

SECTION 7 – CONGESTION

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

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

The Market Monitoring Unit (MMU) analyzed congestion and its influence on PJM markets during the first nine months of 2010.

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

² See the 2009 State of the Market Report for PJM, Volume II, Section 8, "Financial Transmission and Auction Revenue Rights," at "ARR and FTR Revenue and Congestion."

Overview

Congestion Cost

- **Total Congestion.** Total congestion costs increased by \$598.0 million or 110 percent, from \$543.6 million in the first nine months of 2009 to \$1,141.6 million in the first nine months of 2010. Day-ahead congestion costs increased by \$600.4 million or 85 percent, from \$704.6 million in the first nine months of 2009 to \$1,305 million in the first nine months of 2010. Balancing congestion costs decreased by \$2.4 million or one percent, from -\$161.0 million in the first nine months of 2009 to -\$163.4 million in the first nine months of 2010. 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 nine months of 2010. Total PJM billings in the first nine months of 2010 were \$26.249 billion.
- **Monthly Congestion.** Fluctuations in monthly congestion costs continued to be substantial. In the first nine months of 2010, 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 nine months of 2010 ranged from \$20.4 million in March to \$272.5 million in July.

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 between eastern, southern and western control zones in PJM was primarily a result of congestion on the AP South interface and other 500 kV constraints in the east. 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 the first nine months of 2010.³ Day-ahead congestion frequency increased from 2009 to 2010 by 14,436 congestion event hours or 24 percent. In the first nine months of 2010, there were 73,499 day-ahead, congestion-event hours compared to 59,063 day-ahead, congestion-event hours in the first nine months of 2009. Day-ahead, congestion-event hours increased on internal PJM interfaces and lines while congestion frequency on transformers and the reciprocally coordinated flowgates between PJM and the Midwest Independent Transmission System Operator, Inc. (Midwest ISO) decreased. Real-time congestion frequency increased from 2009 to 2010 by 4,601 congestion event hours. In the first nine months of 2010, there were 17,136 real-time, congestion-event hours compared to 12,535 real-time, congestion-event hours in the first nine months of 2009. Real-time, congestion-event hours increased on the internal PJM interfaces and lines, while the reciprocally coordinated flowgates between PJM and the Midwest ISO and transformers saw decreases. The AP South Interface was the largest contributor to congestion costs in the first nine months of 2010. With \$342.2 million in total congestion costs, it accounted for 30 percent of the total PJM congestion costs in the first nine months of 2010. The top five constraints in terms of congestion costs together contributed \$615.4 million, or 54 percent, of the total PJM congestion in the first nine months of 2010. The top five constraints were the AP South interface, the Bedington – Black Oak interface, the 5004/5005 interface, the Doubs transformer, and the AEP-DOM interface.
- Zonal Congestion.** In the first nine months of 2010, the Dominion Control Zone experienced the highest congestion costs of the control zones in PJM with \$224.7 million. The AP South interface, the Cloverdale – Lexington line, the Doubs transformer, the Bedington – Black Oak interface, and the Clover transformer contributed \$150.7 million, or 67 percent of the total Dominion Control Zone congestion costs (Table 7-51). The AP Control Zone had the second highest congestion cost in PJM in the first nine months of 2010. The \$226.5 million in congestion costs in the AP

Control Zone represented a 225 percent increase from the \$69.7 million in congestion costs the zone had experienced in the first nine months of 2009. The AP South interface contributed \$86.6 million, or 38 percent of the total AP Control Zone congestion cost. Increases in day-ahead congestion frequency and congestion costs from the Doubs transformer and then Bedington – Black Oak interface and also contributed to the increase in congestion cost in the AP Control Zone from 2009 to 2010. The Doubs transformer contributed \$26.3 million to the AP Control Zone congestion costs and the Bedington – Black Oak interface contributed \$25.9 million to the AP Control Zone congestion costs.

Economic Planning Process

- Transmission and Markets.** As a general matter, transmission investments have not been fully incorporated into competitive markets. The construction of new transmission facilities can have significant impacts on energy and capacity markets, but there is no market mechanism in place that would require direct competition between transmission and generation to meet loads in an area. While the RPM construct does provide that qualifying transmission upgrades may be submitted as offers, there have been no such offers. More generally, network transmission is not built based directly on market signals because the owners of network transmission are compensated through a non market mechanism, typically under traditional regulation. PJM has taken a first step towards integrating transmission investments into the market through the use of economic evaluation metrics.⁴ Economic evaluation metrics can be used to determine whether there are positive economic benefits associated with an investment in transmission that might warrant the investment even when it is not required for reliability. The goal of transmission planning should ultimately be the incorporation of transmission investment decisions into market driven processes as much as possible.
- Restructuring Responsibility for Grid Development.** The FERC's recent decisions in the *Primary Power* and *Central Transmission* cases addressed significant issues about the ownership of transmission, the resultant incentives to build new transmission facilities and the potential for competitive forces to

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

⁴ See 126 FERC ¶ 61,152 (2009) (final approval for an approach with predefined formulas for determining whether a transmission investment passes the cost-benefit test including explicit accounting for changes in production costs, the costs of complying with environmental regulations, generation availability trends and demand-response trends), *order on reh'g*, 123 FERC ¶ 61,051 (2008).

reduce the cost of transmission.⁵ On June 17, 2010, the FERC issued a Notice of Proposed Rulemaking (NOPR) including a proposal to “remove from Commission-approved tariffs or agreements a right of first refusal created by those documents that provides an incumbent transmission provider with an undue advantage over a nonincumbent transmission developer.”⁶ These cases and the proposed rule have the potential to significantly change the incentives to build transmission for both incumbents and potential entrants and therefore to have potentially significant impacts on the wholesale power markets.

Conclusion

Congestion reflects the underlying characteristics of the power system, including the nature and capability of transmission facilities, the cost and geographical distribution of generation facilities and the geographical distribution of load. Total congestion costs have ranged from three percent to nine percent of PJM annual total billings since 2003. Congestion costs were four percent of total PJM billings in the first nine months of 2010. Total PJM billings in the first nine months of 2010 were \$26.249 billion. Total congestion costs increased by \$598.0 million or 110 percent, from \$543.6 million in the first nine months of 2009 to \$1,141.6 million in the first nine months of 2010. Day-ahead congestion costs increased by \$600.4 million or 85 percent, from \$704.6 million in the first nine months of 2009 to \$1,305 million in the first nine months of 2010. Balancing congestion costs decreased by \$2.4 million or one percent, from -\$161.0 million in the first nine months of 2009 to -\$163.4 million in the first nine months of 2010. 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 2009 to 2010 by 14,436 congestion event hours or 24 percent. In the first nine months of 2010, there were 73,499 day-ahead, congestion-event hours compared to 59,063 day-ahead, congestion-event hours in the first nine months of 2009. Real-time congestion frequency increased from 2009 to 2010 by 4,601 congestion event hours. In the first nine months of 2010, there were 17,136 real-time, congestion-event hours compared to 12,535 real-time, congestion-event hours in the first nine months of 2009.

ARRs and FTRs served as an effective, but not total, hedge against congestion. ARR and FTR revenues hedged more than 100 percent of the total congestion costs in the Day-Ahead Energy Market and the balancing energy market within PJM for the 2008 to 2009 planning period. For the 2009 to 2010 planning period, ARR and FTR revenue hedged 96.4 percent of the total congestion costs within PJM.⁷ During the first four months of the 2010 to 2011 planning period, total ARR and FTR revenues hedged 98.2 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 92.1 percent of the target allocation level for the first four months of the 2010 to 2011 planning period. 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 as a hedge. The value of ARRs and ARRs converted to self scheduled FTRs was 3.6 percent of total energy charges to load for the first nine months of 2010.

One constraint accounted for 30 percent of total congestion costs in the first nine months of 2010 and the top five constraints accounted for 54 percent of total congestion costs. The AP South Interface was the largest contributor to congestion costs in the first nine months of 2010.

The congestion metric requires careful review. Net congestion, which includes both load congestion payments and generation congestion credits, is not a good measure of the congestion costs paid by load from the perspective of the wholesale market.⁸ While total congestion costs represent the overall charge or credit to a zone, the components of congestion costs measure the extent to which load or generation bear total congestion costs. Load congestion payments, when positive, measure the total congestion cost to load in an area. Load congestion payments, when negative, measure the total congestion credit to load in an area. Negative load congestion payments result when load is on the lower priced side of a constraint or constraints. For example, congestion across the AP South interface means lower prices in western control zones and higher prices in eastern and southern control zones. Load in western control zones will benefit from lower prices and receive a congestion credit (negative load congestion payment). Load in the eastern and southern control zones will incur a congestion charge (positive load congestion payment). The reverse is true for generation congestion credits. Generation congestion credits, when positive, measure the total congestion credit to generation

⁵ 131 FERC ¶ 61,015 (April 13, 2010); 131 FERC ¶ 61,243 (June 17, 2010).

⁶ See *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, FERC Docket No. RM10-23-000, Summary.

⁷ See the *2010 Quarterly State of the Market Report for PJM: January through September*, Section 8, “Financial Transmission and Auction Revenue Rights,” at Table 8-14, “ARR and FTR congestion hedging: Planning periods 2009 to 2010 and 2010 to 2011.”

⁸ The actual congestion payments by retail customers are a function of retail ratemaking policies and may or may not reflect an offset for congestion credits.

in an area. Generation congestion credits, when negative, measure the total congestion cost to generation in an area. This is a cost only in the sense that revenues to generators in the area are lower, by the amount of the congestion cost, than they would have been if they had been paid LMP without a congestion component, the system marginal price. Negative generation congestion credits result when generation is on the lower priced side of a constraint or constraints. For example, congestion across the AP South interface means lower prices in the western control zones and higher prices in the eastern and southern control zones. Generation in the western control zones will receive lower prices and incur a congestion charge (negative generation congestion credit). Generation in the eastern and southern control zones will receive higher prices and receive a congestion credit (positive generation congestion credit).

As an example, total congestion costs in PJM in the first nine months of 2010 were \$1,141.6 million, which was comprised of load congestion payments of \$334.1 million, negative generation credits of \$851.3 million and negative explicit congestion of \$43.8 million (see Table 7-2).

Congestion

Total Calendar Year Congestion

Table 7-1 Total annual PJM congestion (Dollars (Millions)): Calendar years 2003 through September 2010 (See 2009 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 (Jan - Sep)	\$1,142	NA	\$26,249	4%
Total	\$9,591		\$176,836	5%

Table 7-2 Total annual PJM congestion costs by category (Dollars (Millions)): January through September 2009 and 2010 (See 2009 SOM, Table 7-2)

Year	Congestion Costs (Millions)			Total
	Load Payments	Generation Credits	Explicit	
2009 (Jan - Sep)	\$210.6	(\$380.9)	(\$48.0)	\$543.6
2010 (Jan - Sep)	\$334.1	(\$851.3)	(\$43.8)	\$1,141.6

Monthly Congestion

Table 7-3 Monthly PJM congestion charges (Dollars (Millions)): Calendar years 2008 through September 2010 (See 2009 SOM, Table 7-3)

	2008	2009	2010
Jan	\$231.0	\$149.3	\$218.5
Feb	\$168.1	\$83.0	\$106.4
Mar	\$86.4	\$74.6	\$20.4
Apr	\$126.2	\$25.6	\$42.6
May	\$182.8	\$25.9	\$68.5
Jun	\$436.4	\$49.8	\$189.1
Jul	\$359.8	\$39.4	\$272.5
Aug	\$127.4	\$72.1	\$106.1
Sep	\$124.8	\$23.9	\$117.5
Oct	\$102.2	\$42.7	
Nov	\$93.0	\$36.3	
Dec	\$78.4	\$96.4	
Total	\$2,116.6	\$719.0	\$1,141.6

Congestion Component of LMP

Table 7-4 Annual average congestion component of LMP: January through September 2009 and 2010 (See 2009 SOM, Table 7-4)

Control Zone	2009 (Jan - Sep)		2010 (Jan - Sep)	
	Day Ahead	Real Time	Day Ahead	Real Time
AECO	\$2.35	\$2.13	\$2.96	\$3.87
AEP	(\$2.24)	(\$2.32)	(\$4.41)	(\$5.23)
AP	\$0.83	\$1.62	(\$0.28)	(\$0.42)
BGE	\$3.24	\$3.05	\$5.90	\$6.72
ComEd	(\$5.61)	(\$6.24)	(\$6.63)	(\$7.87)
DAY	(\$3.01)	(\$2.99)	(\$5.01)	(\$5.92)
DLCO	(\$3.73)	(\$3.53)	(\$4.69)	(\$6.08)
Dominion	\$2.59	\$2.60	\$5.13	\$5.31
DPL	\$2.58	\$2.67	\$3.20	\$3.99
JCPL	\$2.07	\$2.11	\$2.43	\$2.79
Met-Ed	\$2.33	\$2.21	\$3.41	\$3.78
PECO	\$2.10	\$1.88	\$2.73	\$2.99
PENELEC	\$0.01	(\$0.04)	(\$1.32)	(\$2.36)
Pepco	\$3.78	\$3.82	\$6.29	\$6.61
PPL	\$2.12	\$1.90	\$2.26	\$2.38
PSEG	\$2.45	\$2.53	\$2.96	\$3.59
RECO	\$1.69	\$1.73	\$2.16	\$2.04

Congested Facilities

Congestion by Facility Type and Voltage

Table 7-5 Congestion summary (By facility type): January through September 2010 (See 2009 SOM, Table 7-5)

Type	Congestion Costs (Millions)										
	Day Ahead				Balancing				Event Hours		
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
Flowgate	\$0.1	(\$31.6)	\$5.2	\$36.8	(\$2.9)	\$3.0	(\$21.8)	(\$27.7)	\$9.1	4,168	1,575
Interface	\$93.5	(\$479.3)	\$4.2	\$577.0	\$20.3	\$14.6	(\$2.7)	\$3.0	\$579.9	7,610	2,020
Line	\$146.5	(\$306.9)	\$48.5	\$501.8	(\$23.3)	\$19.5	(\$75.0)	(\$117.9)	\$383.9	53,382	11,098
Transformer	\$91.1	(\$67.1)	\$5.6	\$163.8	(\$3.4)	\$4.5	(\$12.9)	(\$20.8)	\$143.0	8,339	2,443
Unclassified	\$12.4	(\$8.2)	\$5.2	\$25.7	\$0.0	\$0.0	\$0.0	\$0.0	\$25.7	NA	NA
Total	\$343.4	(\$892.9)	\$68.6	\$1,305.0	(\$9.3)	\$41.7	(\$112.4)	(\$163.4)	\$1,141.6	73,499	17,136

Table 7-6 Congestion summary (By facility type): January through September 2009 (See 2009 SOM, Table 7-6)

Type	Congestion Costs (Millions)										
	Day Ahead				Balancing				Event Hours		
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
Flowgate	\$16.7	(\$40.9)	\$15.2	\$72.9	(\$10.8)	\$3.5	(\$61.1)	(\$75.4)	(\$2.5)	6,119	2,656
Interface	\$39.2	(\$193.8)	\$1.3	\$234.3	\$3.2	(\$2.3)	\$1.9	\$7.4	\$241.7	4,154	1,058
Line	\$97.2	(\$154.3)	\$35.9	\$287.4	(\$16.2)	\$8.0	(\$32.1)	(\$56.3)	\$231.1	39,925	6,040
Transformer	\$89.9	(\$2.2)	\$21.8	\$114.0	(\$11.4)	(\$5.2)	(\$30.6)	(\$36.8)	\$77.2	8,865	2,781
Unclassified	\$2.7	\$6.2	(\$0.4)	(\$3.9)	\$0.0	\$0.0	\$0.0	\$0.0	(\$3.9)	NA	NA
Total	\$245.7	(\$385.0)	\$73.8	\$704.6	(\$35.1)	\$4.1	(\$121.9)	(\$161.0)	\$543.6	59,063	12,535

Table 7-7 Congestion summary (By facility voltage): January through September 2010 (See 2009 SOM, Table 7-7)

Voltage (kV)	Congestion Costs (Millions)										
	Day Ahead				Balancing				Event Hours		
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
765	\$0.5	(\$1.8)	\$0.5	\$2.8	(\$1.1)	(\$0.1)	(\$3.2)	(\$4.2)	(\$1.4)	77	74
500	\$119.0	(\$524.1)	\$11.2	\$654.3	\$16.9	\$5.4	(\$17.3)	(\$5.8)	\$648.5	9,752	3,630
345	(\$2.2)	(\$104.7)	\$20.6	\$123.2	(\$10.4)	\$8.7	(\$59.4)	(\$78.6)	\$44.6	9,169	2,922
230	\$76.7	(\$145.3)	\$18.5	\$240.6	\$2.0	\$19.0	(\$18.8)	(\$35.8)	\$204.8	15,177	3,187
138	\$92.8	(\$106.0)	\$12.0	\$210.8	(\$11.8)	\$3.9	(\$12.8)	(\$28.5)	\$182.4	28,573	5,536
115	\$30.6	(\$5.9)	\$0.5	\$37.0	\$0.3	\$3.8	(\$0.6)	(\$4.1)	\$32.9	4,901	1,189
69	\$13.3	\$3.0	\$0.2	\$10.5	(\$5.4)	\$0.8	(\$0.3)	(\$6.6)	\$4.0	5,568	579
34	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.1	\$0.1	37	19
12	\$0.3	\$0.2	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	245	0
Unclassified	\$12.4	(\$8.2)	\$5.2	\$25.7	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$25.7	NA	NA
Total	\$343.4	(\$892.9)	\$68.6	\$1,305.0	(\$9.3)	\$41.7	(\$112.4)	(\$163.4)	\$1,141.6	73,499	17,136

Table 7-8 Congestion summary (By facility voltage): January through September 2009 (See 2009 SOM, Table 7-8)

Voltage (kV)	Congestion Costs (Millions)										
	Day Ahead				Balancing				Event Hours		
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
765	(\$0.0)	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	24	0
500	\$101.9	(\$203.9)	\$12.9	\$318.7	(\$1.5)	(\$14.7)	(\$12.8)	\$0.4	\$319.1	9,546	2,784
345	\$24.8	(\$45.8)	\$31.7	\$102.2	(\$4.3)	\$4.3	(\$50.0)	(\$58.7)	\$43.6	6,050	1,688
230	\$38.5	(\$27.6)	\$7.7	\$73.9	(\$12.6)	\$5.3	(\$5.0)	(\$22.9)	\$50.9	12,123	1,617
138	\$61.4	(\$113.9)	\$21.4	\$196.7	(\$13.3)	\$7.6	(\$53.7)	(\$74.6)	\$122.1	22,051	5,587
115	\$9.3	(\$1.1)	\$0.3	\$10.7	\$0.4	\$0.6	(\$0.2)	(\$0.5)	\$10.2	4,429	531
69	\$6.9	\$0.9	\$0.2	\$6.2	(\$3.7)	\$0.9	(\$0.1)	(\$4.7)	\$1.5	4,150	326
34	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	50	2
12	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	640	0
Unclassified	\$2.7	\$6.2	(\$0.4)	(\$3.9)	\$0.0	\$0.0	\$0.0	\$0.0	(\$3.9)	NA	NA
Total	\$245.7	(\$385.0)	\$73.8	\$704.6	(\$35.1)	\$4.1	(\$121.9)	(\$161.0)	\$543.6	59,063	12,535

Constraint Duration

Table 7-9 Top 25 constraints with frequent occurrence: January through September 2009 and 2010 (See 2009 SOM, Table 7-9)

No.	Constraint	Type	Event Hours						Percent of Annual Hours					
			Day Ahead			Real Time			Day Ahead			Real Time		
			2009	2010	Change	2009	2010	Change	2009	2010	Change	2009	2010	Change
1	AP South	Interface	2,559	3,512	953	423	1,251	828	39%	54%	15%	6%	19%	13%
2	Athenia - Saddlebrook	Line	1,094	2,947	1,853	139	331	192	17%	45%	28%	2%	5%	3%
3	East Frankfort - Crete	Line	1,490	2,242	752	219	797	578	23%	34%	11%	3%	12%	9%
4	Waterman - West Dekalb	Line	1,216	2,543	1,327	41	288	247	19%	39%	20%	1%	4%	4%
5	Tiltsville - Windsor	Line	1,258	1,954	696	237	410	173	19%	30%	11%	4%	6%	3%
6	Pleasant Valley - Belvidere	Line	2,342	1,775	(567)	266	355	89	36%	27%	(9%)	4%	5%	1%
7	5004/5005 Interface	Interface	643	1,379	736	241	561	320	10%	21%	11%	4%	9%	5%
8	Bedington - Black Oak	Interface	395	1,819	1,424	61	47	(14)	6%	28%	22%	1%	1%	(0%)
9	Electric Jct - Nelson	Line	819	1,454	635	202	236	34	13%	22%	10%	3%	4%	1%
10	Cloverdale - Lexington	Line	752	1,044	292	335	620	285	11%	16%	4%	5%	9%	4%
11	Danville - East Danville	Line	165	1,307	1,142	36	138	102	3%	20%	17%	1%	2%	2%
12	Branchburg - Readington	Line	21	1,210	1,189	10	184	174	0%	18%	18%	0%	3%	3%
13	Pleasant Prairie - Zion	Flowgate	51	1,098	1,047	45	212	167	1%	17%	16%	1%	3%	3%
14	Doubs	Transformer	84	806	722	30	423	393	1%	12%	11%	0%	6%	6%
15	Belmont	Transformer	610	1,057	447	71	109	38	9%	16%	7%	1%	2%	1%
16	Mount Storm - Pruntytown	Line	525	571	46	132	574	442	8%	9%	1%	2%	9%	7%
17	Pinehill - Stratford	Line	1,020	1,138	118	0	0	0	16%	17%	2%	0%	0%	0%
18	Lindenwold - Stratford	Line	215	1,119	904	0	0	0	3%	17%	14%	0%	0%	0%
19	Burlington - Croydon	Line	2,420	1,034	(1,386)	3	33	30	37%	16%	(21%)	0%	1%	0%
20	Nelson - Cordova	Line	0	965	965	17	90	73	0%	15%	15%	0%	1%	1%
21	Crete - St Johns Tap	Flowgate	732	800	68	190	245	55	11%	12%	1%	3%	4%	1%
22	Leonia - New Milford	Line	3,088	1,028	(2,060)	39	6	(33)	47%	16%	(31%)	1%	0%	(1%)
23	Beechwood - Kerr Dam	Line	632	582	(50)	228	306	78	10%	9%	(1%)	3%	5%	1%
24	Wylie Ridge	Transformer	354	479	125	335	376	41	5%	7%	2%	5%	6%	1%
25	Mahans Lane - Tidd	Line	72	646	574	24	207	183	1%	10%	9%	0%	3%	3%

Table 7-10 Top 25 constraints with largest year-to-year change in occurrence: January through September 2009 and 2010 (See 2009 SOM, Table 7-10)

No.	Constraint	Type	Event Hours						Percent of Annual Hours					
			Day Ahead			Real Time			Day Ahead			Real Time		
			2009	2010	Change	2009	2010	Change	2009	2010	Change	2009	2010	Change
1	Kammer	Transformer	3,674	0	(3,674)	1,328	0	(1,328)	56%	0%	(56%)	20%	0%	(20%)
2	Dunes Acres - Michigan City	Flowgate	2,888	142	(2,746)	907	3	(904)	44%	2%	(42%)	14%	0%	(14%)
3	Leonia - New Milford	Line	3,088	1,028	(2,060)	39	6	(33)	47%	16%	(31%)	1%	0%	(1%)
4	Athenia - Saddlebrook	Line	1,094	2,947	1,853	139	331	192	17%	45%	28%	2%	5%	3%
5	AP South	Interface	2,559	3,512	953	423	1,251	828	39%	54%	15%	6%	19%	13%
6	Waterman - West Dekalb	Line	1,216	2,543	1,327	41	288	247	19%	39%	20%	1%	4%	4%
7	Bedington - Black Oak	Interface	395	1,819	1,424	61	47	(14)	6%	28%	22%	1%	1%	(0%)
8	Branchburg - Readington	Line	21	1,210	1,189	10	184	174	0%	18%	18%	0%	3%	3%
9	Burlington - Croydon	Line	2,420	1,034	(1,386)	3	33	30	37%	16%	(21%)	0%	1%	0%
10	East Frankfort - Crete	Line	1,490	2,242	752	219	797	578	23%	34%	11%	3%	12%	9%
11	Danville - East Danville	Line	165	1,307	1,142	36	138	102	3%	20%	17%	1%	2%	2%
12	Pleasant Prairie - Zion	Flowgate	51	1,098	1,047	45	212	167	1%	17%	16%	1%	3%	3%
13	Pana North	Flowgate	879	0	(879)	318	0	(318)	13%	0%	(13%)	5%	0%	(5%)
14	Doubs	Transformer	84	806	722	30	423	393	1%	12%	11%	0%	6%	6%
15	Kammer - Ormet	Line	552	0	(552)	509	3	(506)	8%	0%	(8%)	8%	0%	(8%)
16	5004/5005 Interface	Interface	643	1,379	736	241	561	320	10%	21%	11%	4%	9%	5%
17	Nelson - Cordova	Line	0	965	965	17	90	73	0%	15%	15%	0%	1%	1%
18	Oak Grove - Galesburg	Flowgate	645	61	(584)	531	116	(415)	10%	1%	(9%)	8%	2%	(6%)
19	Pumphrey - Westport	Line	1,179	242	(937)	0	0	0	18%	4%	(14%)	0%	0%	0%
20	Lindenwold - Stratford	Line	215	1,119	904	0	0	0	3%	17%	14%	0%	0%	0%
21	Tiltsville - Windsor	Line	1,258	1,954	696	237	410	173	19%	30%	11%	4%	6%	3%
22	Ruth - Turner	Line	704	88	(616)	279	36	(243)	11%	1%	(9%)	4%	1%	(4%)
23	Redoak - Sayreville	Line	59	795	736	7	57	50	1%	12%	11%	0%	1%	1%
24	Marktown - Inland Steel	Flowgate	0	424	424	0	344	344	0%	6%	6%	0%	5%	5%
25	Rising	Flowgate	0	776	776	55	44	(11)	0%	12%	12%	1%	1%	(0%)

Constraint Costs

Table 7-11 Top 25 constraints affecting annual PJM congestion costs (By facility): January through September 2010 (See 2009 SOM, Table 7-11)

No.	Constraint	Type	Location	Congestion Costs (Millions)								Grand Total	Percent of Total PJM Congestion Costs 2010
				Day Ahead				Balancing					
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total		
1	AP South	Interface	500	\$4.3	(\$335.3)	\$1.5	\$341.1	\$9.6	\$6.9	(\$1.7)	\$1.1	\$342.2	30%
2	Bedington - Black Oak	Interface	500	\$12.6	(\$70.3)	\$2.1	\$85.0	\$0.0	(\$0.9)	(\$0.5)	\$0.5	\$85.5	7%
3	5004/5005 Interface	Interface	500	\$43.4	(\$32.4)	(\$0.1)	\$75.7	\$9.7	\$8.5	(\$0.5)	\$0.7	\$76.4	7%
4	Doubs	Transformer	AP	\$35.3	(\$29.5)	\$0.3	\$65.1	\$0.8	\$1.9	(\$2.2)	(\$3.3)	\$61.8	5%
5	AEP-DOM	Interface	500	\$9.8	(\$37.6)	\$0.9	\$48.3	\$0.1	(\$1.3)	(\$0.1)	\$1.3	\$49.6	4%
6	Cloverdale - Lexington	Line	AEP	\$16.5	(\$13.3)	\$2.8	\$32.6	(\$3.1)	(\$3.6)	(\$4.6)	(\$4.2)	\$28.4	2%
7	East Frankfort - Crete	Line	ComEd	\$4.1	(\$29.3)	\$3.9	\$37.2	(\$4.0)	\$0.4	(\$6.6)	(\$11.0)	\$26.2	2%
8	Brandon Shores - Riverside	Line	BGE	\$16.8	(\$10.4)	(\$0.4)	\$26.8	\$0.9	\$2.4	\$0.5	(\$1.0)	\$25.8	2%
9	Mount Storm - Pruntytown	Line	AP	\$3.7	(\$18.8)	\$2.1	\$24.6	\$0.4	(\$4.6)	(\$4.7)	\$0.3	\$24.9	2%
10	West	Interface	500	\$20.8	(\$1.7)	(\$0.2)	\$22.3	\$0.6	\$1.2	\$0.1	(\$0.5)	\$21.7	2%
11	Tiltonville - Windsor	Line	AP	\$16.5	(\$2.0)	\$1.0	\$19.6	(\$3.6)	\$0.2	(\$0.0)	(\$3.9)	\$15.7	1%
12	Brunner Island - Yorkana	Line	Met-Ed	(\$1.8)	(\$14.3)	\$0.4	\$12.9	\$0.7	(\$1.1)	(\$0.9)	\$0.9	\$13.7	1%
13	Belmont	Transformer	AP	\$6.8	(\$6.2)	(\$0.8)	\$12.3	(\$0.1)	(\$0.4)	(\$0.1)	\$0.2	\$12.5	1%
14	Clover	Transformer	Dominion	\$3.4	(\$9.6)	\$1.8	\$14.8	(\$1.2)	(\$0.8)	(\$2.2)	(\$2.5)	\$12.3	1%
15	Crescent	Transformer	DLCO	\$7.5	(\$3.9)	\$0.6	\$12.0	\$0.2	(\$0.6)	(\$0.6)	\$0.2	\$12.2	1%
16	Branchburg - Readington	Line	PSEG	\$5.0	(\$7.9)	\$0.6	\$13.6	(\$0.7)	\$1.4	\$0.1	(\$1.9)	\$11.6	1%
17	Crete - St Johns Tap	Flowgate	Midwest ISO	(\$1.2)	(\$15.3)	(\$0.2)	\$13.9	(\$0.9)	(\$0.2)	(\$1.8)	(\$2.5)	\$11.4	1%
18	Electric Jct - Nelson	Line	ComEd	(\$8.7)	(\$32.5)	\$6.7	\$30.4	(\$0.3)	\$3.6	(\$16.1)	(\$20.0)	\$10.4	1%
19	Pleasant Valley - Belvidere	Line	ComEd	(\$7.0)	(\$20.9)	\$1.9	\$15.8	\$0.1	\$2.7	(\$3.6)	(\$6.2)	\$9.7	1%
20	Eddystone - Island Road	Line	PECO	\$0.7	(\$7.8)	\$1.1	\$9.6	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$9.5	1%
21	Hunterstown	Transformer	Met-Ed	\$4.3	(\$3.9)	\$0.3	\$8.4	\$0.1	\$0.0	(\$0.0)	\$0.0	\$8.5	1%
22	Pleasant Prairie - Zion	Flowgate	Midwest ISO	(\$3.2)	(\$7.5)	\$2.4	\$6.7	(\$0.4)	\$1.2	(\$13.3)	(\$14.9)	(\$8.1)	(1%)
23	Limerick	Transformer	PECO	\$1.1	(\$2.2)	(\$0.1)	\$3.2	\$0.8	(\$3.4)	(\$0.1)	\$4.1	\$7.3	1%
24	Graceton - Raphael Road	Line	BGE	(\$2.6)	(\$8.2)	\$0.6	\$6.1	\$0.6	(\$0.7)	(\$0.2)	\$1.1	\$7.2	1%
25	Nipetown - Reid	Line	AP	\$1.7	(\$5.0)	\$0.3	\$6.9	\$0.0	(\$0.1)	(\$0.1)	\$0.0	\$6.9	1%

Table 7-12 Top 25 constraints affecting annual PJM congestion costs (By facility): January through September 2009 (See 2009 SOM, Table 7-12)

No.	Constraint	Type	Location	Congestion Costs (Millions)								Percent of Total PJM Congestion Costs	
				Day Ahead				Balancing				Grand Total	2009
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total		
1	AP South	Interface	500	\$8.8	(\$133.2)	(\$0.3)	\$141.7	\$2.2	(\$3.1)	\$2.2	\$7.5	\$149.1	27%
2	West	Interface	500	\$17.8	(\$21.4)	\$0.6	\$39.7	\$0.3	(\$0.2)	\$0.1	\$0.7	\$40.4	7%
3	5004/5005 Interface	Interface	500	\$9.5	(\$25.5)	\$0.1	\$35.2	\$1.3	\$0.4	\$0.1	\$1.0	\$36.2	7%
4	Kammer	Transformer	500	\$50.8	\$16.1	\$9.0	\$43.8	(\$4.9)	(\$6.7)	(\$11.6)	(\$9.8)	\$34.0	6%
5	Pleasant Valley - Belvidere	Line	ComEd	(\$4.0)	(\$29.4)	\$2.9	\$28.3	\$0.8	\$1.9	(\$4.1)	(\$5.1)	\$23.3	4%
6	East Frankfort - Crete	Line	ComEd	\$4.7	(\$12.8)	\$7.4	\$24.9	(\$0.6)	(\$0.0)	(\$3.4)	(\$4.0)	\$20.9	4%
7	Mount Storm - Pruntytown	Line	AP	\$1.8	(\$16.8)	\$0.5	\$19.1	\$0.9	(\$1.7)	(\$1.1)	\$1.5	\$20.5	4%
8	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$13.5	(\$22.9)	\$8.6	\$44.9	(\$7.2)	(\$2.0)	(\$23.4)	(\$28.6)	\$16.3	3%
9	Cloverdale - Lexington	Line	AEP	\$6.8	(\$4.3)	\$1.7	\$12.9	(\$0.1)	(\$3.0)	(\$2.5)	\$0.4	\$13.2	2%
10	Bedington - Black Oak	Interface	500	\$2.4	(\$10.4)	\$0.6	\$13.4	(\$0.4)	(\$0.0)	\$0.2	(\$0.3)	\$13.1	2%
11	Pana North	Flowgate	Midwest ISO	\$0.1	(\$2.1)	\$1.7	\$3.9	(\$0.5)	\$1.1	(\$11.5)	(\$13.0)	(\$9.1)	(2%)
12	Crete - St Johns Tap	Flowgate	Midwest ISO	\$2.7	(\$9.2)	\$2.9	\$14.7	(\$0.9)	\$0.2	(\$5.1)	(\$6.2)	\$8.5	2%
13	Ruth - Turner	Line	AEP	\$2.5	(\$6.5)	\$0.5	\$9.5	(\$1.3)	(\$0.7)	(\$0.6)	(\$1.2)	\$8.3	2%
14	Tiltonville - Windsor	Line	AP	\$7.9	(\$0.3)	\$0.3	\$8.5	(\$0.3)	(\$0.6)	(\$0.8)	(\$0.5)	\$7.9	1%
15	Kanawha River	Transformer	AEP	\$2.0	(\$3.6)	\$0.3	\$5.9	\$0.1	(\$0.5)	(\$0.1)	\$0.5	\$6.4	1%
16	Kammer - Ormet	Line	AEP	\$4.3	(\$4.1)	(\$0.1)	\$8.3	(\$1.6)	\$0.5	(\$0.0)	(\$2.2)	\$6.2	1%
17	Sammis - Wylie Ridge	Line	AP	\$3.1	(\$2.7)	\$3.4	\$9.2	(\$1.1)	(\$0.3)	(\$2.8)	(\$3.5)	\$5.7	1%
18	Kanawha - Kincaid	Line	AEP	\$1.9	(\$3.5)	\$0.2	\$5.6	\$0.0	\$0.0	\$0.0	\$0.0	\$5.6	1%
19	Graceton - Raphael Road	Line	BGE	\$0.9	(\$3.6)	\$0.5	\$5.1	\$1.5	\$0.3	(\$0.6)	\$0.6	\$5.6	1%
20	Schahfer - Burr Oak	Flowgate	Midwest ISO	\$0.4	(\$1.3)	\$0.6	\$2.3	(\$2.0)	\$0.4	(\$5.4)	(\$7.8)	(\$5.6)	(1%)
21	Breed - Wheatland	Line	AEP	(\$0.2)	(\$4.9)	\$0.6	\$5.3	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$5.3	1%
22	Electric Jct - Nelson	Line	ComEd	\$0.0	(\$8.4)	\$1.2	\$9.6	\$1.8	\$1.7	(\$4.8)	(\$4.7)	\$4.9	1%
23	Kanawha River - Bradley	Line	AEP	(\$0.1)	(\$4.6)	\$0.3	\$4.7	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	\$4.7	1%
24	Mount Storm	Transformer	AP	\$0.8	(\$3.9)	(\$0.1)	\$4.7	(\$0.1)	\$0.1	\$0.1	(\$0.2)	\$4.5	1%
25	Doubs	Transformer	AP	\$2.6	(\$1.8)	\$0.0	\$4.4	(\$0.0)	(\$0.1)	(\$0.1)	(\$0.1)	\$4.3	1%

Congestion-Event Summary for Midwest ISO Flowgates

Table 7-13 Top congestion cost impacts from Midwest ISO flowgates affecting PJM dispatch (By facility): January through September 2010 (See 2009 SOM, Table 7-13)

No.	Constraint	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				
1	Crete - St Johns Tap	(\$1.2)	(\$15.3)	(\$0.2)	\$13.9	(\$0.9)	(\$0.2)	(\$1.8)	(\$2.5)	\$11.4	800	245	
2	Pleasant Prairie - Zion	(\$3.2)	(\$7.5)	\$2.4	\$6.7	(\$0.4)	\$1.2	(\$13.3)	(\$14.9)	(\$8.1)	1,098	212	
3	Rising	\$0.2	(\$4.3)	\$0.6	\$5.1	(\$0.0)	\$0.0	(\$0.2)	(\$0.3)	\$4.8	776	44	
4	Palisades - Vergennes	\$2.8	(\$0.6)	\$0.5	\$3.9	(\$0.1)	\$0.4	(\$1.0)	(\$1.5)	\$2.3	235	91	
5	Dunes Acres - Michigan City	\$0.6	(\$1.1)	\$0.4	\$2.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$2.1	142	3	
6	State Line - Wolf Lake	\$0.3	(\$0.7)	\$0.6	\$1.5	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$1.5	376	1	
7	Marktown - Inland Steel	\$0.6	(\$0.9)	\$0.7	\$2.2	(\$0.9)	\$0.7	(\$1.4)	(\$3.1)	(\$0.9)	424	344	
8	Breed - Wheatland	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.7)	(\$0.7)	(\$0.7)	0	24	
9	Benton Harbor - Palisades	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.2	(\$0.3)	(\$0.6)	(\$0.6)	0	32	
10	Beaver Valley - Sammis	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.1	(\$0.2)	(\$0.4)	(\$0.4)	0	8	
11	Oak Grove - Galesburg	(\$0.1)	(\$0.3)	\$0.1	\$0.3	(\$0.0)	\$0.1	(\$0.6)	(\$0.7)	(\$0.4)	61	116	
12	Michigan City - Laporte	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.0	(\$0.3)	(\$0.4)	(\$0.4)	0	36	
13	Nucor - Whitestown	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	(\$0.4)	(\$0.4)	0	21	
14	Burr Oak	\$0.1	(\$0.2)	\$0.0	\$0.3	\$0.0	\$0.2	(\$0.5)	(\$0.6)	(\$0.4)	76	103	
15	Lanesville	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.3)	(\$0.4)	(\$0.4)	0	38	
16	Stillwell - Dumont	\$0.0	(\$0.2)	\$0.1	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	42	0	
17	Bunsonville - Eugene	(\$0.0)	(\$0.3)	\$0.1	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	31	0	
18	DC Cook - Palisades	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	(\$0.0)	(\$0.2)	(\$0.3)	(\$0.3)	0	6	
19	Palisades - Roosevelt	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.1	(\$0.2)	(\$0.3)	(\$0.3)	0	30	
20	Cumberland - Bush	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.2)	(\$0.2)	(\$0.2)	0	18	

Table 7-14 Top congestion cost impacts from Midwest ISO flowgates affecting PJM dispatch (By facility): January through September 2009 (See 2009 SOM, Table 7-14)

No.	Constraint	Congestion Costs (Millions)										
		Day Ahead				Balancing				Event Hours		
		Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
1	Dunes Acres - Michigan City	\$13.5	(\$22.9)	\$8.6	\$44.9	(\$7.2)	(\$2.0)	(\$23.4)	(\$28.6)	\$16.3	2,888	907
2	Pana North	\$0.1	(\$2.1)	\$1.7	\$3.9	(\$0.5)	\$1.1	(\$11.5)	(\$13.0)	(\$9.1)	879	318
3	Crete - St Johns Tap	\$2.7	(\$9.2)	\$2.9	\$14.7	(\$0.9)	\$0.2	(\$5.1)	(\$6.2)	\$8.5	732	190
4	Schahfer - Burr Oak	\$0.4	(\$1.3)	\$0.6	\$2.3	(\$2.0)	\$0.4	(\$5.4)	(\$7.8)	(\$5.6)	62	81
5	Breed - Wheatland	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.7	(\$3.2)	(\$3.8)	(\$3.8)	0	161
6	Pleasant Prairie - Zion	(\$0.0)	(\$0.2)	\$0.2	\$0.4	\$0.1	\$0.6	(\$3.2)	(\$3.7)	(\$3.3)	51	45
7	Eugene - Bunsonville	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.1	(\$1.1)	(\$1.3)	(\$1.3)	0	44
8	Oak Grove - Galesburg	(\$0.5)	(\$3.8)	\$0.1	\$3.4	\$0.7	\$1.1	(\$4.0)	(\$4.5)	(\$1.1)	645	531
9	State Line - Roxana	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	\$0.0	(\$0.4)	(\$0.6)	(\$0.6)	0	30
10	Rising	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.5)	(\$0.5)	(\$0.5)	0	55
11	State Line - Wolf Lake	\$0.3	(\$1.0)	\$0.6	\$1.9	(\$0.4)	\$0.5	(\$1.5)	(\$2.4)	(\$0.5)	415	152
12	Pawnee	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.4)	(\$0.4)	(\$0.4)	0	35
13	Lanesville	\$0.3	(\$0.1)	\$0.1	\$0.5	\$0.0	\$0.1	(\$0.8)	(\$0.9)	(\$0.4)	104	32
14	Pierce - Foster	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.3	(\$0.0)	(\$0.4)	(\$0.4)	0	5
15	Palisades - Argenta	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.2	(\$0.0)	(\$0.2)	(\$0.2)	0	8
16	Bunsonville - Eugene	\$0.0	(\$0.1)	\$0.1	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	24	0
17	Burr Oak	\$0.1	(\$0.2)	\$0.4	\$0.7	(\$0.2)	\$0.0	(\$0.6)	(\$0.9)	(\$0.2)	24	37
18	State Line	\$0.0	(\$0.0)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	295	0
19	Havana - Ipava	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	0	9
20	Krendale - Seneca	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	0	2

Congestion-Event Summary for the 500 kV System

Table 7-15 Regional constraints summary (By facility): January through September 2010 (See 2009 SOM, Table 7-15)

No.	Constraint	Type	Location	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				
1	AP South	Interface	500	\$4.3	(\$335.3)	\$1.5	\$341.1	\$9.6	\$6.9	(\$1.7)	\$1.1	\$342.2	3,512	1,251	
2	Bedington - Black Oak	Interface	500	\$12.6	(\$70.3)	\$2.1	\$85.0	\$0.0	(\$0.9)	(\$0.5)	\$0.5	\$85.5	1,819	47	
3	5004/5005 Interface	Interface	500	\$43.4	(\$32.4)	(\$0.1)	\$75.7	\$9.7	\$8.5	(\$0.5)	\$0.7	\$76.4	1,379	561	
4	AEP-DOM	Interface	500	\$9.8	(\$37.6)	\$0.9	\$48.3	\$0.1	(\$1.3)	(\$0.1)	\$1.3	\$49.6	471	89	
5	West	Interface	500	\$20.8	(\$1.7)	(\$0.2)	\$22.3	\$0.6	\$1.2	\$0.1	(\$0.5)	\$21.7	159	58	
6	Harrison - Pruntytown	Line	500	\$2.0	(\$4.1)	\$0.8	\$6.9	(\$0.7)	(\$0.4)	(\$2.3)	(\$2.6)	\$4.3	231	224	
7	East	Interface	500	\$1.4	(\$1.8)	\$0.0	\$3.2	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$3.2	154	1	
8	Central	Interface	500	\$1.1	(\$0.2)	\$0.1	\$1.4	\$0.1	\$0.1	(\$0.0)	(\$0.0)	\$1.4	116	13	
9	Harrison Tap - North Longview	Line	500	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	6	0	
10	Doubs - Mount Storm	Line	500	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	\$0.7	\$0.2	(\$0.1)	(\$0.1)	0	45	
11	Juniata - Keystone	Line	500	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	0	1	

Table 7-16 Regional constraints summary (By facility): January through September 2009 (See 2009 SOM, Table 7-16)

No.	Constraint	Type	Location	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				
1	AP South	Interface	500	\$8.8	(\$133.2)	(\$0.3)	\$141.7	\$2.2	(\$3.1)	\$2.2	\$7.5	\$149.1	2,559	423	
2	West	Interface	500	\$17.8	(\$21.4)	\$0.6	\$39.7	\$0.3	(\$0.2)	\$0.1	\$0.7	\$40.4	391	85	
3	5004/5005 Interface	Interface	500	\$9.5	(\$25.5)	\$0.1	\$35.2	\$1.3	\$0.4	\$0.1	\$1.0	\$36.2	643	241	
4	Kammer	Transformer	500	\$50.8	\$16.1	\$9.0	\$43.8	(\$4.9)	(\$6.7)	(\$11.6)	(\$9.8)	\$34.0	3,674	1,328	
5	Bedington - Black Oak	Interface	500	\$2.4	(\$10.4)	\$0.6	\$13.4	(\$0.4)	(\$0.0)	\$0.2	(\$0.3)	\$13.1	395	61	
6	AEP-DOM	Interface	500	\$0.5	(\$3.1)	\$0.3	\$3.9	(\$0.5)	(\$0.0)	(\$0.3)	(\$0.8)	\$3.1	126	64	
7	East	Interface	500	\$0.2	(\$0.1)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	21	0	
8	Doubs - Mount Storm	Line	500	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.1	0	18	
9	Central	Interface	500	\$0.0	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$0.1	19	8	
10	Harrison - Pruntytown	Line	500	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	0	4	

Zonal Congestion

Summary

Table 7-17 Congestion cost summary (By control zone): January through September 2010 (See 2009 SOM, Table 7-17)

Control Zone	Congestion Costs (Millions)								Grand Total
	Load Payments	Day Ahead			Balancing			Load Payments	
		Generation Credits	Explicit	Total		Generation Credits	Explicit	Total	
AECO	\$33.5	\$12.0	\$0.2	\$21.8	(\$0.7)	(\$1.0)	(\$0.1)	\$0.2	\$22.0
AEP	(\$122.6)	(\$278.8)	\$11.8	\$168.0	(\$10.1)	\$19.7	(\$16.1)	(\$45.8)	\$122.2
AP	(\$4.4)	(\$241.7)	\$1.7	\$238.9	\$10.4	\$19.5	(\$3.3)	(\$12.4)	\$226.5
BGE	\$159.4	\$92.4	\$6.0	\$72.9	\$10.7	(\$3.7)	(\$7.8)	\$6.6	\$79.6
ComEd	(\$333.8)	(\$546.2)	\$4.5	\$216.9	(\$20.7)	\$12.1	(\$12.5)	(\$45.3)	\$171.6
DAY	(\$14.8)	(\$23.4)	\$6.1	\$14.7	\$1.0	\$1.0	(\$6.8)	(\$6.8)	\$7.9
DLCO	(\$67.6)	(\$105.6)	(\$0.2)	\$37.7	(\$8.9)	(\$0.3)	\$0.2	(\$8.4)	\$29.3
Dominion	\$218.4	(\$4.1)	\$12.7	\$235.2	(\$3.3)	(\$5.5)	(\$12.8)	(\$10.5)	\$224.7
DPL	\$57.2	\$20.6	\$0.7	\$37.4	(\$0.5)	\$1.1	(\$1.0)	(\$2.7)	\$34.7
External	(\$142.3)	(\$151.2)	(\$5.8)	\$3.2	\$7.1	(\$18.4)	(\$25.2)	\$0.3	\$3.5
JCPL	\$56.3	\$20.2	\$0.4	\$36.5	\$2.8	(\$0.2)	(\$0.5)	\$2.5	\$39.0
Met-Ed	\$50.8	\$37.1	\$0.9	\$14.6	(\$0.9)	(\$0.3)	(\$1.1)	(\$1.8)	\$12.8
PECO	\$56.5	\$62.0	\$0.3	(\$5.3)	(\$2.6)	\$0.9	(\$0.8)	(\$4.3)	(\$9.6)
PENELEC	(\$61.7)	(\$142.6)	\$0.2	\$81.1	\$22.4	\$11.0	\$0.1	\$11.5	\$92.6
Pepco	\$285.0	\$198.9	\$4.9	\$91.0	(\$22.9)	(\$12.4)	(\$5.7)	(\$16.2)	\$74.8
PPL	\$74.5	\$83.7	\$2.9	(\$6.2)	\$9.6	\$7.5	(\$0.6)	\$1.4	(\$4.8)
PSEG	\$96.1	\$73.6	\$21.4	\$43.9	(\$3.2)	\$10.7	(\$18.3)	(\$32.2)	\$11.7
RECO	\$2.8	\$0.2	\$0.0	\$2.7	\$0.6	(\$0.0)	(\$0.0)	\$0.6	\$3.3
Total	\$343.4	(\$892.9)	\$68.6	\$1,305.0	(\$9.3)	\$41.7	(\$112.4)	(\$163.4)	\$1,141.6

Table 7-18 Congestion cost summary (By control zone): January through September 2009 (See 2009 SOM, Table 7-18)

Control Zone	Congestion Costs (Millions)								Grand Total
	Day Ahead				Balancing				
	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	
AECO	\$21.7	\$8.0	\$0.2	\$13.9	(\$0.5)	\$0.8	\$0.4	(\$0.9)	\$12.9
AEP	(\$46.4)	(\$129.4)	\$8.7	\$91.8	(\$5.1)	\$7.5	(\$10.7)	(\$23.4)	\$68.4
AP	\$32.3	(\$54.0)	\$13.3	\$99.5	(\$4.6)	\$2.7	(\$22.6)	(\$29.9)	\$69.7
BGE	\$71.8	\$57.2	\$1.1	\$15.7	\$5.3	(\$3.7)	(\$1.2)	\$7.9	\$23.6
ComEd	(\$206.4)	(\$386.3)	(\$3.3)	\$176.7	(\$5.8)	\$2.1	(\$0.7)	(\$8.6)	\$168.1
DAY	(\$8.0)	(\$15.1)	(\$0.5)	\$6.7	\$1.0	\$1.3	\$0.1	(\$0.2)	\$6.5
DLCO	(\$41.4)	(\$62.5)	(\$0.0)	\$21.1	(\$3.7)	\$5.1	(\$0.0)	(\$8.8)	\$12.3
Dominion	\$73.8	(\$0.8)	\$6.3	\$80.8	\$0.2	(\$3.9)	(\$7.6)	(\$3.4)	\$77.4
DPL	\$43.7	\$13.0	\$0.4	\$31.1	(\$2.0)	\$1.5	(\$0.4)	(\$4.0)	\$27.1
External	(\$18.0)	(\$46.3)	\$32.2	\$60.6	(\$2.0)	(\$5.6)	(\$71.2)	(\$67.6)	(\$7.0)
JCPL	\$40.2	\$16.3	\$0.0	\$23.9	\$0.4	(\$2.4)	(\$0.1)	\$2.7	\$26.6
Met-Ed	\$31.1	\$32.1	\$0.2	(\$0.7)	(\$0.1)	(\$0.5)	(\$0.3)	\$0.1	(\$0.6)
PECO	\$16.4	\$32.2	\$0.1	(\$15.8)	(\$0.3)	\$2.5	(\$0.0)	(\$2.8)	(\$18.6)
PENELEC	(\$2.7)	(\$27.1)	\$0.3	\$24.7	\$1.2	\$1.0	(\$0.1)	\$0.0	\$24.7
Pepco	\$158.9	\$106.0	\$2.3	\$55.3	(\$18.8)	(\$8.6)	(\$2.5)	(\$12.7)	\$42.6
PPL	\$11.9	\$19.3	\$2.3	(\$5.1)	\$0.1	(\$0.6)	\$0.3	\$0.9	(\$4.2)
PSEG	\$64.9	\$52.4	\$10.1	\$22.6	(\$0.4)	\$4.9	(\$5.0)	(\$10.3)	\$12.4
RECO	\$2.0	\$0.0	\$0.1	\$2.0	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	\$1.9
Total	\$245.7	(\$385.0)	\$73.8	\$704.6	(\$35.1)	\$4.1	(\$121.9)	(\$161.0)	\$543.6

Details of Regional and Zonal Congestion**Mid-Atlantic Region Congestion-Event Summaries****AECO Control Zone****Table 7-19 AECO Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-19)**

No.	Constraint	Type	Location	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					
1	5004/5005 Interface	Interface	500	\$8.2	\$3.7	\$0.0	\$4.5	\$0.6	(\$0.7)	(\$0.0)	\$1.2	\$5.8	1,379	561		
2	England - Middletap	Line	AECO	\$4.0	\$0.7	\$0.0	\$3.3	(\$0.4)	(\$0.4)	(\$0.0)	(\$0.0)	\$3.2	336	69		
3	West	Interface	500	\$3.7	\$1.8	\$0.0	\$1.8	\$0.1	\$0.0	\$0.0	\$0.1	\$2.0	159	58		
4	Monroe	Transformer	AECO	\$1.7	\$0.2	\$0.0	\$1.5	\$0.1	(\$0.2)	(\$0.0)	\$0.2	\$1.8	232	48		
5	Brandon Shores - Riverside	Line	BGE	\$2.4	\$1.1	\$0.0	\$1.3	\$0.0	(\$0.2)	(\$0.0)	\$0.2	\$1.5	343	162		
6	Absecon - Lewis	Line	AECO	\$0.2	\$0.0	\$0.0	\$0.2	(\$1.5)	\$0.1	(\$0.1)	(\$1.6)	(\$1.4)	81	18		
7	AP South	Interface	500	\$1.9	\$0.9	\$0.0	\$1.0	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$1.1	3,512	1,251		
8	Shieldalloy - Vineland	Line	AECO	\$3.2	\$0.9	\$0.1	\$2.3	(\$1.2)	\$0.1	(\$0.0)	(\$1.3)	\$1.1	229	163		
9	Branchburg - Readington	Line	PSEG	(\$1.3)	(\$0.5)	(\$0.0)	(\$0.8)	(\$0.1)	\$0.0	\$0.0	(\$0.1)	(\$0.8)	1,210	184		
10	Graceton - Raphael Road	Line	BGE	(\$1.2)	(\$0.5)	(\$0.0)	(\$0.7)	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.8)	215	112		
11	East Frankfort - Crete	Line	ComEd	\$0.9	\$0.2	\$0.0	\$0.6	\$0.1	(\$0.0)	(\$0.0)	\$0.2	\$0.8	2,242	797		
12	Bedington - Black Oak	Interface	500	\$1.3	\$0.6	\$0.0	\$0.8	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.8	1,819	47		
13	Cloverdale - Lexington	Line	AEP	\$0.8	\$0.3	\$0.0	\$0.5	\$0.2	\$0.0	(\$0.0)	\$0.2	\$0.7	1,044	620		
14	Tiltonville - Windsor	Line	AP	\$1.0	\$0.4	\$0.0	\$0.6	\$0.1	(\$0.1)	(\$0.0)	\$0.1	\$0.7	1,954	410		
15	Brunner Island - Yorkana	Line	Met-Ed	(\$0.6)	(\$0.2)	(\$0.0)	(\$0.4)	(\$0.1)	\$0.1	\$0.0	(\$0.2)	(\$0.6)	219	168		
23	Corson - Court	Line	AECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.2)	\$0.1	(\$0.0)	(\$0.3)	(\$0.3)	7	15		
34	Corson - Union	Line	AECO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	(\$0.0)	\$0.0	\$0.2	\$0.2	0	16		
40	Sherman Avenue	Transformer	AECO	\$0.1	(\$0.0)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	25	0		
66	Sherman	Transformer	AECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	(\$0.1)	0	19		
71	Corson	Transformer	AECO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.1	\$0.1	0	17		

Table 7-20 AECO Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-20)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Load Payments	Day Ahead			Total	Load Payments	Balancing			Total	Day Ahead		Real Time	
					Generation Credits	Explicit	Generation Credits			Explicit							
1	Kammer	Transformer	500	\$4.2	\$1.3	\$0.0	\$2.9	\$0.2	(\$0.0)	\$0.0	\$0.3	\$3.1	3,674	1,328			
2	West	Interface	500	\$4.6	\$2.2	\$0.0	\$2.4	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$2.4	391	85			
3	5004/5005 Interface	Interface	500	\$3.8	\$1.7	\$0.0	\$2.1	\$0.1	\$0.1	\$0.0	\$0.1	\$2.2	643	241			
4	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$1.4	\$0.3	\$0.0	\$1.1	\$0.1	(\$0.0)	\$0.0	\$0.2	\$1.3	2,888	907			
5	Wylie Ridge	Transformer	AP	\$1.8	\$0.9	\$0.0	\$0.9	(\$0.0)	\$0.1	\$0.1	(\$0.0)	\$0.9	354	335			
6	Absecon - Lewis	Line	AECO	\$1.0	\$0.1	\$0.0	\$1.0	(\$1.2)	\$0.5	(\$0.0)	(\$1.7)	(\$0.8)	22	149			
7	Graceton - Raphael Road	Line	BGE	(\$1.2)	(\$0.4)	(\$0.0)	(\$0.8)	\$0.2	\$0.1	\$0.0	\$0.0	(\$0.8)	300	127			
8	AP South	Interface	500	\$1.0	\$0.5	\$0.0	\$0.6	\$0.0	\$0.0	\$0.1	\$0.1	\$0.6	2,559	423			
9	Monroe	Transformer	AECO	\$0.5	\$0.0	\$0.0	\$0.4	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.5	263	13			
10	Shieldalloy - Vineland	Line	AECO	\$1.1	\$0.3	\$0.0	\$0.9	(\$0.3)	\$0.1	(\$0.0)	(\$0.4)	\$0.5	148	61			
11	Monroe - New Freedom	Line	AECO	\$0.8	\$0.4	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	584	0			
12	Tiltonville - Windsor	Line	AP	\$0.6	\$0.2	\$0.0	\$0.4	\$0.0	(\$0.0)	(\$0.0)	\$0.1	\$0.4	1,258	237			
13	East Frankfort - Crete	Line	ComEd	\$0.5	\$0.2	\$0.0	\$0.4	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.4	1,490	219			
14	Sammis - Wylie Ridge	Line	AP	\$0.6	\$0.2	\$0.0	\$0.3	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.4	632	140			
15	Cloverdale - Lexington	Line	AEP	\$0.4	\$0.2	\$0.0	\$0.2	\$0.1	(\$0.0)	\$0.0	\$0.1	\$0.3	752	335			
19	Lewis - Motts - Cedar	Line	AECO	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	108	0			
28	Corson - Union	Line	AECO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.1	0	3			
75	Clayton - Williams	Line	AECO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	3	0			
125	Churchtown	Transformer	AECO	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	4	0			
140	Carlls Corner - Sherman Ave	Line	AECO	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	24	11			

BGE Control Zone**Table 7-21 BGE Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-21)**

No.	Constraint	Type	Location	Congestion Costs (Millions)										Grand Total	Event Hours	
				Day Ahead				Balancing				Day Ahead	Real Time			
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total					
1	Brandon Shores - Riverside	Line	BGE	\$17.3	(\$8.9)	\$0.2	\$26.4	(\$2.1)	\$0.2	(\$0.3)	(\$2.5)	\$23.9	343	162		
2	AP South	Interface	500	\$46.9	\$36.1	\$1.9	\$12.6	\$3.5	(\$1.5)	(\$1.6)	\$3.4	\$16.0	3,512	1,251		
3	Doubs	Transformer	AP	\$11.7	\$7.0	\$0.2	\$5.0	\$1.0	(\$1.2)	(\$0.4)	\$1.8	\$6.8	806	431		
4	Bedington - Black Oak	Interface	500	\$18.3	\$13.6	\$0.6	\$5.3	\$0.4	(\$0.2)	(\$0.1)	\$0.5	\$5.8	1,819	47		
5	5004/5005 Interface	Interface	500	\$7.5	\$3.7	\$0.3	\$4.1	\$0.5	(\$0.2)	(\$0.3)	\$0.4	\$4.5	1,379	561		
6	West	Interface	500	\$6.3	\$3.1	\$0.0	\$3.2	\$0.2	(\$0.0)	(\$0.0)	\$0.2	\$3.4	159	58		
7	Graceton - Raphael Road	Line	BGE	\$5.1	\$3.3	\$0.3	\$2.2	\$0.2	(\$0.5)	(\$0.3)	\$0.4	\$2.5	215	112		
8	Mount Storm - Pruntytown	Line	AP	\$4.3	\$3.6	\$0.2	\$0.8	\$1.3	(\$0.7)	(\$0.6)	\$1.4	\$2.2	571	574		
9	Brunner Island - Yorkana	Line	Met-Ed	\$3.6	\$2.2	\$0.2	\$1.7	\$0.2	(\$0.0)	(\$0.2)	(\$0.1)	\$1.6	219	168		
10	Cloverdale - Lexington	Line	AEP	\$4.8	\$4.4	\$0.2	\$0.5	\$0.8	(\$0.3)	(\$0.2)	\$0.9	\$1.4	1,044	620		
11	Tiltonville - Windsor	Line	AP	\$2.4	\$1.6	\$0.1	\$0.8	\$0.2	(\$0.1)	(\$0.1)	\$0.2	\$1.0	1,954	410		
12	East Frankfort - Crete	Line	ComEd	\$2.5	\$2.0	\$0.1	\$0.6	\$0.3	(\$0.1)	(\$0.0)	\$0.3	\$0.9	2,242	797		
13	Pumphrey	Transformer	Pepco	\$1.1	\$0.3	\$0.0	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.9	56	0		
14	Five Forks - Rock Ridge	Line	Dominion	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.3)	\$0.5	(\$0.1)	(\$0.9)	(\$0.9)	0	38		
15	Branchburg - Readington	Line	PSEG	(\$1.5)	(\$0.9)	(\$0.1)	(\$0.8)	(\$0.1)	\$0.1	\$0.1	(\$0.0)	(\$0.8)	1,210	184		
25	Fullerton - Windyedge	Line	BGE	\$0.4	(\$0.1)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	23	0		
30	Green Street - Westport	Line	BGE	\$0.3	(\$0.0)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	144	0		
43	Granite - Harrisonville	Line	BGE	\$0.2	(\$0.0)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	7	0		
48	Glenarm - Windy Edge	Line	BGE	\$0.2	\$0.1	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.2	18	16		
49	High Ridge - Howard	Line	BGE	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.2	9	10		

Table 7-22 BGE Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-22)

Congestion Costs (Millions)															
No.	Constraint	Type	Location	Day Ahead				Balancing				Grand Total	Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total		Day Ahead	Real Time	
1	Kammer	Transformer	500	\$11.9	\$9.0	\$0.2	\$3.2	\$1.0	(\$0.6)	(\$0.2)	\$1.3	\$4.5	3,674	1,328	
2	AP South	Interface	500	\$18.4	\$16.9	\$0.2	\$1.7	\$1.3	(\$1.0)	(\$0.2)	\$2.1	\$3.8	2,559	423	
3	5004/5005 Interface	Interface	500	\$2.5	\$1.3	\$0.1	\$1.3	\$0.2	(\$0.2)	(\$0.1)	\$0.4	\$1.7	643	241	
4	West	Interface	500	\$8.1	\$6.8	\$0.2	\$1.4	\$0.1	(\$0.2)	(\$0.0)	\$0.2	\$1.6	391	85	
5	Wylie Ridge	Transformer	AP	\$3.6	\$3.4	\$0.1	\$0.3	\$0.6	(\$0.7)	(\$0.2)	\$1.2	\$1.5	354	335	
6	Graceton - Raphael Road	Line	BGE	\$4.3	\$2.9	\$0.0	\$1.4	\$0.0	\$0.1	(\$0.1)	(\$0.2)	\$1.3	300	127	
7	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$3.4	\$2.7	\$0.0	\$0.6	\$0.3	(\$0.0)	(\$0.0)	\$0.4	\$1.0	2,888	907	
8	Mount Storm - Pruntytown	Line	AP	\$3.2	\$2.9	\$0.0	\$0.2	\$0.5	(\$0.3)	(\$0.1)	\$0.6	\$0.9	525	132	
9	Bedington - Black Oak	Interface	500	\$2.7	\$2.0	\$0.1	\$0.7	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.8	395	61	
10	Pumphrey - Westport	Line	Pepco	\$0.5	(\$0.1)	\$0.0	\$0.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.7	1,179	0	
11	Cloverdale - Lexington	Line	AEP	\$2.3	\$2.2	\$0.0	\$0.2	\$0.3	(\$0.1)	(\$0.0)	\$0.4	\$0.5	752	335	
12	Tiltonville - Windsor	Line	AP	\$1.2	\$0.7	\$0.0	\$0.4	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.5	1,258	237	
13	Five Forks - Rock Ridge	Line	BGE	\$0.7	\$0.2	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	136	0	
14	Buzzard - Ritchie	Line	Pepco	(\$2.0)	(\$1.9)	(\$0.0)	(\$0.1)	\$0.1	\$0.2	\$0.0	(\$0.1)	(\$0.3)	409	149	
15	Sammis - Wylie Ridge	Line	AP	\$1.4	\$1.1	\$0.0	\$0.3	\$0.1	(\$0.1)	(\$0.0)	\$0.1	\$0.4	632	140	
18	Green Street - Westport	Line	BGE	\$0.3	(\$0.0)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	356	0	
22	Conastone - Otter	Line	BGE	\$0.4	\$0.2	\$0.0	\$0.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2	92	32	
24	Waugh Chapel	Transformer	BGE	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.2)	\$0.0	\$0.2	\$0.2	0	8	
26	Conastone	Transformer	BGE	\$0.3	\$0.2	\$0.0	\$0.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2	17	1	
33	Gwynnbrook - Mays Chapel	Line	BGE	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	26	0	

DPL Control Zone

Table 7-23 DPL Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-23)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Day Ahead	Real Time
				Day Ahead				Balancing				Grand Total				
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total					
1	5004/5005 Interface	Interface	500	\$13.4	\$5.7	\$0.1	\$7.8	\$0.5	(\$0.0)	(\$0.2)	\$0.3	\$8.1	1,379	561		
2	AP South	Interface	500	\$5.0	\$2.2	\$0.1	\$2.9	\$0.2	\$0.0	(\$0.0)	\$0.1	\$3.0	3,512	1,251		
3	Oak Hall	Transformer	DPL	\$2.7	\$0.5	\$0.0	\$2.2	\$0.0	\$0.0	\$0.0	\$0.0	\$2.2	585	0		
4	West	Interface	500	\$5.3	\$3.4	\$0.0	\$1.9	\$0.1	\$0.1	(\$0.0)	\$0.0	\$1.9	159	58		
5	Bedington - Black Oak	Interface	500	\$2.7	\$1.2	\$0.0	\$1.6	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$1.5	1,819	47		
6	New Church - Piney Grove	Line	DPL	\$1.9	\$0.4	\$0.0	\$1.5	\$0.0	\$0.0	\$0.0	\$0.0	\$1.5	296	0		
7	Brandon Shores - Riverside	Line	BGE	\$3.4	\$2.0	\$0.0	\$1.5	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$1.5	343	162		
8	East Frankfort - Crete	Line	ComEd	\$1.6	\$0.2	\$0.0	\$1.4	\$0.1	\$0.0	(\$0.0)	\$0.0	\$1.4	2,242	797		
9	Middletown - Mt Pleasant	Line	DPL	\$1.7	\$0.4	\$0.0	\$1.3	\$0.0	\$0.0	\$0.0	\$0.0	\$1.3	163	0		
10	Longwood - Wye Mills	Line	DPL	\$1.6	\$0.3	\$0.0	\$1.3	\$0.0	\$0.0	\$0.0	\$0.0	\$1.3	260	0		
11	Cloverdale - Lexington	Line	AEP	\$1.4	\$0.3	\$0.0	\$1.1	\$0.2	\$0.0	(\$0.1)	\$0.1	\$1.2	1,044	620		
12	Graceton - Raphael Road	Line	BGE	(\$2.1)	(\$1.0)	(\$0.0)	(\$1.1)	(\$0.0)	(\$0.1)	\$0.0	\$0.0	(\$1.1)	215	112		
13	Branchburg - Readington	Line	PSEG	(\$1.9)	(\$0.9)	(\$0.1)	(\$1.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.1	(\$1.0)	1,210	184		
14	Eddystone - Island Road	Line	PECO	(\$2.8)	(\$2.0)	(\$0.1)	(\$0.9)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.9)	186	3		
15	Tiltonville - Windsor	Line	AP	\$1.5	\$0.7	\$0.0	\$0.8	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.9	1,954	410		
16	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		
17	Kenney - Stockton	Line	DPL	\$1.0	\$0.3	\$0.0	\$0.7	(\$1.5)	(\$0.1)	(\$0.1)	(\$1.4)	(\$0.8)	96	111		
18	Easton - Trappe	Line	DPL	\$0.9	\$0.2	\$0.0	\$0.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.7	117	0		
19	Dupont Seaford - Laurel	Line	DPL	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	\$0.4	(\$0.0)	(\$0.7)	(\$0.7)	0	15		
20	Keeney At5n	Transformer	DPL	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.6	(\$0.0)	(\$0.7)	(\$0.7)	0	13		

Table 7-24 DPL Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-24)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Load Payments	Day Ahead			Total	Load Payments	Balancing			Total	Day Ahead		Real Time	
					Generation Credits	Explicit	Generation Credits			Explicit							
1	Kammer	Transformer	500	\$7.5	\$1.7	\$0.0	\$5.9	(\$0.1)	\$0.3	(\$0.1)	(\$0.4)	\$5.4	3,674	1,328			
2	West	Interface	500	\$8.6	\$3.6	\$0.0	\$5.1	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	\$4.9	391	85			
3	5004/5005 Interface	Interface	500	\$6.2	\$2.5	\$0.1	\$3.8	\$0.0	\$0.3	(\$0.1)	(\$0.3)	\$3.5	643	241			
4	Short - Laurel	Line	DPL	\$0.0	\$0.0	\$0.0	\$0.0	(\$2.1)	\$0.2	(\$0.1)	(\$2.4)	(\$2.4)	0	27			
5	Wylie Ridge	Transformer	AP	\$3.4	\$1.3	\$0.0	\$2.1	\$0.2	\$0.2	(\$0.0)	(\$0.0)	\$2.1	354	335			
6	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$2.4	\$0.3	(\$0.0)	\$2.1	(\$0.1)	\$0.0	\$0.0	(\$0.1)	\$2.0	2,888	907			
7	AP South	Interface	500	\$2.6	\$0.8	\$0.0	\$1.8	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$1.7	2,559	423			
8	Middletown - Mt Pleasant	Line	DPL	\$1.8	\$0.3	\$0.0	\$1.5	(\$0.2)	\$0.0	\$0.0	(\$0.2)	\$1.3	300	17			
9	Sammis - Wylie Ridge	Line	AP	\$1.2	\$0.2	\$0.0	\$1.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	\$0.9	632	140			
10	Graceton - Raphael Road	Line	BGE	(\$1.9)	(\$0.5)	(\$0.0)	(\$1.5)	\$0.3	(\$0.2)	\$0.0	\$0.6	(\$0.9)	300	127			
11	North Seaford - Pine Street	Line	DPL	\$1.0	\$0.2	\$0.0	\$0.8	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.8	310	1			
12	East Frankfort - Crete	Line	ComEd	\$1.0	\$0.2	\$0.0	\$0.8	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.8	1,490	219			
13	Tiltonville - Windsor	Line	AP	\$1.0	\$0.2	\$0.0	\$0.8	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	\$0.7	1,258	237			
14	Cloverdale - Lexington	Line	AEP	\$0.9	\$0.2	\$0.0	\$0.7	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.7	752	335			
15	Easton - Trappe	Line	DPL	\$0.7	\$0.1	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	146	0			
16	Church - I.B. Corners	Line	DPL	\$0.7	\$0.1	\$0.0	\$0.6	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.6	55	5			
17	Longwood - Wye Mills	Line	DPL	\$0.6	\$0.1	\$0.0	\$0.5	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.5	240	3			
19	Edgemoor - Harmony	Line	DPL	\$0.8	\$0.3	\$0.0	\$0.5	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	\$0.4	28	7			
20	Red Lion At20	Transformer	DPL	\$0.4	\$0.1	\$0.0	\$0.4	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.4	45	6			
21	Edgemoor At20	Transformer	DPL	\$0.9	\$0.4	\$0.0	\$0.5	(\$0.4)	\$0.4	(\$0.1)	(\$0.9)	(\$0.4)	36	43			

JCPL Control Zone

Table 7-25 JCPL Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-25)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Load Payments	Day Ahead			Total	Load Payments	Balancing			Total	Day Ahead		Real Time	
					Generation Credits	Explicit	Generation Credits			Explicit							
1	5004/5005 Interface	Interface	500	\$18.1	\$8.1	\$0.0	\$10.1	\$1.0	(\$0.2)	(\$0.1)	\$1.1	\$11.2	1,379	561			
2	Branchburg - Readington	Line	PSEG	\$6.8	\$0.4	\$0.1	\$6.5	(\$0.5)	(\$0.3)	\$0.1	(\$0.2)	\$6.3	1,210	184			
3	West	Interface	500	\$7.5	\$4.0	\$0.0	\$3.6	\$0.0	(\$0.1)	(\$0.0)	\$0.2	\$3.7	159	58			
4	Redoak - Sayreville	Line	JCPL	(\$1.9)	(\$5.5)	\$0.0	\$3.6	\$0.1	\$0.7	\$0.0	(\$0.6)	\$3.0	795	57			
5	Athenia - Saddlebrook	Line	PSEG	(\$3.2)	(\$1.0)	(\$0.0)	(\$2.2)	(\$0.2)	\$0.1	\$0.0	(\$0.2)	(\$2.4)	2,947	331			
6	Brandon Shores - Riverside	Line	BGE	\$4.5	\$2.4	\$0.0	\$2.2	\$0.1	(\$0.1)	(\$0.0)	\$0.1	\$2.3	343	162			
7	East Frankfort - Crete	Line	ComEd	\$2.1	\$0.9	(\$0.0)	\$1.1	\$0.0	(\$0.1)	\$0.0	\$0.1	\$1.3	2,242	797			
8	Tiltonsville - Windsor	Line	AP	\$2.2	\$1.1	\$0.0	\$1.0	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$1.1	1,954	410			
9	Graceton - Raphael Road	Line	BGE	(\$2.4)	(\$1.3)	(\$0.0)	(\$1.1)	\$0.2	\$0.1	\$0.0	\$0.1	(\$1.0)	215	112			
10	Cloverdale - Lexington	Line	AEP	\$1.6	\$0.7	\$0.0	\$0.9	\$0.1	(\$0.1)	(\$0.0)	\$0.1	\$1.0	1,044	620			
11	Atlantic - Larrabee	Line	JCPL	\$0.9	\$0.1	\$0.0	\$0.9	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.9	123	12			
12	Bedington - Black Oak	Interface	500	\$1.5	\$0.8	\$0.1	\$0.8	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.8	1,819	47			
13	Brunner Island - Yorkana	Line	Met-Ed	(\$2.0)	(\$1.1)	(\$0.0)	(\$0.9)	\$0.3	\$0.1	\$0.0	\$0.2	(\$0.7)	219	168			
14	Wylie Ridge	Transformer	AP	\$1.2	\$0.6	\$0.0	\$0.5	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$0.6	479	376			
15	Kingwood - Pruntytown	Line	AP	\$1.1	\$0.6	\$0.0	\$0.5	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.5	421	49			
27	Sayreville - Werner	Line	JCPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.1)	\$0.0	\$0.3	\$0.3	0	4			
31	Franklin - West Wharton	Line	JCPL	\$0.4	\$0.2	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	57	0			
36	Kilmer - Sayreville	Line	JCPL	\$0.5	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	117	0			
194	Montville - Roseland	Line	JCPL	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	0	5			
225	Greystone - West Wharton	Line	JCPL	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	4	0			

Table 7-26 JCPL Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-26)

No.	Constraint	Type	Location	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				
1	West	Interface	500	\$9.7	\$3.9	\$0.0	\$5.7	\$0.1	(\$0.2)	(\$0.0)	\$0.2	\$6.0	391	85	
2	5004/5005 Interface	Interface	500	\$8.2	\$3.5	\$0.0	\$4.7	\$0.2	(\$0.9)	(\$0.0)	\$1.1	\$5.7	643	241	
3	Kammer	Transformer	500	\$8.2	\$3.5	\$0.0	\$4.8	\$0.1	(\$0.6)	(\$0.0)	\$0.7	\$5.4	3,674	1,328	
4	Wylie Ridge	Transformer	AP	\$3.9	\$1.4	\$0.0	\$2.5	\$0.1	(\$0.6)	(\$0.0)	\$0.7	\$3.2	354	335	
5	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$3.0	\$1.3	(\$0.1)	\$1.6	(\$0.0)	(\$0.2)	\$0.0	\$0.2	\$1.7	2,888	907	
6	Atlantic - Larrabee	Line	JCPL	\$1.8	\$0.4	\$0.0	\$1.5	(\$0.6)	(\$0.5)	(\$0.0)	(\$0.1)	\$1.3	188	45	
7	Athenia - Saddlebrook	Line	PSEG	(\$1.4)	(\$0.3)	(\$0.0)	(\$1.0)	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$1.1)	1,094	139	
8	Sammis - Wylie Ridge	Line	AP	\$1.4	\$0.5	\$0.0	\$0.9	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.9	632	140	
9	Graceton - Raphael Road	Line	BGE	(\$1.9)	(\$1.0)	(\$0.0)	(\$0.9)	\$0.4	\$0.2	\$0.0	\$0.2	(\$0.8)	300	127	
10	East Frankfort - Crete	Line	ComEd	\$1.3	\$0.5	(\$0.0)	\$0.7	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.8	1,490	219	
11	Cloverdale - Lexington	Line	AEP	\$0.9	\$0.3	\$0.0	\$0.6	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.6	752	335	
12	Tiltonville - Windsor	Line	AP	\$1.2	\$0.6	\$0.0	\$0.6	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.6	1,258	237	
13	Buckingham - Pleasant Valley	Line	PECO	\$0.7	\$0.2	\$0.0	\$0.4	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	\$0.5	131	59	
14	Crete - St Johns Tap	Flowgate	Midwest ISO	\$0.7	\$0.3	\$0.0	\$0.4	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.5	732	190	
15	Leonia - New Milford	Line	PSEG	(\$0.6)	(\$0.2)	(\$0.0)	(\$0.4)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.4)	3,088	39	
38	Redoak - Sayreville	Line	JCPL	(\$0.0)	(\$0.1)	\$0.0	\$0.1	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.1	59	7	
66	Deep Run - Englishtown	Line	JCPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	0	2	
72	Kilmer - Sayreville	Line	JCPL	\$0.4	\$0.2	\$0.0	\$0.2	(\$0.0)	\$0.2	\$0.0	(\$0.2)	\$0.0	0	11	
74	Franklin - West Wharton	Line	JCPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	29	0	
87	Atlantic - New Prospect Road	Line	JCPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	6	0	

Met-Ed Control Zone

Table 7-27 Met-Ed Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-27)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Day Ahead	Real Time
				Day Ahead				Balancing				Grand Total	Event Hours			
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total					
1	Brunner Island - Yorkana	Line	Met-Ed	\$1.9	(\$4.1)	\$0.1	\$6.1	(\$0.0)	\$0.2	(\$0.0)	(\$0.2)	\$5.9	219	168		
2	Hunterstown	Transformer	Met-Ed	\$4.1	(\$0.7)	\$0.1	\$4.8	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$4.8	311	26		
3	Doubs	Transformer	AP	\$3.1	\$2.0	\$0.1	\$1.2	(\$0.0)	(\$0.1)	(\$0.2)	(\$0.2)	\$1.0	806	431		
4	West	Interface	500	\$4.2	\$5.4	\$0.0	(\$1.1)	\$0.0	(\$0.1)	(\$0.0)	\$0.1	(\$1.1)	159	58		
5	AP South	Interface	500	\$4.9	\$4.0	\$0.1	\$1.0	(\$0.1)	(\$0.1)	(\$0.2)	(\$0.2)	\$0.8	3,512	1,251		
6	Jackson - TMI	Line	Met-Ed	\$0.5	(\$0.6)	\$0.1	\$1.2	(\$0.1)	\$0.3	(\$0.0)	(\$0.4)	\$0.8	37	54		
7	5004/5005 Interface	Interface	500	\$10.8	\$10.3	\$0.0	\$0.5	(\$0.3)	(\$0.7)	(\$0.1)	\$0.3	\$0.7	1,379	561		
8	Graceton - Raphael Road	Line	BGE	(\$1.7)	(\$2.4)	(\$0.0)	\$0.7	\$0.1	\$0.2	\$0.1	(\$0.0)	\$0.7	215	112		
9	Middletown Jct	Transformer	Met-Ed	\$0.6	(\$0.1)	\$0.0	\$0.7	(\$0.1)	\$0.1	\$0.0	(\$0.1)	\$0.6	11	12		
10	Middletown Jct - Yorkhaven	Line	Met-Ed	\$0.6	\$0.1	\$0.0	\$0.6	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.5	190	12		
11	Brandon Shores - Riverside	Line	BGE	\$3.3	\$3.8	\$0.0	(\$0.5)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	(\$0.5)	343	162		
12	Collins - Middletown Jct	Line	Met-Ed	\$0.3	(\$0.3)	\$0.0	\$0.6	(\$0.0)	\$0.1	(\$0.0)	(\$0.1)	\$0.5	169	39		
13	Cloverdale - Lexington	Line	AEP	\$1.3	\$1.7	\$0.0	(\$0.3)	\$0.0	\$0.1	(\$0.0)	(\$0.1)	(\$0.4)	1,044	620		
14	Wylie Ridge	Transformer	AP	\$0.7	\$1.0	\$0.0	(\$0.3)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.4)	479	376		
15	Millville - Old Chapel	Line	AP	\$1.0	\$1.1	\$0.1	(\$0.0)	(\$0.1)	(\$0.0)	(\$0.2)	(\$0.3)	(\$0.4)	178	121		
40	Cly - Collins	Line	Met-Ed	\$0.0	(\$0.0)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	19	0		
58	Yorkana A	Transformer	Met-Ed	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	0	5		
66	Germantown - Straban	Line	Met-Ed	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	11	0		
84	Carlisle Pike - Gardners	Line	Met-Ed	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	5	0		
108	Cly - Newberry	Line	Met-Ed	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	1	0		

Table 7-28 Met-Ed Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-28)

No.	Constraint	Type	Location	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				
1	Kammer	Transformer	500	\$6.0	\$7.9	\$0.1	(\$1.8)	(\$0.0)	(\$0.3)	(\$0.1)	\$0.2	(\$1.6)	3,674	1,328	
2	Brunner Island - Yorkana	Line	Met-Ed	\$0.3	(\$0.7)	\$0.0	\$1.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$1.0	86	27	
3	5004/5005 Interface	Interface	500	\$5.1	\$6.0	\$0.0	(\$0.9)	(\$0.1)	(\$0.3)	(\$0.0)	\$0.1	(\$0.8)	643	241	
4	Graceton - Raphael Road	Line	BGE	(\$1.4)	(\$2.2)	(\$0.0)	\$0.8	\$0.1	\$0.3	\$0.0	(\$0.2)	\$0.6	300	127	
5	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$2.0	\$2.5	\$0.0	(\$0.6)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	(\$0.6)	2,888	907	
6	Hunterstown	Transformer	Met-Ed	\$0.3	(\$0.1)	(\$0.0)	\$0.4	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.4	53	1	
7	Tiltonville - Windsor	Line	AP	\$0.8	\$1.2	\$0.0	(\$0.4)	\$0.0	(\$0.1)	(\$0.0)	\$0.1	(\$0.3)	1,258	237	
8	AP South	Interface	500	\$2.0	\$1.7	\$0.0	\$0.3	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.3	2,559	423	
9	Wylie Ridge	Transformer	AP	\$3.1	\$2.8	\$0.0	\$0.3	(\$0.1)	(\$0.2)	(\$0.0)	\$0.0	\$0.3	354	335	
10	East Frankfort - Crete	Line	ComEd	\$0.8	\$1.0	\$0.0	(\$0.2)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.2)	1,490	219	
11	Crete - St Johns Tap	Flowgate	Midwest ISO	\$0.5	\$0.6	\$0.0	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.2)	732	190	
12	Hummelstown - Middletown Jct	Line	Met-Ed	\$0.1	\$0.3	\$0.0	(\$0.2)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.2)	51	14	
13	West	Interface	500	\$6.9	\$6.8	\$0.0	\$0.1	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$0.2	391	85	
14	Middletown Jct - Yorkhaven	Line	Met-Ed	\$0.2	\$0.0	\$0.0	\$0.2	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.2	28	2	
15	Cloverdale - Lexington	Line	AEP	\$0.7	\$0.9	\$0.0	(\$0.2)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.2)	752	335	
16	Middletown Jct	Transformer	Met-Ed	\$0.2	(\$0.0)	\$0.0	\$0.3	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	\$0.2	59	12	
33	Collins - Middletown Jct	Line	Met-Ed	\$0.1	(\$0.1)	\$0.0	\$0.1	(\$0.0)	\$0.0	\$0.0	(\$0.1)	\$0.1	101	16	
35	Ironwood - South Lebanon	Line	Met-Ed	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	19	0	
42	Cly - Newberry	Line	Met-Ed	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	13	0	
139	Germantown	Transformer	Met-Ed	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	10	0	

PECO Control Zone**Table 7-29 PECO Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-29)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											Day Ahead	Real Time
				Day Ahead				Balancing				Grand Total				
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total					
1	5004/5005 Interface	Interface	500	\$13.4	\$19.9	\$0.0	(\$6.5)	(\$0.5)	\$1.4	(\$0.1)	(\$2.0)	(\$8.5)	1,379	561		
2	Eddystone - Island Road	Line	PECO	\$3.8	(\$4.4)	(\$0.0)	\$8.1	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$8.1	186	3		
3	Limerick	Transformer	PECO	\$3.1	\$0.7	\$0.0	\$2.4	\$0.1	(\$3.8)	(\$0.0)	\$3.8	\$6.3	53	18		
4	AP South	Interface	500	\$3.2	\$7.9	\$0.1	(\$4.6)	(\$0.1)	\$0.2	(\$0.0)	(\$0.4)	(\$4.9)	3,512	1,251		
5	West	Interface	500	\$4.8	\$7.2	\$0.0	(\$2.3)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$2.4)	159	58		
6	Bedington - Black Oak	Interface	500	\$2.5	\$4.5	\$0.0	(\$1.9)	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$2.0)	1,819	47		
7	Graceton - Raphael Road	Line	BGE	(\$1.6)	(\$3.1)	(\$0.0)	\$1.5	\$0.3	\$0.4	\$0.0	(\$0.2)	\$1.3	215	112		
8	Peachbottom	Transformer	PECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.7)	\$0.1	(\$0.4)	(\$1.2)	(\$1.2)	0	14		
9	Doubs	Transformer	AP	\$1.0	\$2.0	\$0.0	(\$1.0)	(\$0.3)	(\$0.2)	(\$0.0)	(\$0.2)	(\$1.2)	806	431		
10	East	Interface	500	\$1.5	\$0.5	(\$0.0)	\$1.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$1.0	154	1		
11	Tiltonsville - Windsor	Line	AP	\$1.5	\$2.3	\$0.0	(\$0.8)	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.9)	1,954	410		
12	Plymouth Meeting - Whipn	Line	PECO	\$1.1	\$0.2	\$0.0	\$0.9	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.9	36	1		
13	Keeney At5n	Transformer	DPL	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	\$0.5	(\$0.0)	(\$0.9)	(\$0.9)	0	13		
14	East Frankfort - Crete	Line	ComEd	\$2.1	\$3.0	(\$0.0)	(\$0.9)	(\$0.1)	(\$0.1)	\$0.0	\$0.0	(\$0.8)	2,242	797		
15	Brandon Shores - Riverside	Line	BGE	\$4.5	\$4.9	\$0.0	(\$0.4)	(\$0.2)	\$0.2	(\$0.0)	(\$0.4)	(\$0.8)	343	162		
20	Burlington - Croydon	Line	PECO	(\$0.2)	(\$0.6)	(\$0.0)	\$0.4	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.4	1,034	33		
32	Jenkintown - Tabor	Line	PECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.2	\$0.0	(\$0.3)	(\$0.3)	0	10		
49	Eddystone - Saville	Line	PECO	\$0.1	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.1	60	39		
50	Bradford - Planebrook	Line	PECO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	(\$0.1)	\$0.0	\$0.1	\$0.1	0	1		
52	Bryn Mawr - Plymouth Meeting	Line	PECO	\$0.2	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	14	0		

Table 7-30 PECO Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-30)

No.	Constraint	Type	Location	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					
1	Kammer	Transformer	500	\$3.7	\$9.8	\$0.0	(\$6.0)	(\$0.2)	(\$0.0)	\$0.0	(\$0.2)	(\$6.2)	3,674	1,328		
2	West	Interface	500	\$3.0	\$6.2	\$0.0	(\$3.1)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	(\$3.1)	391	85		
3	AP South	Interface	500	\$0.6	\$3.2	\$0.0	(\$2.6)	(\$0.0)	\$0.0	\$0.0	(\$0.1)	(\$2.7)	2,559	423		
4	5004/5005 Interface	Interface	500	\$4.3	\$6.6	\$0.0	(\$2.3)	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$2.3)	643	241		
5	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$1.5	\$3.5	(\$0.0)	(\$2.0)	(\$0.1)	\$0.1	(\$0.0)	(\$0.1)	(\$2.1)	2,888	907		
6	Graceton - Raphael Road	Line	BGE	(\$0.9)	(\$2.9)	(\$0.0)	\$2.0	\$0.5	\$0.6	(\$0.0)	(\$0.1)	\$1.9	300	127		
7	Wylie Ridge	Transformer	AP	\$1.3	\$2.3	\$0.0	(\$0.9)	(\$0.1)	\$0.0	(\$0.1)	(\$0.1)	(\$1.1)	354	335		
8	East Frankfort - Crete	Line	ComEd	\$0.4	\$1.3	(\$0.0)	(\$0.8)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.9)	1,490	219		
9	Tiltonsville - Windsor	Line	AP	\$0.6	\$1.5	\$0.0	(\$0.9)	(\$0.0)	(\$0.1)	\$0.0	\$0.0	(\$0.9)	1,258	237		
10	Crete - St Johns Tap	Flowgate	Midwest ISO	\$0.2	\$1.0	(\$0.0)	(\$0.7)	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	(\$0.8)	732	190		
11	Sammis - Wylie Ridge	Line	AP	\$0.5	\$1.1	\$0.0	(\$0.7)	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	(\$0.7)	632	140		
12	Cloverdale - Lexington	Line	AEP	\$0.4	\$1.1	\$0.0	(\$0.7)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	(\$0.7)	752	335		
13	Mount Storm - Pruntytown	Line	AP	\$0.1	\$0.5	\$0.0	(\$0.5)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.5)	525	132		
14	Holmesburg - Richmond	Line	PECO	(\$0.2)	(\$0.5)	(\$0.0)	\$0.3	(\$0.0)	(\$0.1)	\$0.0	\$0.1	\$0.5	311	10		
15	Bedington - Black Oak	Interface	500	\$0.2	\$0.6	\$0.0	(\$0.4)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.4)	395	61		
16	Burlington - Croydon	Line	PECO	(\$0.3)	(\$0.7)	(\$0.0)	\$0.4	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.4	2,420	3		
19	Emilie	Transformer	PECO	\$0.3	(\$1.9)	(\$0.0)	\$2.2	(\$0.2)	\$1.7	\$0.0	(\$1.9)	\$0.3	281	247		
23	Eddystone - Scott Paper	Line	PECO	\$0.2	(\$0.0)	\$0.0	\$0.2	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.2	30	2		
33	Buckingham - Pleasant Valley	Line	PECO	(\$0.4)	(\$0.4)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.1)	131	59		
42	Graceton - Peach Bottom	Line	PECO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$0.1	0	16		

PENELEC Control Zone**Table 7-31 PENELEC Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-31)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											Day Ahead	Real Time
				Day Ahead				Balancing				Event Hours				
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total				
1	AP South	Interface	500	(\$45.1)	(\$68.5)	(\$0.0)	\$23.4	\$7.5	\$2.3	\$0.1	\$5.3	\$28.7	3,512	1,251		
2	5004/5005 Interface	Interface	500	(\$10.8)	(\$35.5)	(\$0.1)	\$24.6	\$4.4	\$2.2	\$0.1	\$2.3	\$27.0	1,379	561		
3	Bedington - Black Oak	Interface	500	(\$15.5)	(\$23.4)	(\$0.0)	\$7.9	\$0.4	\$0.0	\$0.0	\$0.4	\$8.2	1,819	47		
4	West	Interface	500	(\$3.6)	(\$8.6)	\$0.0	\$5.1	\$0.3	\$0.2	\$0.0	\$0.1	\$5.1	159	58		
5	Mount Storm - Pruntytown	Line	AP	(\$3.4)	(\$5.6)	\$0.0	\$2.2	\$3.5	\$0.9	\$0.0	\$2.7	\$4.9	571	574		
6	Seward	Transformer	PENELEC	\$11.9	\$7.1	\$0.0	\$4.8	(\$0.2)	\$0.5	(\$0.0)	(\$0.8)	\$4.0	371	63		
7	Bear Rock - Johnstown	Line	PENELEC	(\$2.1)	(\$4.1)	(\$0.0)	\$1.9	\$1.1	\$0.0	\$0.0	\$1.1	\$3.0	197	57		
8	Wylie Ridge	Transformer	AP	\$0.9	\$3.1	\$0.1	(\$2.2)	(\$0.7)	(\$0.0)	(\$0.1)	(\$0.8)	(\$3.0)	479	376		
9	Altoona - Bear Rock	Line	PENELEC	(\$2.4)	(\$4.8)	(\$0.0)	\$2.3	\$0.6	\$0.1	\$0.0	\$0.5	\$2.9	248	55		
10	Tiltonville - Windsor	Line	AP	\$3.3	\$4.4	\$0.0	(\$1.1)	(\$1.0)	\$0.0	(\$0.0)	(\$1.0)	(\$2.2)	1,954	410		
11	AEP-DOM	Interface	500	(\$4.4)	(\$6.3)	(\$0.0)	\$1.8	\$0.2	(\$0.1)	\$0.0	\$0.3	\$2.1	471	89		
12	East Frankfort - Crete	Line	ComEd	\$4.3	\$5.7	\$0.0	(\$1.4)	(\$0.8)	(\$0.0)	(\$0.0)	(\$0.7)	(\$2.1)	2,242	797		
13	Johnstown - Seward	Line	PENELEC	\$2.7	\$0.7	\$0.0	\$2.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.0	52	0		
14	Hunterstown	Transformer	Met-Ed	(\$0.8)	(\$2.5)	(\$0.0)	\$1.6	\$0.0	\$0.0	\$0.0	\$0.0	\$1.7	311	26		
15	Doubs	Transformer	AP	(\$2.2)	(\$3.2)	\$0.0	\$1.0	\$0.6	(\$0.1)	(\$0.0)	\$0.6	\$1.6	806	431		
17	Homer City - Seward	Line	PENELEC	\$4.6	\$3.3	\$0.0	\$1.4	\$0.0	\$0.0	\$0.0	\$0.0	\$1.4	83	0		
23	Keystone - Sheloceta	Line	PENELEC	\$3.0	\$2.0	\$0.0	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.9	39	0		
27	Blairsville - Sheloceta	Line	PENELEC	\$1.7	\$1.1	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	24	0		
28	Roxbury - Shade Gap	Line	PENELEC	(\$0.8)	(\$0.7)	(\$0.0)	(\$0.0)	\$0.9	\$1.5	\$0.0	(\$0.6)	(\$0.6)	32	96		
34	Clarks Summit - Eclipse	Line	PENELEC	\$0.5	\$0.1	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	64	0		

Table 7-32 PENELEC Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-32)

No.	Constraint	Type	Location	Congestion Costs (Millions)											
				Day Ahead				Balancing				Event Hours			
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	AP South	Interface	500	(\$12.2)	(\$25.8)	(\$0.0)	\$13.6	\$0.8	\$0.3	\$0.1	\$0.5	\$14.1	2,559	423	
2	West	Interface	500	(\$2.2)	(\$15.2)	(\$0.0)	\$13.0	\$0.0	\$0.1	\$0.0	(\$0.0)	\$13.0	391	85	
3	5004/5005 Interface	Interface	500	(\$2.9)	(\$15.5)	(\$0.0)	\$12.6	\$0.4	\$1.6	\$0.1	(\$1.1)	\$11.4	643	241	
4	Kammer	Transformer	500	\$4.8	\$15.9	\$0.2	(\$10.8)	(\$0.5)	(\$0.9)	(\$0.1)	\$0.2	(\$10.6)	3,674	1,328	
5	Wylie Ridge	Transformer	AP	\$1.5	\$10.3	\$0.1	(\$8.8)	(\$0.6)	(\$0.7)	(\$0.0)	\$0.1	(\$8.7)	354	335	
6	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$4.0	\$7.5	(\$0.0)	(\$3.5)	\$0.2	(\$0.5)	\$0.0	\$0.6	(\$2.9)	2,888	907	
7	Seward	Transformer	PENELEC	\$6.5	\$3.7	(\$0.0)	\$2.8	\$0.0	\$0.0	\$0.0	\$0.0	\$2.8	218	0	
8	Mount Storm - Pruntytown	Line	AP	(\$2.4)	(\$4.6)	(\$0.0)	\$2.2	\$0.3	(\$0.1)	\$0.0	\$0.5	\$2.7	525	132	
9	Sammis - Wylie Ridge	Line	AP	\$1.0	\$3.8	\$0.1	(\$2.7)	(\$0.1)	(\$0.1)	\$0.0	(\$0.0)	(\$2.7)	632	140	
10	Tiltonville - Windsor	Line	AP	\$1.0	\$2.9	\$0.0	(\$1.9)	\$0.1	(\$0.0)	(\$0.0)	\$0.1	(\$1.9)	1,258	237	
11	Bedington - Black Oak	Interface	500	(\$1.5)	(\$3.0)	(\$0.0)	\$1.6	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$1.5	395	61	
12	East Frankfort - Crete	Line	ComEd	\$1.6	\$3.0	\$0.0	(\$1.3)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$1.3)	1,490	219	
13	Homer City - Seward	Line	PENELEC	\$2.8	\$1.5	(\$0.0)	\$1.3	\$0.0	\$0.0	\$0.0	\$0.0	\$1.3	58	0	
14	Homer City - Shelocta	Line	PENELEC	(\$3.2)	(\$4.6)	(\$0.1)	\$1.3	(\$0.1)	\$0.1	\$0.0	(\$0.1)	\$1.2	340	80	
15	Altoona - Bear Rock	Line	PENELEC	(\$1.9)	(\$3.0)	(\$0.0)	\$1.1	(\$0.1)	(\$0.1)	\$0.0	(\$0.1)	\$1.1	176	32	
16	Homer City	Transformer	PENELEC	\$1.2	\$0.2	(\$0.0)	\$1.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$1.0	248	2	
25	Keystone - Shelocta	Line	PENELEC	(\$0.4)	(\$0.8)	(\$0.0)	\$0.4	\$0.1	\$0.1	\$0.0	(\$0.0)	\$0.4	103	43	
26	Altoona - Raystown	Line	PENELEC	(\$0.8)	(\$1.1)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	54	0	
28	Bear Rock - Johnstown	Line	PENELEC	(\$0.5)	(\$0.7)	(\$0.0)	\$0.2	(\$0.1)	(\$0.1)	\$0.0	(\$0.0)	\$0.2	80	45	
30	Clarks Summit - Eclipse	Line	PENELEC	\$0.1	(\$0.1)	(\$0.0)	\$0.2	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.2	18	2	

Pepco Control Zone**Table 7-33 Pepco Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-33)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Load Payments	Day Ahead			Total	Load Payments	Balancing			Total	Day Ahead		Real Time	
					Generation Credits	Explicit	Generation Credits			Explicit	Generation Credits	Explicit					
1	AP South	Interface	500	\$106.0	\$78.5	\$1.8	\$29.3	(\$5.2)	(\$3.3)	(\$1.6)	(\$3.6)	\$25.7	3,512	1,251			
2	Bedington - Black Oak	Interface	500	\$39.4	\$27.8	\$0.8	\$12.4	(\$0.5)	(\$0.6)	(\$0.3)	(\$0.1)	\$12.2	1,819	47			
3	Doubs	Transformer	AP	\$38.8	\$24.6	\$0.7	\$14.9	(\$4.0)	\$1.2	(\$1.7)	(\$6.8)	\$8.1	806	431			
4	Cloverdale - Lexington	Line	AEP	\$10.7	\$7.6	\$0.1	\$3.2	(\$1.1)	(\$1.1)	(\$0.3)	(\$0.3)	\$2.9	1,044	620			
5	Brandon Shores - Riverside	Line	BGE	(\$13.6)	(\$10.2)	(\$0.2)	(\$3.5)	\$1.2	\$0.5	\$0.3	\$1.1	(\$2.4)	343	162			
6	5004/5005 Interface	Interface	500	\$6.8	\$4.6	\$0.2	\$2.4	(\$0.3)	(\$0.1)	(\$0.1)	(\$0.3)	\$2.0	1,379	561			
7	Reid - Ringgold	Line	AP	\$4.6	\$2.8	\$0.1	\$2.0	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$2.0	271	25			
8	Mount Storm - Pruntytown	Line	AP	\$9.4	\$6.7	\$0.1	\$2.7	(\$2.5)	(\$2.1)	(\$0.5)	(\$0.9)	\$1.9	571	574			
9	West	Interface	500	\$5.9	\$3.9	\$0.0	\$2.0	(\$0.2)	(\$0.1)	(\$0.0)	(\$0.1)	\$1.8	159	58			
10	East Frankfort - Crete	Line	ComEd	\$4.9	\$3.0	\$0.0	\$1.9	(\$0.4)	(\$0.3)	(\$0.0)	(\$0.2)	\$1.7	2,242	797			
11	Graceton - Raphael Road	Line	BGE	\$5.6	\$3.8	\$0.2	\$2.0	(\$0.6)	(\$0.4)	(\$0.2)	(\$0.3)	\$1.7	215	112			
12	AEP-DOM	Interface	500	\$8.0	\$6.6	\$0.1	\$1.5	(\$0.1)	(\$0.2)	(\$0.1)	(\$0.0)	\$1.5	471	89			
13	Bowie	Transformer	Pepco	\$2.3	\$1.1	\$0.1	\$1.3	\$0.0	\$0.0	\$0.0	\$0.0	\$1.3	44	0			
14	Bowie - Lanham	Line	Pepco	\$2.2	\$0.9	\$0.1	\$1.4	(\$0.3)	(\$0.2)	(\$0.1)	(\$0.2)	\$1.1	36	13			
15	Tiltonville - Windsor	Line	AP	\$4.3	\$2.9	\$0.1	\$1.5	(\$0.4)	(\$0.1)	(\$0.1)	(\$0.4)	\$1.1	1,954	410			
23	Benning - Ritchie	Line	Pepco	\$0.8	\$0.2	\$0.1	\$0.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.7	78	0			
29	Buzzard - Ritchie	Line	Pepco	\$0.5	\$0.0	\$0.0	\$0.5	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.5	58	1			
47	Burtonville - Metzert Rd.	Line	Pepco	\$0.3	\$0.1	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	17	0			
57	Burtonville - Sandy Springs	Line	Pepco	(\$0.3)	(\$0.2)	(\$0.0)	(\$0.1)	\$0.4	\$0.2	\$0.0	\$0.2	\$0.2	20	41			
68	Pumphrey	Transformer	Pepco	(\$0.3)	(\$0.2)	(\$0.0)	(\$0.1)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	56	0			

Table 7-34 Pepco Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-34)

No.	Constraint	Type	Location	Congestion Costs (Millions)											
				Day Ahead				Balancing				Event Hours			
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	AP South	Interface	500	\$41.9	\$31.6	\$0.7	\$11.0	(\$1.3)	(\$3.0)	(\$0.6)	\$1.1	\$12.1	2,559	423	
2	Kammer	Transformer	500	\$21.9	\$15.1	\$0.3	\$7.1	(\$1.1)	(\$2.0)	(\$0.4)	\$0.5	\$7.6	3,674	1,328	
3	Buzzard - Ritchie	Line	Pepco	\$25.3	\$3.2	\$0.2	\$22.3	(\$13.9)	\$1.9	(\$0.6)	(\$16.4)	\$5.9	409	149	
4	Mount Storm - Pruntytown	Line	AP	\$7.5	\$5.8	\$0.1	\$1.9	(\$0.2)	(\$0.8)	(\$0.1)	\$0.5	\$2.4	525	132	
5	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$6.2	\$4.1	(\$0.0)	\$2.0	(\$0.2)	(\$0.5)	\$0.0	\$0.3	\$2.3	2,888	907	
6	West	Interface	500	\$8.1	\$6.0	\$0.0	\$2.1	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	\$2.2	391	85	
7	Graceton - Raphael Road	Line	BGE	\$4.5	\$3.1	\$0.2	\$1.5	(\$0.6)	(\$1.0)	(\$0.2)	\$0.3	\$1.8	300	127	
8	Bedington - Black Oak	Interface	500	\$5.8	\$4.2	\$0.1	\$1.6	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$1.7	395	61	
9	Wylie Ridge	Transformer	AP	\$6.2	\$4.9	\$0.0	\$1.3	(\$0.3)	(\$0.7)	(\$0.0)	\$0.3	\$1.7	354	335	
10	Cloverdale - Lexington	Line	AEP	\$5.3	\$3.9	\$0.1	\$1.5	(\$0.2)	(\$0.4)	(\$0.1)	\$0.1	\$1.6	752	335	
11	East Frankfort - Crete	Line	ComEd	\$2.4	\$1.6	\$0.0	\$0.7	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.8	1,490	219	
12	Sammis - Wylie Ridge	Line	AP	\$2.4	\$1.7	\$0.0	\$0.8	(\$0.1)	(\$0.2)	(\$0.0)	(\$0.0)	\$0.8	632	140	
13	Mount Storm	Transformer	AP	\$1.7	\$1.3	\$0.0	\$0.5	\$0.0	(\$0.3)	(\$0.1)	\$0.2	\$0.7	123	70	
14	Tiltonville - Windsor	Line	AP	\$1.7	\$1.1	\$0.1	\$0.7	(\$0.0)	(\$0.1)	(\$0.1)	(\$0.0)	\$0.7	1,258	237	
15	5004/5005 Interface	Interface	500	\$1.9	\$1.3	\$0.0	\$0.6	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$0.7	643	241	
17	Alabama Ave. - Palmers Corner	Line	Pepco	\$0.5	\$0.0	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	12	0	
20	Brighton	Transformer	Pepco	\$0.7	\$0.4	\$0.0	\$0.3	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.3	43	1	
21	Dickerson - Pleasant View	Line	Pepco	\$0.7	\$0.5	\$0.0	\$0.3	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.3	40	13	
30	Burtonville - Oak Grove	Line	Pepco	(\$0.3)	(\$0.4)	(\$0.0)	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	29	0	
39	Oak Grove - Ritchie	Line	Pepco	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.1)	(\$0.0)	\$0.1	\$0.1	0	6	

PPL Control Zone**Table 7-35 PPL Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-35)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Day Ahead				Balancing				Day Ahead	Real Time				
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total						
1	5004/5005 Interface	Interface	500	\$32.9	\$42.5	\$0.9	(\$8.7)	\$2.9	\$1.3	(\$0.4)	\$1.1	(\$7.6)	1,379	561			
2	Brunner Island - Yorkana	Line	Met-Ed	(\$5.2)	(\$9.3)	(\$0.1)	\$4.0	\$0.3	\$0.2	\$0.1	\$0.1	\$4.2	219	168			
3	West	Interface	500	\$9.4	\$12.2	\$0.2	(\$2.7)	\$0.1	\$0.2	(\$0.1)	(\$0.2)	(\$2.8)	159	58			
4	AP South	Interface	500	\$2.8	\$2.0	\$0.5	\$1.3	\$0.3	(\$0.0)	(\$0.1)	\$0.3	\$1.6	3,512	1,251			
5	East Frankfort - Crete	Line	ComEd	\$3.5	\$4.9	(\$0.0)	(\$1.4)	\$0.2	(\$0.1)	\$0.0	\$0.3	(\$1.1)	2,242	797			
6	Harwood - Siegfried	Line	PPL	(\$0.2)	(\$1.7)	\$0.0	\$1.5	(\$0.3)	\$2.2	(\$0.1)	(\$2.6)	(\$1.1)	92	117			
7	Graceton - Raphael Road	Line	BGE	(\$3.6)	(\$4.8)	(\$0.1)	\$1.1	(\$0.0)	\$0.1	\$0.0	(\$0.0)	\$1.1	215	112			
8	Harwood - Susquehanna	Line	PPL	\$0.2	(\$1.0)	\$0.0	\$1.3	\$0.3	\$0.5	(\$0.1)	(\$0.3)	\$1.0	51	22			
9	Juniata	Transformer	PENELEC	\$0.0	\$0.0	\$0.0	\$0.0	\$0.7	\$0.2	\$0.4	\$0.9	\$0.9	0	27			
10	Eldred - Sunbury	Line	PPL	\$0.6	(\$0.1)	\$0.0	\$0.7	\$0.1	(\$0.1)	(\$0.0)	\$0.1	\$0.8	50	33			
11	Susquehanna	Transformer	PPL	\$1.0	\$0.3	\$0.0	\$0.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.7	39	0			
12	Tiltonville - Windsor	Line	AP	\$2.9	\$3.9	\$0.1	(\$0.9)	\$0.4	\$0.2	(\$0.0)	\$0.2	(\$0.7)	1,954	410			
13	East Palmerton - Siegfried	Line	PPL	(\$0.1)	(\$0.7)	\$0.0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	70	0			
14	Cloverdale - Lexington	Line	AEP	\$2.5	\$3.6	\$0.1	(\$1.0)	\$0.3	(\$0.0)	\$0.0	\$0.4	(\$0.6)	1,044	620			
15	Crete - St Johns Tap	Flowgate	Midwest ISO	\$1.6	\$2.4	(\$0.0)	(\$0.8)	\$0.1	(\$0.1)	\$0.0	\$0.2	(\$0.6)	800	245			
17	East Palmerton - Harwood	Line	PPL	(\$0.0)	(\$0.5)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	51	0			
24	Frackville - Siegfried	Line	PPL	(\$0.1)	(\$0.5)	\$0.0	\$0.4	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.4	34	7			
28	Eldred - Frackville	Line	PPL	\$0.1	(\$0.2)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	20	0			
32	Martins Creek - Siegfried	Line	PPL	(\$0.0)	(\$0.1)	\$0.0	\$0.0	(\$0.0)	\$0.2	(\$0.1)	(\$0.3)	(\$0.3)	9	17			
41	Juniata	Transformer	PPL	\$0.5	\$0.4	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	11	0			

Table 7-36 PPL Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-36)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Day Ahead				Balancing				Day Ahead	Real Time				
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total						
1	Kammer	Transformer	500	\$1.7	\$5.5	\$0.6	(\$3.2)	(\$0.2)	(\$0.2)	(\$0.1)	(\$0.0)	(\$3.2)	3,674	1,328			
2	5004/5005 Interface	Interface	500	\$2.3	\$5.7	\$0.4	(\$2.9)	\$0.1	(\$0.8)	(\$0.1)	\$0.8	(\$2.2)	643	241			
3	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.6	\$2.3	(\$0.1)	(\$1.8)	(\$0.2)	(\$0.2)	\$0.0	\$0.0	(\$1.8)	2,888	907			
4	AP South	Interface	500	\$0.5	(\$0.2)	\$0.2	\$0.9	\$0.1	(\$0.1)	\$0.1	\$0.2	\$1.1	2,559	423			
5	Hummelstown - Middletown Jct	Line	Met-Ed	\$1.0	(\$0.0)	\$0.0	\$1.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$1.1	51	14			
6	Graceton - Raphael Road	Line	BGE	(\$0.5)	(\$1.5)	(\$0.0)	\$1.0	\$0.1	\$0.0	\$0.0	\$0.1	\$1.1	300	127			
7	Brunner Island - Yorkana	Line	Met-Ed	(\$0.0)	(\$0.9)	(\$0.0)	\$0.8	\$0.0	\$0.1	(\$0.0)	(\$0.0)	\$0.8	86	27			
8	West	Interface	500	\$2.8	\$4.1	\$0.5	(\$0.8)	(\$0.0)	(\$0.2)	(\$0.0)	\$0.1	(\$0.6)	391	85			
9	Harwood - Susquehanna	Line	PPL	\$0.1	(\$0.4)	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	13	0			
10	Sammis - Wylie Ridge	Line	AP	\$0.1	\$0.7	\$0.1	(\$0.5)	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.5)	632	140			
11	East Frankfort - Crete	Line	ComEd	\$0.2	\$0.6	\$0.0	(\$0.3)	(\$0.0)	(\$0.0)	\$0.0	\$0.0	(\$0.3)	1,490	219			
12	Wylie Ridge	Transformer	AP	\$1.1	\$1.8	\$0.3	(\$0.4)	\$0.2	\$0.1	\$0.0	\$0.1	(\$0.3)	354	335			
13	PL North	Interface	PPL	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	\$0.6	(\$0.0)	(\$0.3)	(\$0.3)	0	176			
14	Mount Storm - Pruntytown	Line	AP	\$0.1	(\$0.1)	\$0.0	\$0.3	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.3	525	132			
15	Atlantic - Larrabee	Line	JCPL	\$0.0	\$0.1	\$0.0	(\$0.1)	(\$0.1)	\$0.1	\$0.0	(\$0.2)	(\$0.3)	188	45			
22	Jenkins - Susquehanna	Line	PPL	\$0.1	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	9	0			
39	Dauphin - Juniata	Line	PPL	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	6	0			
45	Eldred - Sunbury	Line	PPL	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	4	0			
138	Eldred - Frackville	Line	PPL	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	1	0			
162	Harwood	Transformer	PPL	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	1	1			

PSEG Control Zone**Table 7-37 PSEG Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-37)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											Day Ahead	Real Time
				Load Payments	Day Ahead			Grand Total	Balancing				Event Hours			
					Generation Credits	Explicit	Total		Load Payments	Generation Credits	Explicit	Total				
1	Branchburg - Readington	Line	PSEG	\$8.9	\$1.2	\$0.6	\$8.3	(\$0.1)	\$0.8	(\$0.5)	(\$1.4)	\$6.9	1,210	184		
2	Hawthorn - Waldwick	Line	PSEG	\$0.1	(\$0.0)	(\$0.0)	\$0.0	(\$0.7)	\$1.1	(\$1.7)	(\$3.4)	(\$3.4)	454	39		
3	Athenia - Saddlebrook	Line	PSEG	\$12.5	\$2.5	\$7.5	\$17.6	(\$6.8)	\$2.5	(\$5.0)	(\$14.3)	\$3.3	2,947	331		
4	AP South	Interface	500	\$1.0	\$5.4	\$2.4	(\$1.9)	\$0.2	(\$0.3)	(\$1.5)	(\$1.0)	(\$2.9)	3,512	1,251		
5	Eddystone - Island Road	Line	PECO	\$1.0	(\$0.7)	\$0.0	\$1.7	\$0.0	\$0.0	(\$0.0)	\$0.0	\$1.7	186	3		
6	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		
7	5004/5005 Interface	Interface	500	\$24.1	\$23.0	\$2.0	\$3.0	\$1.9	\$1.7	(\$1.8)	(\$1.6)	\$1.5	1,379	561		
8	Redoak - Sayreville	Line	JCPL	\$1.2	(\$0.2)	\$0.0	\$1.4	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$1.4	795	57		
9	North Ave - Pvsc	Line	PSEG	\$0.2	(\$0.8)	\$0.1	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	656	0		
10	Brandon Shores - Riverside	Line	BGE	\$5.8	\$5.0	\$0.3	\$1.0	\$0.4	\$0.1	(\$0.3)	(\$0.0)	\$1.0	343	162		
11	Bedington - Black Oak	Interface	500	\$1.8	\$3.5	\$0.9	(\$0.8)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	(\$0.9)	1,819	47		
12	Bayway - Federal Square	Line	PSEG	\$0.6	(\$0.4)	\$0.0	\$1.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.9	519	8		
13	Hillsdale - New Milford	Line	PSEG	\$0.5	\$0.2	\$0.7	\$1.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.9	248	6		
14	Doubs	Transformer	AP	\$1.4	\$1.2	\$0.2	\$0.4	(\$0.3)	\$0.4	(\$0.6)	(\$1.2)	(\$0.8)	806	431		
15	Graceton - Raphael Road	Line	BGE	(\$3.4)	(\$3.6)	(\$0.2)	(\$0.0)	\$0.3	(\$0.2)	\$0.3	\$0.8	\$0.8	215	112		
17	Bergen - Hoboken	Line	PSEG	\$0.1	(\$0.2)	\$0.3	\$0.7	(\$0.2)	(\$0.1)	\$0.1	\$0.1	\$0.7	471	29		
20	Leonia - New Milford	Line	PSEG	\$0.3	\$0.2	\$0.7	\$0.8	(\$0.0)	\$0.1	(\$0.0)	(\$0.2)	\$0.7	1,028	6		
21	Bayonne - PVSC	Line	PSEG	\$0.0	(\$0.5)	\$0.1	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6	579	0		
25	Hudson - Marion	Line	PSEG	\$0.3	\$0.1	\$0.2	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	170	0		
28	Fairlawn - Saddlebrook	Line	PSEG	\$0.4	\$0.2	\$0.7	\$0.9	(\$0.0)	\$0.1	(\$0.4)	(\$0.5)	\$0.4	492	17		

Table 7-38 PSEG Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-38)

Congestion Costs (Millions)															
No.	Constraint	Type	Location	Day Ahead				Balancing				Grand Total	Event Hours		
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total		Day Ahead	Real Time	
1	Leonia - New Milford	Line	PSEG	\$1.9	\$0.7	\$2.8	\$4.1	(\$0.0)	\$0.0	(\$0.3)	(\$0.3)	\$3.8	3,088	39	
2	Athenia - Saddlebrook	Line	PSEG	\$3.2	\$0.5	\$1.3	\$4.0	(\$0.2)	\$0.1	(\$0.5)	(\$0.8)	\$3.1	1,094	139	
3	Plainsboro - Trenton	Line	PSEG	\$3.5	(\$0.1)	\$0.1	\$3.8	(\$0.3)	\$0.4	(\$0.1)	(\$0.7)	\$3.1	389	164	
4	Cedar Grove - Clifton	Line	PSEG	\$1.7	\$0.4	\$0.7	\$2.0	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.1)	\$1.9	775	30	
5	AP South	Interface	500	\$0.6	\$3.1	\$0.8	(\$1.6)	\$0.0	(\$0.1)	(\$0.3)	(\$0.2)	(\$1.8)	2,559	423	
6	Fairlawn - Saddlebrook	Line	PSEG	\$1.1	\$0.2	\$0.6	\$1.6	\$0.0	\$0.0	\$0.0	\$0.0	\$1.6	841	0	
7	West	Interface	500	\$10.9	\$12.7	\$0.8	(\$1.0)	(\$0.1)	\$0.1	(\$0.2)	(\$0.3)	(\$1.3)	391	85	
8	Wylie Ridge	Transformer	AP	\$4.3	\$5.4	\$0.5	(\$0.6)	\$0.0	\$0.1	(\$0.6)	(\$0.7)	(\$1.3)	354	335	
9	Monroe - New Freedom	Line	AECO	(\$0.1)	(\$1.1)	(\$0.0)	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.9	584	0	
10	Hillsdale - Waldwick	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.3	(\$0.4)	(\$0.8)	(\$0.8)	0	47	
11	Buckingham - Pleasant Valley	Line	PECO	\$0.9	(\$0.1)	\$0.0	\$1.0	(\$0.0)	\$0.2	(\$0.0)	(\$0.3)	\$0.7	131	59	
12	Atlantic - Larrabee	Line	JCPL	\$0.3	(\$0.5)	\$0.0	\$0.8	\$0.0	\$0.1	(\$0.1)	(\$0.2)	\$0.6	188	45	
13	Bayway - Federal Square	Line	PSEG	\$0.4	(\$0.2)	\$0.0	\$0.6	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.6	167	11	
14	Brunswick - Edison	Line	PSEG	\$1.0	(\$0.0)	\$0.0	\$1.1	(\$0.1)	\$0.2	(\$0.2)	(\$0.5)	\$0.6	138	76	
15	Cedar Grove - Roseland	Line	PSEG	\$0.4	\$0.0	\$0.0	\$0.4	(\$0.2)	\$0.5	(\$0.2)	(\$0.9)	(\$0.5)	62	70	
16	Branchburg - Flagtown	Line	PSEG	\$0.6	(\$0.0)	\$0.1	\$0.7	(\$0.0)	\$0.1	(\$0.1)	(\$0.2)	\$0.4	161	16	
17	Athenia - Fairlawn	Line	PSEG	\$0.4	\$0.0	\$0.0	\$0.4	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.4	165	6	
19	Bayonne - PVSC	Line	PSEG	\$0.0	(\$0.3)	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	523	0	
20	Sewaren	Transformer	PSEG	\$0.3	(\$0.0)	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	89	0	
26	Branchburg - Readington	Line	PSEG	\$0.2	(\$0.0)	\$0.0	\$0.2	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.2	21	10	

RECO Control Zone**Table 7-39 RECO Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-39)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											Day Ahead	Real Time
				Day Ahead				Balancing				Event Hours				
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total				
1	5004/5005 Interface	Interface	500	\$0.9	\$0.1	\$0.0	\$0.8	\$0.2	(\$0.1)	(\$0.0)	\$0.3	\$1.1	1,379	561		
2	Branchburg - Readington	Line	PSEG	\$0.6	\$0.0	\$0.0	\$0.5	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$0.6	1,210	184		
3	West	Interface	500	\$0.4	\$0.0	\$0.0	\$0.4	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.4	159	58		
4	Brandon Shores - Riverside	Line	BGE	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.3	343	162		
5	AP South	Interface	500	(\$0.2)	(\$0.0)	\$0.0	(\$0.2)	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	(\$0.2)	3,512	1,251		
6	Athenia - Saddlebrook	Line	PSEG	\$0.2	\$0.0	(\$0.0)	\$0.2	\$0.0	(\$0.1)	\$0.0	\$0.1	\$0.2	2,947	331		
7	Tiltonville - Windsor	Line	AP	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2	1,954	410		
8	Graceton - Raphael Road	Line	BGE	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.2)	215	112		
9	East Frankfort - Crete	Line	ComEd	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	2,242	797		
10	Brunner Island - Yorkana	Line	Met-Ed	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	(\$0.0)	(\$0.1)	219	168		
11	Hawthorn - Waldwick	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	\$0.0	(\$0.1)	(\$0.1)	454	39		
12	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		
13	Wylie Ridge	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	479	376		
14	Cloverdale - Lexington	Line	AEP	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	1,044	620		
15	Doubs	Transformer	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.1	806	431		

Table 7-40 RECO Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-40)

No.	Constraint	Type	Location	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					
1	West	Interface	500	\$0.5	\$0.0	\$0.0	\$0.5	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.5	391	85		
2	Kammer	Transformer	500	\$0.4	\$0.0	\$0.0	\$0.4	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.4	3,674	1,328		
3	5004/5005 Interface	Interface	500	\$0.4	\$0.0	\$0.0	\$0.4	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.1)	\$0.4	643	241		
4	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.2	\$0.0	(\$0.0)	\$0.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$0.2	2,888	907		
5	Wylie Ridge	Transformer	AP	\$0.2	\$0.0	\$0.0	\$0.2	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.2	354	335		
6	Athenia - Saddlebrook	Line	PSEG	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.1	1,094	139		
7	Graceton - Raphael Road	Line	BGE	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	300	127		
8	AP South	Interface	500	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	2,559	423		
9	East Frankfort - Crete	Line	ComEd	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.1	1,490	219		
10	Samms - Wylie Ridge	Line	AP	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	632	140		
11	Tiltonsville - Windsor	Line	AP	\$0.1	\$0.0	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.1	1,258	237		
12	Fairlawn - Saddlebrook	Line	PSEG	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.1)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	841	0		
13	Crete - St Johns Tap	Flowgate	Midwest ISO	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	732	190		
14	Elrama - Mitchell	Line	AP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	225	184		
15	Cloverdale - Lexington	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	752	335		

Western Region Congestion-Event Summaries**AEP Control Zone****Table 7-41 AEP Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-41)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											
				Day Ahead				Balancing				Event Hours			
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	AP South	Interface	500	(\$32.6)	(\$81.8)	\$0.3	\$49.5	(\$3.2)	\$2.6	\$1.0	(\$4.7)	\$44.8	3,512	1,251	
2	AEP-DOM	Interface	500	\$7.5	(\$20.1)	\$1.0	\$28.6	(\$0.2)	(\$0.3)	(\$0.3)	(\$0.1)	\$28.4	471	89	
3	Bedington - Black Oak	Interface	500	(\$12.2)	(\$26.6)	\$0.0	\$14.4	(\$0.1)	(\$0.0)	\$0.0	(\$0.0)	\$14.4	1,819	47	
4	5004/5005 Interface	Interface	500	(\$17.9)	(\$27.3)	(\$0.4)	\$9.0	(\$0.2)	\$2.7	\$0.7	(\$2.2)	\$6.7	1,379	561	
5	Baker - Broadford	Line	AEP	\$0.1	(\$0.2)	\$0.0	\$0.3	(\$1.5)	\$1.0	(\$3.5)	(\$5.9)	(\$5.6)	10	74	
6	Belmont	Transformer	AP	\$3.7	(\$0.8)	\$0.7	\$5.3	\$0.2	(\$0.1)	(\$0.5)	(\$0.2)	\$5.1	1,057	109	
7	Kanawha River	Transformer	AEP	\$2.7	(\$0.5)	\$0.5	\$3.7	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$3.7	190	11	
8	Mount Storm - Pruntytown	Line	AP	(\$2.9)	(\$8.1)	(\$0.1)	\$5.1	(\$0.6)	\$1.7	\$0.4	(\$1.8)	\$3.3	571	574	
9	Mahans Lane - Tidd	Line	AEP	(\$1.4)	(\$4.7)	(\$0.3)	\$3.0	\$0.3	\$0.1	\$0.0	\$0.2	\$3.2	646	207	
10	Brues - West Bellaire	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	(\$2.1)	\$0.8	(\$0.2)	(\$3.2)	(\$3.2)	0	78	
11	West	Interface	500	(\$5.6)	(\$9.0)	(\$0.1)	\$3.3	(\$0.2)	\$0.3	\$0.1	(\$0.4)	\$2.9	159	58	
12	Doubs	Transformer	AP	(\$10.6)	(\$13.7)	(\$0.2)	\$2.8	\$0.0	\$0.9	\$0.3	(\$0.5)	\$2.3	806	431	
13	Kanawha - Kincaid	Line	AEP	\$1.4	(\$0.7)	\$0.2	\$2.3	\$0.0	\$0.0	\$0.0	\$0.0	\$2.3	220	0	
14	Electric Jct - Nelson	Line	ComEd	\$0.3	\$0.5	\$5.6	\$5.4	(\$0.1)	(\$0.0)	(\$7.3)	(\$7.3)	(\$2.0)	1,454	236	
15	Culloden - Wyoming	Line	AEP	\$0.6	(\$0.8)	\$0.5	\$1.9	\$0.0	\$0.0	\$0.0	\$0.0	\$1.9	46	0	
18	Kammer - Natrium	Line	AEP	\$1.5	(\$0.4)	\$0.2	\$2.0	(\$0.3)	\$0.1	(\$0.1)	(\$0.4)	\$1.6	307	48	
21	Sullivan	Transformer	AEP	(\$0.0)	(\$1.4)	(\$0.0)	\$1.3	\$0.0	\$0.0	\$0.0	(\$0.0)	\$1.3	185	47	
22	Cloverdale - Ivy Hill	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	(\$1.1)	\$0.1	\$0.0	(\$1.2)	(\$1.2)	0	111	
24	Ruth - Turner	Line	AEP	\$0.7	(\$0.3)	\$0.0	\$1.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.1)	\$1.0	88	36	
25	Big Sandy - Grangston	Line	AEP	\$0.9	(\$0.0)	\$0.0	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	344	0	

Table 7-42 AEP Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-42)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Day Ahead				Balancing				Day Ahead	Real Time				
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total						
1	AP South	Interface	500	(\$16.5)	(\$29.0)	\$1.0	\$13.6	(\$0.7)	\$0.4	\$0.3	(\$0.9)	\$12.7	2,559	423			
2	Kammer	Transformer	500	(\$20.6)	(\$34.6)	(\$0.6)	\$13.4	(\$0.8)	\$2.5	\$0.4	(\$2.9)	\$10.6	3,674	1,328			
3	Ruth - Turner	Line	AEP	\$4.9	(\$1.6)	\$0.5	\$7.0	(\$1.2)	(\$0.4)	(\$0.1)	(\$0.9)	\$6.1	704	279			
4	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$17.4	\$8.8	\$1.1	\$9.6	(\$2.6)	(\$1.1)	(\$2.4)	(\$3.9)	\$5.8	2,888	907			
5	Kanawha - Kincaid	Line	AEP	\$2.8	(\$2.1)	\$0.2	\$5.1	\$0.0	\$0.0	\$0.0	\$0.0	\$5.1	291	0			
6	Kammer - Ormet	Line	AEP	\$7.8	\$1.1	\$0.3	\$6.9	(\$1.6)	\$0.5	(\$0.1)	(\$2.2)	\$4.7	552	509			
7	Kanawha River	Transformer	AEP	\$3.2	(\$0.3)	\$0.5	\$4.0	\$0.1	(\$0.3)	(\$0.1)	\$0.4	\$4.3	161	37			
8	Kanawha River - Bradley	Line	AEP	\$1.3	(\$2.2)	\$0.2	\$3.8	(\$0.0)	\$0.1	\$0.0	(\$0.1)	\$3.7	24	15			
9	Breed - Wheatland	Line	AEP	\$0.1	(\$3.7)	(\$0.4)	\$3.4	\$0.0	\$0.0	\$0.0	\$0.0	\$3.4	511	2			
10	Sammis - Wylie Ridge	Line	AP	(\$4.4)	(\$2.3)	(\$0.1)	(\$2.1)	(\$0.3)	\$0.2	(\$0.0)	(\$0.5)	(\$2.6)	632	140			
11	5004/5005 Interface	Interface	500	(\$8.0)	(\$10.7)	\$0.0	\$2.8	\$0.2	\$0.5	\$0.1	(\$0.2)	\$2.5	643	241			
12	Mount Storm - Pruntytown	Line	AP	(\$3.1)	(\$5.2)	\$0.2	\$2.3	\$0.0	\$0.2	\$0.1	(\$0.1)	\$2.2	525	132			
13	East Frankfort - Crete	Line	ComEd	\$3.5	\$2.0	\$1.4	\$2.9	(\$0.0)	\$0.1	(\$0.7)	(\$0.9)	\$2.0	1,490	219			
14	Cloverdale - Lexington	Line	AEP	(\$6.3)	(\$4.5)	(\$0.4)	(\$2.1)	\$0.5	\$0.2	\$0.1	\$0.4	(\$1.8)	752	335			
15	Belmont	Transformer	AP	\$0.3	(\$1.4)	\$0.3	\$2.0	(\$0.0)	(\$0.1)	(\$0.2)	(\$0.2)	\$1.8	871	71			
19	Axton	Transformer	AEP	\$0.3	(\$0.8)	\$0.1	\$1.2	(\$0.1)	\$0.1	\$0.0	(\$0.2)	\$1.1	114	12			
25	Poston - Postel Tap	Line	AEP	\$0.4	(\$0.6)	\$0.2	\$1.2	\$0.1	\$0.5	(\$0.0)	(\$0.4)	\$0.8	148	118			
26	Marquis - Waverly	Line	AEP	\$0.7	\$0.0	\$0.1	\$0.7	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.7	74	14			
30	Kanawha River - Kincaid	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	(\$0.1)	\$0.1	\$0.5	\$0.5	0	99			
33	Muskingum River	Transformer	AEP	\$0.1	(\$0.3)	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	48	0			

AP Control Zone**Table 7-43 AP Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-43)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											
				Day Ahead				Balancing				Event Hours			
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	AP South	Interface	500	(\$30.9)	(\$119.4)	(\$8.3)	\$80.2	\$4.6	\$5.6	\$7.3	\$6.3	\$86.6	3,512	1,251	
2	Doubs	Transformer	AP	\$13.9	(\$9.8)	(\$0.1)	\$23.6	\$3.3	\$0.8	\$0.1	\$2.7	\$26.3	806	431	
3	Bedington - Black Oak	Interface	500	(\$10.2)	(\$37.9)	(\$1.8)	\$25.9	\$0.3	\$0.4	\$0.1	(\$0.0)	\$25.9	1,819	47	
4	Mount Storm - Pruntytown	Line	AP	(\$2.8)	(\$11.2)	(\$0.4)	\$7.9	\$2.3	\$1.5	\$1.9	\$2.7	\$10.6	571	574	
5	Tiltonville - Windsor	Line	AP	\$14.5	\$3.5	\$1.4	\$12.4	(\$2.2)	(\$0.6)	(\$1.6)	(\$3.2)	\$9.2	1,954	410	
6	5004/5005 Interface	Interface	500	(\$17.2)	(\$26.4)	(\$1.4)	\$7.8	\$2.0	\$2.8	\$1.5	\$0.7	\$8.4	1,379	561	
7	Belmont	Transformer	AP	\$7.2	(\$0.7)	\$0.2	\$8.1	(\$0.3)	(\$0.3)	(\$0.2)	(\$0.2)	\$7.9	1,057	109	
8	AEP-DOM	Interface	500	(\$2.1)	(\$7.8)	\$0.4	\$6.0	\$0.3	(\$0.2)	(\$0.1)	\$0.4	\$6.4	471	89	
9	Kingwood - Pruntytown	Line	AP	\$5.1	\$1.6	\$0.6	\$4.1	\$0.0	(\$0.1)	(\$0.2)	(\$0.0)	\$4.1	421	49	
10	Cloverdale - Lexington	Line	AEP	\$1.4	(\$3.4)	\$0.9	\$5.7	(\$0.1)	\$0.4	(\$1.8)	(\$2.2)	\$3.5	1,044	620	
11	Endless Caverns	Transformer	Dominion	\$2.6	\$0.0	\$0.3	\$2.9	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$2.9	541	3	
12	Mahans Lane - Tidd	Line	AEP	\$3.9	\$1.4	\$0.4	\$2.9	(\$0.4)	(\$0.1)	(\$0.2)	(\$0.5)	\$2.4	646	207	
13	Nipetown - Reid	Line	AP	\$0.0	(\$2.5)	(\$0.0)	\$2.5	\$0.1	\$0.2	(\$0.0)	(\$0.1)	\$2.4	296	63	
14	Fort Martin - Ronco	Line	AP	\$0.2	\$0.2	\$0.1	\$0.2	(\$0.2)	\$0.9	(\$1.4)	(\$2.5)	(\$2.3)	31	42	
15	Middlebourne - Willow	Line	AP	\$2.0	(\$0.2)	\$0.3	\$2.5	(\$0.2)	(\$0.1)	(\$0.2)	(\$0.3)	\$2.1	317	81	
17	Wylie Ridge	Transformer	AP	\$0.8	\$1.4	\$0.6	\$0.0	(\$0.7)	(\$0.2)	(\$1.4)	(\$1.9)	(\$1.9)	479	376	
18	Hamilton - Weirton	Line	AP	\$2.8	\$1.0	\$0.2	\$2.0	(\$0.1)	\$0.1	(\$0.1)	(\$0.3)	\$1.7	443	18	
19	Yukon	Transformer	AP	\$1.7	\$0.1	\$0.1	\$1.7	\$0.0	\$0.1	\$0.1	\$0.0	\$1.7	112	17	
20	Halfway - Marlowe	Line	AP	\$0.6	(\$0.7)	(\$0.0)	\$1.3	\$0.1	(\$0.1)	\$0.0	\$0.2	\$1.5	60	20	
21	Albright - Snowy Creek	Line	AP	\$0.9	(\$0.3)	\$0.0	\$1.2	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$1.3	252	4	

Table 7-44 AP Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-44)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Day Ahead	Real Time
				Day Ahead				Balancing				Grand Total				
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total					
1	AP South	Interface	500	(\$12.7)	(\$50.5)	(\$3.9)	\$33.9	\$1.9	\$1.7	\$2.7	\$2.9	\$36.8	2,559	423		
2	Kammer	Transformer	500	\$17.8	\$27.8	\$6.8	(\$3.2)	(\$3.0)	(\$0.9)	(\$8.2)	(\$10.3)	(\$13.5)	3,674	1,328		
3	Mount Storm - Pruntytown	Line	AP	(\$2.0)	(\$10.1)	(\$0.6)	\$7.4	\$0.8	\$0.8	\$0.5	\$0.5	\$7.9	525	132		
4	Bedington - Black Oak	Interface	500	(\$1.3)	(\$6.1)	(\$0.2)	\$4.6	(\$0.3)	\$0.2	\$0.4	(\$0.2)	\$4.5	395	61		
5	5004/5005 Interface	Interface	500	(\$8.4)	(\$12.1)	(\$1.2)	\$2.5	\$0.9	\$0.8	\$1.8	\$1.9	\$4.4	643	241		
6	Tiltsville - Windsor	Line	AP	\$7.1	\$2.2	\$0.5	\$5.4	(\$0.5)	(\$0.2)	(\$0.8)	(\$1.1)	\$4.2	1,258	237		
7	Wylie Ridge	Transformer	AP	\$6.1	\$7.4	\$5.4	\$4.1	(\$1.1)	(\$0.5)	(\$7.2)	(\$7.7)	(\$3.6)	354	335		
8	Belmont	Transformer	AP	\$3.2	\$0.2	\$0.6	\$3.6	(\$0.2)	\$0.4	(\$0.1)	(\$0.7)	\$2.9	871	71		
9	Bedington - Harmony	Line	AP	\$2.0	(\$0.1)	\$0.5	\$2.6	\$0.0	\$0.0	(\$0.0)	(\$0.1)	\$2.6	262	28		
10	Doubs	Transformer	AP	\$2.0	(\$0.3)	\$0.0	\$2.4	\$0.2	\$0.1	(\$0.1)	\$0.0	\$2.4	84	30		
11	Cloverdale - Lexington	Line	AEP	\$1.2	(\$1.3)	\$0.8	\$3.3	(\$0.1)	\$0.0	(\$0.9)	(\$1.0)	\$2.3	752	335		
12	Carroll - Catoctin	Line	AP	\$0.4	\$0.0	(\$0.0)	\$0.3	\$0.7	(\$0.8)	\$0.2	\$1.6	\$2.0	99	22		
13	Yukon	Transformer	AP	\$2.2	\$0.4	\$0.0	\$1.8	\$0.0	\$0.2	\$0.1	(\$0.1)	\$1.7	142	39		
14	West	Interface	500	(\$12.5)	(\$15.3)	(\$2.0)	\$0.8	\$0.3	\$0.2	\$0.4	\$0.5	\$1.3	391	85		
15	Kingwood - Pruntytown	Line	AP	\$1.0	(\$0.1)	(\$0.0)	\$1.1	\$0.0	(\$0.0)	(\$0.0)	\$0.0	\$1.1	158	7		
16	Mount Storm	Transformer	AP	(\$0.4)	(\$1.8)	(\$0.2)	\$1.1	\$0.2	\$0.5	\$0.3	(\$0.1)	\$1.1	123	70		
17	Middlebourne - Willow	Line	AP	\$1.2	\$0.1	(\$0.1)	\$1.0	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$1.0	227	38		
18	Krendale - Seneca	Line	AP	\$0.8	\$0.0	\$0.2	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.9	245	0		
19	Bedington	Transformer	AP	\$4.2	(\$0.8)	\$0.1	\$5.1	(\$3.7)	\$0.0	(\$2.2)	(\$6.0)	(\$0.9)	338	149		
21	Sammis - Wylie Ridge	Line	AP	\$3.0	\$2.3	\$1.5	\$2.2	(\$0.2)	(\$0.2)	(\$1.2)	(\$1.3)	\$0.9	632	140		

ComEd Control Zone**Table 7-45 ComEd Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-45)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Day Ahead				Balancing				Day Ahead	Real Time				
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total						
1	East Frankfort - Crete	Line	ComEd	(\$33.4)	(\$62.5)	(\$4.2)	\$24.9	(\$2.7)	\$0.3	\$1.1	(\$2.0)	\$22.9	2,242	797			
2	AP South	Interface	500	(\$76.0)	(\$101.3)	(\$0.7)	\$24.6	(\$2.4)	\$0.4	(\$0.0)	(\$2.8)	\$21.8	3,512	1,251			
3	Electric Jct - Nelson	Line	ComEd	\$1.0	(\$23.6)	\$6.4	\$31.0	\$1.2	\$3.5	(\$7.6)	(\$9.9)	\$21.1	1,454	236			
4	Crete - St Johns Tap	Flowgate	Midwest ISO	(\$19.1)	(\$31.2)	(\$1.2)	\$11.0	(\$0.7)	(\$1.0)	\$0.4	\$0.7	\$11.7	800	245			
5	Pleasant Valley - Belvidere	Line	ComEd	(\$3.2)	(\$16.9)	\$1.3	\$15.0	\$0.1	\$2.6	(\$1.9)	(\$4.5)	\$10.6	1,775	355			
6	Nelson - Cordova	Line	ComEd	\$7.6	(\$2.4)	\$3.3	\$13.2	\$0.6	\$1.3	(\$3.4)	(\$4.0)	\$9.2	965	90			
7	Bedington - Black Oak	Interface	500	(\$26.9)	(\$35.1)	(\$0.2)	\$8.0	(\$0.2)	\$0.1	\$0.0	(\$0.3)	\$7.7	1,819	47			
8	5004/5005 Interface	Interface	500	(\$26.1)	(\$36.0)	(\$0.1)	\$9.8	(\$4.2)	(\$0.6)	\$0.6	(\$2.9)	\$6.9	1,379	561			
9	Waterman - West Dekalb	Line	ComEd	(\$1.7)	(\$7.3)	\$0.8	\$6.4	\$0.4	\$0.3	(\$0.2)	(\$0.0)	\$6.4	2,543	288			
10	AEP-DOM	Interface	500	(\$10.4)	(\$16.4)	(\$0.4)	\$5.6	(\$0.1)	(\$0.2)	\$0.0	\$0.1	\$5.7	471	89			
11	Rising	Flowgate	Midwest ISO	(\$2.4)	(\$7.1)	(\$0.0)	\$4.7	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$4.6	776	44			
12	Cloverdale - Lexington	Line	AEP	(\$11.5)	(\$17.5)	(\$0.4)	\$5.7	(\$1.4)	\$0.1	\$0.4	(\$1.2)	\$4.5	1,044	620			
13	Doubs	Transformer	AP	(\$15.1)	(\$18.9)	(\$0.1)	\$3.7	(\$1.0)	\$0.6	\$0.2	(\$1.3)	\$2.3	806	431			
14	Cherry Valley	Transformer	ComEd	\$0.9	(\$1.1)	\$0.2	\$2.1	\$0.0	\$0.1	(\$0.1)	(\$0.1)	\$2.0	104	37			
15	Tiltonville - Windsor	Line	AP	(\$9.3)	(\$12.2)	(\$0.2)	\$2.6	(\$1.1)	\$0.0	\$0.5	(\$0.7)	\$1.9	1,954	410			
18	Glidden - West Dekalb	Line	ComEd	\$0.0	(\$1.6)	\$0.2	\$1.8	\$0.0	\$0.0	\$0.0	\$0.0	\$1.8	376	0			
21	Electric Junction - Aurora	Line	ComEd	\$1.3	\$0.2	\$0.0	\$1.1	\$0.0	\$0.1	\$0.1	\$0.1	\$1.2	136	35			
22	Woodstock - 12205	Line	ComEd	(\$0.0)	(\$1.1)	\$0.1	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	91	0			
30	Burnham - Munster	Line	ComEd	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.6	(\$0.0)	(\$0.7)	(\$0.7)	1	82			
32	Belvidere - Woodstock	Line	ComEd	\$0.3	(\$0.4)	\$0.1	\$0.7	\$0.0	\$0.1	(\$0.0)	(\$0.0)	\$0.7	60	7			

Table 7-46 ComEd Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-46)

No.	Constraint	Type	Location	Congestion Costs (Millions)											
				Day Ahead				Balancing				Event Hours			
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	Pleasant Valley - Belvidere	Line	ComEd	(\$3.0)	(\$28.1)	\$0.1	\$25.1	\$1.1	\$1.5	\$0.0	(\$0.3)	\$24.8	2,342	266	
2	Dunes Acres - Michigan City	Flowgate	Midwest ISO	(\$45.7)	(\$69.8)	(\$3.1)	\$21.0	(\$3.4)	(\$1.1)	\$0.9	(\$1.4)	\$19.6	2,888	907	
3	Kammer	Transformer	500	(\$30.8)	(\$49.7)	(\$0.1)	\$18.7	(\$0.4)	(\$0.9)	(\$0.0)	\$0.4	\$19.1	3,674	1,328	
4	East Frankfort - Crete	Line	ComEd	(\$14.8)	(\$29.9)	(\$0.1)	\$15.0	(\$0.5)	(\$0.5)	(\$0.1)	(\$0.1)	\$14.9	1,490	219	
5	AP South	Interface	500	(\$25.4)	(\$37.9)	(\$0.1)	\$12.5	(\$1.0)	(\$0.5)	(\$0.1)	(\$0.5)	\$12.0	2,559	423	
6	Crete - St Johns Tap	Flowgate	Midwest ISO	(\$9.4)	(\$19.7)	(\$0.2)	\$10.1	(\$0.4)	(\$0.1)	(\$0.0)	(\$0.3)	\$9.8	732	190	
7	Electric Jct - Nelson	Line	ComEd	\$0.2	(\$7.9)	\$0.1	\$8.2	\$2.1	\$1.4	(\$0.1)	\$0.6	\$8.8	819	202	
8	5004/5005 Interface	Interface	500	(\$10.4)	(\$14.4)	(\$0.0)	\$3.9	(\$0.6)	(\$1.1)	(\$0.0)	\$0.5	\$4.4	643	241	
9	Sliver Lake - Cherry Valley	Line	ComEd	\$0.1	(\$3.7)	\$0.1	\$3.9	\$0.8	\$0.2	(\$0.1)	\$0.5	\$4.3	340	41	
10	Glidden - West Dekalb	Line	ComEd	(\$0.2)	(\$4.0)	\$0.1	\$3.8	\$0.0	\$0.0	\$0.0	\$0.0	\$3.8	703	0	
11	Wylie Ridge	Transformer	AP	(\$7.9)	(\$10.9)	(\$0.0)	\$3.0	(\$0.8)	(\$1.5)	\$0.0	\$0.8	\$3.8	354	335	
12	West	Interface	500	(\$11.4)	(\$14.9)	(\$0.0)	\$3.5	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	\$3.6	391	85	
13	Mount Storm - Pruntytown	Line	AP	(\$4.1)	(\$6.8)	(\$0.0)	\$2.7	(\$0.2)	(\$0.6)	(\$0.0)	\$0.4	\$3.2	525	132	
14	Cloverdale - Lexington	Line	AEP	(\$4.5)	(\$7.8)	(\$0.0)	\$3.3	(\$0.6)	(\$0.3)	\$0.0	(\$0.3)	\$3.1	752	335	
15	Oak Grove - Galesburg	Flowgate	Midwest ISO	(\$0.4)	(\$3.5)	\$0.0	\$3.1	\$1.1	\$1.0	(\$0.2)	(\$0.2)	\$2.9	645	531	
16	Cherry Valley	Transformer	ComEd	\$0.4	(\$2.4)	\$0.0	\$2.8	\$0.0	\$0.0	\$0.0	(\$0.0)	\$2.8	25	6	
19	Wilton Center - Pontiac	Line	ComEd	\$1.6	\$0.4	\$0.0	\$1.3	\$0.1	\$0.7	\$0.0	(\$0.6)	\$0.7	0	0	
21	Waterman - West Dekalb	Line	ComEd	(\$0.3)	(\$1.4)	\$0.0	\$1.1	\$0.1	(\$0.0)	(\$0.0)	\$0.1	\$1.2	1,216	41	
24	Quad Cities - Cordova	Line	ComEd	\$0.2	(\$1.0)	\$0.0	\$1.3	(\$0.0)	\$0.1	\$0.0	(\$0.1)	\$1.2	104	15	
25	Burnham - Munster	Line	ComEd	(\$2.1)	(\$3.4)	(\$0.0)	\$1.3	(\$0.0)	\$0.0	(\$0.0)	(\$0.1)	\$1.2	140	15	

DAY Control Zone

Table 7-47 DAY Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-47)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Load Payments	Day Ahead			Total	Load Payments	Balancing			Total	Day Ahead		Real Time	
					Generation Credits	Explicit	Generation Credits			Explicit	Generation Credits	Explicit					
1	5004/5005 Interface	Interface	500	(\$1.4)	(\$2.5)	(\$0.2)	\$0.9	\$0.3	(\$0.0)	\$0.4	\$0.7	\$1.6	1,379	561			
2	AP South	Interface	500	(\$4.6)	(\$6.3)	(\$0.9)	\$0.8	(\$0.0)	\$0.4	\$0.6	\$0.2	\$1.0	3,512	1,251			
3	Cloverdale - Lexington	Line	AEP	(\$0.5)	(\$1.4)	(\$0.3)	\$0.6	\$0.1	(\$0.0)	\$0.2	\$0.4	\$1.0	1,044	620			
4	Pleasant Prairie - Zion	Flowgate	Midwest ISO	\$0.0	(\$0.0)	\$0.5	\$0.5	(\$0.0)	\$0.0	(\$1.4)	(\$1.4)	(\$0.9)	1,098	212			
5	AEP-DOM	Interface	500	(\$0.7)	(\$1.4)	(\$0.0)	\$0.7	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.7	471	89			
6	Mount Storm - Pruntytown	Line	AP	(\$0.4)	(\$0.5)	(\$0.0)	\$0.1	\$0.2	\$0.2	\$0.7	\$0.6	\$0.7	571	574			
7	Harrison - Pruntytown	Line	500	(\$0.1)	(\$0.2)	(\$0.0)	\$0.0	\$0.1	\$0.1	\$0.4	\$0.5	\$0.5	231	224			
8	Tiltonsville - Windsor	Line	AP	(\$0.6)	(\$0.8)	(\$0.3)	(\$0.1)	\$0.1	(\$0.0)	\$0.4	\$0.5	\$0.5	1,954	410			
9	Waterman - West Dekalb	Line	ComEd	\$0.0	\$0.0	\$0.5	\$0.5	\$0.0	\$0.0	(\$0.1)	(\$0.1)	\$0.4	2,543	288			
10	Pleasant Valley - Belvidere	Line	ComEd	\$0.0	\$0.0	\$0.8	\$0.8	(\$0.0)	\$0.0	(\$1.2)	(\$1.2)	(\$0.4)	1,775	355			
11	Branchburg - Flagtown	Line	PSEG	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.4)	(\$0.4)	(\$0.4)	0	0			
12	Doubs	Transformer	AP	(\$0.9)	(\$1.2)	(\$0.1)	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.4	806	431			
13	Bedington - Black Oak	Interface	500	(\$1.4)	(\$2.2)	(\$0.4)	\$0.3	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.4	1,819	47			
14	Dumont - Stillwell	Line	AEP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.3)	(\$0.3)	(\$0.3)	156	124			
15	Clover	Transformer	Dominion	(\$0.2)	(\$0.4)	\$0.1	\$0.3	\$0.0	(\$0.1)	(\$0.0)	\$0.0	\$0.3	464	243			
133	Hutchings - Sugarcreek	Line	DAY	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	0	1			

Table 7-48 DAY Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-48)

No.	Constraint	Type	Location	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					
1	Kammer	Transformer	500	(\$1.9)	(\$4.5)	(\$0.1)	\$2.6	\$0.4	(\$0.1)	\$0.0	\$0.5	\$3.1	3,674	1,328		
2	AP South	Interface	500	(\$1.9)	(\$2.9)	(\$0.0)	\$1.0	\$0.1	\$0.2	(\$0.0)	(\$0.1)	\$0.9	2,559	423		
3	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$0.4	\$1.0	(\$0.5)	(\$1.1)	(\$0.0)	(\$0.0)	\$0.1	\$0.2	(\$0.9)	2,888	907		
4	West	Interface	500	(\$0.8)	(\$1.4)	\$0.0	\$0.7	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.7	391	85		
5	Wylie Ridge	Transformer	AP	(\$0.6)	(\$1.1)	(\$0.0)	\$0.5	\$0.2	\$0.2	\$0.0	(\$0.0)	\$0.4	354	335		
6	Cloverdale - Lexington	Line	AEP	(\$0.3)	(\$0.8)	\$0.0	\$0.5	\$0.0	\$0.1	\$0.0	(\$0.1)	\$0.4	752	335		
7	5004/5005 Interface	Interface	500	(\$0.7)	(\$1.0)	(\$0.0)	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.3	643	241		
8	Tiltonville - Windsor	Line	AP	(\$0.2)	(\$0.6)	(\$0.0)	\$0.4	\$0.0	\$0.1	\$0.0	(\$0.1)	\$0.3	1,258	237		
9	Marquis - Waverly	Line	AEP	\$0.0	(\$0.3)	(\$0.0)	\$0.3	(\$0.0)	\$0.0	\$0.0	(\$0.0)	\$0.2	74	14		
10	Elrama - Mitchell	Line	AP	(\$0.1)	(\$0.3)	(\$0.0)	\$0.2	\$0.1	\$0.0	\$0.0	\$0.1	\$0.2	225	184		
11	Sammis - Wylie Ridge	Line	AP	(\$0.2)	(\$0.4)	(\$0.0)	\$0.2	\$0.0	\$0.1	(\$0.0)	(\$0.0)	\$0.2	632	140		
12	Pierce - Foster	Flowgate	Midwest ISO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	(\$0.0)	(\$0.2)	(\$0.2)	0	5		
13	East Frankfort - Crete	Line	ComEd	\$0.2	\$0.3	\$0.0	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.1)	1,490	219		
14	Kammer - Ormet	Line	AEP	(\$0.1)	(\$0.2)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	552	509		
15	Breed - Wheatland	Line	AEP	\$0.0	\$0.1	\$0.0	(\$0.1)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.1)	511	2		

DLCO Control Zone**Table 7-49 DLCO Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-49)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Event Hours	
				Load Payments	Day Ahead			Total	Load Payments	Balancing			Total	Day Ahead		Real Time	
					Generation Credits	Explicit	Generation Credits			Explicit							
1	Crescent	Transformer	DLCO	\$12.3	\$0.1	\$0.2	\$12.4	\$0.2	(\$0.5)	(\$0.3)	\$0.4	\$12.8	630	141			
2	AP South	Interface	500	(\$34.9)	(\$41.5)	(\$0.2)	\$6.4	(\$2.1)	(\$0.3)	\$0.2	(\$1.5)	\$4.8	3,512	1,251			
3	Collier - Elwyn	Line	DLCO	\$4.5	\$0.3	\$0.1	\$4.4	(\$0.0)	(\$0.1)	(\$0.0)	\$0.0	\$4.4	460	111			
4	Carson - Oakland	Line	DLCO	\$2.5	\$0.0	\$0.0	\$2.5	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$2.5	170	1			
5	Bedington - Black Oak	Interface	500	(\$10.6)	(\$12.3)	(\$0.1)	\$1.7	(\$0.2)	(\$0.1)	\$0.0	(\$0.1)	\$1.6	1,819	47			
6	AEP-DOM	Interface	500	(\$4.3)	(\$5.7)	(\$0.0)	\$1.4	(\$0.2)	(\$0.1)	\$0.0	(\$0.1)	\$1.3	471	89			
7	Sammys - Wylie Ridge	Line	AP	(\$1.8)	(\$3.2)	(\$0.0)	\$1.4	(\$0.1)	\$0.2	\$0.0	(\$0.2)	\$1.2	521	60			
8	East Frankfort - Crete	Line	ComEd	\$1.1	\$2.0	(\$0.0)	(\$0.9)	\$0.1	(\$0.0)	(\$0.0)	\$0.1	(\$0.7)	2,242	797			
9	Elrama - Mitchell	Line	AP	(\$2.4)	(\$1.9)	(\$0.1)	(\$0.6)	(\$0.1)	\$0.0	\$0.1	(\$0.0)	(\$0.6)	411	239			
10	5004/5005 Interface	Interface	500	(\$10.0)	(\$11.8)	(\$0.1)	\$1.7	(\$1.3)	(\$0.1)	\$0.1	(\$1.1)	\$0.6	1,379	561			
11	Cloverdale - Lexington	Line	AEP	(\$1.4)	(\$2.1)	\$0.0	\$0.7	(\$0.2)	(\$0.0)	(\$0.0)	(\$0.2)	\$0.5	1,044	620			
12	Arsenal - Highland	Line	DLCO	\$0.5	(\$0.0)	\$0.0	\$0.5	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.4	41	7			
13	Collier	Transformer	DLCO	\$0.3	\$0.0	\$0.0	\$0.3	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.4	8	8			
14	Arsenal - Oakland	Line	DLCO	\$0.1	(\$0.1)	\$0.0	\$0.2	(\$0.3)	\$0.2	(\$0.0)	(\$0.5)	(\$0.3)	72	46			
15	Wylie Ridge	Transformer	AP	(\$1.7)	(\$2.8)	(\$0.0)	\$1.0	(\$0.7)	\$0.6	\$0.0	(\$1.3)	(\$0.3)	479	376			
16	Beaver - Mansfield	Line	DLCO	(\$0.1)	(\$0.4)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	163	0			
23	Crescent - Sewickly	Line	DLCO	\$0.2	\$0.0	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	12	0			
25	Beaver	Transformer	DLCO	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.1)	\$0.1	(\$0.0)	(\$0.1)	(\$0.1)	0	7			
26	Cheswick - Logan's Ferry	Line	DLCO	\$0.0	(\$0.1)	(\$0.0)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	17	0			
28	Arsenal	Transformer	DLCO	\$0.1	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	8	0			

Table 7-50 DLCO Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-50)

No.	Constraint	Type	Location	Congestion Costs (Millions)											
				Day Ahead				Balancing				Event Hours			
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	Sammis - Wylie Ridge	Line	AP	(\$4.0)	(\$8.0)	(\$0.0)	\$4.0	(\$0.2)	\$0.5	\$0.0	(\$0.7)	\$3.3	632	140	
2	AP South	Interface	500	(\$10.8)	(\$14.9)	(\$0.0)	\$4.1	(\$0.7)	\$0.3	\$0.0	(\$1.0)	\$3.1	2,559	423	
3	Elrama - Mitchell	Line	AP	(\$2.7)	(\$1.8)	(\$0.0)	(\$0.9)	(\$0.2)	\$0.9	\$0.0	(\$1.1)	(\$2.1)	225	184	
4	West	Interface	500	(\$3.8)	(\$5.5)	(\$0.0)	\$1.6	(\$0.1)	\$0.0	\$0.0	(\$0.1)	\$1.5	391	85	
5	Logans Ferry - Universal	Line	DLCO	\$0.2	(\$1.3)	\$0.0	\$1.5	\$0.0	\$0.1	(\$0.0)	(\$0.1)	\$1.4	395	156	
6	Collier	Transformer	DLCO	\$1.4	\$0.3	\$0.0	\$1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	46	0	
7	Wylie Ridge	Transformer	AP	(\$8.5)	(\$12.9)	(\$0.0)	\$4.4	(\$1.2)	\$2.2	\$0.0	(\$3.3)	\$1.1	354	335	
8	Kammer	Transformer	500	(\$3.6)	(\$4.8)	\$0.0	\$1.3	(\$0.4)	(\$0.1)	(\$0.0)	(\$0.4)	\$0.9	3,674	1,328	
9	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$1.7	\$2.6	(\$0.0)	(\$0.9)	\$0.2	\$0.1	(\$0.0)	\$0.1	(\$0.8)	2,888	907	
10	Mount Storm - Pruntytown	Line	AP	(\$1.9)	(\$2.8)	(\$0.0)	\$0.9	(\$0.2)	\$0.1	\$0.0	(\$0.3)	\$0.6	525	132	
11	East Frankfort - Crete	Line	ComEd	\$0.7	\$1.1	\$0.0	(\$0.4)	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.4)	1,490	219	
12	Krendale - Seneca	Line	AP	(\$0.7)	(\$1.0)	(\$0.0)	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	245	0	
13	Kammer - West Bellaire	Line	AP	\$0.3	\$0.3	\$0.0	\$0.0	\$0.1	(\$0.1)	\$0.0	\$0.3	\$0.3	50	19	
14	Cloverdale - Lexington	Line	AEP	(\$0.7)	(\$1.1)	\$0.0	\$0.4	(\$0.1)	\$0.0	(\$0.0)	(\$0.1)	\$0.3	752	335	
15	Bedington - Black Oak	Interface	500	(\$1.2)	(\$1.6)	(\$0.0)	\$0.3	(\$0.0)	\$0.0	\$0.0	(\$0.1)	\$0.3	395	61	
16	Beaver - Clinton	Line	DLCO	\$0.1	(\$0.2)	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	20	0	
22	Cheswick - Logans Ferry	Line	DLCO	\$0.0	(\$0.1)	\$0.0	\$0.1	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	\$0.1	49	3	
24	Cheswick - Evergreen	Line	DLCO	\$0.0	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	\$0.1	35	5	
25	Cheswick - Wilmerding	Line	DLCO	\$0.0	(\$0.1)	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	35	0	
37	Crescent	Transformer	DLCO	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.1	(\$0.0)	\$0.0	\$0.0	0	20	

Southern Region Congestion-Event Summaries**Dominion Control Zone****Table 7-51 Dominion Control Zone top congestion cost impacts (By facility): January through September 2010 (See 2009 SOM, Table 7-51)**

No.	Constraint	Type	Location	Congestion Costs (Millions)											
				Day Ahead				Balancing				Event Hours			
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time	
1	AP South	Interface	500	\$84.5	(\$26.0)	\$0.7	\$111.2	\$2.8	\$4.9	(\$0.9)	(\$2.9)	\$108.3	3,512	1,251	
2	Cloverdale - Lexington	Line	AEP	\$18.0	\$5.6	\$2.0	\$14.4	(\$1.8)	(\$2.4)	(\$2.3)	(\$1.6)	\$12.8	1,044	620	
3	Doubs	Transformer	AP	(\$0.1)	(\$11.4)	(\$0.1)	\$11.2	\$1.5	\$0.8	\$0.7	\$1.4	\$12.6	806	431	
4	Bedington - Black Oak	Interface	500	\$27.2	\$20.5	\$3.0	\$9.7	(\$0.2)	(\$0.2)	(\$0.3)	(\$0.3)	\$9.4	1,819	47	
5	Clover	Transformer	Dominion	\$6.1	(\$2.0)	\$1.5	\$9.5	(\$0.3)	\$0.5	(\$1.2)	(\$2.0)	\$7.5	464	243	
6	Pleasant View	Transformer	Dominion	\$0.3	\$0.0	\$0.0	\$0.3	(\$4.2)	\$1.4	(\$0.6)	(\$6.3)	(\$6.0)	31	101	
7	Millville - Old Chapel	Line	AP	\$0.4	(\$2.8)	(\$0.4)	\$2.8	\$0.9	\$0.6	\$1.6	\$1.9	\$4.7	178	121	
8	Ox - Francona	Line	Dominion	\$3.3	(\$0.6)	\$0.0	\$3.9	\$0.0	\$0.0	\$0.0	\$0.0	\$3.9	66	0	
9	AEP-DOM	Interface	500	\$15.3	\$12.5	\$0.6	\$3.4	(\$0.1)	(\$0.3)	(\$0.1)	\$0.1	\$3.5	471	89	
10	Ox - Glebe	Line	Dominion	\$2.5	(\$0.7)	\$0.0	\$3.2	\$0.0	\$0.0	\$0.0	\$0.0	\$3.2	30	0	
11	Chuckatuck - Benns Church	Line	Dominion	\$2.5	(\$0.2)	\$0.0	\$2.7	\$0.0	\$0.0	\$0.0	\$0.0	\$2.7	76	0	
12	5004/5005 Interface	Interface	500	(\$2.6)	(\$4.6)	\$0.3	\$2.3	\$1.3	\$1.3	\$0.3	\$0.4	\$2.7	1,379	561	
13	East Frankfort - Crete	Line	ComEd	\$4.3	\$2.4	\$0.2	\$2.1	(\$0.2)	(\$0.4)	(\$0.2)	(\$0.0)	\$2.1	2,242	797	
14	Endless Caverns	Transformer	Dominion	\$0.6	(\$1.4)	\$0.0	\$2.0	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$2.0	541	3	
15	West	Interface	500	(\$1.5)	(\$3.5)	(\$0.1)	\$2.0	\$0.1	\$0.1	\$0.1	\$0.0	\$2.0	159	58	
16	Dooms	Transformer	Dominion	\$1.3	(\$0.2)	\$0.0	\$1.5	(\$0.5)	(\$0.8)	\$0.1	\$0.4	\$1.8	34	31	
17	Greenwich - Elizabeth River	Line	Dominion	\$1.6	(\$0.2)	\$0.0	\$1.8	\$0.1	\$0.0	(\$0.0)	\$0.0	\$1.8	32	22	
18	Pleasant View	Line	Dominion	\$1.8	\$0.1	\$0.1	\$1.8	\$0.0	\$0.0	\$0.0	\$0.0	\$1.8	32	0	
19	Yadkin	Transformer	Dominion	\$1.5	\$0.1	\$0.0	\$1.5	\$0.4	\$0.0	(\$0.1)	\$0.3	\$1.7	26	21	
20	Beechwood - Kerr Dam	Line	Dominion	\$1.8	(\$1.2)	(\$0.1)	\$2.8	(\$0.7)	\$0.5	\$0.1	(\$1.1)	\$1.7	582	306	

Table 7-52 Dominion Control Zone top congestion cost impacts (By facility): January through September 2009 (See 2009 SOM, Table 7-52)

No.	Constraint	Type	Location	Congestion Costs (Millions)											Grand Total	Day Ahead	Real Time
				Day Ahead				Balancing				Event Hours					
				Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Day Ahead	Real Time				
1	AP South	Interface	500	\$26.0	(\$20.9)	(\$0.4)	\$46.6	\$1.1	\$0.1	\$0.2	\$1.1	\$47.7	2,559	423			
2	Cloverdale - Lexington	Line	AEP	\$5.8	\$2.4	\$0.9	\$4.3	(\$0.1)	(\$1.8)	(\$1.2)	\$0.5	\$4.8	752	335			
3	Kammer	Transformer	500	\$10.3	\$8.3	\$2.1	\$4.2	(\$0.0)	(\$0.8)	(\$2.0)	(\$1.2)	\$3.0	3,674	1,328			
4	Dunes Acres - Michigan City	Flowgate	Midwest ISO	\$4.3	\$2.1	\$0.1	\$2.3	(\$0.2)	(\$0.6)	(\$0.1)	\$0.3	\$2.6	2,888	907			
5	Beechwood - Kerr Dam	Line	Dominion	\$1.5	(\$0.8)	(\$0.1)	\$2.2	(\$0.2)	\$0.1	\$0.1	(\$0.2)	\$2.0	632	228			
6	Chuckatuck - Benns Church	Line	Dominion	\$1.5	(\$0.0)	\$0.0	\$1.6	\$0.0	\$0.0	\$0.0	\$0.0	\$1.6	45	0			
7	Bedington - Black Oak	Interface	500	\$2.6	\$1.6	\$0.6	\$1.5	(\$0.1)	(\$0.1)	(\$0.2)	(\$0.1)	\$1.4	395	61			
8	West	Interface	500	(\$2.4)	(\$3.3)	\$0.0	\$1.0	\$0.1	\$0.2	\$0.1	\$0.0	\$1.0	391	85			
9	Wylie Ridge	Transformer	AP	\$2.5	\$1.7	\$0.4	\$1.2	(\$0.1)	(\$0.2)	(\$0.4)	(\$0.2)	\$1.0	354	335			
10	Ox	Transformer	Dominion	\$0.8	(\$0.1)	\$0.0	\$1.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.0	8	0			
11	Crozet - Doms	Line	Dominion	\$0.7	(\$0.3)	\$0.0	\$1.0	(\$0.3)	(\$0.2)	(\$0.0)	(\$0.1)	\$0.9	54	37			
12	5004/5005 Interface	Interface	500	(\$0.6)	(\$1.3)	(\$0.1)	\$0.6	\$0.1	\$0.1	\$0.0	\$0.1	\$0.7	643	241			
13	Chickahominy - Lanexa	Line	Dominion	\$0.5	(\$0.0)	\$0.0	\$0.6	(\$0.1)	(\$0.3)	\$0.0	\$0.1	\$0.7	42	19			
14	Clover - Farmville	Line	Dominion	(\$0.0)	(\$0.7)	\$0.0	\$0.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.7	41	0			
15	Crete - St Johns Tap	Flowgate	Midwest ISO	\$1.0	\$0.5	\$0.1	\$0.6	(\$0.1)	(\$0.2)	(\$0.1)	\$0.0	\$0.7	732	190			
17	Crozet - Barracks Rd	Line	Dominion	\$0.8	\$0.3	(\$0.0)	\$0.4	\$0.1	(\$0.1)	\$0.0	\$0.2	\$0.6	39	11			
21	Beaumeade - Ashburn	Line	Dominion	\$0.4	\$0.0	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.4	15	0			
25	Lightfoot - Chickahominy	Line	Dominion	\$0.0	(\$0.0)	\$0.0	\$0.0	(\$0.2)	\$0.2	(\$0.0)	(\$0.4)	(\$0.4)	7	10			
27	Danville - East Danville	Line	Dominion	\$0.7	\$0.4	\$0.0	\$0.4	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.0)	\$0.3	165	36			
28	Doms	Transformer	Dominion	\$0.3	(\$0.0)	(\$0.0)	\$0.3	(\$0.0)	(\$0.0)	\$0.0	\$0.0	\$0.3	15	5			