

## 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.<sup>1</sup> 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.<sup>2</sup>

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

### Highlights

- Congestion costs in the first three months of 2011 increased by 4.6 percent over congestion costs in the first three months of 2010 (Table 7-2). Most of the increase was in the Day-Ahead Market.
- Net balancing congestion costs were -\$46.0 million in the first three months of 2011 and -\$46.9 million in the first three 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 three months of 2011, AP was the most congested zone. AP accounted for nearly 18 percent of the total congestion cost (Table 7-17). In the first three months of 2010, Dominion was the most congested zone, accounting for nearly 20 percent of the total congestion cost.
- January and March congestion costs were significantly higher compared to 2010 (10.7 percent and 120.8 percent). February congestion costs were substantially lower compared to 2010 (-30.4 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 decided to hold the 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 Potomac – Appalachian Transmission Highline (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.

<sup>1</sup> 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.

<sup>2</sup> 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."

## Recommendations

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

## Overview

### Congestion Cost

- Total Congestion.** Total congestion costs increased by \$15.8 million or 4.6 percent, from \$345.1 million in the first three months of 2010 to \$360.9 million in the first three months of 2011. Day-ahead congestion costs increased by \$14.9 million or 3.8 percent, from \$391.9 million in the first three months of 2010 to \$406.9 million in the first three months of 2011. Balancing congestion costs increased by \$0.8 million or 1.8 percent from -\$46.9 million in the first three months of 2010 to -\$46.0 million in the first three months of 2011. Total congestion costs have ranged from three percent to nine percent of PJM annual total billings since 2003. Congestion costs were four percent of total PJM billings in the first three months of 2011, which is similar 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 three months of 2011 were \$9.584 billion.
- Monthly Congestion.** Fluctuations in monthly congestion costs continued to be substantial. In the first three 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 three months of 2011 ranged from \$45.0 million in March 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 Bedington – Black Oak interface, and the Belmont and Susquehanna transformers (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.<sup>3</sup> Day-ahead congestion frequency increased by 23.3 percent from 20,381 congestion event hours in the first three months of 2010 to 25,138 congestion event hours in the first three months of 2011. Day-ahead, congestion-event hours decreased on internal PJM interfaces. While congestion frequency increased on lines, transformers and reciprocally coordinated flowgates between PJM and the Midwest Independent Transmission System Operator, Inc. (Midwest ISO).

Real-time congestion frequency increased by 17.6 percent from 3,772 congestion event hours in the first three months of 2010 to 4,435 congestion event hours in the first three 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 Midwest ISO.

The AP South Interface was the largest contributor to congestion costs in the first three months of 2011. With \$133.2 million in total congestion costs, it accounted for 38 percent of the total PJM congestion costs in the first three months of 2011. The top five constraints in terms of congestion costs together contributed \$255.1 million, or 74 percent, of the total PJM congestion costs in the first three months of 2011. The top five constraints were the AP South interface, the 5004/5005 interface, the Bedington – Black Oak interface, the Belmont transformer and the Susquehanna transformer. Facilities were constrained in the Day-Ahead market more frequently than in the real-time market. During the first three 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 7.9 percent of those hours.

- Zonal Congestion.** In the first three months of 2011, the AP Control Zone experienced the highest congestion costs of the control zones in PJM with \$66.7 million. The AP South interface, the Belmont transformer,

<sup>3</sup> 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.

the 5004/5005 interface, the Bedington – Black Oak interface, and the Wylie Ridge transformer contributed \$63.2 million, or 95 percent of the total AP Control Zone congestion costs (Table 7-55). The AEP Control Zone recorded the second highest congestion cost in PJM in the first three months of 2011. The \$58.7 million in congestion costs in the AEP Control Zone is not much different from \$59.3 million in congestion costs for the zone in the first three months of 2010. The AP South interface contributed \$18.3 million, or 31 percent of the total AEP Control Zone congestion cost 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 also contributed to the increase in congestion cost in the AEP Control Zone in the first three months of 2011 compared to that of 2010. The AP South interface contributed \$18.3 million to the AEP Control Zone congestion costs and the Belmont transformer contributed \$10.1 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 financial 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 three 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 three months of 2011, the financial companies collected \$8.5 million, a decrease of \$28.2 million or 77 percent compared to the first three months of 2010. In the first three months of 2011, the physical companies paid \$369.4 million toward congestion charges, a decrease of 12.4 million or 3 percent compared to the first three 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 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. 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:

As part of its 2011 RTEP, and in response to a request by a Virginia Hearing Examiner, PJM is conducting a series of analyses using the most current economic forecasts and Demand Response commitments, as well as potential new generation resources. Preliminary analysis reveals the expected reliability violations that necessitated PATH have moved several years into the future.

Based on these latest results, the Board has decided to hold the PATH project in abeyance in its 2011 RTEP. The Board further directs the sponsoring Transmission Owners to suspend current development efforts on the PATH project, subject to those activities necessary to maintain the project in its current state, while PJM conducts more rigorous analysis of the potential need for PATH as part of its continuing RTEP process. This action, however, does not, at this time, constitute a directive by PJM to the sponsoring Transmission Owners to cancel or abandon the PATH project.<sup>4</sup>

Following the PJM press release on February 28, 2011, American Electric Power and FirstEnergy Corp. issued a press release stating that “their affiliates will file to withdraw their applications for state regulatory approval of the Potomac-Appalachian Transmission Highline (PATH) project following an announcement by regional grid operator PJM Interconnection that the project has been suspended.”<sup>5</sup>

## 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

<sup>4</sup> 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>.

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

distribution of load. Total congestion costs have ranged from three percent to nine percent of PJM annual total billings since 2003. Congestion costs were four percent of total PJM billings in 2010. Total PJM billings in the first three months of 2011 were \$9,584 million. Total congestion costs increased by \$15.8 million or 4.6 percent, from \$345.1 million in the first three months of 2010 to \$360.9 million in the first three months of 2011. Day-ahead congestion costs increased by \$14.9 million or 3.8 percent, from \$391.9 million in the first three months of 2010 to \$406.8 million in the first three months of 2011. Balancing congestion costs increased by \$0.8 million or 1.8 percent, from -\$46.9 million in the first three months of 2010 to -\$46.0 million in the first three months of 2011. Congestion costs were significantly 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 20,381 congestion event hours in the first three months of 2010 to 25,138 congestion event hours or 23.3 percent in the first three months of 2011. Real-time congestion frequency increased from 3,772 congestion event hours in the first three months of 2010 to 4,435 congestion event hours or 17.6 percent in the first three months of 2011.

ARRs and FTRs served as an effective, but not total, 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.<sup>6</sup> During the first ten months (June 2010 through March 2011) of the 2010 to 2011 planning period, total ARR and FTR revenues hedged 97.4 percent of the congestion costs within PJM. FTRs were paid at 96.9 percent of the target allocation level for the 12-month period of the 2009 to 2010 planning period, and at 87.9 percent of the target allocation level for the first ten months of the 2010 to 2011 planning period.<sup>7</sup> Revenue adequacy for a planning period is not final until the end of the period.

There are other ways to evaluate the effectiveness of ARRs and FTRs as a hedge. The value of ARRs and FTRs was 4.0 percent of total real-time energy charges to load for the first three months of 2011.<sup>8</sup>

One constraint accounted for 38 percent of total congestion costs in the first three months of 2010 and the top five constraints accounted for 74

percent of total congestion costs. The AP South Interface was the largest contributor to congestion costs in the first three months of 2011.

## Congestion

### Total Calendar Year Congestion

**Table 7-1 Total annual PJM congestion (Dollars (Millions)): Calendar years 2003 to 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 - Mar)	\$361		\$9,584	4%
Total	\$9,591		\$194,941	5%

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

Year	Congestion Costs (Millions)			
	Load Payments	Generation Credits	Explicit	Total
2010 (Jan - Mar)	\$79.8	(\$281.6)	(\$16.3)	\$345.1
2011 (Jan - Mar)	\$198.6	(\$198.9)	(\$36.7)	\$360.9

<sup>6</sup> See the 2010 State of the Market Report for PJM Section 8, "Financial Transmission and Auction Revenue Rights," at Table 8-33, "ARR and FTR congestion hedging: Planning periods 2009 to 2010 and 2010 to 2011."

<sup>7</sup> See the 2011 Quarterly State of the Market Report for PJM: January through March Section 8, "Financial Transmission and Auction Revenue Rights," at Table 8-10, "Monthly FTR accounting summary (Dollars (Millions)): Planning periods 2010 to 2011 through March 31, 2011"

<sup>8</sup> See the 2011 Quarterly State of the Market Report for PJM: January through March Section 8, "Financial Transmission and Auction Revenue Rights," at Table 8-19, "ARRs and FTRs as a hedge against energy charges by control zone: January through March 2011"

## Monthly Congestion

**Table 7-3 Monthly PJM congestion charges (Dollars (Millions)): Calendar years 2010 to 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			
May	\$68.5			
Jun	\$188.5			
Jul	\$268.9			
Aug	\$105.1			
Sep	\$119.9			
Oct	\$50.3			
Nov	\$52.0			
Dec	\$187.1			
Total	\$1,428.1	\$360.9		

## Congestion Component of LMP

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

Control Zone	2010 (Jan - Mar)		2011 (Jan - Mar)	
	Day Ahead	Real Time	Day Ahead	Real Time
AECO	\$2.12	\$1.73	\$5.05	\$4.81
AEP	(\$3.50)	(\$2.98)	(\$4.66)	(\$4.46)
AP	(\$1.06)	(\$0.33)	(\$0.50)	(\$0.31)
BGE	\$4.65	\$4.06	\$4.66	\$4.19
ComEd	(\$6.22)	(\$6.15)	(\$7.81)	(\$7.15)
DAY	(\$4.78)	(\$4.15)	(\$5.53)	(\$5.16)
DLCO	(\$4.20)	(\$2.67)	(\$7.25)	(\$6.76)
DPL	\$2.36	\$2.18	\$4.64	\$3.53
Dominion	\$6.57	\$4.52	\$4.12	\$3.36
JCPL	\$1.77	\$1.34	\$5.07	\$4.48
Met-Ed	\$2.34	\$1.71	\$4.21	\$3.46
PECO	\$2.20	\$1.72	\$4.89	\$3.95
PENELEC	(\$1.99)	(\$1.93)	(\$0.86)	(\$0.72)
PPL	\$2.19	\$1.47	\$5.43	\$4.68
PSEG	\$2.80	\$3.31	\$6.19	\$5.33
Pepco	\$6.44	\$4.86	\$5.59	\$4.64
RECO	\$1.70	\$0.44	\$2.89	(\$0.16)

## Congested Facilities

### Congestion by Facility Type and Voltage

**Table 7-5 Congestion summary (By facility type): January through March 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	\$2.0	(\$16.0)	(\$0.9)	\$17.0	\$4.8	\$3.6	(\$21.1)	(\$19.9)	(\$2.9)	2,716	1,108
Interface	\$79.6	(\$173.1)	(\$5.6)	\$247.1	\$14.2	\$14.4	\$3.1	\$2.9	\$250.0	2,957	877
Line	\$34.2	(\$33.6)	\$6.0	\$73.8	\$1.7	\$8.6	(\$18.3)	(\$25.2)	\$48.6	13,761	1,510
Other	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.1	0	2
Transformer	\$59.5	(\$4.0)	\$2.1	\$65.7	\$1.0	\$1.0	(\$4.0)	(\$4.0)	\$61.6	5,704	938
Unclassified	\$1.2	\$0.0	\$2.2	\$3.3	\$0.4	\$0.0	(\$0.2)	\$0.1	\$3.5	NA	NA
Total	\$176.4	(\$226.6)	\$3.8	\$406.9	\$22.2	\$27.7	(\$40.5)	(\$46.0)	\$360.9	25,138	4,435

**Table 7-6 Congestion summary (By facility type): January through March 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	(\$1.1)	(\$11.5)	\$3.0	\$13.4	(\$0.5)	\$1.2	(\$9.2)	(\$10.9)	\$2.5	1,773	260
Interface	\$47.2	(\$238.6)	(\$1.9)	\$283.9	\$6.4	\$3.6	\$1.7	\$4.5	\$288.4	3,096	1,151
Line	\$29.4	(\$37.4)	\$10.1	\$76.9	(\$12.2)	\$7.3	(\$21.2)	(\$40.6)	\$36.3	13,053	2,046
Transformer	\$9.8	(\$5.6)	\$1.1	\$16.4	\$0.4	(\$0.4)	(\$0.6)	\$0.2	\$16.6	2,459	315
Unclassified	\$0.5	(\$0.1)	\$0.6	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	NA	NA
Total	\$85.8	(\$293.3)	\$12.9	\$391.9	(\$6.0)	\$11.7	(\$29.2)	(\$46.9)	\$345.1	20,381	3,772

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

Type	Congestion Event Hours					
	2011 (Jan - Mar)			2010 (Jan - Mar)		
	Day Ahead Constrained	Corresponding Real Time Constrained	Percent	Day Ahead Constrained	Corresponding Real Time Constrained	Percent
Flowgate	2,716	456	16.8%	1,773	105	5.9%
Interface	2,957	683	23.1%	3,096	829	26.8%
Line	13,761	391	2.8%	13,053	862	6.6%
Other	0	0	0.0%	0	0	0.0%
Transformer	5,704	484	8.5%	2,459	65	2.6%
Total	19,434	1,530	7.9%	17,922	1,796	10.0%

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

Type	Congestion Event Hours					
	2011 (Jan - Mar)			2010 (Jan - Mar)		
	Real Time Constrained	Corresponding Day Ahead Constrained	Percent	Real Time Constrained	Corresponding Day Ahead Constrained	Percent
Flowgate	1,108	462	41.7%	260	106	40.8%
Interface	877	682	77.8%	1,151	829	72.0%
Line	1,510	386	25.6%	2,046	802	39.2%
Other	2	0	0.0%	0	0	0.0%
Transformer	938	484	51.6%	315	63	20.0%
Total	3,497	1,530	43.8%	3,457	1,737	50.2%

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

Voltage (kV)	Congestion Costs (Millions)									Event Hours	
	Day Ahead				Balancing				Grand Total	Day Ahead	Real Time
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total			
765	\$0.1	(\$0.8)	\$0.2	\$1.1	\$1.7	\$1.0	(\$2.2)	(\$1.6)	(\$0.5)	8	20
500	\$83.2	(\$175.0)	(\$5.4)	\$252.7	\$16.3	\$15.2	\$2.5	\$3.7	\$256.5	3,175	1,075
345	\$37.0	(\$7.9)	\$4.9	\$49.8	\$5.4	\$7.4	(\$27.6)	(\$29.6)	\$20.2	6,946	1,410
230	\$14.9	(\$23.6)	(\$0.3)	\$38.3	\$1.6	\$1.3	(\$0.3)	\$0.0	\$38.3	4,355	464
138	\$35.2	(\$18.3)	\$2.1	\$55.6	(\$2.3)	\$1.5	(\$12.4)	(\$16.2)	\$39.4	7,861	1,284
115	\$1.4	(\$0.7)	\$0.2	\$2.3	(\$0.2)	\$0.4	(\$0.1)	(\$0.7)	\$1.6	1,061	82
69	\$3.4	(\$0.3)	(\$0.0)	\$3.6	(\$0.7)	\$0.8	(\$0.2)	(\$1.8)	\$1.9	1,690	98
34	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.1	0	2
12	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	42	0
Unclassified	\$1.2	\$0.0	\$2.2	\$3.3	\$0.4	\$0.0	(\$0.2)	\$0.1	\$3.5	NA	NA
Total	\$176.4	(\$226.6)	\$3.8	\$406.9	\$22.2	\$27.7	(\$40.5)	(\$46.0)	\$360.9	25,138	4,435

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

Voltage (kV)	Congestion Costs (Millions)									Event Hours	
	Day Ahead				Balancing				Grand Total	Day Ahead	Real Time
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total			
765	\$0.5	(\$1.7)	\$0.5	\$2.7	(\$1.1)	(\$0.1)	(\$3.2)	(\$4.2)	(\$1.5)	56	74
500	\$50.9	(\$243.7)	(\$1.3)	\$293.3	\$5.6	\$1.8	\$0.6	\$4.4	\$297.7	3,440	1,401
345	\$4.0	(\$18.5)	\$3.8	\$26.3	(\$3.4)	\$2.4	(\$14.7)	(\$20.6)	\$5.7	2,058	735
230	\$9.2	(\$6.9)	\$5.8	\$21.9	(\$5.9)	\$7.0	(\$9.4)	(\$22.3)	(\$0.5)	4,992	526
138	\$15.1	(\$24.2)	\$3.5	\$42.8	(\$1.4)	(\$0.0)	(\$2.3)	(\$3.7)	\$39.0	7,536	918
115	\$5.1	\$1.9	\$0.1	\$3.4	\$0.2	\$0.6	(\$0.1)	(\$0.4)	\$3.0	589	111
69	\$0.3	(\$0.1)	(\$0.0)	\$0.4	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.4	1,437	7
34	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	18	0
12	\$0.1	\$0.1	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	255	0
Unclassified	\$0.5	(\$0.1)	\$0.6	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	NA	NA
Total	\$85.8	(\$293.3)	\$12.9	\$391.9	(\$6.0)	\$11.7	(\$29.2)	(\$46.9)	\$345.1	20,381	3,772

## Constraint Duration

**Table 7-11 Top 25 constraints with frequent occurrence: January through March 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	1,730	1,730	0	203	203	0%	20%	20%	0%	2%	2%
2	Crete - St Johns Tap	Flowgate	129	1,456	1,327	1	398	397	1%	17%	15%	0%	5%	5%
3	AP South	Interface	1,255	1,172	(83)	735	513	(222)	14%	13%	(1%)	8%	6%	(3%)
4	Belmont	Transformer	73	1,543	1,470	0	105	105	1%	18%	17%	0%	1%	1%
5	Wylie Ridge	Transformer	11	1,235	1,224	2	329	327	0%	14%	14%	0%	4%	4%
6	Wolfcreek	Transformer	0	729	729	0	94	94	0%	8%	8%	0%	1%	1%
7	Emilie - Falls	Line	0	789	789	0	0	0	0%	9%	9%	0%	0%	0%
8	5004/5005 Interface	Interface	806	513	(293)	294	241	(53)	9%	6%	(3%)	3%	3%	(1%)
9	Cedar Grove - Roseland	Line	89	713	624	0	26	26	1%	8%	7%	0%	0%	0%
10	Pleasant Prairie - Zion	Flowgate	556	593	37	110	140	30	6%	7%	0%	1%	2%	0%
11	Bedington - Black Oak	Interface	519	576	57	9	0	(9)	6%	7%	1%	0%	0%	(0%)
12	Linden - VFT	Line	2	538	536	0	0	0	0%	6%	6%	0%	0%	0%
13	Carnegie - Tidd	Line	0	323	323	0	202	202	0%	4%	4%	0%	2%	2%
14	Pinehill - Stratford	Line	293	513	220	0	0	0	3%	6%	3%	0%	0%	0%
15	Electric Jct - Nelson	Line	0	447	447	0	39	39	0%	5%	5%	0%	0%	0%
16	Burlington - Croydon	Line	512	451	(61)	13	0	(13)	6%	5%	(1%)	0%	0%	(0%)
17	Butler - Karns City	Line	0	369	369	0	44	44	0%	4%	4%	0%	1%	1%
18	Bridgewater - Middlesex	Line	25	377	352	5	19	14	0%	4%	4%	0%	0%	0%
19	Carnegie - Tidd	Line	0	388	388	0	0	0	0%	4%	4%	0%	0%	0%
20	AEP-DOM	Interface	452	293	(159)	76	88	12	5%	3%	(2%)	1%	1%	0%
21	Cox's Corner - Marlton	Line	0	355	355	0	0	0	0%	4%	4%	0%	0%	0%
22	Fairview	Transformer	0	353	353	0	0	0	0%	4%	4%	0%	0%	0%
23	Nelson - Cordova	Line	0	321	321	2	20	18	0%	4%	4%	0%	0%	0%
24	Cherry Valley	Transformer	0	325	325	0	10	10	0%	4%	4%	0%	0%	0%
25	Cloverdale - Lexington	Line	154	173	19	97	155	58	2%	2%	0%	1%	2%	1%

**Table 7-12 Top 25 constraints with largest year-to-year change in occurrence: January through March 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	1,730	1,730	0	203	203	0%	20%	20%	0%	2%	2%
2	Athenia - Saddlebrook	Line	1,779	180	(1,599)	273	0	(273)	20%	2%	(18%)	3%	0%	(3%)
3	Crete - St Johns Tap	Flowgate	129	1,456	1,327	1	398	397	1%	17%	15%	0%	5%	5%
4	Belmont	Transformer	73	1,543	1,470	0	105	105	1%	18%	17%	0%	1%	1%
5	Wylie Ridge	Transformer	11	1,235	1,224	2	329	327	0%	14%	14%	0%	4%	4%
6	Waterman - West Dekalb	Line	812	0	(812)	159	0	(159)	9%	0%	(9%)	2%	0%	(2%)
7	East Frankfort - Crete	Line	835	288	(547)	419	1	(418)	10%	3%	(6%)	5%	0%	(5%)
8	Wolfcreek	Transformer	0	729	729	0	94	94	0%	8%	8%	0%	1%	1%
9	Emilie - Falls	Line	0	789	789	0	0	0	0%	9%	9%	0%	0%	0%
10	Cedar Grove - Roseland	Line	89	713	624	0	26	26	1%	8%	7%	0%	0%	0%
11	Tiltonsville - Windsor	Line	697	223	(474)	140	45	(95)	8%	3%	(5%)	2%	1%	(1%)
12	Linden - VFT	Line	2	538	536	0	0	0	0%	6%	6%	0%	0%	0%
13	Carnegie - Tidd	Line	0	323	323	0	202	202	0%	4%	4%	0%	2%	2%
14	Rising	Flowgate	582	48	(534)	32	54	22	7%	1%	(6%)	0%	1%	0%
15	Electric Jct - Nelson	Line	0	447	447	0	39	39	0%	5%	5%	0%	0%	0%
16	Bayonne - PVSC	Line	507	34	(473)	0	0	0	6%	0%	(5%)	0%	0%	0%
17	Hawthorn - Waldwick	Line	454	30	(424)	36	0	(36)	5%	0%	(5%)	0%	0%	(0%)
18	Butler - Karns City	Line	0	369	369	0	44	44	0%	4%	4%	0%	1%	1%
19	Carnegie - Tidd	Line	0	388	388	0	0	0	0%	4%	4%	0%	0%	0%
20	Bridgewater - Middlesex	Line	25	377	352	5	19	14	0%	4%	4%	0%	0%	0%
21	Cox's Corner - Marlton	Line	0	355	355	0	0	0	0%	4%	4%	0%	0%	0%
22	Fairview	Transformer	0	353	353	0	0	0	0%	4%	4%	0%	0%	0%
23	5004/5005 Interface	Interface	806	513	(293)	294	241	(53)	9%	6%	(3%)	3%	3%	(1%)
24	Sammis - Wylie Ridge	Line	305	1	(304)	37	0	(37)	3%	0%	(3%)	0%	0%	(0%)
25	Nelson - Cordova	Line	0	321	321	2	20	18	0%	4%	4%	0%	0%	0%

## Constraint Costs

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

No.	Constraint	Type	Location	Congestion Costs (Millions)								Percent of Total PJM Congestion Costs	
				Day Ahead				Balancing				Grand Total	2011 (Jan - Mar)
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total		
1	AP South	Interface	500	\$3.2	(\$129.5)	\$0.5	\$133.2	\$7.8	\$7.8	(\$0.7)	(\$0.7)	\$132.5	38%
2	5004/5005 Interface	Interface	500	\$50.5	(\$13.2)	(\$4.4)	\$59.3	\$5.6	\$5.1	\$3.6	\$4.2	\$63.4	18%
3	Bedington - Black Oak	Interface	500	\$5.3	(\$19.2)	(\$2.0)	\$22.5	\$0.0	\$0.0	\$0.0	\$0.0	\$22.5	7%
4	Belmont	Transformer	AP	\$13.3	(\$13.0)	(\$2.2)	\$24.1	(\$1.5)	(\$0.4)	(\$0.7)	(\$1.8)	\$22.3	6%
5	Susquehanna	Transformer	PPL	\$6.1	(\$8.4)	(\$0.1)	\$14.4	\$0.0	\$0.0	\$0.0	\$0.0	\$14.4	4%
6	AEP-DOM	Interface	500	\$1.5	(\$11.8)	\$0.8	\$14.0	\$0.6	\$0.3	(\$0.1)	\$0.2	\$14.2	4%
7	Crete - St Johns Tap	Flowgate	Midwest ISO	\$1.5	(\$12.5)	(\$4.0)	\$10.0	\$3.7	\$1.7	(\$0.8)	\$1.2	\$11.2	3%
8	West	Interface	500	\$13.2	\$3.4	(\$0.1)	\$9.7	\$0.2	\$0.0	\$0.1	\$0.3	\$9.9	3%
9	Wylie Ridge	Transformer	AP	\$29.6	\$21.2	\$1.6	\$10.0	\$1.5	\$0.6	(\$2.2)	(\$1.3)	\$8.8	3%
10	East	Interface	500	\$4.5	(\$3.1)	(\$0.2)	\$7.5	\$0.1	\$1.2	\$0.1	(\$1.0)	\$6.5	2%
11	Lakeview - Pleasant Prairie	Flowgate	Midwest ISO	(\$0.0)	(\$0.1)	\$0.2	\$0.3	(\$0.2)	\$0.0	(\$4.2)	(\$4.4)	(\$4.1)	(1%)
12	Cloverdale - Lexington	Line	AEP	\$1.5	(\$1.3)	\$0.1	\$3.0	\$2.2	\$0.7	(\$0.4)	\$1.0	\$4.0	1%
13	Bridgewater - Middlesex	Line	PSEG	\$2.7	(\$1.4)	\$0.1	\$4.3	\$0.1	\$0.2	(\$0.3)	(\$0.4)	\$3.9	1%
14	Pleasant Prairie - Zion	Flowgate	Midwest ISO	(\$0.1)	(\$0.8)	\$1.7	\$2.5	(\$0.1)	(\$0.2)	(\$6.2)	(\$6.2)	(\$3.7)	(1%)
15	Butler - Kams City	Line	AP	\$6.1	\$2.5	(\$0.1)	\$3.4	(\$0.1)	(\$0.3)	(\$0.0)	\$0.2	\$3.5	1%
16	Cedar Grove - Roseland	Line	PSEG	(\$1.0)	(\$4.5)	(\$0.9)	\$2.6	\$0.5	\$0.5	\$0.8	\$0.7	\$3.3	1%
17	Unclassified	Unclassified	Unclassified	\$1.2	\$0.0	\$2.2	\$3.3	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$3.3	1%
18	Electric Jct - Nelson	Line	ComEd	(\$0.1)	(\$5.1)	\$1.4	\$6.4	(\$0.1)	\$0.2	(\$2.8)	(\$3.1)	\$3.2	1%
19	Plymouth Meeting - Whitpain	Line	PECO	\$1.0	(\$1.9)	\$0.0	\$2.9	\$0.1	\$0.0	(\$0.1)	(\$0.0)	\$2.9	1%
20	Wolfcreek	Transformer	AEP	\$4.4	\$1.5	(\$0.3)	\$2.5	(\$0.1)	(\$0.2)	(\$0.1)	(\$0.0)	\$2.5	1%
21	Bristers - Ox	Line	Dominion	\$2.0	(\$0.5)	\$0.0	\$2.6	(\$0.0)	\$0.0	(\$0.1)	(\$0.1)	\$2.4	1%
22	Collier - Elwyn	Line	DLCO	\$1.1	(\$0.9)	\$0.1	\$2.1	\$0.1	(\$0.1)	(\$0.0)	\$0.1	\$2.2	1%
23	Rising	Flowgate	Midwest ISO	\$0.0	(\$0.5)	\$0.1	\$0.7	\$0.0	\$0.5	(\$2.3)	(\$2.8)	(\$2.1)	(1%)
24	Limerick	Transformer	PECO	\$1.3	(\$0.8)	(\$0.1)	\$2.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.0	1%
25	Cherry Valley	Transformer	ComEd	\$0.6	(\$1.2)	\$0.3	\$2.2	\$0.0	\$0.1	(\$0.1)	(\$0.2)	\$2.0	1%

**Table 7-14 Top 25 constraints affecting annual PJM congestion costs (By facility): January through March 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		
2010 (Jan - Mar)													
1	AP South	Interface	500	\$7.1	(\$162.6)	(\$1.1)	\$168.5	\$4.4	\$3.9	\$1.2	\$1.7	\$170.2	55%
2	AEP-DOM	Interface	500	\$9.4	(\$37.8)	\$0.9	\$48.1	\$0.2	(\$1.2)	\$0.1	\$1.6	\$49.6	16%
3	5004/5005 Interface	Interface	500	\$24.1	(\$19.0)	(\$0.8)	\$42.2	\$1.0	\$1.0	\$0.2	\$0.2	\$42.5	14%
4	Bedington - Black Oak	Interface	500	\$4.1	(\$19.1)	(\$0.8)	\$22.4	\$0.4	(\$0.5)	\$0.1	\$0.9	\$23.3	8%
5	East Frankfort - Crete	Line	ComEd	\$3.5	(\$11.6)	\$1.7	\$16.9	(\$2.5)	\$0.8	(\$4.2)	(\$7.4)	\$9.5	3%
6	Crescent	Transformer	DLCO	\$2.8	(\$2.1)	\$0.2	\$5.1	\$0.0	(\$0.6)	(\$0.2)	\$0.3	\$5.4	2%
7	Pleasant Prairie - Zion	Flowgate	Midwest ISO	(\$2.4)	(\$5.9)	\$1.5	\$5.1	(\$0.5)	\$1.0	(\$8.6)	(\$10.2)	(\$5.1)	(2%)
8	Mount Storm - Pruntytown	Line	AP	\$0.6	(\$3.5)	\$0.1	\$4.1	(\$0.3)	(\$0.8)	\$0.1	\$0.6	\$4.7	2%
9	Athenia - Saddlebrook	Line	PSEG	\$3.6	(\$2.4)	\$5.6	\$11.6	(\$6.7)	\$4.4	(\$5.0)	(\$16.0)	(\$4.4)	(1%)
10	Rising	Flowgate	Midwest ISO	\$0.3	(\$3.4)	\$0.4	\$4.2	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$4.1	1%
11	Hawthorn - Waldwick	Line	PSEG	\$0.1	(\$0.0)	(\$0.0)	\$0.0	(\$0.6)	\$0.9	(\$2.5)	(\$4.0)	(\$4.0)	(1%)
12	Baker - Broadford	Line	AEP	(\$0.0)	(\$0.3)	\$0.0	\$0.4	(\$1.1)	(\$0.1)	(\$3.2)	(\$4.2)	(\$3.8)	(1%)
13	Kanawha River	Transformer	AEP	\$1.3	(\$1.6)	\$0.2	\$3.1	\$0.0	(\$0.1)	(\$0.0)	\$0.0	\$3.2	1%
14	Tiltsville - Windsor	Line	AP	\$3.3	(\$0.2)	(\$0.0)	\$3.5	(\$0.6)	\$0.2	\$0.3	(\$0.5)	\$3.0	1%
15	West	Interface	500	\$2.5	(\$0.2)	\$0.0	\$2.7	\$0.3	\$0.4	\$0.2	\$0.1	\$2.8	1%
16	Culloden - Wyoming	Line	AEP	\$0.5	(\$1.4)	\$0.4	\$2.3	\$0.0	\$0.0	\$0.0	\$0.0	\$2.3	1%
17	Kanawha - Kincaid	Line	AEP	\$1.4	(\$0.8)	\$0.2	\$2.3	\$0.0	\$0.0	\$0.0	\$0.0	\$2.3	1%
18	Hawthorn - Hinchmans Ave	Line	PSEG	(\$0.0)	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.2)	\$0.3	(\$1.5)	(\$2.0)	(\$2.2)	(1%)
19	Burnham - Munster	Line	ComEd	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.8	(\$1.3)	(\$2.2)	(\$2.2)	(1%)
20	Cloverdale - Lexington	Line	AEP	\$1.5	(\$0.6)	\$0.2	\$2.4	(\$0.2)	(\$0.5)	(\$0.5)	(\$0.2)	\$2.1	1%
21	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.6	(\$1.1)	\$0.4	\$2.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$2.1	1%
22	Waterman - West Dekalb	Line	ComEd	(\$1.0)	(\$2.9)	\$0.3	\$2.2	\$0.2	\$0.2	(\$0.4)	(\$0.4)	\$1.9	1%
23	Collier - Elwyn	Line	DLCO	\$1.8	\$0.1	\$0.0	\$1.8	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$1.8	1%
24	Sammis - Wylie Ridge	Line	AP	\$2.5	\$0.3	\$0.1	\$2.3	(\$0.4)	(\$0.2)	(\$0.3)	(\$0.5)	\$1.7	1%
25	Harrison - Pruntytown	Line	500	\$1.0	(\$0.8)	\$0.3	\$2.1	(\$0.3)	(\$0.4)	(\$0.6)	(\$0.5)	\$1.6	1%

**Table 7-15 Congestion cost by the type of the participant: January through March 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	\$23.0	(\$0.0)	\$10.6	\$33.6	(\$3.9)	(\$1.7)	(\$40.0)	(\$42.2)	(\$8.5)
Physical	\$153.4	(\$226.6)	(\$6.8)	\$373.3	\$26.1	\$29.4	(\$0.6)	(\$3.9)	\$369.4
Total	\$176.4	(\$226.6)	\$3.8	\$406.9	\$22.2	\$27.7	(\$40.5)	(\$46.0)	\$360.9

**Table 7-16 Congestion cost by the type of the participant: January through March 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	(\$1.5)	\$0.2	\$10.5	\$8.8	(\$11.1)	\$5.2	(\$29.2)	(\$45.5)	(\$36.7)
Physical	\$87.3	(\$293.5)	\$2.4	\$383.1	\$5.1	\$6.5	(\$0.0)	(\$1.4)	\$381.8
Total	\$85.8	(\$293.3)	\$12.9	\$391.9	(\$6.0)	\$11.7	(\$29.2)	(\$46.9)	\$345.1

## Congestion-Event Summary for Midwest ISO Flowgates

*Table 7-17 Top congestion cost impacts from Midwest ISO flowgates affecting PJM dispatch (By facility): January through March 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
1	Crete - St Johns Tap	\$1.5	(\$12.5)	(\$0.0)	\$13.9	\$3.7	\$1.7	(\$0.8)	\$1.2	\$15.1	1,456	398
2	Pleasant Prairie - Zion	(\$0.1)	(\$0.8)	\$0.0	\$0.7	(\$0.1)	(\$0.2)	(\$6.2)	(\$6.2)	(\$5.4)	593	140
3	Lakeview - Pleasant Prairie	(\$0.0)	(\$0.1)	\$0.0	\$0.1	(\$0.2)	\$0.0	(\$4.2)	(\$4.4)	(\$4.3)	24	164
4	Rising	\$0.0	(\$0.5)	\$0.0	\$0.5	\$0.0	\$0.5	(\$2.3)	(\$2.8)	(\$2.2)	48	54
5	Benton Harbor - Palisades	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	\$0.7	(\$2.3)	(\$2.0)	(\$2.0)	0	46
6	Eugene - Bunsonville	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$1.5)	(\$1.6)	(\$1.6)	0	52
7	Oak Grove - Galesburg	(\$0.1)	(\$0.3)	\$0.0	\$0.2	(\$0.1)	\$0.3	(\$1.3)	(\$1.6)	(\$1.4)	52	62
8	Benton Harbor - Palisades	\$0.7	(\$0.1)	\$0.0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	0	0
9	Monticello - Schahfer	\$0.0	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.1	(\$0.7)	(\$0.8)	(\$0.7)	17	45
10	Crete - St. Johns	(\$0.0)	(\$0.5)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	62	0
11	Pierce - East Bend	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.5)	(\$0.5)	(\$0.5)	0	2
12	Bayshore	\$0.3	\$0.0	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	0	0
13	Pierce - Foster	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.3)	(\$0.3)	(\$0.3)	0	4
14	Roxana - Praxair	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.1	\$0.0	\$0.1	\$0.2	\$0.2	42	10
15	Babcock - Wilton Center	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	(\$0.1)	(\$0.1)	(\$0.1)	0	5
16	Rantoul - Wilton Center	\$0.0	(\$0.2)	\$0.0	\$0.2	\$0.0	\$0.0	(\$0.1)	(\$0.1)	\$0.1	37	25
17	Prairie State - Coffeen	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.1)	(\$0.1)	(\$0.1)	15	28
18	Lakeview - Arcadian	\$0.0	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	102	0
19	Dunes Acres - Michigan City	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	(\$0.1)	(\$0.1)	0	4
20	Bunsonville - Eugene	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	36	0

**Table 7-18 Top congestion cost impacts from Midwest ISO flowgates affecting PJM dispatch (By facility): January through March 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	(\$2.4)	(\$5.9)	\$1.5	\$5.1	(\$0.5)	\$1.0	(\$8.6)	(\$10.2)	(\$5.1)	556	110
2	Rising	\$0.3	(\$3.4)	\$0.4	\$4.2	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$4.1	582	32
3	Dunes Acres - Michigan City	\$0.6	(\$1.1)	\$0.4	\$2.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$2.1	142	3
4	State Line - Wolf Lake	\$0.3	(\$0.4)	\$0.5	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	269	0
5	Crete - St Johns Tap	\$0.1	(\$0.2)	\$0.1	\$0.4	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.3	129	1
6	Bunsonville - Eugene	(\$0.0)	(\$0.2)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	24	0
7	Burr Oak	\$0.0	(\$0.0)	\$0.0	\$0.1	(\$0.0)	\$0.1	(\$0.1)	(\$0.2)	(\$0.2)	20	40
8	Benton Harbor - Palisades	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	(\$0.1)	0	1
9	Powerton Jct. - Lilly	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	(\$0.1)	0	15
10	Eugene - Bunsonville	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	0	9
11	Oak Grove - Galesburg	(\$0.0)	(\$0.2)	\$0.1	\$0.2	\$0.0	\$0.0	(\$0.2)	(\$0.2)	\$0.0	51	38
12	State Line - Roxana	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	0	6
13	Coffeen North - Ramsey	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	0	3
14	Lanesville	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	0	2
15	Krendale - Seneca	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	0	0

## Congestion-Event Summary for the 500 kV System

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

Congestion Costs (Millions)														
No.	Constraint	Type	Location	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	\$3.2	(\$129.5)	\$0.0	\$132.8	\$7.8	\$7.8	(\$0.7)	(\$0.7)	\$132.1	1,172	513
2	5004/5005 Interface	Interface	500	\$50.5	(\$13.2)	\$0.0	\$63.7	\$5.6	\$5.1	\$3.6	\$4.2	\$67.9	513	241
3	Bedington - Black Oak	Interface	500	\$5.3	(\$19.2)	\$0.0	\$24.5	\$0.0	\$0.0	\$0.0	\$0.0	\$24.5	576	0
4	AEP-DOM	Interface	500	\$1.5	(\$11.8)	\$0.0	\$13.2	\$0.6	\$0.3	(\$0.1)	\$0.2	\$13.4	293	88
5	West	Interface	500	\$13.2	\$3.4	\$0.0	\$9.8	\$0.2	\$0.0	\$0.1	\$0.3	\$10.1	231	12
6	East	Interface	500	\$4.5	(\$3.1)	\$0.0	\$7.7	\$0.1	\$1.2	\$0.1	(\$1.0)	\$6.7	127	22
7	Central	Interface	500	\$1.4	\$0.3	\$0.0	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	45	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	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 March 2010 (See 2010 SOM, Table 7-18)**

Congestion Costs (Millions)														
No.	Constraint	Type	Location	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	\$7.1	(\$162.6)	(\$1.1)	\$168.5	\$4.4	\$3.9	\$1.2	\$1.7	\$170.2	1,255	735
2	AEP-DOM	Interface	500	\$9.4	(\$37.8)	\$0.9	\$48.1	\$0.2	(\$1.2)	\$0.1	\$1.6	\$49.6	452	76
3	5004/5005 Interface	Interface	500	\$24.1	(\$19.0)	(\$0.8)	\$42.2	\$1.0	\$1.0	\$0.2	\$0.2	\$42.5	806	294
4	Bedington - Black Oak	Interface	500	\$4.1	(\$19.1)	(\$0.8)	\$22.4	\$0.4	(\$0.5)	\$0.1	\$0.9	\$23.3	519	9
5	West	Interface	500	\$2.5	(\$0.2)	\$0.0	\$2.7	\$0.3	\$0.4	\$0.2	\$0.1	\$2.8	56	37
6	Harrison - Pruntytown	Line	500	\$1.0	(\$0.8)	\$0.3	\$2.1	(\$0.3)	(\$0.4)	(\$0.6)	(\$0.5)	\$1.6	75	85
7	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
8	Central	Interface	500	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	8	0

## Zonal Congestion

### Summary

**Table 7-21 Congestion cost summary (By control zone): January through March 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	\$14.1	\$5.4	\$0.2	\$8.9	(\$0.4)	(\$0.2)	(\$0.4)	(\$0.6)	\$8.3
AEP	(\$37.3)	(\$107.8)	\$0.2	\$70.6	(\$0.8)	\$8.6	(\$2.6)	(\$11.9)	\$58.7
AP	(\$6.2)	(\$75.2)	(\$4.1)	\$65.0	\$2.1	\$3.3	\$2.9	\$1.7	\$66.7
BGE	\$38.7	\$29.9	\$1.3	\$10.1	\$2.5	(\$0.9)	(\$1.4)	\$2.0	\$12.0
ComEd	(\$130.9)	(\$192.5)	(\$4.9)	\$56.7	\$16.4	\$7.8	(\$9.6)	(\$1.1)	\$55.6
DAY	(\$6.4)	(\$8.6)	(\$0.3)	\$1.9	\$0.3	\$2.1	(\$0.5)	(\$2.3)	(\$0.4)
DLCO	(\$23.4)	(\$36.5)	(\$0.5)	\$12.6	(\$2.3)	(\$0.2)	\$0.2	(\$1.9)	\$10.7
DPL	\$25.3	\$5.8	\$0.3	\$19.8	\$0.5	\$0.2	(\$0.3)	(\$0.0)	\$19.7
Dominion	\$40.2	(\$17.4)	\$2.5	\$60.1	\$0.3	\$4.2	(\$2.1)	(\$6.0)	\$54.1
External	(\$4.4)	(\$18.6)	\$4.4	\$18.6	\$2.4	(\$6.3)	(\$14.7)	(\$6.0)	\$12.6
JCPL	\$31.6	\$12.1	\$0.1	\$19.6	(\$0.5)	\$0.2	(\$0.2)	(\$0.9)	\$18.6
Met-Ed	\$17.9	\$20.2	\$0.1	(\$2.2)	\$0.5	(\$0.6)	(\$0.1)	\$1.0	(\$1.2)
PECO	\$53.2	\$54.7	\$0.5	(\$1.0)	(\$0.8)	\$1.4	(\$0.3)	(\$2.6)	(\$3.6)
PENELEC	(\$10.7)	(\$39.4)	(\$0.8)	\$28.0	\$1.5	\$2.1	\$0.3	(\$0.2)	\$27.7
PPL	\$60.6	\$62.6	\$1.9	(\$0.1)	\$3.7	(\$1.7)	(\$0.8)	\$4.5	\$4.4
PSEG	\$57.5	\$42.9	\$1.1	\$15.8	(\$1.1)	\$9.4	(\$9.1)	(\$19.6)	(\$3.9)
Pepco	\$55.4	\$35.6	\$1.7	\$21.5	(\$1.9)	(\$1.9)	(\$1.8)	(\$1.8)	\$19.8
RECO	\$1.2	\$0.2	\$0.1	\$1.1	\$0.0	\$0.1	(\$0.1)	(\$0.1)	\$0.9
Total	\$176.4	(\$226.6)	\$3.8	\$406.9	\$22.2	\$27.7	(\$40.5)	(\$46.0)	\$360.9

**Table 7-22 Congestion cost summary (By control zone): January through March 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	\$5.2	\$2.5	\$0.0	\$2.7	\$0.5	(\$0.0)	(\$0.0)	\$0.5	\$3.2
AEP	(\$16.0)	(\$86.7)	\$3.1	\$73.7	(\$6.5)	\$3.7	(\$4.2)	(\$14.4)	\$59.3
AP	(\$16.0)	(\$83.5)	(\$2.0)	\$65.5	\$2.7	\$3.1	\$1.6	\$1.3	\$66.8
BGE	\$36.9	\$27.6	\$1.6	\$10.9	\$3.9	(\$1.5)	(\$1.5)	\$3.8	\$14.7
ComEd	(\$83.3)	(\$148.3)	(\$0.8)	\$64.3	(\$3.6)	\$3.2	(\$2.3)	(\$9.1)	\$55.2
DAY	(\$3.7)	(\$7.1)	(\$0.1)	\$3.2	\$0.1	\$0.6	\$0.1	(\$0.4)	\$2.8
DLCO	(\$32.5)	(\$49.5)	(\$0.1)	\$16.9	(\$1.9)	(\$0.9)	(\$0.0)	(\$1.0)	\$15.9
DPL	\$12.0	\$3.4	(\$0.1)	\$8.5	\$0.7	(\$0.4)	\$0.1	\$1.2	\$9.7
Dominion	\$66.5	(\$3.2)	\$1.8	\$71.6	\$1.5	\$3.0	(\$1.3)	(\$2.7)	\$68.8
External	(\$19.1)	(\$26.7)	(\$2.2)	\$5.5	\$3.3	(\$2.0)	(\$9.2)	(\$3.9)	\$1.5
JCPL	\$10.6	\$3.9	\$0.0	\$6.7	(\$0.0)	(\$0.2)	(\$0.1)	\$0.1	\$6.8
Met-Ed	\$10.2	\$7.3	(\$0.0)	\$2.8	\$0.0	(\$0.4)	(\$0.0)	\$0.5	\$3.3
PECO	\$5.9	\$15.4	\$0.0	(\$9.5)	(\$0.1)	\$0.2	(\$0.0)	(\$0.3)	(\$9.7)
PENELEC	(\$29.7)	(\$61.5)	(\$0.2)	\$31.6	\$2.4	(\$1.0)	\$0.1	\$3.5	\$35.1
PPL	\$24.9	\$29.8	\$0.9	(\$4.1)	\$0.8	\$0.4	(\$0.3)	\$0.0	(\$4.1)
PSEG	\$27.3	\$20.5	\$9.6	\$16.5	(\$7.6)	\$5.2	(\$10.6)	(\$23.3)	(\$6.9)
Pepco	\$86.0	\$62.7	\$1.4	\$24.7	(\$2.3)	(\$1.3)	(\$1.6)	(\$2.6)	\$22.1
RECO	\$0.6	\$0.1	\$0.0	\$0.5	\$0.0	\$0.1	\$0.0	(\$0.1)	\$0.4
Total	\$85.8	(\$293.3)	\$12.9	\$391.9	(\$6.0)	\$11.7	(\$29.2)	(\$46.9)	\$345.1

## 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 March 2011 (See 2010 SOM, Table 7-21)

No.	Constraint	Type	Location	Congestion Costs (Millions)										Event Hours	
				Load Payments	Day Ahead			Load Payments	Balancing			Total	Grand Total	Day Ahead	Real Time
					Generation Credits	Explicit	Total		Generation Credits	Explicit	Total				
1	5004/5005 Interface	Interface	500	\$5.4	\$2.4	\$0.0	\$3.0	\$0.2	(\$0.4)	(\$0.0)	\$0.6	\$3.6		513	241
2	Wylie Ridge	Transformer	AP	\$2.1	\$0.8	\$0.0	\$1.3	\$0.1	(\$0.1)	(\$0.0)	\$0.2	\$1.5		1,235	329
3	West	Interface	500	\$1.2	\$0.4	\$0.0	\$0.7	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.8		231	12
4	Shieldalloy - Vineland	Line	AEEO	\$0.9	\$0.1	\$0.0	\$0.8	(\$0.8)	\$0.5	(\$0.2)	(\$1.5)	(\$0.7)		126	45
5	Crete - St Johns Tap	Flowgate	Midwest ISO	\$0.8	\$0.2	\$0.0	\$0.6	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.6		1,456	398
6	East	Interface	500	\$1.1	\$0.5	\$0.0	\$0.6	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.6		127	22
7	AP South	Interface	500	\$0.6	\$0.3	\$0.0	\$0.3	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.4		1,172	513
8	Bridgewater - Middlesex	Line	PSEG	\$0.4	\$0.1	\$0.0	\$0.3	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.3		377	19
9	South Mahwah - Waldwick	Line	PSEG	\$0.3	\$0.1	\$0.0	\$0.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.3		1,730	203
10	Cedar Grove - Roseland	Line	PSEG	(\$0.2)	(\$0.1)	\$0.0	(\$0.2)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.2)		713	26
11	Bedington - Black Oak	Interface	500	\$0.3	\$0.1	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2		576	0
12	Wolfcreek	Transformer	AEP	\$0.2	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2		729	94
13	Plymouth Meeting - Whitpain	Line	PECO	\$0.2	\$0.1	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1		86	65
14	Churchtown	Transformer	AEEO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.1)		0	25
15	Central	Interface	500	\$0.2	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1		45	0
25	England - Merion	Line	AEEO	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1		7	0
26	Carlls Corner - Sherman Ave	Line	AEEO	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.1	(\$0.0)	(\$0.1)	(\$0.1)		71	18
30	Carnegie - Tidd	Line	AEEO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0		388	0
42	Sherman Avenue	Transformer	AEEO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0		15	0
67	Corson	Transformer	AEEO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)		0	4

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

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	5004/5005 Interface	Interface	500	\$3.6	\$1.8	\$0.0	\$1.9	\$0.2	(\$0.0)	(\$0.0)	\$0.3	\$2.1	806	294
2	East Frankfort - Crete	Line	ComEd	\$0.3	\$0.1	\$0.0	\$0.2	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.3	835	419
3	AP South	Interface	500	\$0.6	\$0.3	\$0.0	\$0.3	\$0.0	(\$0.0)	(\$0.0)	\$0.1	\$0.3	1,255	735
4	Athenia - Saddlebrook	Line	PSEG	(\$0.2)	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.1)	\$0.0	\$0.0	(\$0.1)	(\$0.3)	1,779	273
5	West	Interface	500	\$0.3	\$0.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.1	\$0.2	56	37
6	Tiltonsville - Windsor	Line	AP	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.1	697	140
7	Sammis - Wylie Ridge	Line	AP	\$0.2	\$0.1	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	305	37
8	Graceton - Raphael Road	Line	BGE	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.1)	(\$0.1)	34	25
9	Bedington - Black Oak	Interface	500	\$0.2	\$0.1	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	519	9
10	Crescent	Transformer	DLCO	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.1)	310	58
11	Harrison - Pruntytown	Line	500	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	75	85
12	Cloverdale - Lexington	Line	AEP	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	154	97
13	Doubs	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	75	33
14	Atlantic - Larrabee	Line	JCPL	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.1)	88	6
15	AEP-DOM	Interface	500	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	452	76
46	Lindenwold - Stratford	Line	AECO	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	318	0
101	Pinehill - Stratford	Line	AECO	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	293	0
171	Berlin - Silver Lake	Line	AECO	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	3	0

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

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	\$16.3	\$14.4	\$0.0	\$1.9	\$1.1	(\$0.5)	(\$0.5)	\$1.1	\$3.0	1,172	513
2	5004/5005 Interface	Interface	500	\$5.8	\$3.9	\$0.0	\$1.9	\$0.3	(\$0.1)	(\$0.1)	\$0.2	\$2.1	513	241
3	Wylie Ridge	Transformer	AP	\$5.3	\$4.0	\$0.0	\$1.4	\$0.3	(\$0.1)	(\$0.1)	\$0.2	\$1.6	1,235	329
4	West	Interface	500	\$3.0	\$1.5	\$0.0	\$1.5	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$1.6	231	12
5	Bedington - Black Oak	Interface	500	\$4.7	\$3.7	\$0.0	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	576	0
6	Crete - St Johns Tap	Flowgate	Midwest ISO	\$2.5	\$1.7	\$0.0	\$0.7	\$0.1	(\$0.0)	(\$0.0)	\$0.0	\$0.8	1,456	398
7	Susquehanna	Transformer	PPL	(\$1.0)	(\$0.6)	\$0.0	(\$0.4)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	120	0
8	Doubs	Transformer	AP	\$0.5	\$0.3	\$0.0	\$0.2	\$0.1	(\$0.0)	(\$0.0)	\$0.2	\$0.3	38	51
9	Burches Hill	Transformer	Pepco	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	(\$0.1)	(\$0.0)	\$0.3	\$0.3	8	44
10	Bristers - Ox	Line	Dominion	\$0.5	\$0.3	\$0.0	\$0.2	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.3	33	25
11	Wolfcreek	Transformer	AEP	\$0.5	\$0.3	\$0.0	\$0.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.3	729	94
12	Cloverdale - Lexington	Line	AEP	\$0.5	\$0.4	\$0.0	\$0.1	\$0.2	(\$0.0)	(\$0.1)	\$0.2	\$0.2	173	155
13	Cedar Grove - Roseland	Line	PSEG	(\$0.5)	(\$0.3)	\$0.0	(\$0.2)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.2)	713	26
14	Graceton - Raphael Road	Line	BGE	\$0.3	\$0.1	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2	16	11
15	East	Interface	500	(\$0.9)	(\$0.8)	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.2)	127	22
33	Riverside	Other	BGE	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	0	2
47	Greene St - Westport	Line	BGE	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	0	2
54	Conastone - Otter	Line	BGE	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	0	12
62	Green Street - Westport	Line	BGE	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	9	0
100	Brandon Shores - Riverside	Line	BGE	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	24	0

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

Congestion Costs (Millions)														
No.	Constraint	Type	Location	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	\$19.6	\$15.5	\$0.8	\$4.9	\$2.0	(\$0.8)	(\$0.8)	\$2.0	\$7.0	1,255	735
2	5004/5005 Interface	Interface	500	\$4.1	\$2.1	\$0.2	\$2.3	\$0.2	(\$0.2)	(\$0.1)	\$0.2	\$2.5	806	294
3	Bedington - Black Oak	Interface	500	\$4.0	\$3.0	\$0.2	\$1.2	\$0.2	(\$0.0)	(\$0.0)	\$0.2	\$1.4	519	9
4	East Frankfort - Crete	Line	ComEd	\$1.1	\$0.8	\$0.0	\$0.3	\$0.2	(\$0.1)	(\$0.0)	\$0.2	\$0.6	835	419
5	AEP-DOM	Interface	500	\$3.1	\$2.8	\$0.1	\$0.3	\$0.2	(\$0.0)	(\$0.0)	\$0.2	\$0.5	452	76
6	West	Interface	500	\$0.6	\$0.4	\$0.0	\$0.3	\$0.2	(\$0.1)	(\$0.0)	\$0.2	\$0.4	56	37
7	Mount Storm - Pruntytown	Line	AP	\$0.6	\$0.5	\$0.0	\$0.2	\$0.1	(\$0.1)	(\$0.0)	\$0.2	\$0.3	87	64
8	Harrison - Pruntytown	Line	500	\$0.2	\$0.2	\$0.0	\$0.1	\$0.2	(\$0.1)	(\$0.0)	\$0.2	\$0.3	75	85
9	Graceton - Raphael Road	Line	BGE	\$0.6	\$0.3	\$0.0	\$0.3	\$0.1	\$0.1	(\$0.1)	(\$0.0)	\$0.3	34	25
10	Doubs	Transformer	AP	\$0.2	\$0.1	\$0.0	\$0.1	\$0.1	(\$0.2)	(\$0.0)	\$0.2	\$0.3	75	33
11	Sammis - Wylie Ridge	Line	AP	\$0.5	\$0.4	\$0.0	\$0.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2	305	37
12	Cloverdale - Lexington	Line	AEP	\$0.3	\$0.3	\$0.0	\$0.1	\$0.1	(\$0.0)	(\$0.1)	\$0.1	\$0.2	154	97
13	Athenia - Saddlebrook	Line	PSEG	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	\$0.0	\$0.0	(\$0.1)	(\$0.2)	1,779	273
14	Tiltonsville - Windsor	Line	AP	\$0.4	\$0.3	\$0.0	\$0.1	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.1	697	140
15	Nipetown - Reid	Line	AP	\$0.3	\$0.2	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	75	18
23	Fullerton - Windyedge	Line	BGE	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	4	0
30	Graceton - Safe Harbor	Line	BGE	\$0.2	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	15	1
45	Brandon Shores - Riverside	Line	BGE	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	5	15
53	Conastone - Otter	Line	BGE	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	3	1
65	Glenarm - Windy Edge	Line	BGE	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	5	0

**DPL Control Zone****Table 7-27 DPL Control Zone top congestion cost impacts (By facility): January through March 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	\$0.0	\$7.6	\$0.2	(\$0.0)	(\$0.1)	\$0.1	\$7.7	513	241
2	Wylie Ridge	Transformer	AP	\$4.1	\$0.8	\$0.0	\$3.3	\$0.1	\$0.0	(\$0.0)	\$0.0	\$3.3	1,235	329
3	West	Interface	500	\$2.2	\$0.7	\$0.0	\$1.5	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$1.5	231	12
4	East	Interface	500	\$2.1	\$0.5	\$0.0	\$1.6	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	\$1.5	127	22
5	AP South	Interface	500	\$1.9	\$0.4	\$0.0	\$1.5	\$0.1	\$0.0	(\$0.1)	(\$0.0)	\$1.4	1,172	513
6	Crete - St Johns Tap	Flowgate	Midwest ISO	\$1.6	\$0.2	\$0.0	\$1.4	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$1.3	1,456	398
7	Bedington - Black Oak	Interface	500	\$0.8	\$0.2	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	576	0
8	Plymouth Meeting - Whipnain	Line	PECO	\$0.6	\$0.1	\$0.0	\$0.5	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.5	86	65
9	Susquehanna	Transformer	PPL	(\$0.5)	(\$0.1)	\$0.0	(\$0.4)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	120	0
10	Longwood - Wye Mills	Line	DPL	\$0.4	\$0.1	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	184	0
11	Central	Interface	500	\$0.4	\$0.1	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	45	0
12	Bradford - Planebrook	Line	PECO	(\$0.4)	(\$0.2)	\$0.0	(\$0.3)	(\$0.1)	(\$0.0)	\$0.0	(\$0.1)	(\$0.3)	61	28
13	Butler - Karns City	Line	AP	\$0.3	\$0.1	\$0.0	\$0.3	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.3	369	44
14	South Mahwah - Waldwick	Line	PSEG	\$0.4	\$0.1	\$0.0	\$0.3	\$0.0	\$0.0	(\$0.1)	(\$0.1)	\$0.2	1,730	203
15	Wolfcreek	Transformer	AEP	\$0.3	\$0.1	\$0.0	\$0.2	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.2	729	94
24	Kenney - Mount Olive	Line	DPL	\$0.2	\$0.1	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	33	2
30	Bellehaven - Tasley	Line	DPL	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	159	0
34	Easton	Transformer	DPL	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	24	2
40	Lumspend - Reybold	Line	DPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	6	0
45	Hallwood - Oak Hall	Line	DPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	44	0

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

Congestion Costs (Millions)															
No.	Constraint	Type	Location	Load Payments	Day Ahead			Total	Load Payments	Balancing			Grand Total	Event Hours	
					Generation Credits	Explicit				Generation Credits	Explicit	Total		Day Ahead	Real Time
1	5004/5005 Interface	Interface	500	\$7.0	\$2.1	\$0.0	\$4.9	\$0.2	\$0.1	(\$0.0)	\$0.1	\$5.0	806	294	
2	AP South	Interface	500	\$2.0	\$0.7	(\$0.0)	\$1.3	\$0.1	\$0.0	\$0.0	\$0.1	\$1.4	1,255	735	
3	Indian River At20	Transformer	DPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	(\$0.6)	(\$0.0)	\$0.9	\$0.9	0	8	
4	East Frankfort - Crete	Line	ComEd	\$0.7	\$0.1	\$0.0	\$0.6	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.6	835	419	
5	Bedington - Black Oak	Interface	500	\$0.6	\$0.2	\$0.0	\$0.4	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.4	519	9	
6	West	Interface	500	\$0.5	\$0.2	\$0.0	\$0.3	\$0.1	\$0.1	(\$0.0)	\$0.0	\$0.3	56	37	
7	Sammis - Wylie Ridge	Line	AP	\$0.4	\$0.1	\$0.0	\$0.3	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.3	305	37	
8	Athenia - Saddlebrook	Line	PSEG	(\$0.4)	(\$0.1)	(\$0.0)	(\$0.3)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.3)	1,779	273	
9	Tiltonsville - Windsor	Line	AP	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.2	697	140	
10	Bellehaven - Tasley	Line	DPL	\$0.2	(\$0.0)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	429	0	
11	Graceton - Raphael Road	Line	BGE	(\$0.2)	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.2)	34	25	
12	Harrison - Pruntytown	Line	500	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.1	\$0.1	75	85	
13	Cloverdale - Lexington	Line	AEP	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.1	154	97	
14	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	142	3	
15	Longwood - Wye Mills	Line	DPL	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	11	0	
18	Cecil - Colora	Line	DPL	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	(\$0.1)	17	4	
26	New Church - Piney Grove	Line	DPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	49	0	
28	Oak Hall	Transformer	DPL	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	53	0	
30	Hallwood - Oak Hall	Line	DPL	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	119	0	
32	Church	Transformer	DPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	1	0	

**JCPL Control Zone****Table 7-29 JCPL Control Zone top congestion cost impacts (By facility): January through March 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	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$8.6	513	241	
2	Wylie Ridge	Transformer	AP	\$4.7	\$1.7	\$0.0	\$2.9	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$2.9	1,235	329	
3	Cedar Grove - Roseland	Line	PSEG	(\$2.7)	(\$0.8)	\$0.0	(\$1.9)	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$1.9)	713	26	
4	Bridgewater - Middlesex	Line	PSEG	\$3.0	\$1.1	\$0.0	\$1.9	(\$0.1)	\$0.1	(\$0.0)	(\$0.2)	\$1.8	377	19	
5	South Mahwah - Waldwick	Line	PSEG	\$2.3	\$0.7	\$0.0	\$1.6	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	\$1.5	1,730	203	
6	West	Interface	500	\$2.6	\$1.2	\$0.0	\$1.3	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$1.3	231	12	
7	Crete - St Johns Tap	Flowgate	Midwest ISO	\$1.9	\$0.7	\$0.0	\$1.1	\$0.0	\$0.0	(\$0.0)	\$0.0	\$1.2	1,456	398	
8	East	Interface	500	\$2.0	\$0.8	\$0.0	\$1.2	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	\$1.1	127	22	
9	Susquehanna	Transformer	PPL	\$1.1	\$0.3	\$0.0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	120	0	
10	Atlantic - Larrabee	Line	JCPL	\$0.4	(\$0.2)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	49	0	
11	Montville - Roseland	Line	PSEG	(\$0.3)	(\$0.0)	\$0.0	(\$0.3)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.3)	44	0	
12	Roseland - West Caldwell	Line	PSEG	(\$0.4)	(\$0.1)	\$0.0	(\$0.3)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.3)	71	10	
13	Central	Interface	500	\$0.4	\$0.1	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	45	0	
14	Butler - Karns City	Line	AP	\$0.4	\$0.2	\$0.0	\$0.3	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.3	369	44	
15	AP South	Interface	500	(\$0.0)	\$0.2	\$0.0	(\$0.2)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.2)	1,172	513	
19	Kilmer - Sayreville	Line	JCPL	\$0.3	\$0.1	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	92	0	
45	Redoak - Sayreville	Line	JCPL	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	19	0	
59	Kittatiny - Newton	Line	JCPL	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	7	0	

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

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	5004/5005 Interface	Interface	500	\$8.6	\$3.1	\$0.0	\$5.5	\$0.0	(\$0.2)	(\$0.0)	\$0.3	\$5.8	806	294
2	Athenia - Saddlebrook	Line	PSEG	(\$2.1)	(\$0.6)	(\$0.0)	(\$1.6)	(\$0.1)	\$0.0	\$0.0	(\$0.2)	(\$1.7)	1,779	273
3	East Frankfort - Crete	Line	ComEd	\$0.9	\$0.3	(\$0.0)	\$0.5	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.6	835	419
4	West	Interface	500	\$0.5	\$0.2	\$0.0	\$0.3	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.4	56	37
5	Atlantic - Larrabee	Line	JCPL	\$0.2	(\$0.1)	\$0.0	\$0.3	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.3	88	6
6	Sammis - Wylie Ridge	Line	AP	\$0.4	\$0.2	\$0.0	\$0.2	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.3	305	37
7	Bridgewater - Middlesex	Line	PSEG	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.2	\$0.0	(\$0.3)	(\$0.2)	25	5
8	Franklin - West Wharton	Line	JCPL	\$0.4	\$0.2	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	26	0
9	Tiltonsville - Windsor	Line	AP	\$0.3	\$0.2	\$0.0	\$0.2	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.2	697	140
10	Bedington - Black Oak	Interface	500	\$0.2	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	519	9
11	AEP-DOM	Interface	500	(\$0.2)	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.1)	452	76
12	Harrison - Pruntytown	Line	500	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	75	85
13	Branchburg - Readington	Line	PSEG	\$0.0	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	180	0
14	Kilmer - Sayreville	Line	JCPL	\$0.2	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	72	0
15	Crescent	Transformer	DLCO	(\$0.2)	(\$0.1)	\$0.0	(\$0.1)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.1)	310	58
23	Redoak - Sayreville	Line	JCPL	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	38	0

**Met-Ed Control Zone****Table 7-31 Met-Ed Control Zone top congestion cost impacts (By facility): January through March 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	Wylie Ridge	Transformer	AP	\$3.3	\$4.7	\$0.0	(\$1.4)	\$0.1	(\$0.0)	(\$0.0)	\$0.1	(\$1.2)	1,235	329
2	West	Interface	500	\$1.7	\$2.3	\$0.0	(\$0.6)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.6)	231	12
3	Crete - St Johns Tap	Flowgate	Midwest ISO	\$1.2	\$1.7	\$0.0	(\$0.5)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.5)	1,456	398
4	Susquehanna	Transformer	PPL	\$0.3	(\$0.0)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	120	0
5	East	Interface	500	\$0.1	(\$0.2)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	127	22
6	5004/5005 Interface	Interface	500	\$8.3	\$8.7	\$0.0	(\$0.4)	\$0.2	(\$0.3)	\$0.0	\$0.6	\$0.2	513	241
7	Cedar Grove - Roseland	Line	PSEG	(\$0.7)	(\$0.8)	\$0.0	\$0.1	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.1	713	26
8	Susquehanna	Transformer	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.1	0	52
9	Wolfcreek	Transformer	AEP	\$0.3	\$0.4	\$0.0	(\$0.1)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.1)	729	94
10	Montville - Roseland	Line	PSEG	(\$0.1)	(\$0.2)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	44	0
11	Hunterstown	Transformer	Met-Ed	\$0.1	\$0.1	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	9	5
12	Branchburg - Readington	Line	PSEG	(\$0.1)	(\$0.1)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.0	150	26
13	Carnegie - Tidd	Line	AEP	\$0.1	\$0.2	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	323	202
14	Benton Harbor - Palisades	Flowgate	Midwest ISO	\$0.1	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	0	46
15	Burches Hill	Transformer	Pepco	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	8	44
66	Glendon - Hosensack	Line	Met-Ed	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	1	0
76	Hosensack - N.Temple	Line	Met-Ed	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	2	0

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

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	5004/5005 Interface	Interface	500	\$5.9	\$4.9	\$0.0	\$1.0	\$0.0	(\$0.4)	(\$0.0)	\$0.4	\$1.5	806	294
2	AP South	Interface	500	\$2.0	\$1.0	(\$0.0)	\$0.9	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.9	1,255	735
3	West	Interface	500	\$0.4	\$0.2	\$0.0	\$0.2	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.3	56	37
4	Athenia - Saddlebrook	Line	PSEG	(\$0.7)	(\$0.6)	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.0	(\$0.1)	(\$0.2)	1,779	273
5	Bedington - Black Oak	Interface	500	\$0.6	\$0.4	\$0.0	\$0.2	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.2	519	9
6	AEP-DOM	Interface	500	\$0.1	(\$0.0)	(\$0.0)	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	452	76
7	East Frankfort - Crete	Line	ComEd	\$0.6	\$0.6	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	835	419
8	Sammis - Wylie Ridge	Line	AP	\$0.3	\$0.3	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.1	305	37
9	Susquehanna	Transformer	PPL	\$0.0	(\$0.0)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	36	0
10	Cloverdale - Lexington	Line	AEP	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	154	97
11	Harrison - Pruntytown	Line	500	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	75	85
12	Graceton - Raphael Road	Line	BGE	(\$0.2)	(\$0.2)	(\$0.0)	(\$0.0)	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	34	25
13	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.1	\$0.1	(\$0.0)	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	142	3
14	Nipetown - Reid	Line	AP	\$0.1	\$0.1	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	75	18
15	Graceton - Safe Harbor	Line	BGE	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	15	1
30	Collins - Middletown Jct	Line	Met-Ed	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	13	0
33	Brunner Island - Yorkana	Line	Met-Ed	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	1	0
110	Glendon - Hosensack	Line	Met-Ed	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	1	0

**PECO Control Zone****Table 7-33 PECO Control Zone top congestion cost impacts (By facility): January through March 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	5004/5005 Interface	Interface	500	\$21.2	\$23.1	\$0.0	(\$1.8)	(\$0.4)	\$0.6	(\$0.1)	(\$1.0)	(\$2.8)	513	241
2	Plymouth Meeting - Whitpain	Line	PECO	\$2.7	\$0.3	\$0.0	\$2.4	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	\$2.3	86	65
3	AP South	Interface	500	\$2.5	\$4.5	\$0.0	(\$2.0)	(\$0.0)	\$0.0	(\$0.1)	(\$0.1)	(\$2.1)	1,172	513
4	West	Interface	500	\$4.2	\$6.3	\$0.0	(\$2.1)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	(\$2.1)	231	12
5	Wylie Ridge	Transformer	AP	\$8.0	\$9.8	\$0.0	(\$1.9)	(\$0.1)	\$0.1	(\$0.0)	(\$0.2)	(\$2.1)	1,235	329
6	East	Interface	500	\$3.8	\$1.9	\$0.0	\$1.9	(\$0.1)	\$0.1	(\$0.0)	(\$0.2)	\$1.7	127	22
7	Bradford - Planebrook	Line	PECO	\$0.9	(\$0.6)	\$0.0	\$1.5	\$0.1	\$0.2	\$0.0	(\$0.1)	\$1.5	61	28
8	Limerick	Transformer	PECO	\$1.7	\$0.3	\$0.0	\$1.4	\$0.0	\$0.0	\$0.0	\$0.0	\$1.4	30	0
9	Crete - St Johns Tap	Flowgate	Midwest ISO	\$3.1	\$4.1	\$0.0	(\$1.0)	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	(\$1.1)	1,456	398
10	Susquehanna	Transformer	PPL	(\$0.7)	(\$1.5)	\$0.0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	120	0
11	Bedington - Black Oak	Interface	500	\$1.1	\$1.8	\$0.0	(\$0.7)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.7)	576	0
12	Wolfcreek	Transformer	AEP	\$0.6	\$1.0	\$0.0	(\$0.4)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.4)	729	94
13	Cedar Grove - Roseland	Line	PSEG	(\$0.9)	(\$1.3)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	713	26
14	Bristers - Ox	Line	Dominion	\$0.3	\$0.5	\$0.0	(\$0.2)	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	(\$0.3)	33	25
15	Eddystone - Saville	Line	PECO	\$0.2	(\$0.1)	\$0.0	\$0.3	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.3	64	16
27	North Philadelphia - Waneeta	Line	PECO	\$0.0	(\$0.1)	\$0.0	\$0.1	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.1	195	3
32	Chichester	Transformer	PECO	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	6	0
33	Morton - Rid	Line	PECO	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	4	0
40	Eddystone - Scott Paper	Line	PECO	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	6	0
41	Flint - Plymouth Meeting	Line	PECO	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	1	2

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

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	5004/5005 Interface	Interface	500	\$3.9	\$8.8	\$0.0	(\$4.9)	(\$0.1)	(\$0.1)	(\$0.0)	(\$0.0)	(\$4.9)	806	294
2	AP South	Interface	500	\$0.6	\$3.0	\$0.0	(\$2.4)	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$2.5)	1,255	735
3	Bedington - Black Oak	Interface	500	\$0.2	\$0.7	\$0.0	(\$0.5)	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.6)	519	9
4	East Frankfort - Crete	Line	ComEd	\$0.6	\$1.2	\$0.0	(\$0.5)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	(\$0.5)	835	419
5	West	Interface	500	\$0.4	\$1.0	\$0.0	(\$0.5)	(\$0.0)	(\$0.1)	\$0.0	\$0.1	(\$0.4)	56	37
6	AEP-DOM	Interface	500	(\$0.2)	\$0.1	(\$0.0)	(\$0.3)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.3)	452	76
7	Sammis - Wylie Ridge	Line	AP	\$0.3	\$0.6	\$0.0	(\$0.3)	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.3)	305	37
8	Graceton - Raphael Road	Line	BGE	(\$0.0)	(\$0.3)	\$0.0	\$0.2	\$0.1	\$0.1	\$0.0	(\$0.0)	\$0.2	34	25
9	Athenia - Saddlebrook	Line	PSEG	(\$0.3)	(\$0.7)	(\$0.0)	\$0.5	\$0.0	\$0.3	\$0.0	(\$0.3)	\$0.2	1,779	273
10	Tiltonsville - Windsor	Line	AP	\$0.2	\$0.5	\$0.0	(\$0.3)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	(\$0.2)	697	140
11	Harrison - Pruntytown	Line	500	\$0.1	\$0.1	\$0.0	(\$0.1)	(\$0.0)	\$0.0	\$0.0	(\$0.1)	(\$0.1)	75	85
12	Burlington - Croydon	Line	PECO	(\$0.1)	(\$0.2)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	512	13
13	Crescent	Transformer	DLCO	(\$0.0)	(\$0.2)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	310	58
14	Nipetown - Reid	Line	AP	\$0.0	\$0.1	\$0.0	(\$0.1)	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	75	18
15	Rising	Flowgate	Midwest ISO	\$0.1	\$0.1	(\$0.0)	(\$0.1)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.1)	582	32
24	Cromby	Transformer	PECO	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	33	2
39	Eddystone - Scott Paper	Line	PECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	0	4
50	Holmesburg - Richmond	Line	PECO	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	49	0
67	Conastone - Peach Bottom	Line	PECO	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	3	0
86	Eddystone - Saville	Line	PECO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	0	1

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

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	5004/5005 Interface	Interface	500	(\$5.4)	(\$26.1)	\$0.0	\$20.6	\$0.9	\$1.4	\$1.2	\$0.7	\$21.3	513	241
2	AP South	Interface	500	(\$11.2)	(\$20.5)	\$0.0	\$9.3	\$1.5	\$0.5	\$0.6	\$1.6	\$10.9	1,172	513
3	Wylie Ridge	Transformer	AP	\$2.8	\$12.5	\$0.0	(\$9.7)	(\$0.3)	(\$0.3)	(\$0.4)	(\$0.4)	(\$10.1)	1,235	329
4	West	Interface	500	(\$0.9)	(\$3.7)	\$0.0	\$2.8	\$0.0	\$0.1	\$0.1	\$0.0	\$2.8	231	12
5	Bedington - Black Oak	Interface	500	(\$2.5)	(\$4.8)	\$0.0	\$2.3	\$0.0	\$0.0	\$0.0	\$0.0	\$2.3	576	0
6	Crete - St Johns Tap	Flowgate	Midwest ISO	\$2.2	\$4.0	\$0.0	(\$1.8)	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.1)	(\$1.9)	1,456	398
7	Susquehanna	Transformer	PPL	\$0.6	(\$1.1)	\$0.0	\$1.7	\$0.0	\$0.0	\$0.0	\$0.0	\$1.7	120	0
8	Butler - Karns City	Line	AP	\$4.6	\$2.9	\$0.0	\$1.6	(\$0.1)	\$0.0	(\$0.1)	(\$0.3)	\$1.3	369	44
9	East	Interface	500	(\$0.4)	(\$1.2)	\$0.0	\$0.7	\$0.0	\$0.1	\$0.1	\$0.0	\$0.8	127	22
10	South Mahwah - Waldwick	Line	PSEG	(\$1.8)	(\$1.6)	\$0.0	(\$0.2)	\$0.2	\$0.1	(\$0.6)	(\$0.5)	(\$0.7)	1,730	203
11	Cedar Grove - Roseland	Line	PSEG	\$0.4	\$0.0	\$0.0	\$0.4	(\$0.0)	(\$0.0)	\$0.3	\$0.3	\$0.6	713	26
12	AEP-DOM	Interface	500	(\$0.7)	(\$1.1)	\$0.0	\$0.5	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.5	293	88
13	Carnegie - Tidd	Line	AEP	\$0.1	\$0.5	\$0.0	(\$0.3)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.4)	323	202
14	Tiltonsville - Windsor	Line	AP	\$0.2	\$0.5	\$0.0	(\$0.3)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	(\$0.4)	223	45
15	Wolfcreek	Transformer	AEP	\$0.5	\$0.7	\$0.0	(\$0.3)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.0)	(\$0.3)	729	94
18	Erie West	Transformer	PENELEC	\$0.5	(\$0.0)	\$0.0	\$0.5	(\$0.3)	\$0.2	(\$0.2)	(\$0.7)	(\$0.2)	287	30
22	Garret Tap - Garrett	Line	PENELEC	\$0.4	\$0.3	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	20	0
27	Keystone - Shelocla	Line	PENELEC	(\$0.2)	(\$0.1)	\$0.0	(\$0.1)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.1)	12	4
28	Elko - Forest	Line	PENELEC	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	50	0
40	Blairsville East	Transformer	PENELEC	(\$0.6)	(\$0.6)	\$0.0	\$0.1	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	53	6

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

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	(\$21.9)	(\$33.6)	(\$0.0)	\$11.7	\$1.6	(\$1.3)	\$0.1	\$3.0	\$14.7	1,255	735
2	5004/5005 Interface	Interface	500	(\$6.4)	(\$20.5)	(\$0.1)	\$14.0	\$0.4	(\$0.0)	\$0.1	\$0.5	\$14.5	806	294
3	Bedington - Black Oak	Interface	500	(\$3.8)	(\$5.8)	(\$0.0)	\$2.1	\$0.1	(\$0.0)	\$0.0	\$0.1	\$2.2	519	9
4	AEP-DOM	Interface	500	(\$4.4)	(\$6.3)	(\$0.0)	\$1.8	\$0.1	(\$0.1)	\$0.0	\$0.2	\$2.1	452	76
5	East Frankfort - Crete	Line	ComEd	\$2.0	\$2.5	\$0.0	(\$0.5)	(\$0.4)	\$0.1	(\$0.0)	(\$0.5)	(\$1.0)	835	419
6	Sammis - Wylie Ridge	Line	AP	\$0.3	\$1.1	\$0.0	(\$0.8)	(\$0.1)	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.8)	305	37
7	West	Interface	500	(\$0.3)	(\$0.9)	\$0.0	\$0.7	\$0.2	\$0.0	\$0.0	\$0.1	\$0.8	56	37
8	Homer City - Seward	Line	PENELEC	\$1.4	\$0.8	(\$0.0)	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	37	0
9	Mount Storm - Pruntytown	Line	AP	(\$0.6)	(\$1.0)	(\$0.0)	\$0.4	\$0.2	\$0.1	\$0.0	\$0.1	\$0.4	87	64
10	Seward	Transformer	PENELEC	\$0.8	\$0.4	(\$0.0)	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	22	0
11	Tiltonsville - Windsor	Line	AP	\$0.7	\$0.8	\$0.0	(\$0.1)	(\$0.2)	\$0.1	(\$0.0)	(\$0.2)	(\$0.4)	697	140
12	Altoona - Bear Rock	Line	PENELEC	(\$0.5)	(\$0.9)	(\$0.0)	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	16	0
13	Homer City - Johnstown	Line	PENELEC	\$0.9	\$0.6	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	32	0
14	Homer City	Transformer	PENELEC	\$0.7	\$0.4	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	80	0
15	Crescent	Transformer	DLCO	(\$0.6)	(\$0.7)	(\$0.0)	\$0.1	\$0.1	(\$0.1)	\$0.0	\$0.1	\$0.3	310	58
17	Garrett	Transformer	PENELEC	\$1.1	\$0.9	\$0.0	\$0.2	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.2	102	3
31	Keystone - Shelocta	Line	PENELEC	\$0.2	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	11	0
36	Deepcreek	Transformer	PENELEC	\$0.1	\$0.1	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	158	0
39	Homer City - Shelocta	Line	PENELEC	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.1	\$0.1	\$0.0	(\$0.0)	(\$0.0)	1	3
42	Roxbury - Shade Gap	Line	PENELEC	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	0	5

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

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	\$29.2	\$19.3	\$0.0	\$9.9	(\$1.2)	(\$1.2)	(\$0.6)	(\$0.6)	\$9.3	1,172	513
2	Bedington - Black Oak	Interface	500	\$7.8	\$5.0	\$0.0	\$2.8	\$0.0	\$0.0	\$0.0	\$0.0	\$2.8	576	0
3	Wylie Ridge	Transformer	AP	\$6.4	\$4.1	\$0.0	\$2.3	(\$0.1)	(\$0.2)	(\$0.1)	\$0.0	\$2.4	1,235	329
4	5004/5005 Interface	Interface	500	\$3.8	\$2.3	\$0.0	\$1.4	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	\$1.3	513	241
5	Crete - St Johns Tap	Flowgate	Midwest ISO	\$3.3	\$2.0	\$0.0	\$1.3	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	\$1.3	1,456	398
6	West	Interface	500	\$2.6	\$1.5	\$0.0	\$1.1	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$1.1	231	12
7	Susquehanna	Transformer	PPL	(\$1.4)	(\$0.8)	\$0.0	(\$0.6)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.6)	120	0
8	AEP-DOM	Interface	500	\$1.6	\$1.1	\$0.0	\$0.5	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.5	293	88
9	East	Interface	500	(\$1.3)	(\$0.9)	\$0.0	(\$0.4)	\$0.0	\$0.1	\$0.0	(\$0.1)	(\$0.5)	127	22
10	Cloverdale - Lexington	Line	AEP	\$0.8	\$0.5	\$0.0	\$0.3	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.0)	\$0.2	173	155
11	Wolfcreek	Transformer	AEP	\$0.7	\$0.4	\$0.0	\$0.3	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	\$0.2	729	94
12	Bristers - Ox	Line	Dominion	\$0.9	\$0.6	\$0.0	\$0.3	(\$0.3)	(\$0.2)	(\$0.0)	(\$0.1)	\$0.2	33	25
13	Doubs	Transformer	AP	\$0.9	\$0.5	\$0.0	\$0.4	(\$0.1)	\$0.1	(\$0.1)	(\$0.2)	\$0.2	38	51
14	Burches Hill	Transformer	Pepco	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.2)	8	44
15	Limerick	Transformer	PECO	(\$0.3)	(\$0.1)	\$0.0	(\$0.2)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	30	0
101	Buzzard - Ritchie	Line	Pepco	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	64	0
107	Dickerson - Quince Orchard	Line	Pepco	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	2	4
171	Benning	Transformer	Pepco	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	5	0

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

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	\$48.2	\$36.4	\$0.6	\$12.5	(\$1.0)	(\$0.4)	(\$0.8)	(\$1.5)	\$11.0	1,255	735
2	Bedington - Black Oak	Interface	500	\$9.7	\$6.8	\$0.2	\$3.1	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$3.1	519	9
3	AEP-DOM	Interface	500	\$8.0	\$6.5	\$0.1	\$1.5	(\$0.1)	(\$0.2)	(\$0.1)	\$0.0	\$1.5	452	76
4	5004/5005 Interface	Interface	500	\$4.4	\$3.0	\$0.2	\$1.5	(\$0.1)	\$0.0	(\$0.1)	(\$0.2)	\$1.3	806	294
5	Bowie	Line	Pepco	\$2.3	\$1.1	\$0.1	\$1.3	\$0.0	\$0.0	\$0.0	\$0.0	\$1.3	44	0
6	East Frankfort - Crete	Line	ComEd	\$2.1	\$1.3	\$0.0	\$0.8	(\$0.2)	(\$0.0)	(\$0.0)	(\$0.2)	\$0.6	835	419
7	Mount Storm - Pruntytown	Line	AP	\$1.5	\$1.0	\$0.0	\$0.5	(\$0.2)	(\$0.3)	(\$0.0)	\$0.1	\$0.6	87	64
8	Benning - Ritchie	Line	Pepco	\$0.6	\$0.2	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	19	0
9	Sammis - Wylie Ridge	Line	AP	\$0.9	\$0.6	\$0.0	\$0.3	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	\$0.4	305	37
10	Bowie	Transformer	Pepco	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.4	(\$0.1)	(\$0.3)	(\$0.3)	0	9
11	Tiltonsville - Windsor	Line	AP	\$0.8	\$0.5	\$0.0	\$0.3	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	\$0.2	697	140
12	Harrison - Pruntytown	Line	500	\$0.5	\$0.4	\$0.0	\$0.1	(\$0.1)	(\$0.3)	(\$0.0)	\$0.1	\$0.2	75	85
13	Athenia - Saddlebrook	Line	PSEG	(\$0.1)	(\$0.1)	(\$0.0)	(\$0.1)	\$0.1	(\$0.1)	\$0.2	\$0.3	\$0.2	1,779	273
14	Burtonsville - Metzertott Rd.	Line	Pepco	\$0.3	\$0.1	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	17	0
15	Doubs	Transformer	AP	\$0.5	\$0.3	\$0.0	\$0.2	(\$0.1)	\$0.2	(\$0.1)	(\$0.4)	(\$0.2)	75	33
32	Dickerson - Pleasant View	Line	Pepco	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	53	3
34	Burches Hill - Talbert	Line	Pepco	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	1	13
54	Buzzard - Ritchie	Line	Pepco	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	16	0

**PPL Control Zone****Table 7-39 PPL Control Zone top congestion cost impacts (By facility): January through March 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	Susquehanna	Transformer	PPL	\$12.6	\$2.7	\$0.0	\$9.9	\$0.0	\$0.0	\$0.0	\$0.0	\$9.9	120	0
2	5004/5005 Interface	Interface	500	\$28.2	\$36.8	\$0.0	(\$8.6)	\$1.4	(\$0.3)	(\$0.3)	\$1.4	(\$7.2)	513	241
3	Wylie Ridge	Transformer	AP	\$8.9	\$11.5	\$0.0	(\$2.6)	\$0.5	(\$0.0)	(\$0.1)	\$0.5	(\$2.1)	1,235	329
4	Susquehanna	Transformer	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	(\$1.3)	(\$0.2)	\$1.7	\$1.7	0	52
5	West	Interface	500	\$4.4	\$5.7	\$0.0	(\$1.3)	\$0.0	(\$0.1)	(\$0.0)	\$0.1	(\$1.2)	231	12
6	AP South	Interface	500	\$0.1	(\$1.0)	\$0.0	\$1.1	\$0.1	\$0.1	\$0.0	\$0.0	\$1.1	1,172	513
7	Crete - St Johns Tap	Flowgate	Midwest ISO	\$3.4	\$4.5	(\$0.0)	(\$1.1)	\$0.1	\$0.0	(\$0.0)	\$0.1	(\$0.9)	1,456	398
8	East	Interface	500	(\$0.0)	(\$0.9)	\$0.0	\$0.9	\$0.0	\$0.0	\$0.1	\$0.1	\$0.9	127	22
9	Cedar Grove - Roseland	Line	PSEG	(\$1.9)	(\$2.3)	\$0.0	\$0.4	(\$0.1)	(\$0.0)	\$0.0	(\$0.1)	\$0.4	713	26
10	South Mahwah - Waldwick	Line	PSEG	\$1.0	\$1.2	\$0.0	(\$0.2)	\$0.1	\$0.1	(\$0.1)	(\$0.1)	(\$0.3)	1,730	203
11	Central	Interface	500	\$0.6	\$0.8	\$0.0	(\$0.2)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	45	0
12	Benton Harbor - Palisades	Flowgate	Midwest ISO	\$0.2	\$0.2	\$0.0	(\$0.1)	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.1	0	46
13	Burches Hill	Transformer	Pepco	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	(\$0.0)	(\$0.0)	\$0.2	\$0.1	8	44
14	Wolfcreek	Transformer	AEP	\$0.7	\$0.9	\$0.0	(\$0.2)	\$0.1	(\$0.0)	(\$0.0)	\$0.1	(\$0.1)	729	94
15	Plymouth Meeting - Whitpain	Line	PECO	(\$0.7)	(\$0.9)	\$0.0	\$0.2	(\$0.1)	\$0.0	\$0.0	(\$0.1)	\$0.1	86	65
23	Blooming Grove - Peckville	Line	PPL	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	9	0
50	Wescosville	Transformer	PPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	0	1

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

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	5004/5005 Interface	Interface	500	\$19.1	\$24.2	\$0.5	(\$4.6)	\$0.3	\$0.3	(\$0.2)	(\$0.1)	(\$4.7)	806	294
2	Susquehanna	Transformer	PPL	\$1.0	\$0.3	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	36	0
3	AP South	Interface	500	\$1.1	\$0.7	\$0.2	\$0.5	\$0.1	(\$0.1)	(\$0.1)	\$0.1	\$0.6	1,255	735
4	East Frankfort - Crete	Line	ComEd	\$1.6	\$2.1	\$0.0	(\$0.5)	\$0.1	\$0.0	(\$0.0)	\$0.1	(\$0.3)	835	419
5	Sammis - Wylie Ridge	Line	AP	\$0.8	\$1.0	\$0.0	(\$0.2)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.3)	305	37
6	West	Interface	500	\$1.1	\$1.3	\$0.0	(\$0.1)	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	(\$0.2)	56	37
7	Bedington - Black Oak	Interface	500	\$0.5	\$0.4	\$0.0	\$0.2	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.2	519	9
8	Hawthorn - Waldwick	Line	PSEG	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	(\$0.1)	454	36
9	Tiltonsville - Windsor	Line	AP	\$0.5	\$0.7	\$0.0	(\$0.1)	\$0.1	\$0.0	(\$0.0)	\$0.0	(\$0.1)	697	140
10	Baker - Broadford	Line	AEP	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.1	10	74
11	Athenia - Saddlebrook	Line	PSEG	(\$1.8)	(\$2.0)	(\$0.0)	\$0.1	(\$0.1)	\$0.1	\$0.1	(\$0.1)	\$0.1	1,779	273
12	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.3	\$0.3	(\$0.0)	(\$0.1)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	142	3
13	Rising	Flowgate	Midwest ISO	\$0.2	\$0.3	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	582	32
14	Crescent	Transformer	DLCO	(\$0.3)	(\$0.4)	(\$0.0)	\$0.1	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	310	58
15	Graceton - Safe Harbor	Line	BGE	(\$0.2)	(\$0.2)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.0	15	1
36	Wescosville	Transformer	PPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	6	0

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

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Load Payments	Day Ahead			Total	Balancing			Grand Total	Event Hours	
					Generation Credits	Explicit	Load Payments		Generation Credits	Explicit	Total		Day Ahead	Real Time
1	Cedar Grove - Roseland	Line	PSEG	\$6.0	\$0.9	\$0.0	\$5.1	(\$0.1)	\$0.6	(\$0.1)	(\$0.7)	\$4.4	713	26
2	AP South	Interface	500	(\$0.8)	\$1.9	\$0.0	(\$2.7)	\$0.1	(\$0.3)	(\$0.7)	(\$0.4)	(\$3.0)	1,172	513
3	5004/5005 Interface	Interface	500	\$17.0	\$16.4	\$0.0	\$0.6	\$0.1	\$2.8	(\$0.6)	(\$3.3)	(\$2.7)	513	241
4	South Mahwah - Waldwick	Line	PSEG	\$9.0	\$1.7	\$0.0	\$7.3	(\$0.9)	\$2.5	(\$5.8)	(\$9.2)	(\$1.9)	1,730	203
5	Wylie Ridge	Transformer	AP	\$6.3	\$6.6	\$0.0	(\$0.3)	\$0.0	\$0.9	(\$0.2)	(\$1.1)	(\$1.4)	1,235	329
6	Susquehanna	Transformer	PPL	\$1.2	(\$0.1)	\$0.0	\$1.3	\$0.0	\$0.0	\$0.0	\$0.0	\$1.3	120	0
7	East	Interface	500	\$2.8	\$3.4	\$0.0	(\$0.5)	(\$0.1)	\$0.5	(\$0.1)	(\$0.7)	(\$1.3)	127	22
8	Branchburg - Readington	Line	PSEG	\$1.3	\$0.0	\$0.0	\$1.3	(\$0.1)	\$0.3	(\$0.0)	(\$0.4)	\$0.9	150	26
9	Branchburg - Flagtown	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.7)	(\$0.7)	(\$0.7)	0	0
10	Roseland - West Caldwell	Line	PSEG	\$1.0	\$0.1	\$0.0	\$1.0	(\$0.0)	\$0.2	(\$0.1)	(\$0.3)	\$0.7	71	10
11	Bedington - Black Oak	Interface	500	\$0.3	\$1.0	\$0.0	(\$0.6)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.6)	576	0
12	Montville - Roseland	Line	PSEG	\$0.7	\$0.2	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	44	0
13	Plymouth Meeting - Whippain	Line	PECO	(\$0.2)	\$0.4	\$0.0	(\$0.6)	\$0.0	(\$0.1)	(\$0.0)	\$0.1	(\$0.5)	86	65
14	Bradford - Planebrook	Line	PECO	\$0.5	(\$0.0)	\$0.0	\$0.5	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.5	61	28
15	Limerick	Transformer	PECO	\$0.5	\$0.1	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	30	0
20	Waldwick	Transformer	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.2)	(\$0.3)	(\$0.3)	0	7
21	Cedar Grove - Clifton	Line	PSEG	\$0.3	\$0.0	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	62	0
22	Susquehanna	Transformer	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.1	(\$0.1)	(\$0.2)	(\$0.2)	0	52
23	Bridgewater - Middlesex	Line	PSEG	(\$0.1)	\$0.0	\$0.0	(\$0.2)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.2)	377	19
29	Cook Rd - West Caldwell	Line	PSEG	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	13	0

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

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	Hawthorn - Waldwick	Line	PSEG	\$0.1	(\$0.0)	(\$0.0)	\$0.0	(\$0.7)	\$1.1	(\$1.6)	(\$3.4)	(\$3.4)	454	36
2	AP South	Interface	500	\$0.2	\$2.4	\$1.1	(\$1.1)	\$0.1	(\$0.2)	(\$0.9)	(\$0.6)	(\$1.7)	1,255	735
3	Hawthorn - Hinchmans Ave	Line	PSEG	(\$0.0)	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.1)	\$0.4	(\$0.9)	(\$1.4)	(\$1.6)	209	35
4	5004/5005 Interface	Interface	500	\$12.0	\$12.6	\$1.2	\$0.6	(\$0.1)	\$0.7	(\$0.5)	(\$1.4)	(\$0.8)	806	294
5	Bayonne - PVSC	Line	PSEG	\$0.0	(\$0.4)	\$0.1	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	507	0
6	Branchburg - Readington	Line	PSEG	\$0.5	\$0.0	\$0.1	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	180	0
7	Hudson - Marion	Line	PSEG	\$0.3	\$0.1	\$0.2	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	170	0
8	Graceton - Raphael Road	Line	BGE	(\$0.3)	(\$0.4)	(\$0.0)	\$0.0	\$0.2	(\$0.1)	\$0.1	\$0.4	\$0.4	34	25
9	East Frankfort - Crete	Line	ComEd	\$1.3	\$1.4	\$0.0	(\$0.0)	(\$0.1)	\$0.2	(\$0.1)	(\$0.3)	(\$0.4)	835	419
10	Pleasant Prairie - Zion	Flowgate	Midwest ISO	(\$0.0)	(\$0.0)	\$0.1	\$0.1	(\$0.0)	\$0.0	(\$0.5)	(\$0.5)	(\$0.4)	556	110
11	Athenia - Saddlebrook	Line	PSEG	\$9.4	\$1.3	\$5.3	\$13.4	(\$6.5)	\$2.7	(\$4.6)	(\$13.7)	(\$0.4)	1,779	273
12	West	Interface	500	\$0.8	\$0.8	\$0.1	\$0.1	(\$0.1)	\$0.2	(\$0.1)	(\$0.4)	(\$0.4)	56	37
13	Bedington - Black Oak	Interface	500	\$0.3	\$0.8	\$0.3	(\$0.3)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.3)	519	9
14	Saddlebrook	Transformer	PSEG	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	308	0
15	Atlantic - Larrabee	Line	JCPL	\$0.1	(\$0.1)	\$0.0	\$0.2	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.2	88	6
16	Fairlawn - Waldwick	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	(\$0.2)	(\$0.2)	0	4
18	Fairlawn - Saddlebrook	Line	PSEG	\$0.2	\$0.1	\$0.3	\$0.4	(\$0.0)	\$0.1	(\$0.4)	(\$0.5)	(\$0.2)	209	16
19	Hudson	Transformer	PSEG	\$0.1	\$0.0	\$0.1	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	30	0
20	Bayway - Federal Square	Line	PSEG	\$0.1	(\$0.1)	\$0.0	\$0.2	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.2	109	1
22	Linden - North Ave	Line	PSEG	\$0.1	(\$0.1)	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.1	66	1

**RECO Control Zone****Table 7-43 RECO Control Zone top congestion cost impacts (By facility): January through March 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	(\$0.7)	(\$0.2)	\$0.0	(\$0.5)	\$0.0	\$0.3	\$0.0	(\$0.3)	(\$0.8)	1,730	203
2	5004/5005 Interface	Interface	500	\$0.7	\$0.1	\$0.0	\$0.6	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.6	513	241
3	Cedar Grove - Roseland	Line	PSEG	\$0.3	\$0.1	\$0.0	\$0.2	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.2	713	26
4	Wylie Ridge	Transformer	AP	\$0.2	\$0.1	\$0.0	\$0.2	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.2	1,235	329
5	West	Interface	500	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.1	231	12
6	Crete - St Johns Tap	Flowgate	Midwest ISO	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.1	1,456	398
7	East	Interface	500	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.1	127	22
8	Branchburg - Readington	Line	PSEG	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	150	26
9	AP South	Interface	500	(\$0.1)	(\$0.0)	\$0.0	(\$0.1)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.1)	1,172	513
10	Susquehanna	Transformer	PPL	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	120	0
11	Roseland - West Caldwell	Line	PSEG	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	71	10
12	Montville - Roseland	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	44	0
13	Wolfcreek	Transformer	AEP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	729	94
14	Doubs	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	38	51
15	Plymouth Meeting - Whippain	Line	PECO	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	86	65

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

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	\$0.4	\$0.1	\$0.0	\$0.3	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.4	806	294
2	Athenia - Saddlebrook	Line	PSEG	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.2	1,779	273
3	AP South	Interface	500	(\$0.1)	(\$0.0)	\$0.0	(\$0.1)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.1)	1,255	735
4	Hawthorn - Hinchmans Ave	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.1)	209	35
5	Hawthorn - Waldwick	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.1)	454	36
6	East Frankfort - Crete	Line	ComEd	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	835	419
7	West	Interface	500	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	56	37
8	Tiltonsville - Windsor	Line	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	697	140
9	Fairlawn - Saddlebrook	Line	PSEG	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	209	16
10	AEP-DOM	Interface	500	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	452	76
11	Crescent	Transformer	DLCO	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	310	58
12	Graceton - Raphael Road	Line	BGE	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	34	25
13	Fairlawn - Waldwick	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	0	4
14	Doubs	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	75	33
15	Sammis - Wylie Ridge	Line	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	305	37

## Western Region Congestion-Event Summaries

### AEP Control Zone

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

Congestion Costs (Millions)														
No.	Constraint	Type	Location	Load Payments	Day Ahead			Balancing				Event Hours		
					Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	AP South	Interface	500	(\$12.5)	(\$33.1)	\$0.0	\$20.6	(\$0.6)	\$2.7	\$1.0	(\$2.3)	\$18.3	1,172	513
2	Belmont	Transformer	AP	\$6.8	(\$5.4)	\$0.0	\$12.2	(\$0.8)	(\$0.2)	(\$1.5)	(\$2.1)	\$10.1	1,543	105
3	5004/5005 Interface	Interface	500	(\$14.4)	(\$23.2)	\$0.0	\$8.8	\$0.1	\$1.1	\$0.6	(\$0.4)	\$8.5	513	241
4	AEP-DOM	Interface	500	\$1.8	(\$6.2)	\$0.0	\$8.0	(\$0.1)	\$0.4	(\$0.2)	(\$0.7)	\$7.3	293	88
5	Bedington - Black Oak	Interface	500	(\$3.3)	(\$7.5)	\$0.0	\$4.2	\$0.0	\$0.0	\$0.0	\$0.0	\$4.2	576	0
6	Wylie Ridge	Transformer	AP	(\$8.6)	(\$13.2)	\$0.0	\$4.6	(\$0.1)	\$0.8	\$0.5	(\$0.4)	\$4.2	1,235	329
7	Wolfcreek	Transformer	AEP	(\$0.3)	(\$2.9)	\$0.0	\$2.6	(\$0.2)	(\$0.0)	(\$0.4)	(\$0.5)	\$2.1	729	94
8	Baker - Broadford	Line	AEP	\$0.2	(\$0.4)	\$0.0	\$0.6	\$0.0	\$1.2	(\$1.1)	(\$2.3)	(\$1.6)	8	20
9	West	Interface	500	(\$2.8)	(\$4.0)	\$0.0	\$1.3	\$0.0	\$0.0	\$0.0	(\$0.0)	\$1.3	231	12
10	Carnegie - Tidd	Line	AEP	(\$0.4)	(\$1.1)	\$0.0	\$0.6	\$0.1	(\$0.0)	\$0.4	\$0.5	\$1.2	323	202
11	Carnegie - Tidd	Line	AECO	(\$0.4)	(\$1.4)	\$0.0	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	388	0
12	Susquehanna	Transformer	PPL	(\$1.2)	(\$2.0)	\$0.0	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.9	120	0
13	Benton Harbor - Palisades	Flowgate	Midwest ISO	\$0.0	(\$0.3)	\$0.0	\$0.3	\$0.0	\$0.3	(\$0.2)	(\$0.5)	(\$0.2)	0	46
14	Crete - St Johns Tap	Flowgate	Midwest ISO	\$4.9	\$5.9	\$0.0	(\$1.0)	(\$0.0)	(\$0.1)	\$0.3	\$0.4	(\$0.6)	1,456	398
15	Cloverdale - Lexington	Line	AEP	(\$1.1)	(\$1.4)	\$0.0	\$0.3	\$0.8	\$0.7	\$0.2	\$0.2	\$0.5	173	155
20	Brues - West Bellaire	Line	AEP	\$0.7	(\$0.0)	\$0.0	\$0.7	(\$0.4)	\$0.5	(\$0.1)	(\$1.0)	(\$0.3)	79	71
23	Conesville Prep - Conesville	Line	AEP	(\$0.0)	(\$0.3)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	218	0
42	Kanawha - Kincaid	Line	AEP	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	18	0
43	Cloverdale - Ivy Hill	Line	AEP	\$0.1	(\$0.1)	\$0.0	\$0.2	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	\$0.1	24	18
46	Moseley - Roanoke	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	(\$0.1)	0	2

**Table 7-46 AEP Control Zone top congestion cost impacts (By facility): January through March 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	AEP-DOM	Interface	500	\$7.5	(\$20.0)	\$1.0	\$28.4	(\$0.0)	(\$0.3)	\$0.0	\$0.3	\$28.7	452	76	
2	AP South	Interface	500	(\$13.8)	(\$37.4)	\$0.2	\$23.8	(\$3.1)	\$1.3	\$0.6	(\$3.8)	\$19.9	1,255	735	
3	Baker - Broadford	Line	AEP	\$0.1	(\$0.2)	\$0.0	\$0.3	(\$1.5)	\$1.0	(\$3.5)	(\$5.9)	(\$5.6)	10	74	
4	5004/5005 Interface	Interface	500	(\$8.9)	(\$14.0)	(\$0.2)	\$4.8	(\$0.6)	\$0.8	\$0.2	(\$1.2)	\$3.7	806	294	
5	Bedington - Black Oak	Interface	500	(\$2.9)	(\$6.1)	(\$0.0)	\$3.1	(\$0.1)	(\$0.1)	\$0.0	\$0.0	\$3.2	519	9	
6	Kanawha River	Transformer	AEP	\$2.1	(\$0.2)	\$0.3	\$2.6	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$2.6	158	11	
7	Kanawha - Kincaid	Line	AEP	\$1.4	(\$0.7)	\$0.2	\$2.3	\$0.0	\$0.0	\$0.0	\$0.0	\$2.3	207	0	
8	Culloden - Wyoming	Line	AEP	\$0.6	(\$0.8)	\$0.5	\$1.9	\$0.0	\$0.0	\$0.0	\$0.0	\$1.9	46	0	
9	Sullivan	Transformer	AEP	(\$0.0)	(\$1.0)	(\$0.0)	\$1.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.9	154	35	
10	Mount Storm - Pruntytown	Line	AP	(\$0.4)	(\$1.2)	\$0.0	\$0.8	(\$0.2)	\$0.1	\$0.0	(\$0.3)	\$0.5	87	64	
11	Pleasant Prairie - Zion	Flowgate	Midwest ISO	\$0.0	\$0.0	\$0.4	\$0.4	\$0.0	(\$0.0)	(\$0.9)	(\$0.9)	(\$0.5)	556	110	
12	East Frankfort - Crete	Line	ComEd	\$2.6	\$2.3	\$0.4	\$0.7	\$0.1	(\$0.1)	(\$0.5)	(\$0.2)	\$0.5	835	419	
13	Rising	Flowgate	Midwest ISO	\$0.3	\$0.7	\$0.0	(\$0.4)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.4)	582	32	
14	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.7	\$0.4	(\$0.0)	\$0.3	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.3	142	3	
15	Kanawha River - Kincaid	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	(\$0.1)	(\$0.0)	(\$0.3)	(\$0.3)	0	48	
16	Ruth - Turner	Line	AEP	\$0.1	(\$0.2)	\$0.0	\$0.3	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.3	18	11	
17	Cloverdale - Lexington	Line	AEP	(\$0.7)	(\$0.8)	(\$0.0)	\$0.0	(\$0.0)	\$0.3	\$0.1	(\$0.3)	(\$0.3)	154	97	
19	Kammer	Transformer	AEP	\$0.1	(\$0.2)	\$0.0	\$0.3	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$0.2	33	11	
25	Sporn - Kyger Creek	Line	AEP	(\$0.0)	(\$0.0)	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	31	0	
32	Kanawha River - Bradley	Line	AEP	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	7	0	

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

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	(\$11.6)	(\$46.2)	\$0.0	\$34.6	\$2.2	\$2.8	\$4.8	\$4.1	\$38.7	1,172	513
2	Belmont	Transformer	AP	\$11.5	(\$1.3)	\$0.0	\$12.8	(\$1.0)	(\$0.1)	(\$0.5)	(\$1.4)	\$11.5	1,543	105
3	5004/5005 Interface	Interface	500	(\$14.8)	(\$22.6)	\$0.0	\$7.8	\$1.0	\$0.8	\$2.4	\$2.5	\$10.3	513	241
4	Bedington - Black Oak	Interface	500	(\$2.2)	(\$10.3)	\$0.0	\$8.1	\$0.0	\$0.0	\$0.0	\$0.0	\$8.1	576	0
5	Wylie Ridge	Transformer	AP	\$4.9	\$7.5	\$0.0	(\$2.7)	(\$0.1)	(\$0.3)	(\$3.0)	(\$2.7)	(\$5.4)	1,235	329
6	AEP-DOM	Interface	500	(\$0.5)	(\$2.1)	\$0.0	\$1.6	\$0.0	\$0.0	\$0.3	\$0.3	\$1.9	293	88
7	Wolfcreek	Transformer	AEP	\$2.1	\$3.3	\$0.0	(\$1.2)	(\$0.2)	(\$0.1)	(\$0.3)	(\$0.3)	(\$1.6)	729	94
8	South Mahwah - Waldwick	Line	PSEG	(\$1.2)	(\$1.2)	\$0.0	\$0.1	\$0.1	\$0.2	(\$0.9)	(\$0.9)	(\$0.9)	1,730	203
9	Butler - Karns City	Line	AP	\$1.4	\$0.9	\$0.0	\$0.5	(\$0.1)	(\$0.3)	\$0.0	\$0.3	\$0.8	369	44
10	Doubs	Transformer	AP	\$0.3	(\$0.3)	\$0.0	\$0.6	\$0.1	\$0.1	\$0.1	\$0.1	\$0.7	38	51
11	Carnegie - Tidd	Line	AECO	\$0.8	\$0.1	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	388	0
12	Tiltonsville - Windsor	Line	AP	\$1.3	\$0.4	\$0.0	\$0.9	(\$0.1)	(\$0.0)	(\$0.2)	(\$0.3)	\$0.6	223	45
13	Carnegie - Tidd	Line	AEP	\$1.2	\$0.3	\$0.0	\$0.9	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.2)	\$0.6	323	202
14	Hamilton - Weirton	Line	AP	\$0.9	\$0.3	\$0.0	\$0.6	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$0.6	138	3
15	West	Interface	500	(\$3.0)	(\$3.4)	\$0.0	\$0.4	\$0.0	\$0.0	\$0.1	\$0.1	\$0.5	231	12
19	Collinsf - Osage	Line	AP	\$0.2	(\$0.1)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	54	0
22	Kingwood - Pruntytown	Line	AP	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$0.2	34	2
23	Bedington	Transformer	AP	\$0.1	(\$0.1)	\$0.0	\$0.2	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.2	10	5
27	Kingsfarm - Sony	Line	AP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.0	\$0.0	(\$0.1)	(\$0.1)	0	2
28	Armstrong - Burma	Line	AP	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	8	15

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

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	(\$13.2)	(\$53.0)	(\$4.2)	\$35.6	\$2.3	\$2.3	\$4.5	\$4.5	\$40.1	1,255	735
2	Bedington - Black Oak	Interface	500	(\$2.0)	(\$8.6)	(\$0.2)	\$6.3	\$0.3	(\$0.1)	\$0.1	\$0.4	\$6.7	519	9
3	AEP-DOM	Interface	500	(\$2.1)	(\$7.8)	\$0.3	\$6.0	\$0.2	(\$0.2)	(\$0.1)	\$0.4	\$6.4	452	76
4	5004/5005 Interface	Interface	500	(\$8.9)	(\$13.0)	(\$0.6)	\$3.6	\$0.4	\$0.7	\$0.4	\$0.2	\$3.7	806	294
5	Mount Storm - Pruntytown	Line	AP	(\$0.3)	(\$1.6)	(\$0.0)	\$1.3	\$0.2	(\$0.2)	\$0.1	\$0.4	\$1.7	87	64
6	Tiltonsville - Windsor	Line	AP	\$2.3	\$0.7	\$0.2	\$1.8	(\$0.3)	(\$0.1)	(\$0.3)	(\$0.5)	\$1.3	697	140
7	Harrisonburg - Endless Caverns	Line	Dominion	\$0.7	\$0.1	\$0.2	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	128	0
8	Albright - Snowy Creek	Line	AP	\$0.6	(\$0.1)	\$0.0	\$0.7	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.7	226	2
9	Pruntytown	Transformer	AP	\$0.6	(\$0.1)	(\$0.0)	\$0.7	(\$0.1)	(\$0.1)	\$0.1	\$0.1	\$0.7	62	21
10	Pleasant Prairie - Zion	Flowgate	Midwest ISO	(\$0.0)	(\$0.0)	\$0.2	\$0.2	\$0.0	(\$0.0)	(\$0.7)	(\$0.7)	(\$0.5)	556	110
11	Nipetown - Reid	Line	AP	(\$0.0)	(\$0.5)	\$0.0	\$0.5	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.5	75	18
12	Endless Caverns	Transformer	Dominion	\$0.4	\$0.1	\$0.1	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	75	0
13	Dutch Fork - Windsor	Line	AP	\$0.4	\$0.1	\$0.1	\$0.4	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.4	119	3
14	Hamilton - Weirton	Line	AP	\$0.6	\$0.2	\$0.0	\$0.4	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.4	86	12
15	Hawthorn - Waldwick	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.3)	(\$0.3)	(\$0.3)	454	36
17	Messic Road - Morgan	Line	AP	(\$0.3)	(\$0.6)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	172	0
19	Kingwood - Pruntytown	Line	AP	\$0.2	(\$0.0)	\$0.0	\$0.3	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.3	62	9
21	Middlebourne - Willow	Line	AP	\$0.2	(\$0.0)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	58	0
22	Bedington - Shepherdstown	Line	AP	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	68	0
23	New Martinsville - Paden City	Line	AP	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	\$0.0	(\$0.1)	(\$0.2)	(\$0.2)	23	26

**ComEd Control Zone****Table 7-49 ComEd Control Zone top congestion cost impacts (By facility): January through March 2011 (See 2010 SOM, Table 7-47)**

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	Crete - St Johns Tap	Flowgate	Midwest ISO	(\$33.8)	(\$48.0)	(\$0.1)	\$14.2	\$3.8	\$1.4	\$3.2	\$5.6	\$19.7	1,456	398
2	AP South	Interface	500	(\$26.9)	(\$34.7)	\$0.0	\$7.8	\$3.9	\$0.9	\$0.2	\$3.3	\$11.1	1,172	513
3	5004/5005 Interface	Interface	500	(\$20.9)	(\$27.0)	\$0.0	\$6.1	\$1.6	\$0.7	\$0.4	\$1.3	\$7.4	513	241
4	Pleasant Prairie - Zion	Flowgate	Midwest ISO	\$0.2	(\$0.7)	\$0.0	\$0.8	(\$0.0)	(\$0.0)	(\$5.6)	(\$5.6)	(\$4.8)	593	140
5	Wylie Ridge	Transformer	AP	(\$12.4)	(\$16.0)	\$0.0	\$3.6	\$1.4	\$0.3	(\$0.1)	\$1.0	\$4.6	1,235	329
6	Lakeview - Pleasant Prairie	Flowgate	Midwest ISO	\$0.2	\$0.1	\$0.0	\$0.1	(\$0.1)	\$0.0	(\$3.5)	(\$3.7)	(\$3.6)	24	164
7	Electric Jct - Nelson	Line	ComEd	\$0.3	(\$5.0)	\$0.0	\$5.3	\$0.0	\$0.2	(\$2.5)	(\$2.7)	\$2.6	447	39
8	Benton Harbor - Palisades	Flowgate	Midwest ISO	(\$0.7)	(\$0.9)	\$0.0	\$0.2	\$0.8	(\$0.1)	\$1.3	\$2.3	\$2.5	0	46
9	Bedington - Black Oak	Interface	500	(\$6.2)	(\$8.2)	\$0.0	\$2.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.0	576	0
10	Cherry Valley	Transformer	ComEd	\$0.7	(\$1.2)	\$0.0	\$1.9	\$0.0	\$0.0	(\$0.1)	(\$0.1)	\$1.8	325	10
11	West	Interface	500	(\$4.1)	(\$5.3)	\$0.0	\$1.2	\$0.1	\$0.0	\$0.0	\$0.1	\$1.3	231	12
12	Pleasant Valley - Belvidere	Line	ComEd	(\$0.1)	(\$1.8)	\$0.0	\$1.7	\$0.0	\$0.1	(\$0.3)	(\$0.4)	\$1.3	220	40
13	Belmont	Transformer	AP	(\$3.5)	(\$4.4)	(\$0.0)	\$0.9	\$0.3	\$0.1	\$0.1	\$0.3	\$1.2	1,543	105
14	Cloverdale - Lexington	Line	AEP	(\$1.2)	(\$1.6)	\$0.0	\$0.4	\$1.2	\$0.5	\$0.1	\$0.7	\$1.1	173	155
15	Oak Grove - Galesburg	Flowgate	Midwest ISO	(\$0.1)	(\$0.4)	\$0.0	\$0.3	(\$0.0)	\$0.2	(\$1.2)	(\$1.4)	(\$1.1)	52	62
19	East Frankfort - Crete	Line	ComEd	(\$1.4)	(\$2.2)	\$0.0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	288	1
25	Belvidere - Woodstock	Line	ComEd	\$0.0	(\$0.5)	\$0.0	\$0.5	(\$0.0)	\$0.0	(\$0.1)	(\$0.1)	\$0.4	68	12
28	Zion - Lakeview	Line	ComEd	\$0.1	(\$0.2)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	166	0
31	Zion	Line	ComEd	\$0.1	(\$0.2)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	432	0
32	Electric Junction - Aurora	Line	ComEd	\$0.3	(\$0.0)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	14	0

**Table 7-50 ComEd Control Zone top congestion cost impacts (By facility): January through March 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	AP South	Interface	500	(\$28.0)	(\$43.6)	(\$0.3)	\$15.4	(\$1.0)	\$0.2	\$0.0	(\$1.3)	\$14.1	1,255	735	
2	East Frankfort - Crete	Line	ComEd	(\$12.7)	(\$25.6)	(\$0.6)	\$12.3	(\$2.0)	\$0.6	\$0.0	(\$2.5)	\$9.8	835	419	
3	5004/5005 Interface	Interface	500	(\$11.2)	(\$18.1)	(\$0.0)	\$6.8	(\$0.3)	(\$0.2)	(\$0.0)	(\$0.2)	\$6.7	806	294	
4	AEP-DOM	Interface	500	(\$10.3)	(\$16.3)	(\$0.4)	\$5.6	(\$0.1)	(\$0.2)	(\$0.0)	\$0.1	\$5.7	452	76	
5	Rising	Flowgate	Midwest ISO	(\$1.9)	(\$5.8)	(\$0.0)	\$3.9	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$3.9	582	32	
6	Bedington - Black Oak	Interface	500	(\$4.6)	(\$7.9)	(\$0.0)	\$3.2	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$3.2	519	9	
7	Waterman - West Dekalb	Line	ComEd	(\$0.4)	(\$2.2)	\$0.1	\$1.9	\$0.2	\$0.2	(\$0.0)	(\$0.0)	\$1.9	812	159	
8	Dunes Acres - Michigan City	Flowgate	Midwest ISO	(\$2.4)	(\$3.6)	(\$0.1)	\$1.1	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$1.1	142	3	
9	Pleasant Valley - Belvidere	Line	ComEd	(\$0.6)	(\$2.7)	\$0.1	\$2.2	(\$0.1)	\$0.8	(\$0.3)	(\$1.2)	\$1.0	274	69	
10	Tiltonsville - Windsor	Line	AP	(\$1.3)	(\$2.1)	(\$0.0)	\$0.8	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.8	697	140	
11	Sammis - Wylie Ridge	Line	AP	(\$1.1)	(\$1.9)	(\$0.0)	\$0.8	(\$0.0)	\$0.0	\$0.0	(\$0.1)	\$0.7	305	37	
12	Burnham - Munster	Line	ComEd	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.6	(\$0.0)	(\$0.7)	(\$0.7)	0	82	
13	Glidden - West Dekalb	Line	ComEd	(\$0.0)	(\$0.6)	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	108	0	
14	Pleasant Prairie - Zion	Flowgate	Midwest ISO	\$0.2	(\$2.7)	\$0.6	\$3.5	\$0.3	\$0.8	(\$2.4)	(\$2.9)	\$0.6	556	110	
15	Davis	Transformer	ComEd	\$0.1	(\$0.4)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	55	0	
25	Wilton Center	Transformer	ComEd	(\$0.3)	(\$0.4)	(\$0.0)	\$0.2	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.2	23	6	
31	Belvidere - Woodstock	Line	ComEd	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	7	0	
36	Waukegan - Zion	Line	ComEd	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	12	0	
49	Silver Lake	Transformer	ComEd	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	17	0	
57	Powerton	Line	ComEd	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	23	0	

**DAY Control Zone****Table 7-51 DAY Control Zone top congestion cost impacts (By facility): January through March 2011 (See 2010 SOM, Table 7-49)**

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	Pierce - East Bend	Flowgate	Midwest ISO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.4)	(\$0.4)	(\$0.4)	0	2
2	West	Interface	500	(\$0.2)	(\$0.5)	\$0.0	\$0.3	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.3	231	12
3	Cloverdale - Lexington	Line	AEP	(\$0.1)	(\$0.1)	\$0.0	\$0.0	\$0.1	\$0.4	\$0.0	(\$0.3)	(\$0.3)	173	155
4	Wolfcreek	Transformer	AEP	(\$0.1)	(\$0.4)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.2	729	94
5	AEP-DOM	Interface	500	(\$0.2)	(\$0.5)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	293	88
6	5004/5005 Interface	Interface	500	(\$1.6)	(\$1.6)	\$0.0	\$0.0	\$0.0	\$0.3	\$0.1	(\$0.2)	(\$0.2)	513	241
7	Pierce - Foster	Flowgate	Midwest ISO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.2)	0	4
8	Bedington - Black Oak	Interface	500	(\$0.5)	(\$0.6)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	576	0
9	Branchburg - Flagtown	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	(\$0.2)	(\$0.2)	0	0
10	Susquehanna	Transformer	PPL	(\$0.1)	(\$0.3)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	120	0
11	Benton Harbor - Palisades	Flowgate	Midwest ISO	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	(\$0.1)	(\$0.1)	0	46
12	Wylie Ridge	Transformer	AP	(\$0.9)	(\$1.2)	\$0.0	\$0.2	\$0.0	\$0.2	\$0.1	(\$0.1)	\$0.1	1,235	329
13	South Mahwah - Waldwick	Line	PSEG	(\$0.2)	(\$0.3)	\$0.0	\$0.1	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.1	1,730	203
14	Bristers - Ox	Line	Dominion	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	33	25
15	Crete - St Johns Tap	Flowgate	Midwest ISO	\$0.4	\$0.5	(\$0.0)	(\$0.1)	(\$0.0)	(\$0.0)	\$0.1	\$0.1	(\$0.0)	1,456	398
40	Foster2 - Pierce	Line	DAY	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	0	1

**Table 7-52 DAY Control Zone top congestion cost impacts (By facility): January through March 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	(\$1.7)	(\$2.9)	(\$0.1)	\$1.1	\$0.1	\$0.3	\$0.1	(\$0.2)	\$0.9	1,255	735
2	5004/5005 Interface	Interface	500	(\$0.6)	(\$1.4)	(\$0.0)	\$0.8	\$0.0	\$0.1	\$0.0	(\$0.1)	\$0.7	806	294
3	AEP-DOM	Interface	500	(\$0.7)	(\$1.4)	(\$0.0)	\$0.7	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.7	452	76
4	Bedington - Black Oak	Interface	500	(\$0.3)	(\$0.6)	(\$0.0)	\$0.3	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.3	519	9
5	East Frankfort - Crete	Line	ComEd	\$0.1	\$0.3	\$0.0	(\$0.2)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.2)	835	419
6	Tiltonsville - Windsor	Line	AP	(\$0.1)	(\$0.2)	(\$0.0)	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	697	140
7	Sporn - Kyger Creek	Line	AEP	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	31	0
8	Kanawha River	Transformer	AEP	(\$0.1)	(\$0.1)	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	158	11
9	Rising	Flowgate	Midwest ISO	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.1)	582	32
10	Baker - Broadford	Line	AEP	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.1)	(\$0.1)	10	74
11	Cloverdale - Lexington	Line	AEP	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.1	154	97
12	Sammis - Wylie Ridge	Line	AP	(\$0.1)	(\$0.1)	(\$0.0)	\$0.1	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.1	305	37
13	Kanawha - Kincaid	Line	AEP	(\$0.0)	(\$0.1)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	207	0
14	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	142	3
15	Pleasant Prairie - Zion	Flowgate	Midwest ISO	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	556	110

**DLCO Control Zone****Table 7-53 DLCO Control Zone top congestion cost impacts (By facility): January through March 2011 (See 2010 SOM, Table 7-51)**

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	Wylie Ridge	Transformer	AP	(\$8.0)	(\$11.9)	(\$0.3)	\$3.6	(\$0.4)	(\$0.1)	\$0.2	(\$0.2)	\$3.4	1,235	329
2	AP South	Interface	500	(\$8.2)	(\$11.0)	(\$0.2)	\$2.7	(\$0.9)	(\$0.2)	\$0.2	(\$0.5)	\$2.2	1,172	513
3	Collier - Elwyn	Line	DLCO	\$1.5	(\$0.1)	\$0.0	\$1.6	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$1.7	189	16
4	Crescent	Transformer	DLCO	\$1.1	(\$0.1)	\$0.0	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	106	0
5	5004/5005 Interface	Interface	500	(\$5.3)	(\$6.9)	(\$0.1)	\$1.5	(\$0.4)	(\$0.0)	\$0.1	(\$0.3)	\$1.2	513	241
6	Bedington - Black Oak	Interface	500	(\$1.7)	(\$2.3)	(\$0.0)	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	576	0
7	AEP-DOM	Interface	500	(\$0.6)	(\$1.0)	(\$0.0)	\$0.4	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.3	293	88
8	Crete - St Johns Tap	Flowgate	Midwest ISO	\$1.0	\$1.4	\$0.0	(\$0.3)	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.3)	1,456	398
9	West	Interface	500	(\$0.9)	(\$1.1)	(\$0.0)	\$0.2	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.2	231	12
10	Arsenal - Brunot Island	Line	DLCO	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2	11	8
11	Beaver - Sammis	Line	DLCO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.1	\$0.0	(\$0.2)	(\$0.2)	0	11
12	Butler - Karns City	Line	AP	(\$0.4)	(\$0.6)	(\$0.0)	\$0.2	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.2	369	44
13	Elrama - Mitchell	Line	AP	(\$0.2)	(\$0.1)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.1)	95	17
14	Arsenal	Transformer	DLCO	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	17	0
15	East	Interface	500	(\$0.3)	(\$0.4)	(\$0.0)	\$0.1	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.1	127	22
17	Arsenal - Oakland	Line	DLCO	\$0.1	(\$0.0)	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	24	6
57	Beaver - Mansfield	Line	DLCO	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	3	0
61	Brunot Island - Forbes	Line	DLCO	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	0	0
74	Brentwood - Elwyn	Unclassified	DLCO	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	0	0
186	Bocgases	Transformer	DLCO	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	0	0

**Table 7-54 DLCO Control Zone top congestion cost impacts (By facility): January through March 2010 (See 2010 SOM, Table 7-52)**

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	Crescent	Transformer	DLCO	\$5.1	(\$0.1)	\$0.1	\$5.3	(\$0.0)	(\$0.5)	(\$0.2)	\$0.3	\$5.6	310	58
2	AP South	Interface	500	(\$20.6)	(\$25.8)	(\$0.1)	\$5.0	(\$0.9)	(\$0.2)	\$0.2	(\$0.6)	\$4.4	1,255	735
3	Collier - Elwyn	Line	DLCO	\$1.9	\$0.3	\$0.1	\$1.7	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$1.7	165	25
4	5004/5005 Interface	Interface	500	(\$7.4)	(\$8.9)	(\$0.1)	\$1.5	(\$0.2)	(\$0.1)	\$0.0	(\$0.1)	\$1.4	806	294
5	AEP-DOM	Interface	500	(\$4.3)	(\$5.7)	(\$0.0)	\$1.4	(\$0.2)	(\$0.1)	\$0.0	(\$0.1)	\$1.3	452	76
6	Bedington - Black Oak	Interface	500	(\$3.4)	(\$4.3)	(\$0.0)	\$0.9	(\$0.1)	(\$0.1)	\$0.0	(\$0.0)	\$0.8	519	9
7	Sammis - Wylie Ridge	Line	AP	(\$1.3)	(\$2.1)	(\$0.0)	\$0.8	(\$0.1)	\$0.1	\$0.0	(\$0.2)	\$0.6	305	37
8	East Frankfort - Crete	Line	ComEd	\$0.6	\$1.0	(\$0.0)	(\$0.4)	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.4)	835	419
9	Baker - Broadford	Line	AEP	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	10	74
10	Collier	Transformer	DLCO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.1	0	5
11	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.1	\$0.2	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	142	3
12	Mount Storm - Pruntytown	Line	AP	(\$0.7)	(\$0.9)	(\$0.0)	\$0.2	(\$0.1)	\$0.0	\$0.0	(\$0.1)	\$0.0	87	64
13	Kanawha River	Transformer	AEP	(\$0.1)	(\$0.2)	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	158	11
14	Dutch Fork - Windsor	Line	AP	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	119	3
15	Cloverdale - Lexington	Line	AEP	(\$0.1)	(\$0.2)	\$0.0	\$0.1	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	154	97
21	Cheswick - Logans Ferry	Line	DLCO	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	6	0
40	Arsenal - Brunot Island	Line	DLCO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	11	8
54	Cheswick - Logan's Ferry	Line	DLCO	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	1	0
183	Bocgases	Transformer	DLCO	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	0	0

## Southern Region Congestion-Event Summaries

### Dominion Control Zone

Table 7-55 Dominion Control Zone top congestion cost impacts (By facility): January through March 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	\$28.0	(\$18.1)	\$0.5	\$46.6	\$0.3	\$3.9	(\$0.6)	(\$4.2)	\$42.4	1,172	513
2	Bedington - Black Oak	Interface	500	\$6.1	\$2.8	\$0.5	\$3.7	\$0.0	\$0.0	\$0.0	\$0.0	\$3.7	576	0
3	AEP-DOM	Interface	500	\$2.9	\$1.4	\$0.3	\$1.8	(\$0.1)	(\$0.2)	(\$0.1)	(\$0.0)	\$1.8	293	88
4	Wylie Ridge	Transformer	AP	\$3.3	\$1.8	\$0.4	\$1.8	\$0.0	(\$0.1)	(\$0.3)	(\$0.2)	\$1.6	1,235	329
5	Crete - St Johns Tap	Flowgate	Midwest ISO	\$2.9	\$1.4	\$0.1	\$1.5	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	\$1.6	1,456	398
6	Bristers - Ox	Line	Dominion	(\$0.1)	(\$1.6)	\$0.0	\$1.5	\$0.2	\$0.2	(\$0.0)	(\$0.0)	\$1.4	33	25
7	Cloverdale - Lexington	Line	AEP	\$1.6	\$0.6	\$0.2	\$1.2	(\$0.1)	(\$0.3)	(\$0.4)	(\$0.3)	\$0.9	173	155
8	Chesterfield - Turner	Line	Dominion	\$0.5	\$0.0	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	23	0
9	Clover	Transformer	Dominion	\$0.4	(\$0.3)	\$0.2	\$0.8	(\$0.1)	\$0.2	(\$0.1)	(\$0.4)	\$0.5	148	41
10	Susquehanna	Transformer	PPL	(\$1.0)	(\$0.6)	(\$0.1)	(\$0.5)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.5)	120	0
11	East	Interface	500	(\$0.8)	(\$0.5)	(\$0.0)	(\$0.3)	\$0.0	\$0.1	\$0.0	(\$0.1)	(\$0.4)	127	22
12	Valley	Transformer	Dominion	\$0.3	(\$0.0)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	5	0
13	South Mahwah - Waldwick	Line	PSEG	(\$0.5)	(\$0.4)	\$0.2	\$0.1	\$0.1	\$0.1	(\$0.3)	(\$0.4)	(\$0.3)	1,730	203
14	Beechwood - Kerr Dam	Line	Dominion	\$0.1	(\$0.2)	(\$0.0)	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	8	0
15	Burches Hill	Transformer	Pepco	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.2)	\$0.1	\$0.0	(\$0.2)	(\$0.2)	8	44
20	Harrisonburg - Endless Caverns	Line	Dominion	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	17	0
21	Chaparral - Carson	Line	Dominion	\$0.1	(\$0.0)	\$0.0	\$0.2	(\$0.1)	\$0.1	(\$0.2)	(\$0.3)	(\$0.1)	29	32
22	Margaretsville - Seaboard	Line	Dominion	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	1	0
32	Dow Tap - Leehall	Line	Dominion	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	10	0
40	Lexington	Transformer	Dominion	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	111	0

**Table 7-56 Dominion Control Zone top congestion cost impacts (By facility): January through March 2010 (See 2010 SOM, Table 7-54)**

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	\$38.6	(\$18.8)	(\$0.1)	\$57.3	\$2.4	\$4.3	\$0.2	(\$1.7)	\$55.6	1,255	735
2	AEP-DOM	Interface	500	\$14.9	\$12.1	\$0.6	\$3.4	(\$0.1)	(\$0.3)	(\$0.0)	\$0.1	\$3.5	452	76
3	Bedington - Black Oak	Interface	500	\$6.0	\$3.3	\$0.3	\$3.1	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$3.0	519	9
4	5004/5005 Interface	Interface	500	(\$1.1)	(\$2.1)	\$0.1	\$1.1	\$0.2	\$0.2	\$0.0	\$0.1	\$1.2	806	294
5	Cloverdale - Lexington	Line	AEP	\$1.2	\$0.5	\$0.2	\$0.9	(\$0.2)	(\$0.5)	(\$0.3)	(\$0.0)	\$0.8	154	97
6	East Frankfort - Crete	Line	ComEd	\$1.5	\$0.9	\$0.1	\$0.7	(\$0.1)	(\$0.3)	(\$0.1)	(\$0.0)	\$0.7	835	419
7	Dickerson - Pleasant View	Line	Pepco	\$0.5	\$0.0	(\$0.0)	\$0.5	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.5	53	3
8	Harrisonburg - Endless Caverns	Line	Dominion	\$0.0	(\$0.5)	(\$0.0)	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	128	0
9	Baker - Broadford	Line	AEP	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.2)	(\$0.6)	(\$0.0)	\$0.4	\$0.4	10	74
10	Inwood - Stonewall	Line	AP	\$0.1	(\$0.1)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	159	0
11	Tiltonsville - Windsor	Line	AP	\$0.4	\$0.2	\$0.1	\$0.2	\$0.0	(\$0.0)	(\$0.1)	(\$0.0)	\$0.2	697	140
12	Sammis - Wylie Ridge	Line	AP	\$0.5	\$0.3	\$0.0	\$0.2	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.2	305	37
13	Messic Road - Morgan	Line	AP	\$0.1	(\$0.1)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	172	0
14	Nipetown - Reid	Line	AP	\$0.1	(\$0.1)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.2	75	18
15	Millville - Old Chapel	Line	AP	\$0.0	(\$0.2)	(\$0.0)	\$0.2	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.2	41	6
16	Crozet - Dooms	Line	Dominion	\$0.1	(\$0.1)	(\$0.0)	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	3	0
18	Fredericksburg	Transformer	Dominion	(\$0.0)	(\$0.3)	(\$0.0)	\$0.3	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	\$0.2	29	53
20	Endless Caverns	Transformer	Dominion	(\$0.0)	(\$0.2)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	75	0
21	Bristers - Ox	Line	Dominion	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	2	4
22	Edinburg	Transformer	Dominion	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	30	1