road	Line	BGE	(\$0.2)	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.1)	106	100
15	Cloverdale - Lexington	Line	AEP	\$0.2	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.1	\$0.2	896	650
26	Churchtown	Transformer	AECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.1)	0	50
41	Carlls Corner - Sherman Ave	Line	AECO	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.1	(\$0.0)	(\$0.1)	(\$0.0)	188	40
42	Carnegie - Tidd	Line	AECO	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	1,704	0
50	England - Merion	Line	AECO	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	14	0
61	Cardiff	Transformer	AECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	0	24

Table 7-24 AECO Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-22)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	\$4.1	\$1.9	\$0.0	\$2.2	\$0.3	(\$0.0)	(\$0.0)	\$0.3	\$2.5	2,100	734
2	England - Middletap	Line	AECO	\$3.4	\$0.7	\$0.0	\$2.7	(\$0.4)	(\$0.4)	(\$0.0)	(\$0.0)	\$2.7	586	138
3	Absecon - Lewis	Line	AECO	\$0.2	\$0.0	\$0.0	\$0.2	(\$1.4)	\$0.1	(\$0.1)	(\$1.6)	(\$1.4)	162	36
4	Graceton - Raphael Road	Line	BGE	(\$1.1)	(\$0.5)	(\$0.0)	(\$0.6)	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.8)	394	198
5	AP South	Interface	500	\$1.0	\$0.5	\$0.0	\$0.5	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.6	4,180	2,020
6	Bedington - Black Oak	Interface	500	\$0.9	\$0.4	\$0.0	\$0.5	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.5	2,656	86
7	East Frankfort - Crete	Line	ComEd	\$0.6	\$0.2	\$0.0	\$0.4	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.6	3,300	1,208
8	Branchburg - Readington	Line	PSEG	(\$0.6)	(\$0.2)	(\$0.0)	(\$0.4)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.4)	1,424	316
9	Doubs	Transformer	AP	\$0.4	\$0.1	\$0.0	\$0.3	\$0.2	\$0.0	(\$0.0)	\$0.2	\$0.4	1,830	566
10	Cloverdale - Lexington	Line	AEP	\$0.3	\$0.1	\$0.0	\$0.2	\$0.1	\$0.0	(\$0.0)	\$0.1	\$0.3	1,156	686
11	Tiltonsville - Windsor	Line	AP	\$0.4	\$0.1	\$0.0	\$0.3	\$0.1	\$0.0	(\$0.0)	\$0.1	\$0.3	3,128	540
12	Corson - Court	Line	AECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	\$0.1	(\$0.0)	(\$0.3)	(\$0.3)	14	30
13	Pleasant View	Transformer	Dominion	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.2)	(\$0.0)	\$0.0	(\$0.2)	(\$0.2)	62	202
14	Athenia - Saddlebrook	Line	PSEG	(\$0.3)	(\$0.1)	(\$0.0)	(\$0.2)	(\$0.1)	\$0.0	\$0.0	(\$0.1)	(\$0.3)	5,182	642
15	Brandon Shores - Riverside	Line	BGE	\$0.3	\$0.1	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.1	\$0.2	146	110
17	Monroe	Transformer	AECO	\$0.1	\$0.0	(\$0.0)	\$0.1	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.2	32	18
47	Lewis - Motts - Cedar	Line	AECO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	50	0
62	Sherman Avenue	Transformer	AECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	0	10
66	Shieldalloy - Vineland	Line	AECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	0	10
101	Lindenwold - Stratford	Line	AECO	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	1,680	0

BGE Control Zone

Table 7-25 BGE Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-23)

Congestion Costs (Millions)															
Day Ahead								Balancing				Event Hours			
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	AP South	Interface	500	\$21.8	\$19.0	\$0.8	\$3.7	\$1.3	(\$0.4)	(\$0.7)	\$1.0	\$4.7	4,090	1,258	
2	Dickerson - Quince Orchard	Line	Pepco	\$7.7	\$4.0	\$0.1	\$3.8	\$0.6	\$0.3	(\$0.2)	\$0.1	\$3.9	210	118	
3	West	Interface	500	\$6.4	\$3.4	\$0.1	\$3.2	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$3.2	904	28	
4	Wylie Ridge	Transformer	AP	\$6.7	\$5.0	\$0.3	\$2.0	\$0.3	(\$0.1)	(\$0.2)	\$0.2	\$2.2	3,684	708	
5	5004/5005 Interface	Interface	500	\$5.8	\$3.9	\$0.2	\$2.0	\$0.2	(\$0.1)	(\$0.2)	\$0.2	\$2.2	1,046	586	
6	Bedington - Black Oak	Interface	500	\$4.8	\$3.7	\$0.1	\$1.2	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$1.2	1,248	2	
7	Crete - St Johns Tap	Flowgate	MISO	\$3.1	\$2.2	\$0.2	\$1.0	\$0.2	\$0.0	(\$0.1)	\$0.1	\$1.1	4,190	1,210	
8	Riverside - Riverside	Other	BGE	\$0.6	(\$0.2)	\$0.1	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.9	866	0	
9	Erdman - Monument St.	Line	BGE	\$0.8	(\$0.0)	\$0.0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	14	0	
10	Riverside	Other	BGE	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.5	(\$0.3)	(\$0.7)	(\$0.7)	0	134	
11	Mount Storm	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	(\$0.1)	(\$0.3)	\$0.1	\$0.1	0	110	
12	AEP-DOM	Interface	500	\$2.1	\$1.9	\$0.1	\$0.3	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.3	1,810	196	
13	Danville - East Danville	Line	AEP	\$2.0	\$1.6	\$0.1	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	2,516	0	
14	Susquehanna	Transformer	PPL	(\$1.0)	(\$0.6)	(\$0.0)	(\$0.4)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	240	0	
15	Doubs	Transformer	AP	\$0.5	\$0.3	\$0.0	\$0.2	\$0.1	(\$0.0)	(\$0.0)	\$0.2	\$0.4	82	102	
21	Glenarm - Windy Edge	Line	BGE	\$0.8	\$0.5	\$0.1	\$0.3	\$0.0	\$0.0	(\$0.1)	(\$0.1)	\$0.3	308	38	
35	Graceton - Raphael Road	Line	BGE	\$0.8	\$0.6	\$0.0	\$0.2	\$0.0	\$0.0	(\$0.2)	(\$0.2)	\$0.1	106	100	
45	Granite - Harrisonville	Line	BGE	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	14	0	
47	Gray Manor - Riverside	Line	BGE	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	48	0	
54	Five Forks - Rock Ridge	Line	BGE	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.1	12	12	

Table 7-26 BGE Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-24)

Congestion Costs (Millions)															
Day Ahead								Balancing				Event Hours			
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	AP South	Interface	500	\$28.9	\$23.0	\$1.3	\$7.2	\$2.7	(\$1.4)	(\$1.2)	\$2.9	\$10.1	4,180	2,020	
2	Bedington - Black Oak	Interface	500	\$12.7	\$9.7	\$0.5	\$3.4	\$0.3	(\$0.2)	(\$0.1)	\$0.5	\$3.9	2,656	86	
3	Doubs	Transformer	AP	\$6.1	\$4.6	\$0.1	\$1.6	\$0.8	(\$1.2)	(\$0.3)	\$1.7	\$3.3	1,830	566	
4	Brandon Shores - Riverside	Line	BGE	\$2.4	(\$1.1)	\$0.0	\$3.5	(\$0.5)	\$0.2	(\$0.1)	(\$0.7)	\$2.8	146	110	
5	5004/5005 Interface	Interface	500	\$4.5	\$2.3	\$0.3	\$2.5	\$0.3	(\$0.2)	(\$0.2)	\$0.3	\$2.7	2,100	734	
6	Graceton - Raphael Road	Line	BGE	\$4.9	\$3.2	\$0.3	\$2.0	\$0.2	(\$0.5)	(\$0.3)	\$0.4	\$2.4	394	198	
7	Pleasant View	Transformer	Dominion	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.2)	\$0.6	\$0.1	(\$0.7)	(\$0.7)	62	202	
8	Mount Storm - Pruntytown	Line	AP	\$0.6	\$0.5	\$0.0	\$0.2	\$0.5	(\$0.3)	(\$0.2)	\$0.7	\$0.9	174	488	
9	Cloverdale - Lexington	Line	AEP	\$2.0	\$1.9	\$0.1	\$0.1	\$0.6	(\$0.3)	(\$0.2)	\$0.7	\$0.9	1,156	686	
10	East Frankfort - Crete	Line	ComEd	\$1.8	\$1.4	\$0.1	\$0.4	\$0.2	(\$0.1)	(\$0.0)	\$0.3	\$0.7	3,300	1,208	
11	West	Interface	500	\$0.8	\$0.5	\$0.0	\$0.3	\$0.2	(\$0.1)	(\$0.0)	\$0.2	\$0.5	168	82	
12	AEP-DOM	Interface	500	\$3.1	\$2.8	\$0.1	\$0.3	\$0.2	(\$0.0)	(\$0.0)	\$0.2	\$0.6	942	168	
13	Fort Martin - Ronco	Line	AP	\$0.3	\$0.1	\$0.0	\$0.1	\$0.2	(\$0.1)	(\$0.1)	\$0.2	\$0.3	62	84	
14	Fullerton - Windyedge	Line	BGE	\$0.4	(\$0.1)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	46	0	
15	Tiltonsville - Windsor	Line	AP	\$1.2	\$0.9	\$0.1	\$0.3	\$0.1	(\$0.1)	(\$0.1)	\$0.1	\$0.4	3,128	540	
33	Glenarm - Windy Edge	Line	BGE	\$0.2	\$0.1	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.1	30	26	
39	Conastone - Graceton	Line	BGE	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	0	6	
44	East Point - Riverside	Line	BGE	\$0.1	(\$0.0)	\$0.0	\$0.1	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.1	12	10	
47	Green Street - Westport	Line	BGE	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	88	0	
57	Brandon Shores - Waugh Chapel	Line	BGE	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	2	12	

DPL Control Zone

Table 7-27 DPL Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-25)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	\$10.2	\$2.6	\$0.1	\$7.7	\$0.2	\$0.2	(\$0.1)	(\$0.1)	\$7.6	1,046	586
2	Wylie Ridge	Transformer	AP	\$5.1	\$1.1	\$0.1	\$4.1	\$0.1	\$0.2	(\$0.0)	(\$0.1)	\$4.1	3,684	708
3	West	Interface	500	\$5.0	\$2.0	\$0.1	\$3.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$3.1	904	28
4	AP South	Interface	500	\$2.4	\$0.6	\$0.1	\$1.9	\$0.1	\$0.1	(\$0.1)	(\$0.1)	\$1.8	4,090	1,258
5	Crete - St Johns Tap	Flowgate	MISO	\$2.0	\$0.3	\$0.0	\$1.7	\$0.1	\$0.2	(\$0.0)	(\$0.2)	\$1.5	4,190	1,210
6	East	Interface	500	\$2.1	\$0.5	\$0.0	\$1.6	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	\$1.5	254	44
7	Bedington - Black Oak	Interface	500	\$0.8	\$0.2	\$0.0	\$0.6	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.6	1,248	2
8	Dickerson - Quince Orchard	Line	Pepco	\$2.0	\$1.1	\$0.0	\$0.9	\$0.1	\$0.4	(\$0.0)	(\$0.3)	\$0.6	210	118
9	Plymouth Meeting - Whitpain	Line	PECO	\$0.6	\$0.1	\$0.0	\$0.5	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.5	186	130
10	Keeney At5n	Transformer	DPL	\$0.7	\$0.2	\$0.0	\$0.5	(\$0.2)	\$0.5	(\$0.1)	(\$0.7)	(\$0.2)	150	78
11	Longwood - Wye Mills	Line	DPL	\$0.5	\$0.1	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	584	0
12	New Church - Piney Grove	Line	DPL	\$0.5	\$0.1	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	90	0
13	Susquehanna	Transformer	PPL	(\$0.5)	(\$0.1)	(\$0.0)	(\$0.4)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	240	0
14	South Mahwah - Waldwick	Line	PSEG	\$0.7	\$0.2	\$0.1	\$0.6	\$0.0	\$0.1	(\$0.2)	(\$0.3)	\$0.3	5,886	838
15	Bradford - Planebrook	Line	PECO	(\$0.5)	(\$0.2)	(\$0.0)	(\$0.3)	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	(\$0.4)	240	76
30	Oak Hall	Transformer	DPL	\$0.2	\$0.0	(\$0.0)	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	10	0
38	Hallwood - Oak Hall	Line	DPL	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	142	0
40	Kenney - Mount Olive	Line	DPL	\$0.2	\$0.1	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	80	4
44	Bellehaven - Tasley	Line	DPL	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	690	0
65	Easton	Transformer	DPL	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	48	4

Table 7-28 DPL Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-26)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	\$7.8	\$2.4	\$0.0	\$5.4	\$0.3	\$0.2	(\$0.0)	\$0.1	\$5.5	2,100	734
2	AP South	Interface	500	\$3.1	\$1.2	\$0.0	\$1.9	\$0.1	\$0.0	(\$0.0)	\$0.1	\$2.0	4,180	2,020
3	Bedington - Black Oak	Interface	500	\$1.9	\$0.8	\$0.0	\$1.2	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$1.2	2,656	86
4	East Frankfort - Crete	Line	ComEd	\$1.2	\$0.2	\$0.0	\$1.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$1.0	3,300	1,208
5	Graceton - Raphael Road	Line	BGE	(\$2.0)	(\$1.0)	(\$0.0)	(\$1.0)	(\$0.0)	(\$0.1)	\$0.0	\$0.0	(\$1.0)	394	198
6	Oak Hall	Transformer	DPL	\$1.0	\$0.2	\$0.0	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.9	468	0
7	Doubs	Transformer	AP	\$0.8	\$0.2	\$0.0	\$0.6	\$0.0	(\$0.0)	(\$0.1)	\$0.0	\$0.7	1,830	566
8	Cecil - Colora	Line	DPL	\$0.7	\$0.1	\$0.1	\$0.6	(\$0.1)	\$0.1	(\$0.1)	(\$0.3)	\$0.3	164	36
9	Indian River At20	Transformer	DPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	(\$0.6)	(\$0.0)	\$0.9	\$0.9	0	16
10	Cloverdale - Lexington	Line	AEP	\$0.6	\$0.1	\$0.0	\$0.5	\$0.1	\$0.0	(\$0.1)	\$0.0	\$0.5	1,156	686
11	Tiltonsville - Windsor	Line	AP	\$0.7	\$0.2	\$0.0	\$0.5	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.5	3,128	540
12	Pleasant View	Transformer	Dominion	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.1	\$0.1	\$0.0	(\$0.0)	62	202
13	Branchburg - Readington	Line	PSEG	(\$0.9)	(\$0.4)	(\$0.0)	(\$0.5)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.5)	1,424	316
14	Longwood - Wye Mills	Line	DPL	\$0.5	\$0.1	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	184	0
15	Sammis - Wylie Ridge	Line	AP	\$0.5	\$0.1	\$0.0	\$0.4	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.4	988	88
18	Middletown - Mt Pleasant	Line	DPL	\$0.4	\$0.1	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	86	0
19	New Church - Piney Grove	Line	DPL	\$0.4	\$0.1	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	232	0
21	Cecil - Glassgow	Line	DPL	\$0.3	\$0.1	\$0.1	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	68	0
22	Dupont Seaford - Laurel	Line	DPL	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	\$0.0	\$0.0	(\$0.2)	(\$0.2)	0	16
23	Kenney - Mount Olive	Line	DPL	\$0.3	\$0.1	\$0.0	\$0.2	(\$0.2)	\$0.1	(\$0.0)	(\$0.3)	(\$0.1)	34	32

JCPL Control Zone

Table 7-29 JCPL Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-27)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	\$13.5	\$4.8	\$0.0	\$8.7	\$0.2	\$0.1	(\$0.0)	\$0.0	\$8.8	1,046	586
2	Wylie Ridge	Transformer	AP	\$5.9	\$2.4	\$0.0	\$3.5	\$0.1	\$0.1	(\$0.0)	(\$0.0)	\$3.5	3,684	708
3	West	Interface	500	\$6.1	\$3.1	\$0.0	\$3.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$3.0	904	28
4	South Mahwah - Waldwick	Line	PSEG	\$4.1	\$1.6	\$0.2	\$2.7	(\$0.0)	(\$0.0)	(\$0.2)	(\$0.2)	\$2.4	5,886	838
5	Cedar Grove - Roseland	Line	PSEG	(\$2.8)	(\$0.9)	(\$0.1)	(\$2.0)	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$2.0)	1,518	52
6	Bridgewater - Middlesex	Line	PSEG	\$3.0	\$1.1	\$0.0	\$1.9	(\$0.1)	\$0.1	(\$0.0)	(\$0.2)	\$1.8	754	38
7	Crete - St Johns Tap	Flowgate	MISO	\$2.4	\$1.0	\$0.0	\$1.4	\$0.1	\$0.1	(\$0.0)	(\$0.0)	\$1.4	4,190	1,210
8	Dickerson - Quince Orchard	Line	Pepco	\$2.0	\$1.1	\$0.0	\$0.9	\$0.4	\$0.1	(\$0.0)	\$0.2	\$1.2	210	118
9	East	Interface	500	\$2.0	\$0.8	\$0.0	\$1.2	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	\$1.1	254	44
10	Susquehanna	Transformer	PPL	\$1.1	\$0.3	\$0.0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	240	0
11	Redoak - Sayreville	Line	JCPL	(\$0.4)	(\$1.1)	(\$0.0)	\$0.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.7	864	0
12	Atlantic - Larrabee	Line	JCPL	\$0.4	(\$0.2)	\$0.0	\$0.5	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.5	112	2
13	Waldwick	Transformer	PSEG	\$0.5	\$0.2	\$0.0	\$0.3	\$0.0	\$0.0	(\$0.1)	(\$0.1)	\$0.2	272	186
14	Montville - Roseland	Line	PSEG	(\$0.3)	(\$0.0)	(\$0.0)	(\$0.3)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.3)	88	0
15	Roseland - West Caldwell	Line	PSEG	(\$0.4)	(\$0.1)	(\$0.0)	(\$0.3)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.3)	142	20
29	Kilmer - Sayreville	Line	JCPL	\$0.3	\$0.1	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	184	0
101	Lakewood - Larrabee	Line	JCPL	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	10	0
111	Kittatiny - Newton	Line	JCPL	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	14	0
286	Franklin - West Wharton	Line	JCPL	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	12	0
287	Larrabee - Smithburg	Line	JCPL	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	12	0

Table 7-30 JCPL Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-28)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	\$9.8	\$3.7	\$0.0	\$6.1	\$0.3	(\$0.3)	(\$0.1)	\$0.6	\$6.6	2,100	734
2	Branchburg - Readington	Line	PSEG	\$2.7	(\$0.4)	\$0.1	\$3.1	(\$0.4)	\$0.0	\$0.1	(\$0.3)	\$2.8	1,424	316
3	Athenia - Saddlebrook	Line	PSEG	(\$3.1)	(\$1.0)	(\$0.0)	(\$2.1)	(\$0.2)	\$0.0	\$0.0	(\$0.2)	(\$2.3)	5,182	642
4	Redoak - Sayreville	Line	JCPL	(\$0.8)	(\$2.3)	\$0.0	\$1.5	\$0.0	\$0.0	\$0.0	\$0.0	\$1.5	886	26
5	Graceton - Raphael Road	Line	BGE	(\$2.3)	(\$1.2)	(\$0.0)	(\$1.1)	\$0.2	\$0.1	\$0.0	\$0.1	(\$0.9)	394	198
6	East Frankfort - Crete	Line	ComEd	\$1.5	\$0.6	(\$0.0)	\$0.9	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.9	3,300	1,208
7	Tiltonsville - Windsor	Line	AP	\$1.0	\$0.5	\$0.0	\$0.5	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.5	3,128	540
8	Bedington - Black Oak	Interface	500	\$1.0	\$0.5	\$0.0	\$0.5	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.5	2,656	86
9	West	Interface	500	\$0.7	\$0.3	\$0.0	\$0.4	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.5	168	82
10	Doubs	Transformer	AP	\$0.9	\$0.6	\$0.0	\$0.3	\$0.0	(\$0.1)	(\$0.0)	\$0.2	\$0.5	1,830	566
11	Cloverdale - Lexington	Line	AEP	\$0.6	\$0.2	\$0.0	\$0.4	\$0.0	(\$0.0)	(\$0.0)	\$0.1	\$0.5	1,156	686
12	Atlantic - Larrabee	Line	JCPL	\$0.3	(\$0.1)	\$0.0	\$0.4	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.4	192	24
13	Sammis - Wylie Ridge	Line	AP	\$0.6	\$0.2	\$0.0	\$0.4	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.4	988	88
14	Brandon Shores - Riverside	Line	BGE	\$0.5	\$0.3	\$0.0	\$0.3	\$0.1	(\$0.0)	(\$0.0)	\$0.0	\$0.3	146	110
15	East	Interface	500	\$0.6	\$0.3	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	150	0
16	Sayreville - Werner	Line	JCPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.1)	\$0.0	\$0.3	\$0.3	0	8
17	Franklin - West Wharton	Line	JCPL	\$0.4	\$0.2	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	74	0
20	Kilmer - Sayreville	Line	JCPL	\$0.5	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	234	0
151	Greystone - West Wharton	Line	JCPL	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	8	0

Met-Ed Control Zone

Table 7-31 Met-Ed Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-29)

Congestion Costs (Millions)															
Day Ahead								Balancing				Event Hours			
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	West	Interface	500	\$3.6	\$5.3	\$0.0	(\$1.7)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$1.7)	904	28	
2	Wylie Ridge	Transformer	AP	\$4.1	\$6.0	\$0.1	(\$1.8)	\$0.1	\$0.0	(\$0.0)	\$0.1	(\$1.7)	3,684	708	
3	Middletown Jct - TMI	Line	Met-Ed	\$0.4	(\$0.7)	\$0.0	\$1.1	\$0.0	\$0.0	\$0.0	\$0.0	\$1.1	62	0	
4	Crete - St Johns Tap	Flowgate	MISO	\$1.6	\$2.3	(\$0.0)	(\$0.7)	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.6)	4,190	1,210	
5	Dickerson - Quince Orchard	Line	Pepco	\$1.0	\$1.5	\$0.0	(\$0.5)	\$0.2	\$0.2	(\$0.0)	\$0.0	(\$0.4)	210	118	
6	Middletown Jctn. - Three Mile Island	Line	Met-Ed	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.1	(\$0.1)	(\$0.4)	(\$0.4)	0	30	
7	Susquehanna	Transformer	PPL	\$0.3	(\$0.0)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	240	0	
8	East	Interface	500	\$0.1	(\$0.2)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	254	44	
9	Bunsonville - Eugene	Flowgate	MISO	\$0.3	\$0.5	\$0.0	(\$0.2)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	2,328	0	
10	Juniata	Transformer	PPL	\$0.2	\$0.4	\$0.0	(\$0.2)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	50	0	
11	Cedar Grove - Roseland	Line	PSEG	(\$0.7)	(\$0.9)	(\$0.0)	\$0.1	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.1	1,518	52	
12	Yukon	Transformer	AP	(\$0.4)	(\$0.6)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	468	78	
13	Danville - East Danville	Line	AEP	\$0.2	\$0.4	\$0.0	(\$0.1)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	2,516	0	
14	AP South	Interface	500	\$1.6	\$1.5	\$0.1	\$0.1	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.2	4,090	1,258	
15	Cloverdale - Lexington	Line	AEP	\$0.3	\$0.4	\$0.0	(\$0.2)	\$0.1	\$0.0	(\$0.0)	\$0.0	(\$0.1)	896	650	
22	Middletown Jct - Yorkhaven	Line	Met-Ed	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	44	0	
26	Hunterstown	Transformer	Met-Ed	\$0.1	\$0.1	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	22	10	
43	Jackson - North Hanover	Line	Met-Ed	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	(\$0.0)	14	10	
48	Cly - Collins	Line	Met-Ed	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	0	14	
50	Jackson - TMI	Line	Met-Ed	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	0	8	

Table 7-32 Met-Ed Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-30)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	Hunterstown	Transformer	Met-Ed	\$2.1	(\$0.2)	\$0.1	\$2.4	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$2.4	234	52
2	5004/5005 Interface	Interface	500	\$6.6	\$5.6	(\$0.0)	\$1.0	(\$0.1)	(\$0.5)	(\$0.0)	\$0.3	\$1.3	2,100	734
3	AP South	Interface	500	\$3.0	\$2.1	\$0.0	\$0.9	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	\$0.8	4,180	2,020
4	Middletown Jct	Transformer	Met-Ed	\$0.6	(\$0.1)	\$0.0	\$0.7	(\$0.1)	\$0.0	\$0.0	(\$0.1)	\$0.6	22	8
5	Graceton - Raphael Road	Line	BGE	(\$1.6)	(\$2.2)	(\$0.0)	\$0.6	\$0.1	\$0.2	\$0.1	(\$0.0)	\$0.6	394	198
6	Doubs	Transformer	AP	\$1.7	\$1.5	\$0.1	\$0.2	(\$0.0)	(\$0.1)	(\$0.2)	(\$0.1)	\$0.1	1,830	566
7	Collins - Middletown Jct	Line	Met-Ed	\$0.2	(\$0.2)	\$0.0	\$0.4	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.4	238	40
8	West	Interface	500	\$0.5	\$0.3	\$0.0	\$0.2	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.3	168	82
9	Pleasant View	Transformer	Dominion	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.1	\$0.2	\$0.1	\$0.0	\$0.0	62	202
10	Juniata	Transformer	PENELEC	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.2)	\$0.0	\$0.3	\$0.3	60	54
11	Branchburg - Readington	Line	PSEG	(\$0.3)	(\$0.6)	(\$0.0)	\$0.2	\$0.0	\$0.0	\$0.1	\$0.1	\$0.3	1,424	316
12	Athenia - Saddlebrook	Line	PSEG	(\$0.9)	(\$0.8)	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.0	(\$0.1)	(\$0.2)	5,182	642
13	Bedington - Black Oak	Interface	500	\$1.9	\$1.8	\$0.1	\$0.2	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.2	2,656	86
14	Doubs - Pleasant View	Line	AP	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	48	40
15	Fort Martin - Ronco	Line	AP	\$0.1	\$0.2	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	(\$0.1)	62	84
25	Cly - Collins	Line	Met-Ed	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	36	0
34	Yorkana A	Transformer	Met-Ed	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	0	10
44	Middletown Jct - Yorkhaven	Line	Met-Ed	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	28	0
48	Germantown - Straban	Line	Met-Ed	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	22	0
59	Brunner Island - Yorkana	Line	Met-Ed	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	2	22

PECO Control Zone

Table 7-33 PECO Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-31)

Congestion Costs (Millions)															
Day Ahead								Balancing				Event Hours			
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	West	Interface	500	\$9.6	\$13.6	\$0.0	(\$3.9)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	(\$3.9)	904	28	
2	5004/5005 Interface	Interface	500	\$21.2	\$23.1	\$0.1	(\$1.7)	(\$0.4)	\$0.7	(\$0.1)	(\$1.1)	(\$2.8)	1,046	586	
3	Wylie Ridge	Transformer	AP	\$10.0	\$12.7	\$0.1	(\$2.7)	\$0.0	\$0.1	(\$0.1)	(\$0.1)	(\$2.8)	3,684	708	
4	AP South	Interface	500	\$3.4	\$6.2	\$0.1	(\$2.7)	(\$0.1)	\$0.0	(\$0.1)	(\$0.2)	(\$2.9)	4,090	1,258	
5	Plymouth Meeting - Whitpain	Line	PECO	\$2.8	\$0.3	\$0.1	\$2.5	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	\$2.4	186	130	
6	Bradford - Planebrook	Line	PECO	\$1.8	(\$0.7)	\$0.0	\$2.5	\$0.1	\$0.2	\$0.0	(\$0.1)	\$2.4	240	76	
7	Dickerson - Quince Orchard	Line	Pepco	\$3.7	\$5.2	\$0.0	(\$1.4)	\$0.2	\$0.4	(\$0.0)	(\$0.2)	(\$1.6)	210	118	
8	Bryn Mawr - Plymouth Meeting	Line	PECO	\$2.7	\$0.4	\$0.0	\$2.3	\$0.0	\$0.0	\$0.0	\$0.0	\$2.3	206	0	
9	Crete - St Johns Tap	Flowgate	MISO	\$3.9	\$5.1	\$0.0	(\$1.2)	\$0.1	\$0.2	(\$0.0)	(\$0.1)	(\$1.4)	4,190	1,210	
10	East	Interface	500	\$3.8	\$1.9	\$0.0	\$1.9	(\$0.1)	\$0.1	(\$0.0)	(\$0.2)	\$1.7	254	44	
11	Chichester	Transformer	PECO	\$1.3	(\$0.2)	\$0.0	\$1.5	\$0.0	\$0.0	\$0.0	\$0.0	\$1.5	118	0	
12	Limerick	Transformer	PECO	\$1.7	\$0.3	(\$0.0)	\$1.4	\$0.0	\$0.0	\$0.0	\$0.0	\$1.4	60	0	
13	Yukon	Transformer	AP	(\$0.9)	(\$1.7)	(\$0.0)	\$0.7	\$0.1	(\$0.1)	\$0.0	\$0.2	\$0.9	468	78	
14	Susquehanna	Transformer	PPL	(\$0.7)	(\$1.5)	\$0.0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	240	0	
15	Bedington - Black Oak	Interface	500	\$1.2	\$1.8	\$0.0	(\$0.7)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	(\$0.7)	1,248	2	
17	Eddystone - Saville	Line	PECO	\$0.5	(\$0.2)	\$0.0	\$0.6	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.6	136	32	
43	Burlington - Croydon	Line	PECO	(\$0.1)	(\$0.2)	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.2	1,136	6	
46	Chichester - Saville	Line	PECO	\$0.1	(\$0.0)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	8	0	
59	North Philadelphia - Waneeta	Line	PECO	\$0.0	(\$0.1)	(\$0.0)	\$0.1	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.1	390	6	
65	Morton - Rid	Line	PECO	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	20	0	

Table 7-34 PECO Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-32)

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Day Ahead				Balancing				Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	Limerick	Transformer	PECO	\$3.0	\$0.6	\$0.0	\$2.4	\$0.1	(\$3.8)	(\$0.0)	\$3.8	\$6.3	106	36
2	5004/5005 Interface	Interface	500	\$4.5	\$9.7	\$0.0	(\$5.2)	(\$0.0)	\$0.2	(\$0.0)	(\$0.2)	(\$5.5)	2,100	734
3	AP South	Interface	500	\$1.2	\$4.5	\$0.0	(\$3.3)	(\$0.1)	\$0.1	(\$0.0)	(\$0.2)	(\$3.5)	4,180	2,020
4	Bedington - Black Oak	Interface	500	\$1.2	\$2.7	\$0.0	(\$1.5)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$1.6)	2,656	86
5	Graceton - Raphael Road	Line	BGE	(\$1.4)	(\$2.8)	(\$0.0)	\$1.4	\$0.2	\$0.4	\$0.0	(\$0.2)	\$1.2	394	198
6	Plymouth Meeting - Whitpain	Line	PECO	\$1.1	\$0.2	\$0.0	\$0.9	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.9	72	2
7	Eddystone - Island Road	Line	PECO	\$0.4	(\$0.6)	\$0.0	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	62	0
8	Doubs	Transformer	AP	\$0.8	\$1.8	\$0.0	(\$1.0)	(\$0.2)	(\$0.2)	(\$0.0)	(\$0.0)	(\$1.0)	1,830	566
9	East	Interface	500	\$0.9	\$0.3	(\$0.0)	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	150	0
10	East Frankfort - Crete	Line	ComEd	\$1.1	\$1.9	(\$0.0)	(\$0.8)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	(\$0.8)	3,300	1,208
11	West	Interface	500	\$0.5	\$1.1	\$0.0	(\$0.6)	(\$0.0)	(\$0.1)	\$0.0	\$0.1	(\$0.5)	168	82
12	Tiltonsville - Windsor	Line	AP	\$0.5	\$1.2	\$0.0	(\$0.6)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	(\$0.5)	3,128	540
13	Reid - Ringgold	Line	AP	\$0.1	\$0.6	\$0.0	(\$0.5)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.5)	540	30
14	Sammis - Wylie Ridge	Line	AP	\$0.4	\$0.8	\$0.0	(\$0.4)	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.4)	988	88
15	Athenia - Saddlebrook	Line	PSEG	(\$0.4)	(\$1.0)	(\$0.0)	\$0.6	\$0.0	\$0.3	\$0.0	(\$0.3)	\$0.3	5,182	642
25	Burlington - Croydon	Line	PECO	(\$0.1)	(\$0.3)	(\$0.0)	\$0.2	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.2	1,474	26
41	Emilie	Transformer	PECO	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	14	38
61	Cromby	Transformer	PECO	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	68	44
64	Peachbottom	Transformer	PECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	0	6
77	Whitpain	Transformer	PECO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	4	0

PENELEC Control Zone

Table 7-35 PENELEC Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-33)

No.	Constraint	Type	Location	Congestion Costs (Millions)										
				Day Ahead				Balancing				Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	(\$5.4)	(\$26.1)	(\$1.5)	\$19.2	\$0.9	\$1.5	\$1.3	\$0.8	\$20.0	1,046	586
2	AP South	Interface	500	(\$15.2)	(\$27.5)	(\$0.3)	\$12.0	\$1.8	\$0.5	\$0.6	\$1.9	\$13.9	4,090	1,258
3	Wylie Ridge	Transformer	AP	\$3.5	\$15.4	\$0.8	(\$11.1)	(\$0.5)	(\$0.3)	(\$0.4)	(\$0.6)	(\$11.7)	3,684	708
4	West	Interface	500	(\$1.8)	(\$8.3)	(\$0.4)	\$6.1	\$0.0	\$0.1	\$0.1	\$0.0	\$6.2	904	28
5	Bedington - Black Oak	Interface	500	(\$2.6)	(\$4.9)	(\$0.1)	\$2.2	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$2.2	1,248	2
6	Crete - St Johns Tap	Flowgate	MISO	\$2.8	\$5.0	\$0.1	(\$2.2)	(\$0.1)	\$0.1	(\$0.1)	(\$0.3)	(\$2.4)	4,190	1,210
7	Susquehanna	Transformer	PPL	\$0.6	(\$1.1)	(\$0.1)	\$1.6	\$0.0	\$0.0	\$0.0	\$0.0	\$1.6	240	0
8	Butler - Karns City	Line	AP	\$4.6	\$2.9	\$0.3	\$2.0	(\$0.1)	\$0.0	(\$0.1)	(\$0.3)	\$1.7	738	88
9	Yukon	Transformer	AP	\$0.6	(\$0.9)	(\$0.0)	\$1.4	(\$0.1)	(\$0.0)	\$0.0	(\$0.1)	\$1.4	468	78
10	AEP-DOM	Interface	500	(\$1.2)	(\$1.9)	\$0.0	\$0.7	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.7	1,810	196
11	East	Interface	500	(\$0.4)	(\$1.2)	(\$0.1)	\$0.6	\$0.0	\$0.1	\$0.1	\$0.0	\$0.7	254	44
12	Blairsville East	Transformer	PENELEC	(\$1.4)	(\$1.7)	(\$0.1)	\$0.2	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.2	368	12
13	South Mahwah - Waldwick	Line	PSEG	(\$3.1)	(\$2.7)	\$0.7	\$0.3	\$0.4	\$0.1	(\$1.1)	(\$0.8)	(\$0.5)	5,886	838
14	Susquehanna	Transformer	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	\$0.1	(\$0.0)	(\$0.0)	0	104
15	Gore - Hampshire	Line	AP	(\$0.7)	(\$1.1)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	622	0
17	Keystone - Shelocta	Line	PENELEC	(\$0.2)	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.4)	\$0.0	(\$0.0)	(\$0.5)	(\$0.6)	24	16
19	Juniata	Transformer	PENELEC	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.5	\$0.1	(\$0.4)	(\$0.4)	160	32
31	Laurel Lake - Tiffany	Line	PENELEC	\$0.3	\$0.0	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	80	0
35	Goudey - Laurel Lake	Line	PENELEC	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.3)	\$0.0	(\$0.0)	(\$0.3)	(\$0.3)	0	24
39	Erie West	Transformer	PENELEC	\$0.5	(\$0.0)	\$0.0	\$0.5	(\$0.3)	\$0.2	(\$0.2)	(\$0.7)	(\$0.2)	574	60

Table 7-36 PENELEC Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-34)

Congestion Costs (Millions)															
Day Ahead								Balancing				Event Hours			
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	AP South	Interface	500	(\$31.7)	(\$47.9)	(\$0.0)	\$16.1	\$3.8	(\$0.5)	\$0.0	\$4.4	\$20.5	4,180	2,020	
2	5004/5005 Interface	Interface	500	(\$7.1)	(\$22.8)	(\$0.1)	\$15.5	\$1.1	\$0.3	\$0.1	\$0.9	\$16.4	2,100	734	
3	Bedington - Black Oak	Interface	500	(\$11.8)	(\$17.9)	(\$0.0)	\$6.1	\$0.2	(\$0.1)	\$0.0	\$0.4	\$6.4	2,656	86	
4	Seward	Transformer	PENELEC	\$10.2	\$6.2	\$0.0	\$4.0	(\$0.1)	\$0.1	(\$0.0)	(\$0.1)	\$3.9	688	86	
5	AEP-DOM	Interface	500	(\$4.4)	(\$6.3)	(\$0.0)	\$1.8	\$0.2	(\$0.1)	\$0.0	\$0.3	\$2.1	942	168	
6	East Frankfort - Crete	Line	ComEd	\$3.3	\$4.2	\$0.0	(\$0.9)	(\$0.4)	\$0.2	(\$0.0)	(\$0.6)	(\$1.5)	3,300	1,208	
7	Mount Storm - Pruntytown	Line	AP	(\$0.6)	(\$1.0)	(\$0.0)	\$0.4	\$1.3	\$0.3	\$0.0	\$1.0	\$1.4	174	488	
8	Sammis - Wylie Ridge	Line	AP	\$0.5	\$1.8	\$0.0	(\$1.3)	(\$0.1)	(\$0.1)	(\$0.0)	(\$0.0)	(\$1.3)	988	88	
9	Doubs	Transformer	AP	(\$1.7)	(\$2.3)	\$0.0	\$0.6	\$0.2	(\$0.0)	(\$0.0)	\$0.2	\$0.8	1,830	566	
10	Tiltonsville - Windsor	Line	AP	\$2.1	\$2.8	\$0.0	(\$0.7)	(\$0.3)	\$0.2	(\$0.0)	(\$0.5)	(\$1.2)	3,128	540	
11	Homer City - Seward	Line	PENELEC	\$3.3	\$2.3	\$0.0	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	118	0	
12	Hunterstown	Transformer	Met-Ed	(\$0.6)	(\$1.5)	(\$0.0)	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.9	234	52	
13	Pleasant View	Transformer	Dominion	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.6	(\$0.3)	\$0.0	\$1.0	\$1.0	62	202	
14	Graceton - Raphael Road	Line	BGE	(\$1.5)	(\$2.2)	\$0.0	\$0.7	\$0.2	\$0.1	(\$0.0)	\$0.2	\$0.8	394	198	
15	West	Interface	500	(\$0.3)	(\$1.1)	\$0.0	\$0.8	\$0.2	\$0.1	\$0.0	\$0.0	\$0.8	168	82	
19	Garrett	Transformer	PENELEC	\$1.1	\$0.9	\$0.0	\$0.2	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.2	204	6	
23	Homer City - Johnstown	Line	PENELEC	\$0.9	\$0.6	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	64	0	
25	Homer City - Shelocta	Line	PENELEC	(\$2.8)	(\$2.8)	(\$0.0)	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.1	198	44	
26	Altoona - Bear Rock	Line	PENELEC	(\$0.5)	(\$0.9)	(\$0.0)	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	32	0	
29	Homer City	Transformer	PENELEC	\$0.7	\$0.4	(\$0.0)	\$0.3	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.3	162	2	

Pepco Control Zone

Table 7-37 Pepco Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-35)

Congestion Costs (Millions)															
No.	Constraint	Type	Location	Load Payments	Day Ahead			Balancing				Grand Total	Event Hours		
					Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total		Day Ahead	Real Time	
1	AP South	Interface	500	\$40.3	\$26.1	\$1.0	\$15.2	(\$1.5)	(\$1.1)	(\$0.9)	(\$1.4)	\$13.9	4,090	1,258	
2	Dickerson - Quince Orchard	Line	Pepco	\$18.8	\$5.1	\$0.2	\$13.9	\$0.3	\$1.3	(\$0.2)	(\$1.2)	\$12.7	210	118	
3	Wylie Ridge	Transformer	AP	\$8.2	\$5.1	\$0.3	\$3.5	(\$0.3)	(\$0.2)	(\$0.1)	(\$0.1)	\$3.4	3,684	708	
4	Bedington - Black Oak	Interface	500	\$7.9	\$5.0	\$0.2	\$3.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$3.1	1,248	2	
5	West	Interface	500	\$5.5	\$3.1	\$0.2	\$2.6	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$2.6	904	28	
6	Crete - St Johns Tap	Flowgate	MISO	\$4.1	\$2.4	\$0.1	\$1.8	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.2)	\$1.6	4,190	1,210	
7	Danville - East Danville	Line	AEP	\$3.6	\$2.0	(\$0.0)	\$1.6	\$0.0	\$0.0	\$0.0	\$0.0	\$1.6	2,516	0	
8	AEP-DOM	Interface	500	\$4.1	\$2.7	\$0.1	\$1.5	(\$0.0)	(\$0.1)	\$0.0	\$0.0	\$1.5	1,810	196	
9	5004/5005 Interface	Interface	500	\$3.8	\$2.3	\$0.0	\$1.5	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	\$1.4	1,046	586	
10	Mount Storm	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.3)	\$0.2	(\$0.3)	(\$0.8)	(\$0.8)	0	110	
11	Cloverdale - Lexington	Line	AEP	\$1.6	\$0.9	\$0.1	\$0.8	(\$0.1)	(\$0.1)	(\$0.2)	(\$0.1)	\$0.7	896	650	
12	Chaparral - Carson	Line	Dominion	\$0.8	\$0.4	\$0.2	\$0.5	(\$0.1)	(\$0.0)	(\$0.7)	(\$0.8)	(\$0.2)	392	360	
13	Susquehanna	Transformer	PPL	(\$1.4)	(\$0.8)	(\$0.0)	(\$0.6)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.6)	240	0	
14	Gore - Hampshire	Line	AP	\$1.4	\$0.8	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	622	0	
15	East	Interface	500	(\$1.3)	(\$0.9)	(\$0.0)	(\$0.4)	\$0.0	\$0.1	\$0.0	(\$0.1)	(\$0.6)	254	44	
18	Burches Hill	Transformer	Pepco	\$0.6	\$0.3	\$0.1	\$0.4	\$0.0	(\$0.0)	(\$0.2)	(\$0.2)	\$0.1	134	88	
55	Buzzard - Ritchie	Line	Pepco	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	138	0	
303	Butler - Cabot	Line	Pepco	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	22	0	
368	Pumphrey - Westport	Line	Pepco	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	24	0	
387	Benning	Transformer	Pepco	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	10	0	

Table 7-38 Pepco Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-36)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Load Payments	Day Ahead			Total	Balancing				Total			Day Ahead	Real Time
					Generation Credits	Explicit			Load Payments	Generation Credits	Explicit						
1	AP South	Interface	500	\$69.6	\$51.6	\$1.4	\$19.3		(\$2.7)	(\$1.6)	(\$1.4)	(\$2.5)	\$16.9			4,180	2,020
2	Bedington - Black Oak	Interface	500	\$28.5	\$19.8	\$0.6	\$9.3		(\$0.3)	(\$0.4)	(\$0.3)	(\$0.1)	\$9.2			2,656	86
3	Doubs	Transformer	AP	\$18.6	\$12.1	\$0.5	\$7.1		(\$3.0)	\$0.7	(\$1.5)	(\$5.2)	\$1.9			1,830	566
4	Reid - Ringgold	Line	AP	\$4.6	\$2.8	\$0.1	\$2.0		(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$2.0			540	30
5	Mount Storm - Pruntytown	Line	AP	\$1.5	\$1.0	\$0.0	\$0.5		(\$1.1)	(\$1.1)	(\$0.2)	(\$0.2)	\$0.2			174	488
6	Graceton - Raphael Road	Line	BGE	\$5.3	\$3.6	\$0.2	\$1.9		(\$0.6)	(\$0.4)	(\$0.1)	(\$0.3)	\$1.6			394	198
7	AEP-DOM	Interface	500	\$8.0	\$6.6	\$0.1	\$1.5		(\$0.1)	(\$0.2)	(\$0.1)	(\$0.0)	\$1.5			942	168
8	5004/5005 Interface	Interface	500	\$4.7	\$3.2	\$0.2	\$1.7		(\$0.1)	(\$0.1)	(\$0.1)	(\$0.2)	\$1.5			2,100	734
9	Bowie	Line	Pepco	\$2.3	\$1.1	\$0.1	\$1.3		\$0.0	\$0.0	\$0.0	\$0.0	\$1.3			88	0
10	Cloverdale - Lexington	Line	AEP	\$4.7	\$3.3	\$0.1	\$1.5		(\$0.9)	(\$0.7)	(\$0.2)	(\$0.4)	\$1.1			1,156	686
11	East Frankfort - Crete	Line	ComEd	\$3.7	\$2.2	\$0.0	\$1.5		(\$0.3)	(\$0.0)	(\$0.0)	(\$0.2)	\$1.2			3,300	1,208
12	Bowie - Lanham	Line	Pepco	\$2.2	\$0.9	\$0.1	\$1.4		(\$0.3)	(\$0.2)	(\$0.1)	(\$0.2)	\$1.1			72	26
13	Tiltonsville - Windsor	Line	AP	\$2.4	\$1.5	\$0.0	\$1.0		(\$0.2)	(\$0.0)	(\$0.1)	(\$0.2)	\$0.8			3,128	540
14	Pleasant View	Transformer	Dominion	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)		\$0.5	\$0.2	\$0.5	\$0.8	\$0.8			62	202
15	Danville - East Danville	Line	Dominion	\$3.1	\$2.1	(\$0.1)	\$0.9		(\$0.2)	(\$0.1)	\$0.1	(\$0.1)	\$0.8			1,758	170
17	Benning - Ritchie	Line	Pepco	\$0.8	\$0.2	\$0.1	\$0.7		\$0.0	\$0.0	\$0.0	\$0.0	\$0.7			156	0
21	Buzzard - Ritchie	Line	Pepco	\$0.5	\$0.0	\$0.0	\$0.5		(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.5			116	2
27	Bowie	Transformer	Pepco	\$0.0	\$0.0	\$0.0	\$0.0		\$0.2	\$0.4	(\$0.1)	(\$0.3)	(\$0.3)			0	18
32	Burtonsville - Metzert Rd.	Line	Pepco	\$0.3	\$0.1	\$0.0	\$0.2		\$0.0	\$0.0	\$0.0	\$0.0	\$0.2			34	0
85	Dickerson - Pleasant View	Line	Pepco	(\$0.0)	(\$0.0)	\$0.0	\$0.0		\$0.0	\$0.0	\$0.0	\$0.0	\$0.0			132	28

PPL Control Zone

Table 7-39 PPL Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-37)

Congestion Costs (Millions)															
Day Ahead								Balancing				Event Hours			
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	5004/5005 Interface	Interface	500	\$28.2	\$36.8	\$0.8	(\$7.8)	\$1.5	\$0.1	(\$0.3)	\$1.1	(\$6.7)	1,046	586	
2	Susquehanna	Transformer	PPL	\$12.6	\$2.7	\$0.2	\$10.1	\$0.0	\$0.0	\$0.0	\$0.0	\$10.1	240	0	
3	Wylie Ridge	Transformer	AP	\$10.9	\$13.6	\$0.4	(\$2.3)	\$0.6	\$0.1	(\$0.1)	\$0.4	(\$1.9)	3,684	708	
4	West	Interface	500	\$9.5	\$10.6	\$0.4	(\$0.8)	\$0.0	(\$0.1)	(\$0.0)	\$0.1	(\$0.7)	904	28	
5	Crete - St Johns Tap	Flowgate	MISO	\$4.2	\$5.4	\$0.0	(\$1.2)	\$0.3	\$0.2	(\$0.0)	\$0.1	(\$1.1)	4,190	1,210	
6	Susquehanna	Transformer	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	(\$1.3)	(\$0.2)	\$1.7	\$1.7	0	104	
7	AP South	Interface	500	(\$0.2)	(\$1.3)	\$0.3	\$1.3	\$0.2	\$0.1	(\$0.0)	\$0.1	\$1.4	4,090	1,258	
8	Middletown Jctn. - Three Mile Island	Line	Met-Ed	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	(\$0.7)	(\$0.0)	\$1.1	\$1.1	0	30	
9	Cedar Grove - Roseland	Line	PSEG	(\$1.9)	(\$2.4)	(\$0.2)	\$0.3	(\$0.1)	(\$0.0)	\$0.0	(\$0.1)	\$0.3	1,518	52	
10	East	Interface	500	(\$0.0)	(\$0.9)	\$0.0	\$0.9	\$0.0	\$0.0	\$0.1	\$0.1	\$1.0	254	44	
11	Dickerson - Quince Orchard	Line	Pepco	\$2.6	\$2.6	\$0.1	\$0.1	\$0.4	\$0.4	(\$0.0)	(\$0.1)	\$0.0	210	118	
12	Wescosville	Transformer	PPL	\$1.1	\$0.5	\$0.0	\$0.6	\$0.2	\$0.1	(\$0.0)	\$0.1	\$0.8	70	38	
13	South Mahwah - Waldwick	Line	PSEG	\$1.5	\$1.9	\$0.5	\$0.1	\$0.2	\$0.2	(\$0.6)	(\$0.6)	(\$0.4)	5,886	838	
14	Juniata	Transformer	PENELEC	\$0.0	\$0.0	\$0.1	\$0.1	\$0.3	\$0.3	\$0.6	\$0.6	\$0.6	160	32	
15	Waldwick	Transformer	PSEG	\$0.2	\$0.2	\$0.0	\$0.0	\$0.1	\$0.2	(\$0.6)	(\$0.7)	(\$0.6)	272	186	
20	Juniata	Transformer	PPL	\$0.6	\$0.5	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	50	0	
28	Elroy	Transformer	PPL	\$0.4	\$0.5	\$0.0	(\$0.1)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	382	0	
49	Dauphin - Juniata	Line	PPL	\$0.2	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	8	0	
56	Blooming Grove - Peckville	Line	PPL	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	18	0	
193	Quarry - Steel City	Line	PPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	0	4	

Table 7-40 PPL Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-38)

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Day Ahead				Balancing				Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	\$21.2	\$26.9	\$0.6	(\$5.1)	\$0.6	\$0.4	(\$0.2)	(\$0.1)	(\$5.2)	2,100	734
2	Graceton - Raphael Road	Line	BGE	(\$3.4)	(\$4.5)	(\$0.1)	\$1.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$1.0	394	198
3	AP South	Interface	500	\$1.6	\$1.1	\$0.3	\$0.8	\$0.2	(\$0.1)	(\$0.0)	\$0.2	\$1.1	4,180	2,020
4	East Frankfort - Crete	Line	ComEd	\$2.6	\$3.5	\$0.0	(\$0.9)	\$0.2	(\$0.0)	\$0.0	\$0.2	(\$0.7)	3,300	1,208
5	Juniata	Transformer	PENELEC	\$0.0	\$0.0	\$0.1	\$0.1	\$0.7	\$0.2	\$0.4	\$0.9	\$1.0	60	54
6	Harwood - Susquehanna	Line	PPL	\$0.2	(\$0.7)	\$0.0	\$0.9	\$0.3	\$0.5	(\$0.1)	(\$0.3)	\$0.6	50	44
7	Susquehanna	Transformer	PPL	\$1.0	\$0.3	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	72	0
8	Tiltonsville - Windsor	Line	AP	\$1.6	\$2.1	\$0.1	(\$0.4)	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.4)	3,128	540
9	Sammis - Wylie Ridge	Line	AP	\$1.2	\$1.6	\$0.0	(\$0.4)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.4)	988	88
10	Cloverdale - Lexington	Line	AEP	\$1.1	\$1.6	\$0.1	(\$0.5)	\$0.2	\$0.0	\$0.0	\$0.2	(\$0.2)	1,156	686
11	Bedington - Black Oak	Interface	500	\$1.6	\$1.4	\$0.2	\$0.4	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.4	2,656	86
12	West	Interface	500	\$1.3	\$1.5	\$0.0	(\$0.2)	\$0.0	\$0.1	(\$0.0)	(\$0.1)	(\$0.3)	168	82
13	Martins Creek - Siegfried	Line	PPL	(\$0.0)	(\$0.1)	\$0.0	\$0.0	(\$0.0)	\$0.2	(\$0.1)	(\$0.3)	(\$0.3)	14	34
14	Mahans Lane - Tidd	Line	AEP	\$0.4	\$0.6	\$0.0	(\$0.2)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.2)	536	240
15	Palisades - Vergennes	Flowgate	MISO	\$0.5	\$0.7	\$0.0	(\$0.2)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	470	182
19	Otter Creek - Safe Harbor	Line	PPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	(\$0.0)	(\$0.0)	0	10
29	Alburtis - Hosensack	Line	PPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	(\$0.0)	(\$0.1)	(\$0.1)	0	50
31	Juniata	Transformer	PPL	\$0.5	\$0.5	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	42	0
62	Facerock	Transformer	PPL	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.1)	\$0.0	\$0.0	\$0.0	0	12
75	Harwood	Transformer	PPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	26	0

PSEG Control Zone

Table 7-41 PSEG Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-39)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	South Mahwah - Waldwick	Line	PSEG	\$15.3	\$3.8	(\$5.7)	\$5.8	(\$1.8)	\$4.0	(\$9.6)	(\$15.4)	(\$9.6)	5,886	838
2	5004/5005 Interface	Interface	500	\$17.0	\$16.4	\$1.0	\$1.6	\$0.2	\$3.0	(\$0.8)	(\$3.6)	(\$1.9)	1,046	586
3	Waldwick	Transformer	PSEG	\$1.4	\$0.4	\$1.4	\$2.3	(\$0.6)	\$0.6	(\$7.6)	(\$8.7)	(\$6.4)	272	186
4	Cedar Grove - Roseland	Line	PSEG	\$6.2	\$0.9	\$0.1	\$5.4	(\$0.1)	\$0.6	(\$0.1)	(\$0.7)	\$4.7	1,518	52
5	Wylie Ridge	Transformer	AP	\$8.1	\$8.3	\$0.7	\$0.5	\$0.0	\$1.0	(\$0.4)	(\$1.4)	(\$0.9)	3,684	708
6	West	Interface	500	\$8.6	\$8.0	\$0.6	\$1.2	(\$0.0)	\$0.1	(\$0.0)	(\$0.2)	\$1.0	904	28
7	AP South	Interface	500	(\$1.2)	\$2.2	\$1.0	(\$2.5)	\$0.1	(\$0.3)	(\$0.9)	(\$0.5)	(\$3.0)	4,090	1,258
8	East	Interface	500	\$2.8	\$3.4	\$0.2	(\$0.4)	(\$0.1)	\$0.5	(\$0.1)	(\$0.7)	(\$1.1)	254	44
9	Crete - St Johns Tap	Flowgate	MISO	\$3.7	\$3.6	\$0.0	\$0.2	\$0.1	\$0.5	(\$0.1)	(\$0.5)	(\$0.3)	4,190	1,210
10	Branchburg - Readington	Line	PSEG	\$1.8	\$0.1	\$0.1	\$1.9	(\$0.1)	\$0.3	(\$0.0)	(\$0.5)	\$1.4	422	70
11	Susquehanna	Transformer	PPL	\$1.2	(\$0.1)	\$0.0	\$1.3	\$0.0	\$0.0	\$0.0	\$0.0	\$1.3	240	0
12	Dickerson - Quince Orchard	Line	Pepco	\$2.8	\$3.0	\$0.2	\$0.0	\$0.3	\$0.4	(\$0.2)	(\$0.3)	(\$0.3)	210	118
13	Bedington - Black Oak	Interface	500	\$0.3	\$1.0	\$0.2	(\$0.5)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.5)	1,248	2
14	Roseland - West Caldwell	Line	PSEG	\$1.0	\$0.1	\$0.1	\$1.0	(\$0.0)	\$0.2	(\$0.1)	(\$0.3)	\$0.7	142	20
15	Hawthorn - Waldwick	Line	PSEG	\$0.1	\$0.0	\$0.5	\$0.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.7	1,038	0
17	Montville - Roseland	Line	PSEG	\$0.7	\$0.2	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	88	0
22	Bayway - Federal Square	Line	PSEG	\$0.3	(\$0.2)	\$0.1	\$0.5	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	\$0.4	716	16
28	Athenia - Saddlebrook	Line	PSEG	\$0.3	\$0.1	\$0.1	\$0.4	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.4	916	4
38	Linden - North Ave	Line	PSEG	\$0.1	(\$0.1)	\$0.0	\$0.2	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.2	160	6
39	Fairlawn	Transformer	PSEG	\$0.1	\$0.0	\$0.2	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	198	0

Table 7-42 PSEG Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-40)

No.	Constraint	Type	Location	Congestion Costs (Millions)										
				Day Ahead				Balancing				Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	Athenia - Saddlebrook	Line	PSEG	\$12.3	\$2.4	\$7.2	\$17.1	(\$6.8)	\$2.7	(\$4.9)	(\$14.3)	\$2.7	5,182	642
2	5004/5005 Interface	Interface	500	\$13.7	\$14.1	\$1.4	\$1.0	(\$0.0)	\$1.0	(\$0.7)	(\$1.7)	(\$0.7)	2,100	734
3	Branchburg - Readington	Line	PSEG	\$5.1	\$0.8	\$0.4	\$4.7	\$0.1	\$0.8	(\$0.5)	(\$1.2)	\$3.5	1,424	316
4	Hawthorn - Waldwick	Line	PSEG	\$0.1	(\$0.0)	(\$0.0)	\$0.0	(\$0.7)	\$1.1	(\$1.7)	(\$3.4)	(\$3.4)	908	76
5	AP South	Interface	500	\$0.4	\$3.5	\$1.7	(\$1.5)	\$0.1	(\$0.3)	(\$1.2)	(\$0.8)	(\$2.3)	4,180	2,020
6	Bedington - Black Oak	Interface	500	\$1.2	\$2.6	\$0.7	(\$0.7)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	(\$0.8)	2,656	86
7	Hawthorn - Hinchmans Ave	Line	PSEG	(\$0.0)	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.1)	\$0.4	(\$0.9)	(\$1.4)	(\$1.6)	418	70
8	Graceton - Raphael Road	Line	BGE	(\$3.2)	(\$3.4)	(\$0.2)	(\$0.0)	\$0.3	(\$0.2)	\$0.3	\$0.8	\$0.8	394	198
9	East Frankfort - Crete	Line	ComEd	\$2.3	\$2.4	\$0.1	\$0.0	(\$0.1)	\$0.2	(\$0.1)	(\$0.4)	(\$0.4)	3,300	1,208
10	Doubs	Transformer	AP	\$1.3	\$1.1	\$0.2	\$0.4	(\$0.3)	\$0.3	(\$0.5)	(\$1.1)	(\$0.7)	1,830	566
11	Pleasant View	Transformer	Dominion	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.3	(\$0.2)	\$0.2	\$0.7	\$0.7	62	202
12	Fairlawn - Saddlebrook	Line	PSEG	\$0.4	\$0.3	\$0.7	\$0.8	(\$0.0)	\$0.1	(\$0.4)	(\$0.5)	\$0.3	940	34
13	Cloverdale - Lexington	Line	AEP	\$1.0	\$1.3	\$0.1	(\$0.2)	\$0.1	\$0.3	(\$0.2)	(\$0.4)	(\$0.5)	1,156	686
14	Bayway - Federal Square	Line	PSEG	\$0.4	(\$0.2)	\$0.0	\$0.6	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.6	688	2
15	Redoak - Sayreville	Line	JCPL	\$0.4	(\$0.1)	\$0.0	\$0.6	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.6	886	26
16	Bayonne - PVSC	Line	PSEG	\$0.0	(\$0.5)	\$0.1	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	1,156	0
21	Hudson - Marion	Line	PSEG	\$0.3	\$0.1	\$0.2	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	340	0
22	Leonia - New Milford	Line	PSEG	\$0.2	\$0.1	\$0.4	\$0.5	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.5	1,136	2
24	North Ave - Pvsc	Line	PSEG	\$0.1	(\$0.3)	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	570	0
29	Cedar Grove - Clifton	Line	PSEG	\$0.2	\$0.0	\$0.1	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	126	0

RECO Control Zone

Table 7-43 RECO Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-41)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	South Mahwah - Waldwick	Line	PSEG	(\$1.2)	(\$0.6)	(\$0.0)	(\$0.7)	(\$0.0)	\$1.0	\$0.0	(\$1.0)	(\$1.6)	5,886	838
2	5004/5005 Interface	Interface	500	\$0.7	\$0.1	\$0.0	\$0.6	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.6	1,046	586
3	Waldwick	Transformer	PSEG	(\$0.2)	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.1)	\$0.4	\$0.0	(\$0.4)	(\$0.5)	272	186
4	West	Interface	500	\$0.3	\$0.0	\$0.0	\$0.3	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.3	904	28
5	Wylie Ridge	Transformer	AP	\$0.3	\$0.1	\$0.0	\$0.3	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.3	3,684	708
6	Cedar Grove - Roseland	Line	PSEG	\$0.3	\$0.1	\$0.0	\$0.3	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.3	1,518	52
7	Crete - St Johns Tap	Flowgate	MISO	\$0.2	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2	4,190	1,210
8	Dickerson - Quince Orchard	Line	Pepco	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	210	118
9	AP South	Interface	500	(\$0.1)	(\$0.0)	\$0.0	(\$0.1)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.1)	4,090	1,258
10	Branchburg - Readington	Line	PSEG	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	422	70
11	East	Interface	500	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.1	254	44
12	Susquehanna	Transformer	PPL	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	240	0
13	Roseland - West Caldwell	Line	PSEG	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	142	20
14	Athenia - Saddlebrook	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	916	4
15	Bunsonville - Eugene	Flowgate	MISO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	2,328	0

Table 7-44 RECO Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-42)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	\$0.5	\$0.1	\$0.0	\$0.4	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.5	2,100	734
2	Branchburg - Readington	Line	PSEG	\$0.3	\$0.0	\$0.0	\$0.3	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.4	1,424	316
3	Athenia - Saddlebrook	Line	PSEG	\$0.2	\$0.0	(\$0.0)	\$0.1	\$0.0	(\$0.1)	\$0.0	\$0.1	\$0.2	5,182	642
4	AP South	Interface	500	(\$0.1)	(\$0.0)	\$0.0	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.2)	4,180	2,020
5	Graceton - Raphael Road	Line	BGE	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.1)	394	198
6	Hawthorn - Hinchmans Ave	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.1)	418	70
7	Hawthorn - Waldwick	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.1)	908	76
8	East Frankfort - Crete	Line	ComEd	\$0.1	\$0.0	(\$0.0)	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	3,300	1,208
9	Doubs	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	1,830	566
10	Tiltonsville - Windsor	Line	AP	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	3,128	540
11	West	Interface	500	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	168	82
12	Brandon Shores - Riverside	Line	BGE	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	146	110
13	Fairlawn - Saddlebrook	Line	PSEG	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	940	34
14	Pleasant View	Transformer	Dominion	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	62	202
15	Cloverdale - Lexington	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	1,156	686

Western Region Congestion-Event Summaries

AEP Control Zone

Table 7-45 AEP Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-43)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	AP South	Interface	500	(\$17.5)	(\$44.4)	(\$0.9)	\$25.9	(\$0.0)	\$3.4	\$1.5	(\$1.9)	\$24.0	4,090	1,258
2	Belmont	Transformer	AP	\$10.8	(\$8.4)	\$2.5	\$21.7	(\$1.1)	(\$0.2)	(\$2.0)	(\$2.9)	\$18.8	5,076	502
3	AEP-DOM	Interface	500	\$3.2	(\$14.8)	\$1.7	\$19.8	(\$0.1)	\$0.5	(\$0.2)	(\$0.8)	\$19.0	1,810	196
4	5004/5005 Interface	Interface	500	(\$14.4)	(\$23.3)	(\$0.6)	\$8.2	\$0.4	\$1.4	\$0.7	(\$0.3)	\$7.9	1,046	586
5	Brues - West Bellaire	Line	AEP	\$10.4	\$0.8	\$1.2	\$10.8	(\$1.1)	\$1.6	(\$1.4)	(\$4.1)	\$6.7	1,692	566
6	Wylie Ridge	Transformer	AP	(\$10.4)	(\$16.5)	(\$1.3)	\$4.7	\$0.2	\$0.9	\$0.6	(\$0.1)	\$4.6	3,684	708
7	West	Interface	500	(\$6.1)	(\$10.0)	(\$0.3)	\$3.6	\$0.0	\$0.1	\$0.0	(\$0.0)	\$3.6	904	28
8	Bedington - Black Oak	Interface	500	(\$3.4)	(\$7.6)	(\$0.1)	\$4.1	\$0.0	\$0.0	\$0.0	\$0.0	\$4.1	1,248	2
9	Danville - East Danville	Line	AEP	(\$9.4)	(\$9.8)	(\$3.3)	(\$2.9)	\$0.0	\$0.0	\$0.0	\$0.0	(\$2.9)	2,516	0
10	Muskingum River	Transformer	AEP	\$0.6	(\$2.7)	\$0.5	\$3.8	\$0.0	\$0.0	\$0.0	\$0.0	\$3.8	586	0
11	Michigan City - Laporte	Flowgate	MISO	\$4.6	\$2.1	\$1.6	\$4.2	(\$1.6)	(\$0.9)	(\$1.9)	(\$2.7)	\$1.5	1,704	552
12	Wolfcreek	Transformer	AEP	(\$0.4)	(\$3.5)	\$0.6	\$3.7	(\$0.2)	\$0.1	(\$0.5)	(\$0.7)	\$3.0	2,514	256
13	Carnegie - Tidd	Line	AECO	(\$0.8)	(\$3.0)	(\$0.6)	\$1.6	\$0.0	\$0.0	\$0.0	\$0.0	\$1.6	1,704	0
14	Kammer	Transformer	AEP	\$0.0	\$0.0	\$0.0	\$0.0	(\$2.1)	(\$0.0)	(\$0.4)	(\$2.5)	(\$2.5)	0	20
15	Cumberland - Bush	Flowgate	MISO	\$0.1	(\$2.0)	(\$0.1)	\$2.0	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$1.9	1,670	280
18	Ruth - Turner	Line	AEP	\$1.0	(\$0.3)	\$0.2	\$1.5	(\$0.1)	\$0.1	(\$0.1)	(\$0.3)	\$1.3	150	88
22	Cloverdale	Transformer	AEP	(\$0.2)	(\$2.1)	\$0.2	\$2.1	(\$0.1)	\$0.5	\$0.0	(\$0.5)	\$1.5	518	174
23	Baker - Broadford	Line	AEP	\$0.2	(\$0.4)	\$0.1	\$0.8	\$0.0	\$1.2	(\$1.1)	(\$2.3)	(\$1.5)	16	40
25	Dumont - Stillwell	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$1.2)	(\$1.3)	(\$1.2)	108	54
29	Carnegie - Tidd	Line	AEP	(\$0.4)	(\$1.1)	(\$0.3)	\$0.4	\$0.2	\$0.2	\$0.6	\$0.6	\$1.0	646	666

Table 7-46 AEP Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-44)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	AP South	Interface	500	(\$20.3)	(\$52.9)	\$0.4	\$33.0	(\$3.4)	\$1.7	\$0.6	(\$4.5)	\$28.5	4,180	2,020
2	AEP-DOM	Interface	500	\$7.5	(\$20.1)	\$1.0	\$28.5	(\$0.2)	(\$0.3)	(\$0.3)	(\$0.1)	\$28.4	942	168
3	Bedington - Black Oak	Interface	500	(\$8.7)	(\$18.6)	\$0.1	\$10.0	(\$0.1)	(\$0.0)	\$0.0	(\$0.1)	\$9.9	2,656	86
4	Baker - Broadford	Line	AEP	\$0.1	(\$0.2)	\$0.0	\$0.3	(\$1.5)	\$1.0	(\$3.5)	(\$5.9)	(\$5.6)	20	148
5	5004/5005 Interface	Interface	500	(\$10.3)	(\$15.7)	(\$0.2)	\$5.2	(\$0.8)	\$1.2	\$0.2	(\$1.7)	\$3.4	2,100	734
6	Kanawha River	Transformer	AEP	\$2.1	(\$0.2)	\$0.4	\$2.7	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$2.7	324	22
7	Kanawha - Kincaid	Line	AEP	\$1.4	(\$0.7)	\$0.2	\$2.3	\$0.0	\$0.0	\$0.0	\$0.0	\$2.3	440	0
8	Culloden - Wyoming	Line	AEP	\$0.6	(\$0.8)	\$0.5	\$1.9	\$0.0	\$0.0	\$0.0	\$0.0	\$1.9	92	0
9	Sullivan	Transformer	AEP	(\$0.0)	(\$1.4)	(\$0.0)	\$1.3	\$0.0	\$0.0	\$0.0	(\$0.0)	\$1.3	370	94
10	Doubs	Transformer	AP	(\$5.5)	(\$6.4)	(\$0.1)	\$0.8	(\$0.1)	\$0.3	\$0.1	(\$0.3)	\$0.5	1,830	566
11	Mahans Lane - Tidd	Line	AEP	(\$0.4)	(\$1.6)	(\$0.1)	\$1.2	\$0.1	\$0.0	\$0.0	\$0.1	\$1.3	536	240
12	Palisades - Vergennes	Flowgate	MISO	(\$0.3)	(\$1.3)	(\$0.2)	\$0.8	\$0.0	\$0.1	\$0.0	(\$0.1)	\$0.8	470	182
13	Belmont	Transformer	AP	\$0.9	(\$0.1)	\$0.1	\$1.0	\$0.2	(\$0.0)	(\$0.0)	\$0.3	\$1.3	688	18
14	Cloverdale - Lexington	Line	AEP	(\$4.8)	(\$4.6)	(\$0.3)	(\$0.5)	(\$0.4)	\$0.7	\$0.4	(\$0.7)	(\$1.2)	1,156	686
15	East Frankfort - Crete	Line	ComEd	\$4.6	\$4.1	\$1.3	\$1.8	\$0.2	(\$0.1)	(\$1.0)	(\$0.7)	\$1.1	3,300	1,208
18	Kammer - Natrium	Line	AEP	\$0.3	(\$0.4)	\$0.0	\$0.7	\$0.0	(\$0.0)	(\$0.0)	\$0.1	\$0.8	356	38
25	Ruth - Turner	Line	AEP	\$0.1	(\$0.2)	\$0.0	\$0.3	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.3	44	22
29	Conesville Prep - Conesville	Line	AEP	(\$0.0)	(\$0.4)	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	236	0
31	Kanawha River - Kincaid	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	(\$0.1)	(\$0.0)	(\$0.3)	(\$0.3)	0	96
33	Breed - Wheatland	Line	AEP	\$0.0	(\$0.3)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	52	0

AP Control Zone

Table 7-47 AP Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-45)

No.	Constraint	Type	Location	Congestion Costs (Millions)										
				Day Ahead				Balancing				Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	AP South	Interface	500	(\$15.3)	(\$62.4)	(\$6.5)	\$40.6	\$3.0	\$3.6	\$5.6	\$5.0	\$45.7	4,090	1,258
2	Belmont	Transformer	AP	\$19.4	\$1.3	\$1.0	\$19.0	(\$1.2)	(\$1.3)	(\$0.6)	(\$0.6)	\$18.5	5,076	502
3	Bedington - Black Oak	Interface	500	(\$2.2)	(\$10.5)	(\$1.9)	\$6.3	\$0.0	(\$0.0)	\$0.0	\$0.0	\$6.3	1,248	2
4	5004/5005 Interface	Interface	500	(\$14.8)	(\$22.6)	(\$3.3)	\$4.5	\$1.0	\$0.8	\$2.8	\$3.0	\$7.5	1,046	586
5	West	Interface	500	(\$6.5)	(\$8.1)	(\$1.2)	\$0.3	\$0.0	\$0.0	\$0.1	\$0.1	\$0.5	904	28
6	Wylie Ridge	Transformer	AP	\$5.7	\$9.4	\$3.7	(\$0.0)	(\$0.0)	(\$0.3)	(\$3.1)	(\$2.8)	(\$2.8)	3,684	708
7	Yukon	Transformer	AP	\$3.2	(\$0.0)	\$0.1	\$3.3	(\$0.1)	\$0.1	\$0.1	(\$0.1)	\$3.2	468	78
8	AEP-DOM	Interface	500	(\$0.8)	(\$3.7)	(\$0.1)	\$2.8	\$0.0	\$0.0	\$0.3	\$0.3	\$3.1	1,810	196
9	Gore - Hampshire	Line	AP	(\$0.7)	(\$1.5)	(\$0.2)	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	622	0
10	Wolfcreek	Transformer	AEP	\$2.4	\$3.9	\$0.4	(\$1.1)	(\$0.2)	(\$0.2)	(\$0.3)	(\$0.3)	(\$1.4)	2,514	256
11	Dickerson - Quince Orchard	Line	Pepco	(\$5.4)	(\$4.0)	(\$0.8)	(\$2.2)	(\$0.8)	(\$0.2)	\$1.2	\$0.6	(\$1.6)	210	118
12	Cloverdale - Lexington	Line	AEP	\$0.4	(\$0.5)	\$0.2	\$1.1	\$0.2	\$0.0	(\$0.7)	(\$0.5)	\$0.6	896	650
13	Carnegie - Tidd	Line	AECO	\$1.5	\$0.3	\$0.1	\$1.3	\$0.0	\$0.0	\$0.0	\$0.0	\$1.3	1,704	0
14	Danville - East Danville	Line	AEP	\$0.2	(\$0.9)	\$0.1	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	2,516	0
15	Tiltonsville - Windsor	Line	AP	\$1.6	\$0.4	\$0.2	\$1.4	(\$0.1)	(\$0.0)	(\$0.2)	(\$0.3)	\$1.1	1,038	104
18	Bedington	Transformer	AP	\$0.2	(\$0.7)	(\$0.1)	\$0.8	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.8	50	10
19	Mount Storm	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	\$0.9	(\$0.2)	(\$0.8)	(\$0.8)	0	110
21	Hamilton - Weirton	Line	AP	\$0.9	\$0.3	\$0.1	\$0.8	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$0.8	300	6
22	Doubs	Transformer	AP	\$0.3	(\$0.3)	(\$0.0)	\$0.6	\$0.1	\$0.1	\$0.1	\$0.1	\$0.7	82	102
23	Butler - Karns City	Line	AP	\$1.4	\$0.9	(\$0.1)	\$0.4	(\$0.1)	(\$0.3)	\$0.0	\$0.3	\$0.7	738	88

Table 7-48 AP Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-46)

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Day Ahead				Balancing				Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	AP South	Interface	500	(\$20.3)	(\$77.3)	(\$5.6)	\$51.4	\$3.6	\$3.8	\$6.0	\$5.7	\$57.2	4,180	2,020
2	Bedington - Black Oak	Interface	500	(\$7.4)	(\$26.6)	(\$1.0)	\$18.3	\$0.3	\$0.4	\$0.1	(\$0.1)	\$18.2	2,656	86
3	Doubs	Transformer	AP	\$4.1	(\$5.9)	(\$0.3)	\$9.7	\$1.6	\$1.1	\$0.4	\$0.9	\$10.6	1,830	566
4	AEP-DOM	Interface	500	(\$2.1)	(\$7.8)	\$0.4	\$6.0	\$0.3	(\$0.2)	(\$0.1)	\$0.4	\$6.4	942	168
5	Tiltonsville - Windsor	Line	AP	\$6.6	\$1.5	\$0.6	\$5.7	(\$0.9)	(\$0.2)	(\$0.7)	(\$1.4)	\$4.3	3,128	540
6	5004/5005 Interface	Interface	500	(\$10.0)	(\$14.9)	(\$0.7)	\$4.3	\$0.7	\$1.2	\$0.5	\$0.0	\$4.3	2,100	734
7	Mount Storm - Pruntytown	Line	AP	(\$0.3)	(\$1.6)	(\$0.0)	\$1.3	\$1.1	(\$0.4)	\$0.5	\$2.0	\$3.2	174	488
8	Cloverdale - Lexington	Line	AEP	\$0.7	(\$1.4)	\$0.5	\$2.6	(\$0.0)	\$0.4	(\$1.3)	(\$1.8)	\$0.8	1,156	686
9	Belmont	Transformer	AP	\$2.1	(\$0.5)	\$0.1	\$2.8	\$0.0	\$0.0	\$0.0	\$0.0	\$2.8	688	18
10	Fort Martin - Ronco	Line	AP	\$0.2	\$0.2	\$0.1	\$0.2	(\$0.2)	\$0.9	(\$1.4)	(\$2.5)	(\$2.3)	62	84
11	Pleasant View	Transformer	Dominion	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	\$1.1	\$0.9	(\$0.1)	(\$0.2)	62	202
12	Halfway - Marlowe	Line	AP	\$0.6	(\$0.7)	(\$0.0)	\$1.3	\$0.1	(\$0.1)	\$0.0	\$0.2	\$1.5	120	36
13	Nipetown - Reid	Line	AP	(\$0.1)	(\$1.7)	\$0.0	\$1.6	\$0.1	\$0.2	(\$0.0)	(\$0.1)	\$1.6	422	98
14	Endless Caverns	Transformer	Dominion	\$1.3	\$0.0	\$0.2	\$1.6	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$1.5	566	6
15	Middlebourne - Willow	Line	AP	\$1.3	(\$0.2)	\$0.2	\$1.7	(\$0.2)	(\$0.0)	(\$0.2)	(\$0.4)	\$1.4	440	146
16	Reid - Ringgold	Line	AP	(\$3.3)	(\$3.3)	(\$0.3)	(\$0.2)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	540	30
17	Albright - Snowy Creek	Line	AP	\$0.9	(\$0.3)	\$0.0	\$1.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$1.2	498	4
19	Yukon	Transformer	AP	\$1.2	\$0.1	\$0.1	\$1.2	\$0.0	\$0.1	\$0.1	(\$0.0)	\$1.2	160	26
20	Boonsboro - Marlowe	Line	AP	(\$0.2)	(\$0.5)	(\$0.0)	\$0.2	\$0.4	\$0.7	\$0.2	(\$0.1)	\$0.1	94	68
21	Messic Road - Morgan	Line	AP	(\$0.8)	(\$1.6)	\$0.0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	676	0

ATSI Control Zone

Table 7-49 ATSI Control Zone top congestion cost impacts (By facility): June 2011 (New table)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	AP South	Interface	500	(\$6.2)	(\$2.4)	(\$0.1)	(\$3.9)	(\$1.0)	\$0.7	\$0.3	(\$1.5)	(\$5.3)	4,090	1,258
2	Dickerson - Quince Orchard	Line	Pepco	(\$2.9)	(\$1.2)	\$0.0	(\$1.7)	(\$0.8)	\$0.4	\$0.0	(\$1.2)	(\$2.9)	210	118
3	West	Interface	500	(\$3.8)	(\$1.8)	(\$0.0)	(\$2.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$2.0)	904	28
4	Mount Storm	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.6)	\$0.5	\$0.5	(\$0.6)	(\$0.6)	0	110
5	Bayshore - Jeep	Line	ATSI	\$0.9	(\$0.2)	\$0.0	\$1.1	\$0.6	\$0.2	\$0.0	\$0.4	\$1.5	32	12
6	AEP-DOM	Interface	500	(\$2.1)	(\$0.8)	(\$0.0)	(\$1.3)	\$0.0	\$0.0	\$0.0	\$0.0	(\$1.3)	1,810	196
7	Danville - East Danville	Line	AEP	(\$1.8)	(\$0.5)	(\$0.0)	(\$1.3)	\$0.0	\$0.0	\$0.0	\$0.0	(\$1.3)	2,516	0
8	Clover	Transformer	Dominion	(\$0.7)	(\$0.2)	\$0.0	(\$0.5)	(\$0.2)	\$0.2	(\$0.1)	(\$0.4)	(\$0.9)	1,086	492
9	Wylie Ridge	Transformer	AP	(\$2.1)	(\$1.4)	(\$0.1)	(\$0.8)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.8)	3,684	708
10	5004/5005 Interface	Interface	500	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.4)	\$0.2	\$0.0	(\$0.5)	(\$0.5)	1,046	586
11	Nottingham - Nottingham	Line	ATSI	\$0.5	(\$0.1)	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	12	0
12	Jeep - Dixie	Line	ATSI	\$0.5	(\$0.1)	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	28	0
13	Michigan City - Laporte	Flowgate	MISO	\$0.7	\$0.3	\$0.1	\$0.5	\$0.1	\$0.0	(\$0.1)	(\$0.0)	\$0.5	1,704	552
14	Gore - Hampshire	Line	AP	(\$0.9)	(\$0.4)	(\$0.0)	(\$0.5)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.5)	622	0
15	Beaver - Sammis	Line	DLCO	(\$0.2)	(\$0.7)	(\$0.0)	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	124	22
20	Galion – GM Mansfield	Line	ATSI	\$0.3	(\$0.0)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	30	0
52	West Akron - Aetna	Line	ATSI	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	2	0
64	Brookside - Wellington	Line	ATSI	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	38	0
66	Sammis - Wylie Ridge	Line	ATSI	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	66	0
91	Lakeview - Greenfoe	Line	ATSI	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	0	2

ComEd Control Zone**Table 7-50 ComEd Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-47)**

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Load Payments	Day Ahead			Balancing				Grand Total	Event Hours	
					Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total		Day Ahead	Real Time
1	Crete - St Johns Tap	Flowgate	MISO	(\$43.9)	(\$64.7)	(\$11.9)	\$9.0	\$3.8	\$2.3	\$4.6	\$6.2	\$15.1	4,190	1,210
2	AP South	Interface	500	(\$36.5)	(\$46.4)	(\$0.7)	\$9.1	\$4.9	\$1.0	\$0.2	\$4.2	\$13.3	4,090	1,258
3	Electric Jct - Nelson	Line	ComEd	\$0.9	(\$12.5)	\$3.0	\$16.4	\$0.8	\$2.8	(\$3.9)	(\$5.9)	\$10.5	2,018	112
4	5004/5005 Interface	Interface	500	(\$20.9)	(\$27.0)	(\$0.4)	\$5.7	\$1.9	\$0.8	\$0.4	\$1.5	\$7.2	1,046	586
5	Bunsonville - Eugene	Flowgate	MISO	(\$10.1)	(\$17.1)	(\$0.2)	\$6.8	\$0.0	\$0.0	\$0.0	\$0.0	\$6.8	2,328	0
6	Oak Grove - Galesburg	Flowgate	MISO	(\$0.9)	(\$7.3)	\$3.1	\$9.5	(\$0.4)	\$2.0	(\$6.1)	(\$8.5)	\$0.9	1,782	836
7	Wylie Ridge	Transformer	AP	(\$15.3)	(\$20.0)	(\$0.1)	\$4.6	\$1.5	\$0.3	(\$0.1)	\$1.1	\$5.7	3,684	708
8	East Frankfort - Crete	Line	ComEd	(\$8.3)	(\$12.5)	(\$1.0)	\$3.2	\$0.0	(\$0.0)	\$0.0	\$0.0	\$3.2	1,462	14
9	Rising	Flowgate	MISO	(\$6.9)	(\$10.8)	(\$0.4)	\$3.5	(\$0.0)	\$0.6	(\$0.3)	(\$0.9)	\$2.6	994	190
10	Pleasant Prairie - Zion	Flowgate	MISO	\$0.2	(\$0.7)	\$1.9	\$2.7	(\$0.0)	(\$0.0)	(\$5.7)	(\$5.7)	(\$3.0)	1,212	288
11	Crete - St. Johns	Flowgate	MISO	(\$5.7)	(\$9.0)	(\$0.8)	\$2.4	\$0.0	\$0.0	\$0.0	\$0.0	\$2.4	698	0
12	West	Interface	500	(\$8.7)	(\$11.3)	(\$0.1)	\$2.6	\$0.1	\$0.0	\$0.0	\$0.1	\$2.6	904	28
13	Lakeview - Pleasant Prairie	Flowgate	MISO	\$0.2	\$0.1	\$0.2	\$0.3	(\$0.1)	\$0.0	(\$3.6)	(\$3.7)	(\$3.4)	48	348
14	Michigan City - Laporte	Flowgate	MISO	(\$7.5)	(\$8.6)	\$0.5	\$1.6	\$1.1	(\$0.3)	(\$0.1)	\$1.2	\$2.8	1,704	552
15	AEP-DOM	Interface	500	(\$7.7)	(\$9.6)	(\$0.4)	\$1.5	\$0.3	\$0.0	\$0.2	\$0.4	\$1.9	1,810	196
19	Belvidere - Woodstock	Line	ComEd	\$0.1	(\$2.2)	\$0.3	\$2.7	\$0.0	\$0.1	(\$0.2)	(\$0.2)	\$2.5	324	36
21	Pleasant Valley - Belvidere	Line	ComEd	(\$0.2)	(\$2.9)	\$0.6	\$3.2	\$0.1	\$0.6	(\$0.5)	(\$1.0)	\$2.2	634	194
23	Cherry Valley	Transformer	ComEd	\$0.8	(\$1.3)	\$0.4	\$2.5	\$0.0	\$0.0	(\$0.1)	(\$0.1)	\$2.3	736	20
28	Nelson - Cordova	Line	ComEd	\$0.9	(\$0.7)	\$0.9	\$2.5	(\$0.1)	\$0.2	(\$1.1)	(\$1.4)	\$1.1	798	62
31	Waukegan - Zion	Line	ComEd	\$0.2	(\$0.4)	\$1.2	\$1.7	(\$0.0)	\$0.0	(\$0.2)	(\$0.2)	\$1.5	1,106	8

Table 7-51 ComEd Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-48)

Congestion Costs (Millions)															
Day Ahead								Balancing				Event Hours			
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	East Frankfort - Crete	Line	ComEd	(\$22.8)	(\$44.1)	(\$2.0)	\$19.4	(\$2.3)	\$0.5	\$0.1	(\$2.6)	\$16.8	3,300	1,208	
2	AP South	Interface	500	(\$44.3)	(\$63.5)	(\$0.3)	\$18.8	(\$1.7)	(\$0.0)	(\$0.1)	(\$1.7)	\$17.1	4,180	2,020	
3	Pleasant Valley - Belvidere	Line	ComEd	(\$2.5)	(\$12.7)	\$0.8	\$11.0	(\$0.0)	\$2.0	(\$1.1)	(\$3.1)	\$7.9	2,554	440	
4	5004/5005 Interface	Interface	500	(\$12.8)	(\$20.2)	(\$0.0)	\$7.4	(\$0.6)	(\$0.3)	(\$0.0)	(\$0.3)	\$7.1	2,100	734	
5	Bedington - Black Oak	Interface	500	(\$18.2)	(\$24.8)	(\$0.0)	\$6.5	(\$0.2)	\$0.1	(\$0.0)	(\$0.3)	\$6.2	2,656	86	
6	AEP-DOM	Interface	500	(\$10.3)	(\$16.3)	(\$0.4)	\$5.6	(\$0.1)	(\$0.2)	\$0.0	\$0.1	\$5.7	942	168	
7	Electric Jct - Nelson	Line	ComEd	\$0.4	(\$5.1)	\$1.3	\$6.8	\$0.2	\$0.5	(\$1.6)	(\$1.8)	\$5.0	786	152	
8	Pleasant Prairie - Zion	Flowgate	MISO	\$0.3	(\$3.2)	\$1.1	\$4.6	\$0.4	\$0.9	(\$3.6)	(\$4.1)	\$0.5	1,890	348	
9	Crete - St Johns Tap	Flowgate	MISO	(\$5.3)	(\$8.8)	(\$0.1)	\$3.4	(\$0.2)	(\$0.1)	(\$0.2)	(\$0.3)	\$3.2	660	164	
10	Rising	Flowgate	MISO	(\$2.2)	(\$6.9)	(\$0.0)	\$4.7	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$4.7	1,552	72	
11	Waterman - West Dekalb	Line	ComEd	(\$0.9)	(\$4.6)	\$0.4	\$4.1	\$0.4	\$0.3	(\$0.1)	(\$0.1)	\$4.1	2,992	446	
12	Cloverdale - Lexington	Line	AEP	(\$4.7)	(\$7.6)	(\$0.1)	\$2.8	(\$0.6)	\$0.2	\$0.1	(\$0.7)	\$2.1	1,156	686	
13	Doubs	Transformer	AP	(\$6.7)	(\$8.8)	(\$0.0)	\$2.1	(\$0.3)	\$0.3	\$0.0	(\$0.6)	\$1.5	1,830	566	
14	Tiltonville - Windsor	Line	AP	(\$4.1)	(\$6.1)	(\$0.0)	\$2.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$2.0	3,128	540	
15	Wilton Center	Transformer	ComEd	(\$2.3)	(\$3.7)	\$0.2	\$1.6	(\$0.3)	\$0.8	(\$0.9)	(\$2.1)	(\$0.5)	290	180	
21	Glidden - West Dekalb	Line	ComEd	\$0.0	(\$0.9)	\$0.1	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	370	0	
24	Cherry Valley	Transformer	ComEd	\$0.3	(\$0.4)	\$0.1	\$0.7	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.7	50	6	
25	Burnham - Munster	Line	ComEd	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.6	(\$0.0)	(\$0.7)	(\$0.7)	0	164	
30	Davis	Transformer	ComEd	\$0.1	(\$0.4)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	110	0	
32	Belvidere - Woodstock	Line	ComEd	\$0.2	(\$0.2)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	98	0	

DAY Control Zone**Table 7-52 DAY Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-49)**

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Day Ahead				Balancing				Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	Pierce - East Bend	Flowgate	MISO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.1)	(\$0.9)	(\$0.8)	(\$0.8)	0	26
2	Danville - East Danville	Line	AEP	(\$0.3)	(\$0.9)	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	2,516	0
3	AEP-DOM	Interface	500	(\$0.6)	(\$1.1)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	1,810	196
4	West	Interface	500	(\$0.6)	(\$1.1)	(\$0.0)	\$0.5	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.5	904	28
5	AP South	Interface	500	(\$2.7)	(\$3.4)	(\$0.3)	\$0.4	\$0.3	\$0.8	\$0.3	(\$0.3)	\$0.2	4,090	1,258
6	Wylie Ridge	Transformer	AP	(\$1.1)	(\$1.5)	(\$0.1)	\$0.2	\$0.1	\$0.2	\$0.1	(\$0.1)	\$0.2	3,684	708
7	Wolfcreek	Transformer	AEP	(\$0.2)	(\$0.4)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.3	2,514	256
8	Bedington - Black Oak	Interface	500	(\$0.5)	(\$0.7)	(\$0.0)	\$0.2	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.2	1,248	2
9	Dickerson - Quince Orchard	Line	Pepco	(\$0.4)	(\$0.5)	(\$0.0)	\$0.1	\$0.2	\$0.0	\$0.0	\$0.1	\$0.2	210	118
10	Clover	Transformer	Dominion	(\$0.2)	(\$0.4)	\$0.0	\$0.2	\$0.1	\$0.1	(\$0.0)	(\$0.0)	\$0.2	1,086	492
11	Pierce - Foster	Flowgate	MISO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.2)	0	8
12	Susquehanna	Transformer	PPL	(\$0.1)	(\$0.3)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	240	0
13	5004/5005 Interface	Interface	500	(\$1.6)	(\$1.6)	(\$0.0)	(\$0.0)	\$0.1	\$0.4	\$0.1	(\$0.2)	(\$0.2)	1,046	586
14	Crete - St Johns Tap	Flowgate	MISO	\$0.5	\$0.6	(\$0.1)	(\$0.2)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.2)	4,190	1,210
15	Cloverdale - Lexington	Line	AEP	(\$0.2)	(\$0.3)	\$0.0	\$0.1	\$0.1	\$0.4	(\$0.0)	(\$0.3)	(\$0.2)	896	650
84	Foster2 - Pierce	Line	DAY	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	0	2

Table 7-53 DAY Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-50)

No.	Constraint	Type	Location	Congestion Costs (Millions)										
				Load Payments	Day Ahead			Load Payments	Balancing			Grand Total	Event Hours	
					Generation Credits	Explicit	Total		Generation Credits	Explicit	Total		Day Ahead	Real Time
1	AP South	Interface	500	(\$2.6)	(\$4.1)	(\$0.4)	\$1.1	\$0.0	\$0.5	\$0.4	(\$0.0)	\$1.0	4,180	2,020
2	5004/5005 Interface	Interface	500	(\$0.7)	(\$1.6)	(\$0.0)	\$0.9	\$0.1	\$0.1	\$0.1	\$0.0	\$0.9	2,100	734
3	AEP-DOM	Interface	500	(\$0.7)	(\$1.4)	(\$0.0)	\$0.7	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.7	942	168
4	Bedington - Black Oak	Interface	500	(\$0.9)	(\$1.6)	(\$0.2)	\$0.4	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.4	2,656	86
5	Cloverdale - Lexington	Line	AEP	(\$0.2)	(\$0.6)	(\$0.1)	\$0.4	\$0.0	\$0.0	\$0.1	\$0.1	\$0.5	1,156	686
6	Pleasant Prairie - Zion	Flowgate	MISO	\$0.0	(\$0.0)	\$0.3	\$0.4	(\$0.0)	\$0.0	(\$0.8)	(\$0.8)	(\$0.5)	1,890	348
7	Electric Jct - Nelson	Line	ComEd	\$0.0	\$0.0	\$1.1	\$1.1	\$0.0	\$0.0	(\$1.5)	(\$1.5)	(\$0.4)	786	152
8	Doubs	Transformer	AP	(\$0.3)	(\$0.6)	(\$0.0)	\$0.2	\$0.1	\$0.1	\$0.0	\$0.0	\$0.3	1,830	566
9	Tiltonsville - Windsor	Line	AP	(\$0.2)	(\$0.4)	(\$0.0)	\$0.2	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	3,128	540
10	Dumont - Stillwell	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.2)	32	68
11	Fort Martin - Ronco	Line	AP	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	\$0.0	\$0.2	\$0.2	\$0.2	62	84
12	Danville - East Danville	Line	Dominion	(\$0.2)	(\$0.5)	(\$0.2)	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	1,758	170
13	Mount Storm - Pruntytown	Line	AP	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.1	\$0.1	\$0.2	\$0.2	\$0.2	174	488
14	Waterman - West Dekalb	Line	ComEd	\$0.0	\$0.0	\$0.3	\$0.3	\$0.0	\$0.0	(\$0.1)	(\$0.1)	\$0.2	2,992	446
15	Branchburg - Flagtown	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	(\$0.2)	(\$0.2)	0	0

DLCO Control Zone**Table 7-54 DLCO Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-51)**

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	Wylie Ridge	Transformer	AP	(\$9.4)	(\$14.7)	(\$0.4)	\$4.8	(\$0.4)	(\$0.1)	\$0.2	(\$0.1)	\$4.7	3,684	708
2	AP South	Interface	500	(\$11.1)	(\$14.8)	(\$0.4)	\$3.4	(\$1.1)	(\$0.2)	\$0.3	(\$0.6)	\$2.7	4,090	1,258
3	5004/5005 Interface	Interface	500	(\$5.3)	(\$6.9)	(\$0.1)	\$1.5	(\$0.4)	(\$0.0)	\$0.1	(\$0.3)	\$1.2	1,046	586
4	Collier - Elwyn	Line	DLCO	\$1.8	(\$0.2)	\$0.0	\$2.0	\$0.1	\$0.1	(\$0.0)	(\$0.0)	\$1.9	504	60
5	Crescent	Transformer	DLCO	\$1.1	(\$0.1)	\$0.0	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	220	0
6	Bedington - Black Oak	Interface	500	(\$1.7)	(\$2.3)	(\$0.0)	\$0.6	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.6	1,248	2
7	AEP-DOM	Interface	500	(\$1.2)	(\$1.8)	\$0.0	\$0.6	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.6	1,810	196
8	West	Interface	500	(\$2.0)	(\$2.4)	(\$0.0)	\$0.4	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.4	904	28
9	Crete - St Johns Tap	Flowgate	MISO	\$1.3	\$1.7	\$0.1	(\$0.4)	\$0.1	\$0.0	(\$0.0)	\$0.0	(\$0.4)	4,190	1,210
10	Yukon	Transformer	AP	\$1.1	\$0.8	\$0.1	\$0.3	\$0.1	(\$0.2)	(\$0.0)	\$0.2	\$0.6	468	78
11	Beaver - Sammis	Line	DLCO	(\$0.3)	(\$0.6)	(\$0.0)	\$0.4	(\$0.1)	\$0.1	\$0.0	(\$0.2)	\$0.2	124	22
12	South Mahwah - Waldwick	Line	PSEG	(\$0.7)	(\$0.9)	\$0.1	\$0.3	(\$0.1)	\$0.0	(\$0.1)	(\$0.3)	\$0.0	5,886	838
13	Danville - East Danville	Line	AEP	(\$0.5)	(\$0.8)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	2,516	0
14	Cloverdale - Lexington	Line	AEP	(\$0.2)	(\$0.3)	\$0.0	\$0.1	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.0)	896	650
15	Butler - Karns City	Line	AP	(\$0.4)	(\$0.6)	(\$0.0)	\$0.2	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.2	738	88
17	Arsenal - Brunot Island	Line	DLCO	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2	22	16
24	Arsenal - Oakland	Line	DLCO	\$0.1	(\$0.0)	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	48	12
27	Arsenal	Transformer	DLCO	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	34	0
58	Dravosburg	Transformer	DLCO	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	86	0
100	Arsenal - Highland	Line	DLCO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	16	0

Table 7-55 DLCO Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-52)

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Day Ahead				Balancing				Grand Total	Event Hours	
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total		Day Ahead	Real Time
1	Crescent	Transformer	DLCO	\$10.1	(\$0.1)	\$0.2	\$10.4	\$0.1	(\$0.5)	(\$0.3)	\$0.3	\$10.7	1,158	248
2	AP South	Interface	500	(\$27.9)	(\$33.6)	(\$0.1)	\$5.5	(\$1.7)	(\$0.5)	\$0.2	(\$1.0)	\$4.5	4,180	2,020
3	Collier - Elwyn	Line	DLCO	\$3.7	\$0.4	\$0.1	\$3.4	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$3.4	686	188
4	5004/5005 Interface	Interface	500	(\$7.8)	(\$9.5)	(\$0.1)	\$1.6	(\$0.4)	(\$0.1)	\$0.0	(\$0.2)	\$1.4	2,100	734
5	Bedington - Black Oak	Interface	500	(\$9.3)	(\$10.9)	(\$0.1)	\$1.5	(\$0.2)	(\$0.1)	\$0.0	(\$0.1)	\$1.4	2,656	86
6	AEP-DOM	Interface	500	(\$4.3)	(\$5.7)	(\$0.0)	\$1.4	(\$0.2)	(\$0.1)	\$0.0	(\$0.1)	\$1.3	942	168
7	Sammis - Wylie Ridge	Line	AP	(\$1.7)	(\$3.1)	(\$0.0)	\$1.4	(\$0.1)	\$0.1	\$0.0	(\$0.2)	\$1.2	988	88
8	East Frankfort - Crete	Line	ComEd	\$0.9	\$1.5	(\$0.0)	(\$0.7)	\$0.1	(\$0.0)	(\$0.0)	\$0.1	(\$0.6)	3,300	1,208
9	Carson - Oakland	Line	DLCO	\$0.7	\$0.0	\$0.0	\$0.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.7	80	0
10	Doubs	Transformer	AP	(\$1.8)	(\$2.2)	(\$0.0)	\$0.4	(\$0.2)	\$0.0	(\$0.0)	(\$0.3)	\$0.1	1,830	566
11	Cloverdale - Lexington	Line	AEP	(\$0.7)	(\$1.1)	\$0.0	\$0.4	(\$0.2)	(\$0.0)	(\$0.0)	(\$0.2)	\$0.2	1,156	686
12	Collier	Transformer	DLCO	\$0.3	\$0.0	\$0.0	\$0.3	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.4	16	16
13	Mount Storm - Pruntytown	Line	AP	(\$0.7)	(\$0.9)	(\$0.0)	\$0.2	(\$0.4)	(\$0.1)	\$0.0	(\$0.3)	(\$0.1)	174	488
14	Danville - East Danville	Line	Dominion	(\$0.9)	(\$1.0)	\$0.0	\$0.2	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	1,758	170
15	Reid - Ringgold	Line	AP	(\$0.5)	(\$0.6)	(\$0.0)	\$0.2	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.2	540	30
17	Crescent - Sewickly	Line	DLCO	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	24	0
18	Beaver - Sammis	Line	DLCO	(\$0.2)	(\$0.4)	(\$0.0)	\$0.2	(\$0.1)	\$0.3	\$0.0	(\$0.3)	(\$0.1)	330	72
20	Beaver	Transformer	DLCO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.1	(\$0.0)	(\$0.1)	(\$0.1)	0	14
39	Beaver - Mansfield	Line	DLCO	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	92	0
45	Brunot Island - Collier	Line	DLCO	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	4	0

Southern Region Congestion-Event Summaries

Dominion Control Zone

Table 7-56 Dominion Control Zone top congestion cost impacts (By facility): January through June 2011 (See 2010 SOM, Table 7-53)

Congestion Costs (Millions)														
Day Ahead								Balancing				Event Hours		
No.	Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	AP South	Interface	500	\$37.1	(\$23.2)	\$2.2	\$62.6	\$0.3	\$2.9	(\$2.2)	(\$4.7)	\$57.9	4,090	1,258
2	Dooms	Transformer	Dominion	\$1.3	(\$0.0)	\$0.2	\$1.5	(\$3.7)	\$0.2	(\$2.7)	(\$6.6)	(\$5.1)	86	170
3	Clover	Transformer	Dominion	\$4.0	(\$3.9)	\$1.9	\$9.9	(\$0.7)	\$1.0	(\$3.6)	(\$5.3)	\$4.6	1,086	492
4	Hopewell - Chesterfield	Line	Dominion	\$3.4	\$0.2	\$0.3	\$3.5	(\$0.5)	(\$1.3)	(\$2.0)	(\$1.2)	\$2.3	308	126
5	Cloverdale - Lexington	Line	AEP	\$3.4	\$0.6	\$0.7	\$3.4	(\$0.3)	(\$0.8)	(\$1.5)	(\$1.1)	\$2.4	896	650
6	Danville - East Danville	Line	AEP	\$6.2	\$2.4	\$0.5	\$4.3	\$0.0	\$0.0	\$0.0	\$0.0	\$4.3	2,516	0
7	AEP-DOM	Interface	500	\$6.0	\$2.9	\$1.2	\$4.3	(\$0.1)	(\$0.2)	(\$0.1)	(\$0.1)	\$4.2	1,810	196
8	Dickerson - Quince Orchard	Line	Pepco	(\$5.3)	(\$2.4)	(\$0.8)	(\$3.7)	\$0.3	\$0.8	\$1.2	\$0.7	(\$3.0)	210	118
9	Bedington - Black Oak	Interface	500	\$6.1	\$2.9	\$0.5	\$3.8	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$3.8	1,248	2
10	Mount Storm	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.7)	(\$0.7)	(\$2.5)	(\$2.5)	(\$2.5)	0	110
11	Chaparral - Carson	Line	Dominion	\$0.6	(\$0.1)	\$0.5	\$1.2	(\$0.2)	\$1.2	(\$2.9)	(\$4.4)	(\$3.2)	392	360
12	Valley	Transformer	Dominion	\$2.7	\$0.0	\$0.3	\$2.9	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$2.9	200	12
13	Wylie Ridge	Transformer	AP	\$4.2	\$2.2	\$0.8	\$2.8	\$0.0	(\$0.2)	(\$0.5)	(\$0.3)	\$2.5	3,684	708
14	Crete - St Johns Tap	Flowgate	MISO	\$3.6	\$1.6	\$0.1	\$2.0	(\$0.2)	(\$0.2)	(\$0.1)	(\$0.0)	\$2.0	4,190	1,210
15	Danville - East Danville	Line	Dominion	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.6)	(\$1.2)	(\$0.6)	(\$0.0)	(\$0.0)	0	568
16	Elmont	Transformer	Dominion	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.3)	(\$0.8)	(\$0.5)	(\$0.4)	20	50
18	Bristers - Ox	Line	Dominion	(\$0.1)	(\$1.6)	\$0.0	\$1.5	\$0.2	\$0.2	(\$0.0)	(\$0.0)	\$1.4	66	50
19	Powhatan - Bremo	Line	Dominion	\$0.9	(\$0.2)	\$0.1	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	60	0
22	Beechwood - Kerr Dam	Line	Dominion	\$0.4	(\$0.6)	(\$0.0)	\$1.0	(\$0.1)	\$0.1	(\$0.0)	(\$0.2)	\$0.8	332	76
26	Halifax - Halifax	Line	Dominion	\$0.1	(\$0.1)	\$0.1	\$0.2	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.0)	\$0.2	126	62

Table 7-57 Dominion Control Zone top congestion cost impacts (By facility): January through June 2010 (See 2010 SOM, Table 7-54)

No.	Constraint	Type	Location	Congestion Costs (Millions)										
				Load Payments	Day Ahead			Load Payments	Balancing			Grand Total	Event Hours	
					Generation Credits	Explicit	Total		Generation Credits	Explicit	Total		Day Ahead	Real Time
1	AP South	Interface	500	\$51.4	(\$27.3)	\$1.4	\$80.0	\$1.9	\$5.3	(\$1.0)	(\$4.4)	\$75.6	4,180	2,020
2	Cloverdale - Lexington	Line	AEP	\$7.4	\$2.0	\$0.8	\$6.3	(\$1.1)	(\$1.5)	(\$1.6)	(\$1.3)	\$5.0	1,156	686
3	Bedington - Black Oak	Interface	500	\$17.0	\$11.2	\$1.9	\$7.7	(\$0.2)	(\$0.1)	(\$0.3)	(\$0.3)	\$7.5	2,656	86
4	Pleasant View	Transformer	Dominion	\$0.3	\$0.0	\$0.0	\$0.3	(\$4.2)	\$1.4	(\$0.6)	(\$6.2)	(\$6.0)	62	202
5	Doubs	Transformer	AP	(\$1.2)	(\$5.6)	(\$0.0)	\$4.4	\$1.1	\$0.3	\$0.2	\$1.0	\$5.4	1,830	566
6	Ox - Francona	Line	Dominion	\$3.3	(\$0.6)	\$0.0	\$3.9	\$0.0	\$0.0	\$0.0	\$0.0	\$3.9	132	0
7	Ox - Glebe	Line	Dominion	\$2.5	(\$0.7)	\$0.0	\$3.2	\$0.0	\$0.0	\$0.0	\$0.0	\$3.2	60	0
8	Mount Storm - Pruntytown	Line	AP	\$1.4	\$1.0	\$0.1	\$0.5	(\$1.4)	(\$1.7)	(\$1.4)	(\$1.1)	(\$0.6)	174	488
9	AEP-DOM	Interface	500	\$14.9	\$12.1	\$0.6	\$3.4	(\$0.1)	(\$0.3)	(\$0.1)	\$0.1	\$3.5	942	168
10	Doubs - Pleasant View	Line	AP	\$0.6	\$0.1	\$0.1	\$0.6	(\$0.7)	(\$1.5)	(\$0.7)	\$0.0	\$0.6	48	40
11	Yadkin	Transformer	Dominion	\$1.5	\$0.1	\$0.0	\$1.5	\$0.4	\$0.0	(\$0.1)	\$0.3	\$1.7	52	42
12	Pleasant View	Line	Dominion	\$1.8	\$0.1	\$0.1	\$1.8	\$0.0	\$0.0	\$0.0	\$0.0	\$1.8	64	0
13	Greenwich - Elizabeth River	Line	Dominion	\$1.6	(\$0.2)	\$0.0	\$1.8	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$1.8	64	26
14	Endless Caverns	Transformer	Dominion	\$0.3	(\$0.7)	\$0.0	\$1.1	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$1.1	566	6
15	East Frankfort - Crete	Line	ComEd	\$2.6	\$1.3	\$0.2	\$1.4	(\$0.2)	(\$0.3)	(\$0.2)	(\$0.0)	\$1.4	3,300	1,208
17	Hollymead - Charlottesville	Line	Dominion	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.5)	(\$0.0)	\$0.6	\$0.6	0	86
19	Danville - East Danville	Line	Dominion	\$3.8	\$2.5	(\$0.1)	\$1.2	(\$0.2)	(\$0.3)	(\$0.0)	\$0.1	\$1.3	1,758	170
20	Beechwood - Kerr Dam	Line	Dominion	\$0.8	(\$0.6)	(\$0.1)	\$1.2	(\$0.2)	\$0.1	\$0.0	(\$0.3)	\$1.0	606	296
21	Glebe - Jefferson	Line	Dominion	\$0.8	(\$0.3)	\$0.0	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	68	0
22	Chuckatuck - Benns Church	Line	Dominion	\$0.9	(\$0.1)	(\$0.0)	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	58	0