STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF PUBLIC SERVICE ELECTRIC AND GAS COMPANY FOR A DETERMINATION PURSUANT TO THE PROVISIONS OF N.J.S.A. 40:55D-19 (SUSQUEHANNA- ROSELAND)	**BPU DOCKET NO.: EM09010035** **CERTIFICATION**

I, Catherine E. Tamasik, of true age, make this certification in support of the motion of the Municipal Intervenors, the Environmental Intervenors and Stop the Lines! in support of their motion to dismiss the Petition of Public Service Electric and Gas Company, and I say as follows:

1. Attached as Exhibit 1 is a true and correct copy of McGlynn Response to Municipal Intervenors' Request 24.

2. Attached as Exhibit 2 is a true and correct copy of McGlynn Response to Municipal Intervenors' Request 17.

3. Attached as Exhibit 3 is a true and correct copy of Reynolds Response to BPU Staff Interrogatory S-PP-45.

4. Attached as Exhibit 4 is a true and correct copy selected sections of PJM 2009 Quarterly State of the Market Report.

5. Attached as Exhibit 5 is a true and correct copy of McGlynn Response to Municipal Intervenors' Request 26.

6. Attached as Exhibit 6 is a true and correct copy of Testimony of Karl Pfirrmann, President, PJM Interconnection, at FERC Technical Conference, May 13, 2005 (included in PSE&G Discovery Response STL-D-6(a)).

7. Attached as Exhibit 7 is a true and correct copy of PJM Amendments to Schedule 12 – Appendix of the PJM Tariff to reflect the assignments of cost responsibility for five baseline upgrades in RTEP (included in PSE&G Discovery Response STL-D-16a (selected section sections)).

8. Attached as Exhibit 8 is a true and correct copy of FERC Order Accepting Cost Responsibility Assignments, January 28, 2009, PSE&G Discovery Response Exhibit STL-D16d.

9. Attached as Exhibit 9 is a true and correct copy of *Illinois Commerce Commission, et al., v. Federal Energy Regulatory Commission*, Nos. 08-1306, 08-1780, 08-2071, 08-2124, 08-2239 (7th Cir. Aug. 6, 2009).

10. Attached as Exhibit 10 is a true and correct copy of Highlands Council Press Release, May 19, 2009.

11. Attached as Exhibit 11 is a true and correct copy of PSE&G Letter, August 14, 2009.

12. Attached as Exhibit 12 is a true and correct copy of *Electricity Prices Plummet*, Wall Street Journal, Aug. 12, 2009.

13. Attached as Exhibit 13 is a true and correct copy of PSEG Press Release – PSEG Announces Third Quarter Results.

14. Attached as Exhibit 14 is a true and correct copy of NYISO & ISO-New England letter, Feb. 4, 2009.

15. Attached as Exhibit 15 is a true and correct copy of Testimony of Paul A. DeCotis before United States Senate Committee on Energy, Mar. 26, 2009.

16. Attached as Exhibit 16 is a true and correct copy of letter of Northeast and Mid-Atlantic Governors, May 4, 2009.

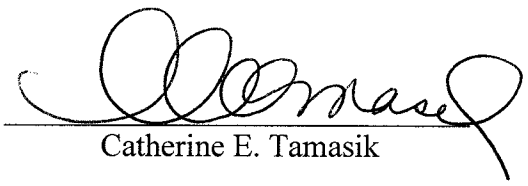
17. Attached as Exhibit 17 is a true and correct copy of McGlynn Response to Municipal Intervenors' Request 13.

18. Attached as Exhibit 18 is a true and correct copy of Jacober Responses to Stop the Lines Requests 4 and 5.

19 Attached as Exhibit 19 is a true and correct copy of McGlynn Response to Municipal Intervenors' Request 22.

20. Attached as Exhibit 20 is a true and correct copy of *Surprise Drop in Power Use Delivers Jolt to Utilities*, Wall Street Journal, Nov. 21, 2008.

I hereby certify that the foregoing statements made by me are true. I am aware that if any of the foregoing statements made by me are willfully false, I am subject to punishment.



Catherine E. Tamasik

Dated: November 6, 2009

EXHIBIT 1

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

DEMAND RESPONSE

QUESTION:
How does PJM forecast that there will not be sufficient generation or demand response in 2012 to address all of the identified reliability criteria violations without having determined the levels of new generation and demand response that would be required to offset the need for the Project?

ANSWER:
PJM has evaluated the generation and demand response resources projected to be available in 2012, per approved procedures, and has found them to be insufficient to offset the need for the Susquehanna – Roseland project, since violations of reliability criteria exist even considering the availability of those resources. These procedures are described in PJM Manual 14-B.

EXHIBIT 2

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

RTEP ANALYSIS

QUESTION:
Provide RTEP analyses from PJM for 2002 to the present.

ANSWER:
See RTEP Reports at: <http://www.pjm.com/documents/reports/rtep-report.aspx. Prior to 2005>, RTEP results were provided in Baseline Reports which can be accessed at:

http://www.pjm.com/planning/rtep-development/~/media/planning/rtep-dev/baseline-reports/2004-rtep-baseline-rpt.ashx
http://www.pjm.com/planning/rtep-development/~/media/planning/rtep-dev/baseline-reports/1st-addendum-2004-baseline.ashx
http://www.pjm.com/planning/rtep-development/~/media/planning/rtep-dev/baseline-reports/2003-rtep-baseline-rpt.ashx
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http://www.pjm.com/~/media/planning/rtep-dev/baseline-reports/2002-rtep-baseline-report.ashx
http://www.pjm.com/~/media/planning/rtep-dev/baseline-reports/20030505-addendum-rtep.ashx
http://www.pjm.com/~/media/planning/rtep-dev/baseline-reports/second-addendum-to-2002-rtep-baseline-report.ashx
http://www.pjm.com/~/media/planning/rtep-dev/baseline-reports/2002-3rd-addendum-baselin.ashx
http://www.pjm.com/~/media/planning/rtep-dev/baseline-reports/fourth-addendum-2002-rtep-baseline.ashx
http://www.pjm.com/~/media/planning/rtep-dev/baseline-reports/fifth-addendum-2002-rtep-baseline.ashx
http://www.pjm.com/~/media/planning/rtep-dev/baseline-reports/sixth-addendum-2002-rtep-baseline.ashx
http://www.pjm.com/~/media/planning/rtep-dev/baseline-reports/seventh-addendum-2002-rtep-baseline.ashx

EXHIBIT 3

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
ENERGY EFFICIENCY, LOAD FORECAST

QUESTION:
Page 7, lines 21-26 and Page 8, lines 1-7 of Witness Reynolds testimony states that subsequent to the 2009 PJM Load Forecast Report, PJM will include as an explicit adjustment to the load forecast any energy efficiency programs that will have cleared in an RPM auction and that demand side and conservation initiatives will be included in PJM's planning process to the extent that the programs have been developed and PJM can determine to a degree of specificity and certainty that the impacts can be achieved. How and when will PJM make an explicit adjustment the load forecast using the RPM auction results? How does PJM determine what demand side and conservation initiatives are achievable?

ANSWER:
Energy Efficiency programs will be eligible to offer into the 2012/13 Base Residual Auction in May, 2009. The cleared EE amounts will be reflected in the 2010 Load Forecast Report. PJM has determined that cleared EE will have a specificity (established through a measurement and verification protocol) and certainty (established through financial commitment) to be included in the planning process.

EXHIBIT 4

2009 Quarterly State of the Market Report for PJM:
January through June

Monitoring Analytics, LLC
Independent Market Monitor for PJM

August 14, 2009

PJM Real-Time, Annual Average Load

Table 2-42 PJM real-time average load: Calendar years 2000 through June 2009 (See 2008 SOM, Table 2-44)

	PJM Real-Time Load (MWh)			Year-to-Year Change		
	Average	Median	Standard Deviation	Average	Median	Standard Deviation
2000	30,113	30,170	5,529	NA	NA	NA
2001	30,297	30,219	5,873	0.6%	0.2%	6.2%
2002	35,731	34,746	8,013	17.9%	15.0%	36.5%
2003	37,398	37,031	6,832	4.7%	6.6%	(14.7%)
2004	49,963	48,103	13,004	33.6%	29.9%	90.3%
2005	78,150	76,247	16,296	56.4%	58.5%	25.3%
2006	79,471	78,473	14,534	1.7%	2.9%	(10.8%)
2007	81,681	80,914	14,618	2.8%	3.1%	0.6%
2008	79,515	78,481	13,758	(2.7%)	(3.0%)	(5.9%)
2009	75,993	75,847	12,898	(4.4%)	(3.4%)	(6.2%)

PJM Real-Time, Monthly Average Load

Figure 2-6 PJM real-time average load: Calendar years 2008 through June 2009 (See 2008 SOM, Figure 2-5)

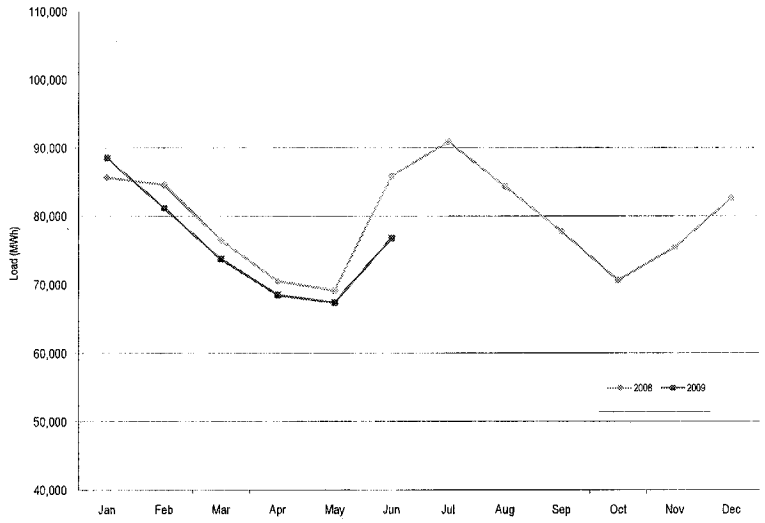


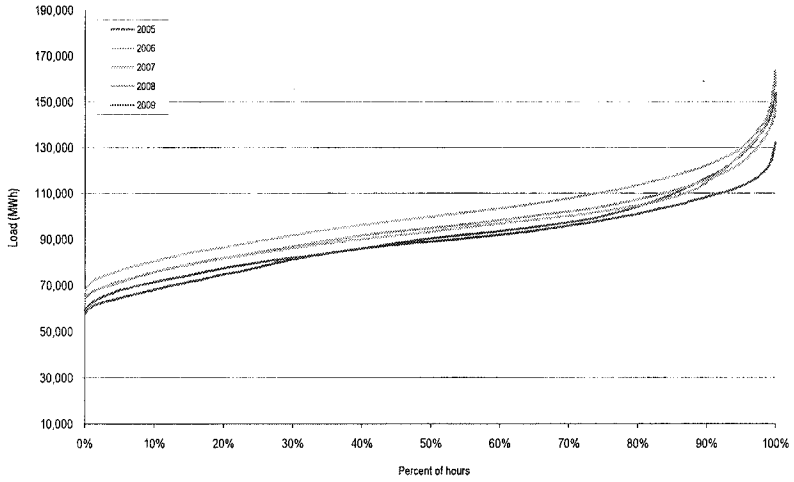
Table 2-43 Monthly minimum, average and maximum of PJM hourly THI: Cooling periods of 2008 and 2009 (See 2008 SOM, Table 2-45)

	2008			2009			Difference		
	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max
Jun	54.94	70.16	81.30	52.53	67.86	77.88	(4.4%)	(3.3%)	(4.2%)
Jul	62.00	72.25	80.34						
Aug	59.89	69.70	78.62						

Day-Ahead Load

PJM Day-Ahead Load Duration

Figure 2-7 PJM day-ahead load duration curves: Calendar years 2005 through June 2009 (See 2008 SOM, Figure 2-6)



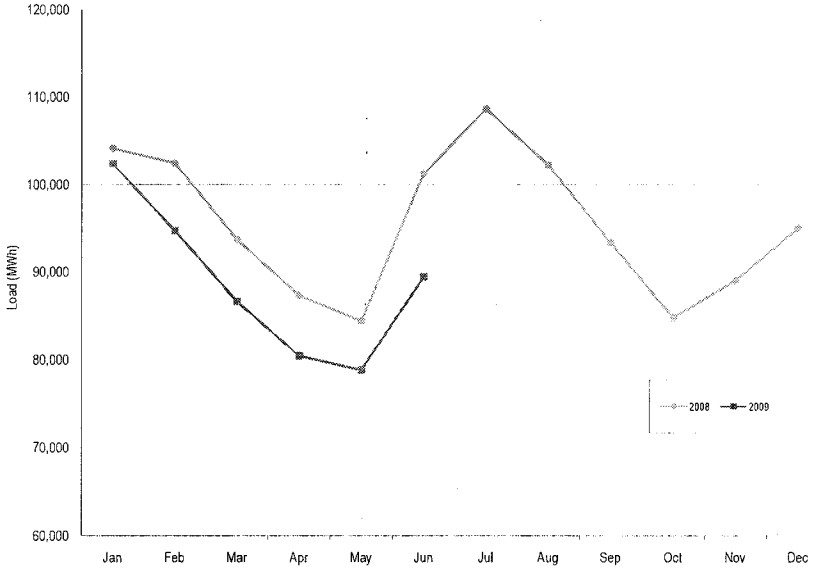
PJM Day-Ahead, Annual Average Load

Table 2-44 PJM day-ahead average load: Calendar years 2005 through June 2009 (See 2008 SOM, Table 2-46)

	PJM Day-Ahead Load (MWh)			Year-to-Year Change		
	Average	Median	Standard Deviation	Average	Median	Standard Deviation
2005	92,002	90,424	17,381	NA	NA	NA
2006	94,793	93,331	16,048	3.0%	3.2%	(7.7%)
2007	100,912	99,799	16,190	6.5%	6.9%	0.9%
2008	95,522	94,886	15,439	(5.3%)	(4.9%)	(4.6%)
2009	88,688	89,066	14,650	(7.2%)	(6.1%)	(5.1%)

PJM Day-Ahead, Monthly Average Load

Figure 2-8 PJM day-ahead average load: Calendar years 2008 through June 2009 (See 2008 SOM, Figure 2-7)



Real-Time and Day-Ahead Load

Table 2-45 Cleared day-ahead and real-time load (MWh): January through June 2009 (See 2008 SOM, Table 2-47)

	Day Ahead				Real Time	Average Difference	
	Cleared Fixed Demand	Cleared Price Sensitive	Cleared DEC Bid	Total Load	Total Load	Total Load	Total Load Minus DEC Bid
Average	71,903	1,742	15,043	88,688	75,993	12,695	(2,348)
Median	71,635	1,739	15,310	89,066	75,847	13,219	(2,091)
Standard deviation	12,110	435	2,554	14,650	12,898	1,752	(802)

PJM Real-Time, Annual Average LMP

Table 2-47 PJM real-time, simple average LMP (Dollars per MWh): Calendar years 2000 through June 2009 (See 2008 SOM, Table 2-49)

	Real-Time LMP			Year-to-Year Change		
	Average	Median	Standard Deviation	Average	Median	Standard Deviation
2000	$28.14	$19.11	$25.69	NA	NA	NA
2001	$32.38	$22.98	$45.03	15.1%	20.3%	75.3%
2002	$28.30	$21.08	$22.41	(12.6%)	(8.3%)	(50.2%)
2003	$38.28	$30.79	$24.71	35.2%	46.1%	10.3%
2004	$42.40	$38.30	$21.12	10.8%	24.4%	(14.5%)
2005	$58.08	$47.18	$35.91	37.0%	23.2%	70.0%
2006	$49.27	$41.45	$32.71	(15.2%)	(12.1%)	(8.9%)
2007	$57.58	$49.92	$34.60	16.9%	20.4%	5.8%
2008	$66.40	$55.53	$38.62	15.3%	11.2%	11.6%
2009	$40.12	$35.42	$19.30	(39.6%)	(36.2%)	(50.0%)

Zonal Real-Time, Annual Average LMP

Table 2-48 Zonal real-time, simple average LMP (Dollars per MWh): January through June 2008 and 2009 (See 2008 SOM, Table 2-50)

	2008 (Jan - Jun)	2009 (Jan - Jun)	Difference	Difference as Percent of 2008
AECO	$84.92	$44.59	($40.33)	(47.5%)
AEP	$56.20	$36.37	($19.83)	(35.3%)
AP	$69.61	$41.77	($27.84)	(40.0%)
BGE	$84.14	$45.22	($38.92)	(46.3%)
ComEd	$52.81	$30.28	($22.53)	(42.7%)
DAY	$56.66	$35.90	($20.76)	(36.6%)
DLCO	$52.57	$34.49	($18.08)	(34.4%)
Dominion	$78.58	$43.53	($35.05)	(44.6%)
DPL	$81.59	$45.20	($36.39)	(44.6%)
JCPL	$86.58	$44.92	($41.66)	(48.1%)
Met-Ed	$79.58	$43.73	($35.85)	(45.0%)
PECO	$78.86	$43.63	($35.23)	(44.7%)
PENELEC	$67.94	$40.06	($27.88)	(41.0%)
Pepco	$84.33	$44.77	($39.56)	(46.9%)
PPL	$78.47	$43.14	($35.34)	(45.0%)
PSEG	$85.48	$45.44	($40.04)	(46.8%)
RECO	$84.33	$44.22	($40.11)	(47.6%)

Real-Time, Annual Average LMP by Jurisdiction

Table 2-49 Jurisdiction real-time, simple average LMP (Dollars per MWh): January through June 2008 and 2009 (See 2008 SOM, Table 2-51)

	2008 (Jan - Jun)	2009 (Jan - Jun)	Difference	Difference as Percent of 2008
Delaware	$80.69	$44.87	($35.83)	(44.4%)
Illinois	$52.81	$30.28	($22.53)	(42.7%)
Indiana	$56.03	$35.71	($20.33)	(36.3%)
Kentucky	$56.50	$36.25	($20.25)	(35.8%)
Maryland	$83.80	$45.20	($38.61)	(46.1%)
Michigan	$56.95	$37.07	($19.88)	(34.9%)
New Jersey	$85.75	$45.16	($40.59)	(47.3%)
North Carolina	$73.52	$42.45	($31.08)	(42.3%)
Ohio	$55.67	$35.69	($19.98)	(35.9%)
Pennsylvania	$73.14	$41.88	($31.27)	(42.7%)
Tennessee	$56.75	$36.34	($20.41)	(36.0%)
Virginia	$76.00	$42.77	($33.23)	(43.7%)
West Virginia	$57.92	$37.62	($20.30)	(35.0%)
District of Columbia	$84.32	$44.92	($39.40)	(46.7%)

Hub Real-Time, Annual Average LMP

Table 2-50 Hub real-time, simple average LMP (Dollars per MWh): January through June 2008 and 2009 (See 2008 SOM, Table 2-52)

	2008 (Jan - Jun)	2009 (Jan - Jun)	Difference	Difference as Percent of 2008
AEP Gen Hub	$53.04	$34.21	($18.83)	(35.5%)
AEP-DAY Hub	$55.92	$35.87	($20.04)	(35.8%)
Chicago Gen Hub	$52.10	$29.44	($22.66)	(43.5%)
Chicago Hub	$52.86	$30.49	($22.37)	(42.3%)
Dominion Hub	$76.02	$42.82	($33.19)	(43.7%)
Eastern Hub	$81.31	$45.06	($36.24)	(44.6%)
N Illinois Hub	$52.37	$30.07	($22.30)	(42.6%)
New Jersey Hub	$85.45	$45.11	($40.34)	(47.2%)
Ohio Hub	$56.03	$35.84	($20.19)	(36.0%)
West Interface Hub	$61.55	$37.20	($24.35)	(39.6%)
Western Hub	$72.09	$41.40	($30.69)	(42.6%)

Real-Time, Load-Weighted, Average LMP

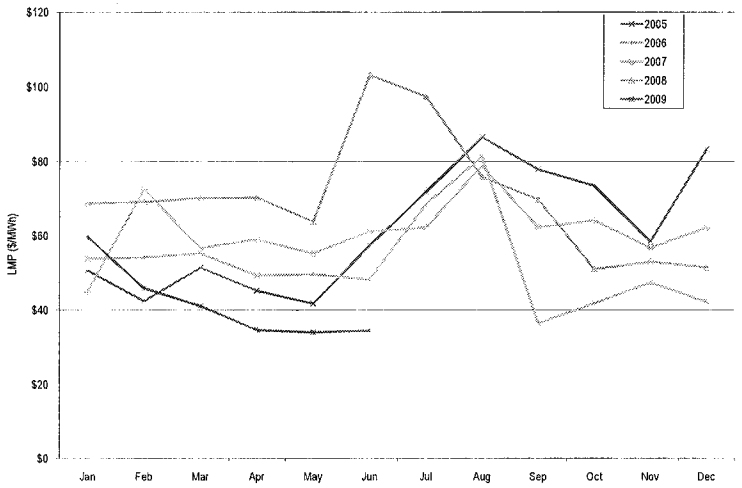
PJM Real-Time, Annual, Load-Weighted, Average LMP

Table 2-51 PJM real-time, annual, load-weighted, average LMP (Dollars per MWh): Calendar years 2000 through June 2009 (See 2008 SOM, Table 2-53)

	Real-Time, Load-Weighted, Average LMP			Year-to-Year Change		
	Average	Median	Standard Deviation	Average	Median	Standard Deviation
2000	$30.72	$20.51	$28.38	NA	NA	NA
2001	$36.65	$25.08	$57.26	19.3%	22.3%	101.8%
2002	$31.60	$23.40	$26.75	(13.8%)	(6.7%)	(53.3%)
2003	$41.23	$34.96	$25.40	30.5%	49.4%	(5.0%)
2004	$44.34	$40.16	$21.25	7.5%	14.9%	(16.3%)
2005	$63.46	$52.93	$38.10	43.1%	31.8%	79.3%
2006	$53.35	$44.40	$37.81	(15.9%)	(16.1%)	(0.7%)
2007	$61.66	$54.66	$36.94	15.6%	23.1%	(2.3%)
2008	$71.13	$59.54	$40.97	15.4%	8.9%	10.9%
2009	$42.48	$36.95	$20.61	(40.3%)	(37.9%)	(49.7%)

PJM Real-Time, Monthly, Load-Weighted, Average LMP

Figure 2-12 PJM real-time, monthly, load-weighted, average LMP: Calendar years 2005 through June 2009 (See 2008 SOM, Figure 2-11)



Zonal Real-Time, Annual, Load-Weighted, Average LMP

Table 2-52 Zonal real-time, annual, load-weighted, average LMP (Dollars per MWh): January through June 2008 and 2009 (See 2008 SOM, Table 2-54)

	2008 (Jan - Jun)	2009 (Jan - Jun)	Difference	Difference as Percent of 2008
AECO	$93.41	$46.77	($46.64)	(49.9%)
AEP	$59.26	$38.30	($20.96)	(35.4%)
AP	$73.85	$44.59	($29.26)	(39.6%)
BGE	$91.31	$48.39	($42.92)	(47.0%)
ComEd	$56.35	$32.25	($24.10)	(42.8%)
DAY	$60.47	$37.77	($22.70)	(37.5%)
DLCO	$55.68	$35.62	($20.06)	(36.0%)
Dominion	$85.94	$46.89	($39.04)	(45.4%)
DPL	$87.98	$48.77	($39.21)	(44.6%)
JCPL	$94.12	$47.50	($46.62)	(49.5%)
Met-Ed	$84.70	$46.64	($38.06)	(44.9%)
PECO	$84.40	$46.05	($38.35)	(45.4%)
PENELEC	$71.14	$42.08	($29.06)	(40.8%)
Pepco	$92.13	$47.69	($44.43)	(48.2%)
PPL	$83.20	$46.39	($36.81)	(44.2%)
PSEG	$91.71	$47.42	($44.29)	(48.3%)
RECO	$92.02	$46.29	($45.73)	(49.7%)

SECTION 2 – ENERGY MARKET, PART 1

The PJM Energy Market comprises all types of energy transactions, including the sale or purchase of energy in PJM's Day-Ahead and Real-Time Energy Markets, bilateral and forward markets and self-supply. Energy transactions analyzed in this report include those in the PJM Day-Ahead and Real-Time Energy Markets. These markets provide key benchmarks against which market participants may measure results of transactions in other markets.

The Market Monitoring Unit (MMU) analyzed measures of market structure, participant conduct and market performance for the first six months of 2009, including market size, concentration, residual supply index, price-cost markup, net revenue and price.[1] The MMU concludes that the PJM Energy Market results were competitive in the first six months of 2009.

PJM markets are designed to promote competitive outcomes derived from the interaction of supply and demand in each of the PJM markets. Market design itself is the primary means of achieving and promoting competitive outcomes in PJM markets. One of the MMU's primary goals is to identify actual or potential market design flaws.[2] PJM's market power mitigation goals have focused on market designs that promote competition (a structural basis for competitive outcomes) and on limiting market power mitigation to instances where the market structure is not competitive and thus where market design alone cannot mitigate market power. In the PJM Energy Market, this occurs only in the case of local market power. When a transmission constraint creates the potential for local market power, PJM applies a structural test to determine if the local market is competitive, applies a behavioral test to determine if generator offers exceed competitive levels and applies a market performance test to determine if such generator offers would affect the market price.

Overview

Market Structure

- **Supply.** During the April through June 2009 quarter, the PJM Energy Market received an hourly average of 153,310 MW in supply offers including hydroelectric generation.[3] The second quarter 2009 average supply offers were 2,149 MW lower than the second quarter 2008 average supply of 155,459 MW.

- **Demand.** The PJM system peak load in the second quarter 2009 was 116,732 MW in the hour ended 1700 EPT on June 25, 2009, while the PJM peak load in the second quarter 2008 was 130,100 in the hour ended 1700 on June 9, 2008.[4] The 2009 second quarter peak load was 13,368 MW, or 11.5 percent, lower than the second quarter 2008 peak load.

- **Market Concentration.** Concentration ratios are a summary measure of market share, a key element of market structure. High concentration ratios indicate comparatively smaller numbers of sellers dominating a market, while low concentration ratios mean larger numbers of sellers splitting market sales more equally. High concentration ratios indicate an increased potential for participants to exercise market power, although low concentration ratios do not necessarily mean that a market is competitive or that participants cannot exercise market power. Analysis of the PJM Energy Market indicates moderate market concentration overall. Analyses of supply curve segments indicate moderate concentration in the base load segment, but high concentration in the intermediate and peaking segments.

1 Analysis of the first six months of 2009 market results requires comparison to prior years. During calendar years 2004 and 2005, PJM conducted the phased integration of five control zones: ComEd, American Electric Power (AEP), The Dayton Power & Light Company (DAY), Duquesne Light Company (DLCO) and Dominion. By convention, control zones bear the name of a large utility service provider working within their boundaries. The nomenclature applies to the geographic area, not to any single company. For additional information on the control zones, the integrations, their timing and their impact on the footprint of the PJM service territory, see the *2008 State of the Market Report for PJM*, Volume II, Appendix A, "PJM Geography."

2 See PJM. "Open Access Transmission Tariff (OATT)," "Attachment M: Market Monitoring Plan," First Revised Sheet No. 448.05 (Effective August 1, 2008).

3 Calculated values shown in Section 2, "Energy Market, Part 1," are based on unrounded, underlying data and may differ from calculations based on the rounded values shown in tables.

4 For the purpose of *2009 Quarterly State of the Market Report for PJM: January through June*, all hours are presented and all hourly data are analyzed using Eastern Prevailing Time (EPT). See *2008 State of the Market Report for PJM*, Appendix M, "Glossary," for a definition of EPT and its relationship to Eastern Standard Time (EST) and Eastern Daylight Time (EDT).

- **Local Market Structure and Offer Capping.** Noncompetitive local market structure is the trigger for offer capping. PJM applied a flexible, targeted, real-time approach to offer capping (the three pivotal supplier test) as the trigger for offer capping in January through June 2009. PJM offer caps units only when the local market structure is noncompetitive. Offer capping is an effective means of addressing local market power. Offer-capping levels have historically been low in PJM. In the Day-Ahead Energy Market offer-capped unit hours were 0.2 percent of all hours in the first six months of 2009, the same level as 2008. In the Real-Time Energy Market offer-capped unit hours fell from 1.0 percent in 2008 to 0.5 percent of all hours in the first six months of 2009.

- **Local Market Structure.** A summary of the results of PJM's application of the three pivotal supplier test is presented for all constraints which occurred for 50 or more hours during the first two quarters of calendar year 2009. During the first two quarters of 2009 (January 1, 2009 through June 30, 2009), the PSEG, AP, AEP, PENELEC, Dominion, AECO, DLCO, ComEd, PECO and BGE Control Zones experienced congestion resulting from one or more constraints binding for 50 or more hours. The analysis of the application of the three pivotal supplier test to local markets demonstrates that it is working successfully to ensure that owners are not subject to offer capping when the market structure is competitive and to offer cap only pivotal owners when the market structure is noncompetitive.

Market Conduct

- **Price-Cost Markup.** The price-cost markup index is a measure of conduct or behavior by the owners of generating units and not a measure of market impact. For marginal units, the markup index is a measure of market power. A positive markup by marginal units will result in a difference between the observed market price and the competitive market price. The markup index for each marginal unit is calculated as (Price – Cost)/Price.[5] The markup index is normalized and can vary from -1.00 when the offer price is less than marginal cost, to 1.00 when the offer price is higher than marginal cost.[6] In the real time market, the average markup index from January to June 2009 was -0.07 with a monthly average maximum of -0.04 in January and a monthly average minimum of -0.1 in April. In the day ahead market, the average markup index from January to June 2009 was 0.0036 with a monthly average maximum of 0.02 in February and a minimum of -0.02 in April. The overall results support the conclusion that prices in PJM are set, on average, by marginal units operating at or close to their marginal costs. This is strong evidence of competitive behavior.

Market Performance: Markup, Load and Locational Marginal Price

- **Markup.** The markup conduct of individual owners and units has an impact on market prices. The MMU calculates explicit measures of the impact of marginal unit markups on LMP. The LMP impact is a measure of market power. The price impact of markup must be interpreted carefully. The price impact is not based on a full redispatch of the system, as such a full redispatch is practically impossible because it would require reconsideration of all dispatch decisions and unit commitments. The markup impact includes the maximum impact of the identified markup conduct on a unit by unit basis, but the inclusion of negative markup impacts has an offsetting effect. The markup analysis does not distinguish between intervals in which a unit has local market power or has a price impact in an unconstrained interval. The markup analysis is a more general measure of the competitiveness of the Energy Market.

  The markup component of the overall PJM real-time, load-weighted, average LMP was $-3.10 per MWh, or -7.3 percent. The markup was

5 A marginal unit's offer price does not always correspond to the LMP at the unit's bus. As a general matter the LMP at a bus is equal to the unit's offer. However in practice, actual, security-constrained dispatch can create conditions where the LMP at a marginal unit bus does not correspond to the unit's offer. The marginal unit's offer price and associated cost are used when calculating measures of participant behavior or conduct, like markup.

6 In order to normalize the index results (i.e., bound the results between +1.00 and -1.00), the index is calculated as (Price – Cost)/Price when price is greater than cost, and (Price – Cost)/Cost when price is less than cost.

$-2.49 per MWh during peak hours and $-3.74 per MWh during off-peak hours.

The markup component of the overall PJM day-ahead, load-weighted, average LMP was -$0.05 per MWh, or -0.1 percent. The markup was $0.84 per MWh during peak hours and -$1.01 per MWh during off-peak hours.

The overall results support the conclusion that prices in PJM are set, on average, by marginal units operating at or close to their marginal costs. This is strong evidence of competitive behavior and competitive market performance.

- **Load.** On average, PJM real-time load decreased in the first six months of 2009 by 3.4 percent from the first six months of 2008, falling from 78,684 MW to 75,993 MW. PJM day-ahead load decreased in the first six months of 2009 by 7.1 percent from the first six months of 2008, falling from 95,485 MW to 88,688 MW.

- **Prices.** PJM LMPs are a direct measure of market performance. Price level is a good, general indicator of market performance, although the number of factors influencing the overall level of prices means it must be analyzed carefully. For example, overall average prices subsume congestion (price differences at a point in time) and price differences over time.

  PJM Real-Time Energy Market prices decreased in the first six months of 2009 compared to the first six months of 2008. The system simple average LMP was 42.9 percent lower in the first six months of 2009 than in the first six months of 2008, $40.12 per MWh versus $70.19 per MWh. The load-weighted LMP was 43.2 percent lower in the first six months of 2009 than in the first six months of 2008, $42.48 per MWh versus $74.77 per MWh. The fuel-cost-adjusted, load-weighted, average LMP was 6.4 percent lower in the first six months of 2009 than the load-weighted, average LMP in the first six months of 2008, $70.00 per MWh compared to $74.77 per MWh. Fuel costs and lower loads in the first half of 2009 contributed to downward pressure on LMP.

  PJM Day-Ahead Energy Market prices decreased in the first six months of 2009 compared to the first six months of 2008. The system simple average LMP was 42.9 percent lower in the first six months of 2009 than in the first six months of 2008, $40.01 per MWh versus $70.12 per MWh. The load-weighted LMP was 42.7 percent lower in the first six months of 2009 than in the first six months of 2008, $42.21 per MWh versus $73.71 per MWh.

- **Load and Spot Market.** Real-time load is served by a combination of self-supply, bilateral market purchases and spot market purchases. From the perspective of a single PJM parent company that serves load, its load can be supplied by any combination of its own generation, net bilateral market purchases and net spot market purchases. In the first six months of 2009, 13.4 percent of real-time load was supplied by bilateral contracts, 16.4 percent by spot market purchases and 70.2 percent by self-supply. Compared with 2008, reliance on bilateral contracts decreased by 1.3 percentage points; reliance on spot supply decreased by 3.7 percentage points; and reliance on self-supply increased by 5.0 percentage points in January through June 2009.

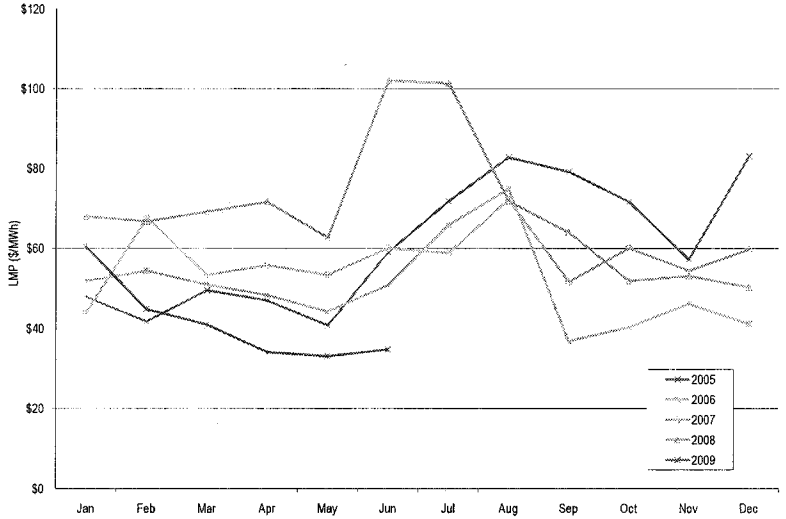
Demand-Side Response

- **Demand-Side Response (DSR).** Markets require both a supply side and a demand side to function effectively. PJM wholesale market, demand-side programs should be understood as one relatively small part of a transition to a fully functional demand side for its Energy Market. A fully developed demand side will include retail programs and an active, well-articulated interaction between wholesale and retail markets. There are significant issues with the current approach to measuring demand-side response MW, which is the basis on which program participants are paid. The current approach can and has resulted in payments when the customer has taken no action to respond to market prices. A substantial improvement in measurement and verification methods must be implemented in order to ensure the credibility of PJM demand-side programs. Recent changes to the settlement review process represent clear improvements, but do not go far enough.

  Total demand-side response resources available in PJM on January 16, 2009 (the peak day in January through June 2009), were 4,498.2 MW eligible for capacity credits and 1,957.8 MW eligible for energy payments from the Emergency Load-Response Program and 3,311.0 MW from the Economic Load-Response Program.

PJM Day-Ahead, Monthly, Load-Weighted, Average LMP

Figure 2-16 Day-ahead, monthly, load-weighted, average LMP: Calendar years 2005 through June 2009 (See 2008 SOM, Figure 2-15)



Zonal Day-Ahead, Annual, Load-Weighted LMP

Table 2-60 Zonal day-ahead, load-weighted, average LMP (Dollars per MWh): January through June 2008 and 2009 (See 2008 SOM, Table 2-65)

	2008 (Jan - Jun)	2009 (Jan - Jun)	Difference	Difference as Percent of 2008
AECO	$90.78	$48.09	($42.69)	(47.0%)
AEP	$58.75	$37.95	($20.79)	(35.4%)
AP	$71.72	$43.83	($27.89)	(38.9%)
BGE	$91.96	$49.12	($42.84)	(46.6%)
ComEd	$56.09	$31.72	($24.37)	(43.4%)
DAY	$59.19	$36.99	($22.20)	(37.5%)
DLCO	$57.72	$35.10	($22.63)	(39.2%)
Dominion	$85.99	$47.39	($38.60)	(44.9%)
DPL	$88.22	$48.86	($39.36)	(44.6%)
JCPL	$94.29	$47.94	($46.35)	(49.2%)
Met-Ed	$84.63	$47.29	($37.34)	(44.1%)
PECO	$85.89	$47.08	($38.81)	(45.2%)
PENELEC	$72.09	$42.35	($29.75)	(41.3%)
Pepco	$90.58	$48.20	($42.38)	(46.8%)
PPL	$83.57	$46.72	($36.85)	(44.1%)
PSEG	$91.65	$48.45	($43.20)	(47.1%)
RECO	$91.10	$47.59	($43.52)	(47.8%)

Day-Ahead, Annual, Load-Weighted, Average LMP by Jurisdiction

Table 2-61 Jurisdiction day-ahead, load weighted LMP (Dollars per MWh): January through June 2008 and 2009 (See 2008 SOM, Table 2-66)

	2008 (Jan - Jun)	2009 (Jan - Jun)	Difference	Difference as Percent of 2008
Delaware	$87.13	$48.05	($39.08)	(44.9%)
Illinois	$56.09	$31.72	($24.37)	(43.4%)
Indiana	$58.86	$36.72	($22.14)	(37.6%)
Kentucky	$58.04	$38.34	($19.71)	(34.0%)
Maryland	$90.14	$49.12	($41.01)	(45.5%)
Michigan	$59.41	$37.93	($21.48)	(36.2%)
New Jersey	$92.31	$48.22	($44.09)	(47.8%)
North Carolina	$81.31	$46.44	($34.86)	(42.9%)
Ohio	$58.27	$36.89	($21.38)	(36.7%)
Pennsylvania	$77.92	$44.69	($33.23)	(42.6%)
Tennessee	$58.49	$38.72	($19.76)	(33.8%)
Virginia	$82.34	$46.52	($35.82)	(43.5%)
West Virginia	$59.94	$39.60	($20.34)	(33.9%)
District of Columbia	$89.84	$47.70	($42.14)	(46.9%)

Components of Day-Ahead, Load-Weighted LMP

Table 2-62 Components of PJM day-ahead, annual, load-weighted, average LMP: January through June 2009 (See 2008 SOM, Table 2-57)

Element	Contribution to LMP	Percent
DEC	$13.69	32.4%
INC	$11.76	27.9%
Coal	$9.54	22.6%
Gas	$3.13	7.4%
Price sensitive demand	$1.62	3.8%
Transaction	$1.06	2.5%
VOM	$0.89	2.1%
SO2	$0.30	0.7%
Oil	$0.27	0.6%
NOx	$0.07	0.2%
Misc	$0.00	0.0%
FMU adder	$0.00	0.0%
Constrained off	($0.00)	(0.0%)
Markup	($0.05)	(0.1%)
NA	($0.07)	(0.2%)
LMP	$42.21	100.0%

Table 2-86 PJM Economic Program by zonal reduction: January through June 2009 (See 2008 SOM, Table 2-92)

	Real Time			Day Ahead			Dispatched in Real Time			Totals		
	MWh	Credits	Hours	MWh	Credits	Hours	MWh	Credits	Hours	MWh	Credits	Hours
AECO	35	$1,123	89	0	$0	0	4	$117	15	40	$1,241	104
AEP	3,895	$53,692	247	0	$25,038	44	0	$0	0	3,895	$78,730	291
AP	121	$8,079	81	0	$0	0	10	$562	11	131	$8,641	92
BGE	45	$2,193	246	0	$0	0	0	$0	0	45	$2,193	246
ComEd	21	$316	72	0	$0	0	647	$4,351	771	669	$4,667	843
DAY	0	$0	0	0	$0	0	0	$0	0	0	$0	0
DLCO	0	$0	0	0	$0	0	0	$0	0	0	$0	0
Dominion	3,365	$200,005	690	42	$442	76	130	$4,953	109	3,537	$205,400	875
DPL	10	$414	244	0	$0	0	0	$0	0	10	$414	244
JCPL	0	$0	0	0	$0	0	9	$248	30	9	$248	30
Met-Ed	64	$3,218	90	0	$0	0	4	$254	14	68	$3,472	104
PECO	5,125	$122,640	9,968	0	$0	0	204	$13,496	1,053	5,329	$136,136	11,021
PENELEC	154	$6,661	26	0	$0	0	2	$47	6	156	$6,708	32
Pepco	126	$4,224	63	0	$0	0	39	$1,753	71	164	$5,977	134
PPL	6,582	$260,617	2,933	1,895	$65,199	730	172	$14,954	336	8,649	$340,770	3,999
PSEG	62	$1,809	90	0	$0	0	5	$177	32	68	$1,987	122
RECO	1	$12	24	0	$0	0	0	$0	0	1	$12	24
Total	19,606	$665,003	14,863	1,937	$90,679	850	1,227	$40,914	2,448	22,769	$796,596	18,161
Max	6,582	$260,617	9,968	1,895	$65,199	730	647	$14,954	1,053	8,649	$340,770	11,021
Avg	1,153	$39,118	874	114	$5,334	50	72	$2,407	144	1,339	$46,859	1,068

Table 2-87 Settlement days submitted by month in the Economic Program: 2007, 2008 and January through June 2009 (New table)

Month	2007	2008	2009
Jan	887	2,894	1,224
Feb	1,099	2,785	630
Mar	1,185	2,802	542
Apr	1,468	3,386	318
May	1,609	3,309	260
Jun	1,731	3,072	30
Jul	2,421	3,209	
Aug	3,783	3,732	
Sep	3,320	3,179	
Oct	3,446	1,947	
Nov	2,819	1,068	
Dec	2,655	933	
Total	26,423	32,316	2,396

Interactions with Bordering Areas

- **PJM Interface Pricing with Organized Markets.**

  - **PJM and Midwest ISO Interface Pricing.** During the first six months of 2009, the relationship between prices at the PJM/MISO Interface and at the MISO/PJM Interface reflected economic fundamentals as did the relationship between interface price differentials and power flows between PJM and the Midwest ISO.

  - **PJM and New York ISO Interface Pricing.** During the first six months of 2009, the relationship between prices at the PJM/NYIS Interface and at the NYISO/PJM proxy bus reflected economic fundamentals, as did the relationship between interface price differentials and power flows between PJM and NYISO. Both continued to be affected by differences in institutional and operating practices between PJM and NYISO.

  - **PJM TLRs.** During the first six months of 2009, PJM issued 90 transmission loading relief procedures (TLRs). This represents an increase of 48 percent from the same time period in 2008 (61 during the first six months of 2008). The increase in TLR activity in 2009 was primarily attributed to a single low load pocket in northern Illinois, where excess generation in that area, during the off-peak hours, created excessive flows on nearby low voltage transmission lines. The need to continue to call TLRs for this overload was alleviated by the development of a new PJM dispatcher operating procedure that was implemented in early May of 2009.

- **Operating Agreements with Bordering Areas.**

  - **PJM and New York Independent System Operator, Inc. Joint Operating Agreement (JOA).**[2] On May 22, 2007, the JOA between PJM and the New York Independent System Operator (NYISO) became effective. This agreement was developed to improve reliability. It also formalizes the process of electronic checkout of schedules, the exchange of interchange schedules to facilitate calculations for available transfer capability (ATC) and standards for interchange revenue metering. While the JOA does not include provisions for market-based congestion management or other market-to-market activity, at the request of PJM, PJM and the NYISO began discussion of a market-based congestion management protocol.

  - **PJM and Midwest ISO Joint Operating Agreement.** The Joint Operating Agreement between the Midwest Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C., executed on December 31, 2003, continued during the first six months of 2009. The market-based congestion management process is reviewed and modified as necessary through the Congestion Management Process (CMP) protocols.[3]

    In 2009, the Midwest ISO requested that PJM review the components of the CMP to verify data accuracy. During this review, it was found that some data inputs to the market flow calculator were incorrect. The result of the errors in input data created inaccuracies in the market flow calculation, which resulted in smaller net settlements from PJM to the Midwest ISO as determined in the JOA. While the errors in input data have been corrected for market to market activity moving forward, the Midwest ISO and PJM are currently in the process of calculating the extent of any miscalculations.

  - **PJM, Midwest ISO and TVA Joint Reliability Coordination Agreement.**[4] The Joint Reliability Coordination Agreement (JRCA) executed on April 22, 2005, provides for comprehensive reliability management among the wholesale electricity markets of the Midwest ISO and PJM and the service territory of TVA. The agreement continued to be in effect through the first six months of 2009.

  - **PJM and Progress Energy Carolinas, Inc. Joint Operating Agreement.**[5] On September 9, 2005, the United States Federal Energy Regulatory Commission (FERC) approved a JOA between PJM and Progress Energy Carolinas, Inc. (PEC), with an effective date of July 30, 2005. The agreement remained in effect through the first six months of 2009. As part of this agreement, both parties

2 See PJM. "Joint Operating Agreement Among And Between New York Independent System Operator Inc. And PJM Interconnection, L.L.C." (May 22, 2007) (Accessed July 6, 2009) <http://www.pjm.com/documents/agreements/~/media/documents/agreements/20071102-nyiso-pjm.ashx> (208 KB).

3 See PJM. "Joint Operating Agreement between the Midwest Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C." (November 1, 2007) (Accessed July 6, 2009) <http://www.pjm.com/documents/agreements/~/media/documents/agreements/joa-complete.ashx> (1,534 KB).

4 See PJM. "Congestion Management Process (CMP) Master" (May 1, 2007) (Accessed July 6, 2009) <http://www.pjm.com/documents/agreements/~/media/documents/agreements/20080502-miso-pjm-tva-baseline-cmp.ashx> (432 KB).

5 See PJM. "Joint Operating Agreement (JOA) between Progress Energy Carolinas, Inc. and PJM" (July 29, 2005) (Accessed July 6, 2009) <http://www.pjm.com/documents/agreements/~/media/documents/agreements/20081114-progress-pjm-joa.ashx> (2.98 MB).

PPL Control Zone

Table 7-34 PPL Control Zone top congestion cost impacts (By facility): January through June 2009 (See 2008 SOM Table 7-34)

			Congestion Costs (Millions)									Event Hours	
			Day Ahead				Balancing						
Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
Kammer	Transformer	500	$0.8	$2.3	$0.4	($1.1)	($0.1)	($0.2)	($0.1)	($0.1)	($1.1)	1,554	726
Dunes Acres - Michigan City	Flowgate	Midwest ISO	$0.3	$1.4	($0.1)	($1.1)	($0.2)	($0.1)	$0.0	$0.0	($1.1)	1,713	672
AP South	Interface	500	$0.4	($0.2)	$0.2	$0.7	$0.0	($0.0)	$0.1	$0.1	$0.9	1,650	282
West	Interface	500	$2.8	$4.1	$0.5	($0.8)	($0.0)	($0.1)	($0.0)	$0.1	($0.7)	391	55
Graceton - Raphael Road	Line	BGE	($0.3)	($0.9)	($0.0)	$0.6	$0.1	$0.0	$0.0	$0.1	$0.6	174	90
Harwood - Susquehanna	Line	PPL	$0.1	($0.4)	$0.0	$0.5	$0.0	$0.0	$0.0	$0.0	$0.5	13	0
Sammis - Wylie Ridge	Line	AP	$0.1	$0.7	$0.1	($0.5)	$0.0	($0.0)	$0.0	$0.1	($0.4)	622	101
Brunner Island - Yorkana	Line	Met-Ed	($0.0)	($0.4)	($0.0)	$0.4	$0.0	$0.0	($0.0)	($0.0)	$0.4	33	16
Wylie Ridge	Transformer	AP	$1.1	$1.8	$0.3	($0.4)	$0.2	$0.1	$0.0	$0.1	($0.3)	354	336
PL North	Interface	PPL	$0.0	$0.0	$0.0	$0.0	$0.4	$0.6	($0.0)	($0.3)	($0.3)	0	176
Mount Storm - Pruntytown	Line	AP	$0.1	($0.1)	$0.0	$0.3	($0.0)	($0.0)	($0.0)	($0.0)	$0.3	523	25
East Frankfort - Crete	Line	ComEd	$0.2	$0.5	$0.0	($0.3)	$0.0	$0.0	$0.0	$0.0	($0.3)	1,333	0
Atlantic - Larrabee	Line	JCPL	$0.0	$0.1	$0.0	($0.1)	($0.1)	$0.1	$0.0	($0.2)	($0.3)	188	45
5004/5005 Interface	Interface	500	$1.4	$2.4	$0.3	($0.6)	$0.1	($0.8)	($0.1)	$0.8	$0.2	334	198
Crete - St Johns Tap	Flowgate	Midwest ISO	$0.2	$0.4	($0.0)	($0.2)	($0.1)	($0.1)	$0.0	($0.0)	($0.2)	539	132

Table 7-35 PPL Control Zone top congestion cost impacts (By facility): January through June 2008 (See 2008 SOM Table 7-35)

			Congestion Costs (Millions)									Event Hours	
			Day Ahead				Balancing						
Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
Harwood - Susquehanna	Line	PPL	$2.6	($14.3)	($0.1)	$16.7	($1.2)	$1.8	$0.2	($2.8)	$13.9	110	95
West	Interface	500	$1.5	$6.8	$0.6	($4.7)	$0.1	$0.9	$0.0	($0.7)	($5.5)	700	285
East Towanda	Transformer	PENELEC	$0.4	$1.8	$0.0	($1.4)	$0.1	$1.1	($2.9)	($3.8)	($5.2)	803	306
Cloverdale - Lexington	Line	AEP	$0.9	$4.8	$0.9	($3.0)	($0.1)	$0.3	$0.2	($0.2)	($3.2)	1,975	890
Kammer	Transformer	500	$1.0	$4.2	$0.7	($2.5)	$0.2	$0.7	($0.0)	($0.6)	($3.0)	1,386	767
Central	Interface	500	$0.8	$3.8	$0.3	($2.7)	$0.0	($0.1)	($0.0)	$0.1	($2.7)	582	22
5004/5005 Interface	Interface	500	$0.7	$2.7	$0.4	($1.6)	($0.0)	($0.0)	($0.0)	($0.1)	($1.7)	301	143
Branchburg - Readington	Line	PSEG	$0.7	($0.7)	($0.1)	$1.4	$0.0	($0.1)	$0.1	$0.2	$1.6	1,103	271
Bedington - Black Oak	Interface	500	$1.3	$0.5	$0.4	$1.2	$0.0	$0.1	$0.1	$0.1	$1.3	1,170	186
East	Interface	500	$0.0	($1.2)	($0.0)	$1.3	$0.0	($0.0)	$0.0	$0.0	$1.3	182	9
Mount Storm - Pruntytown	Line	AP	$0.4	($0.3)	$0.2	$0.8	$0.0	$0.1	$0.2	$0.1	$1.0	333	223
AP South	Interface	500	$2.9	$5.1	$1.2	($1.1)	$0.3	$0.3	$0.2	$0.2	($0.9)	1,291	605
Lackawana - Stanton	Line	PPL	$0.0	($0.5)	$0.4	$0.8	$0.0	$0.0	$0.0	$0.0	$0.8	83	0
Burnham - Munster	Line	ComEd	$0.2	$1.0	($0.0)	($0.8)	$0.0	($0.1)	$0.0	$0.2	($0.6)	416	140
Krendale - Seneca	Line	AP	$0.2	$0.8	$0.1	($0.5)	($0.0)	$0.0	($0.0)	($0.0)	($0.5)	407	16

PSEG Control Zone

Table 7-36 PSEG Control Zone top congestion cost impacts (By facility): January through June 2009 (See 2008 SOM Table 7-36)

			Congestion Costs (Millions)									Event Hours	
			Day Ahead				Balancing						
Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
Plainsboro - Trenton	Line	PSEG	$3.5	($0.1)	$0.1	$3.6	($0.3)	$0.4	($0.1)	($0.7)	$3.1	389	164
Leonia - New Milford	Line	PSEG	$1.5	$0.5	$2.3	$3.3	($0.0)	$0.0	($0.3)	($0.3)	$3.0	2,164	30
Athenia - Saddlebrook	Line	PSEG	$3.2	$0.5	$1.3	$3.9	($0.3)	$0.1	($0.5)	($0.9)	$3.0	979	130
AP South	Interface	500	$0.5	$2.5	$0.7	($1.3)	$0.0	($0.1)	($0.3)	($0.2)	($1.5)	1,650	282
Fairlawn - Saddlebrook	Line	PSEG	$1.0	$0.1	$0.5	$1.4	$0.0	$0.0	$0.0	$0.0	$1.4	673	0
Wylie Ridge	Transformer	AP	$4.3	$5.4	$0.5	($0.6)	$0.0	$0.1	($0.6)	($0.7)	($1.3)	NA	NA
West	Interface	500	$10.9	$12.7	$0.8	($1.0)	($0.0)	$0.0	($0.1)	($0.2)	($1.2)	391	55
Cedar Grove - Clifton	Line	PSEG	$1.0	$0.2	$0.4	$1.2	($0.0)	$0.0	($0.0)	($0.1)	$1.1	413	18
Hillsdale - Waldwick	Line	PSEG	$0.0	$0.0	$0.0	$0.0	($0.0)	$0.3	($0.4)	($0.7)	($0.7)	0	42
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
5004/5005 Interface	Interface	500	$5.6	$5.4	$0.3	$0.5	$0.0	$0.8	($0.4)	($1.2)	($0.7)	334	198
Atlantic - Larrabee	Line	JCPL	$0.3	($0.5)	$0.0	$0.8	$0.0	$0.1	($0.1)	($0.2)	$0.6	188	45
Bayway - Federal Square	Line	PSEG	$0.4	($0.2)	$0.0	$0.6	($0.0)	($0.0)	($0.0)	$0.0	$0.6	144	9
Brunswick - Edison	Line	PSEG	$1.0	($0.0)	$0.0	$1.1	($0.1)	$0.2	($0.2)	($0.5)	$0.6	138	76
Cedar Grove - Roseland	Line	PSEG	$0.4	$0.0	$0.0	$0.4	($0.2)	$0.5	($0.2)	($0.9)	($0.5)	52	70

Table 7-37 PSEG Control Zone top congestion cost impacts (By facility): January through June 2008 (See 2008 SOM Table 7-37)

			Congestion Costs (Millions)									Event Hours	
			Day Ahead				Balancing						
Constraint	Type	Location	Load Payments	Generation Credits	Explicit	Total	Load Payments	Generation Credits	Explicit	Total	Grand Total	Day Ahead	Real Time
Atlantic - Larrabee	Line	JCPL	$13.1	($5.8)	$0.3	$19.3	$0.5	$2.3	($0.7)	($2.5)	$16.8	1,466	341
Branchburg - Readington	Line	PSEG	$16.3	$0.8	$0.6	$16.1	$0.2	$2.9	($0.7)	($3.3)	$12.7	1,103	271
Buckingham - Pleasant Valley	Line	PECO	$10.3	$2.3	$0.5	$8.4	($0.1)	$0.4	($0.1)	($0.6)	$7.9	556	60
Cedar Grove - Clifton	Line	PSEG	$0.6	$0.1	$0.3	$0.8	($0.6)	$4.4	($1.6)	($6.7)	($5.8)	81	187
AP South	Interface	500	$17.3	$20.9	$1.9	($1.7)	($0.2)	$1.0	($1.3)	($2.6)	($4.2)	1,291	605
Branchburg - Flagtown	Line	PSEG	$3.7	$0.0	$0.1	$3.7	$0.3	$0.1	($0.2)	$0.1	$3.8	105	27
Cedar Grove - Roseland	Line	PSEG	$6.2	$0.9	$0.1	$5.4	($0.1)	$1.1	($0.3)	($1.6)	$3.8	398	71
Unclassified	Unclassified	Unclassified	$1.7	($0.8)	$0.1	$2.5	$0.0	$0.0	$0.0	$0.0	$2.5	NA	NA
Bedington - Black Oak	Interface	500	$3.2	$6.1	$0.8	($2.0)	$0.0	($0.0)	($0.2)	($0.2)	($2.2)	1,170	186
Brunswick - Edison	Line	PSEG	$2.2	$0.1	$0.1	$2.2	$0.0	$0.5	($0.1)	($0.5)	$1.6	192	103
West	Interface	500	$18.6	$17.0	$1.1	$2.8	$0.7	$1.4	($0.6)	($1.3)	$1.4	700	285
North Ave - Pvsc	Line	PSEG	$0.5	($0.9)	$0.0	$1.4	$0.0	$0.0	$0.0	$0.0	$1.4	399	0
Cloverdale - Lexington	Line	AEP	$12.7	$13.5	$1.3	$0.4	$0.0	$1.0	($0.8)	($1.7)	($1.3)	1,975	890
Harwood - Susquehanna	Line	PPL	$3.6	$1.3	$0.2	$2.5	($0.4)	$0.6	($0.3)	($1.3)	$1.3	110	95
Mount Storm - Pruntytown	Line	AP	$0.1	$1.3	$0.3	($0.9)	$0.0	($0.1)	($0.4)	($0.2)	($1.2)	333	223

Effectiveness of ARRs as a Hedge against Congestion

Table 8-20 ARR and self scheduled FTR congestion hedging by control zone: Planning period 2008 to 2009 (See 2008 SOM Table 8-25)

Control Zone	ARR Credits	Self-Scheduled FTR Credits	Total Revenue	Congestion	Total Revenue - Congestion Difference	Percent Hedged
AECO	$26,640,842	$5,126,844	$31,767,686	$86,973,434	($55,205,748)	36.5%
AEP	$4,952,682	$231,856,718	$236,809,400	$205,479,068	$31,330,332	>100%
AP	$50,310,148	$512,353,151	$562,663,299	$336,175,310	$226,487,989	>100%
BGE	$93,238,869	$4,134,804	$97,373,673	($411,324)	$97,784,997	>100%
ComEd	$15,791,877	$12,658,294	$28,450,171	$147,739,297	($119,289,126)	19.3%
DAY	$9,353,214	$1,119,768	$10,472,982	$5,461,253	$5,011,729	>100%
DLCO	$4,691,151	$0	$4,691,151	$31,068,597	($26,377,446)	15.1%
Dominion	$24,970,748	$4,221,089	$29,191,837	$56,924,114	($27,732,277)	51.3%
DPL	$6,990,231	$246,078,596	$253,068,827	$106,753,425	$146,315,402	>100%
JCPL	$64,463,301	$5,636,585	$70,099,886	$84,986,431	($14,886,545)	82.5%
Met-Ed	$220,814	$28,242,556	$28,463,370	$47,764,282	($19,300,912)	59.6%
PECO	$4,336,906	$55,831,240	$60,168,146	($16,483,569)	$76,651,715	>100%
PENELEC	$49,024,464	$24,861,452	$73,885,916	$52,667,452	$21,218,464	>100%
Pepco	$58,344,157	$648,017	$58,992,174	$294,035,180	($235,043,006)	20.1%
PJM	$10,528,746	($9,203,133)	$1,325,613	$9,233,073	($7,907,460)	14.4%
PPL	$1,841,709	$63,076,348	$64,918,057	$32,450,329	$32,467,728	>100%
PSEG	$119,733,671	$17,949,360	$137,683,031	($2,672,958)	$140,355,989	>100%
RECO	$0	$0	$0	$6,794,177	($6,794,177)	0.0%
Total	$545,433,530	$1,204,591,689	$1,750,025,219	$1,484,937,571	$265,087,648	>100%

EXHIBIT 5

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

RELIABILITY VIOLATIONS

QUESTION:
How much of the transmission capacity of the Project is necessary to avoid PJM's projected reliability criteria violations by 2012? Does the Project facilitate capacity that would avoid reliability criteria violations projected beyond 2012?

ANSWER:
PJM has not calculated transmission required to resolve only the reliability criteria violations identified in 2012. As shown in Exhibit PFM-1, some violations first occur in years after 2012. The Project was approved because it resolves reliability criteria violations such that most of them are not expected to occur until 2022 or later.

EXHIBIT 6

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
FERC DOCUMENT NO. AD-05-3-00

QUESTION:
Copies of all PJM documents, including but not limited to filings, comments, remarks, testimony, filings, agendas, reports, meeting preparation, communications within PJM and between PJM and FERC, etc. regarding FERC Docket No. AD-05-3-000, including those for FERC and/or PJM meetings, workgroups, technical conference and subsequent workgroups.

ANSWER:
Please refer to Exhibits STL-D-6 (a and b). This docket refers to the FERC Technical Conference in *Promoting Regional Transmission Planning and Expansion to Facilitate Fuel Diversity Including Expanded Uses of Coal-Fired Resources*. Mr. Karl Pfirrmann submitted testimony in Docket No. AD05-3-000 and testified at the FERC Technical Conference on May 13, 2005 on behalf of PJM.

Mr. Pfirrmann's testimony is attached as STL-D-6(a).

A transcript of the FERC Technical Conference is attached as STL-D-6(b).

A Working Group presentation can be accessed at:
http://www.pjm.com/~/media/committees-groups/stakeholder-meetings/pmsg/20050803-pmsg-presentation.ashx
The 2006 RTEP Report summarizes this concept in Section 4.2, page 119, available at:
http://www.pjm.com/documents/reports/rtep-report/2006-rtep.aspx

If additional documents become available in response to this request they will be provided.

STL-D-6(a)

Craig A. Glazer
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May 12, 2005

The Honorable Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.W.
Washington, D.C. 20426

Re:FERC D ocket Nos. AD05-5-000, PL03-1-000

Dear Ms. Salas:

Enclosed is the testimony of Karl Pfirrmann, President, PJM Interconnection, L.L.C. Western Region for the Technical Conference to be held May 13, 2005.

Please call me at 202-423-4743 with any questions concerning this filing.

Sincerely,

Craig Glazer

Craig Glazer

Vice President,
Federal Government Policy
PJM Interconnection, L.L.C.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Promoting Regional Transmission Planning And Expansion to Facilitate Fuel Diversity Including Expanded Use of Coal-Fired Resources	Docket No. AD05-3-000

EXECUTIVE SUMMARY OF REMARKS OF KARL PFIRRMANN PRESIDENT, PJM WESTERN REGION PJM INTERCONNECTION, L.L.C.

In his testimony before the Commission's Technical Conference on fuel diversity and expanded use of coal-fired resources, PJM Western Region President Karl Pfirrmann details the accomplishments of the Commission and the states in the region in opening up markets for coal-based resources. He then outlines a potential "road map", dubbed "Project Mountaineer", to further enhance opportunities for interregional trade. Mr. Pfirrmann describes, by way of example, the potential for new transmission resources in the region to enhance opportunities for coal based generation to reach eastern markets. His testimony outlines the benefits to the coal region of such interregional trading and then describes some of the regulatory and environmental challenges that the region must tackle. He pledges PJM's commitment, working through its transparent and open regional transmission planning process, to explore these issues in further detail.

PJM serves as the Commission-approved Regional Transmission Organization ("RTO") in a thirteen state region which includes all or part of the states of West Virginia, Kentucky, Virginia, Tennessee, Ohio, Indiana, Illinois, North Carolina and Michigan as well as the mid-Atlantic states of New Jersey, Pennsylvania, Delaware, Maryland and the District of Columbia. As the RTO, PJM serves as both the "air traffic controller" ensuring the reliability of the high voltage grid as well as the operator of a robust competitive and transparent wholesale market for electricity. Coal-fired generation accounted for over 56% of the electricity produced for PJM in 2004.

Mr. Pfirrmann's testimony outlines three key points:

1. ***The "R" in "RTO" means benefits for this region*---The integration of American Electric Power ("AEP"), Allegheny Energy, Commonwealth Edison, Duquesne, Dayton Power and Light and Dominion into PJM, most of which occurred during the last several months, has *already* increased market opportunities for this region's**

generation resources. Interregional power flows have increased by approximately 35%, representing off-system sales that potentially benefit *both* the mid-Atlantic region and the consumers in this area;

2. ***An unprecedented level of interregional coordination has commenced*** **--- The agreements reached between PJM and the Midwest ISO, as well as between these two entities and TVA have established the foundation for an unprecedented level of coordinated planning and interregional coordination;**

3. ***"Project Mountaineer" is an example of how the region can take coordinated regional planning to the next level*** **---By way of example, PJM outlines the scope of transmission projects that would be needed to significantly enhance the ability of coal based resources to reach eastern markets. Transmission enhancements include potentially 550 to 900 miles of new backbone 500 or 765 kv transmission at an approximate cost of $3.3 to $3.9 billion. Although a large number, if such costs are spread to all customers within the PJM footprint, the cost to a typical retail customer would amount to only one mill/kwh.**

In closing, PJM pledges to work with the Commission, the states and transmission owners in this region as well as with other interested persons to further explore the potential for enhancing interregional trade and finding solutions that pay benefits to consumers in this region as well as throughout the Eastern Interconnection.

PJM Interconnection ensures the reliability of the high-voltage electric power system serving 51 million people in all or parts of Delaware, Indiana, Illinois, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. PJM coordinates and directs the operation of the region's transmission grid; administers a competitive wholesale electricity market, the world's largest; and plans regional transmission expansion improvements to maintain grid reliability and relieve congestion.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Promoting Regional Transmission Planning and Expansion to Facilitate Fuel Diversity Including Expanded Uses of Coal-Fired Resources	Docket No. AD05-3-000

TESTIMONY OF KARL PFIRRMANN, PRESIDENT PJM WESTERN REGION PJM INTERCONNECTION, L.L.C.

PJM Interconnection, L.L.C. ("PJM") is pleased to participate in the Commission's efforts to focus on regional transmission planning and its role in facilitating fuel diversity and use of coal resources. This conference is most timely. PJM is proud of what has been accomplished to date to open up new markets for coal. But no entity should just rest on its laurels. There is much more that we and others in this region can do collectively. It is for this reason that today PJM is also setting out by way of example, a new initiative, which we have labeled "Project Mountaineer", to utilize our regional transmission planning process to explore ways to further develop an efficient transmission "super-highway" to bring low cost coal resources to market.

PJM serves as the FERC-approved Regional Transmission Organization ("RTO") in a thirteen state region which includes all of this great state as well as all or parts of Kentucky, Virginia, Tennessee, Ohio, Indiana, Illinois, North Carolina and Michigan as well as the mid-Atlantic states of New Jersey, Pennsylvania, Delaware, Maryland and the District of Columbia, a region of 45 million people. As the RTO, we serve as both the "air traffic controller" ensuring the reliability of the high voltage grid as well as the operator of a transparent wholesale market for electricity. Coal is a key resource in PJM, accounting for over 56% of the total electricity produced during 2004. My basic message can be summarized as follows:

1. *The "R" in "RTO" Means Benefits for This Region*---One of the functions of an RTO is to engage in regional transmission planning. Since its inception as an independent entity, PJM has a proven transparent regional planning process that has already identified over $1 billion in transmission improvements, all designed to improve the reliability and economics of power flows in this region. The recent expansion of PJM to include the AEP, Allegheny Power, Dayton, Dominion, Duquesne and Commonwealth Edison systems brings the proven benefits of PJM's regional planning process to coal country;

2. *Inter-Regional Coordination is Ongoing at the Highest Level*--- PJM and MISO are working together to undertake regional planning for their combined 27 state footprint. We have joined together to pioneer an historic Joint Operating Agreement which calls for coordinated planning and cost allocation to end many of the stalemates of the past. The two entities recently signed a Memorandum of Understanding with TVA to further coordinate planning and operations activities and bring down many of the past barriers to interregional coordination. In short, PJM, MISO and TVA have not just "talked the talk", they are "walking the walk";

3. *Much Has Been Accomplished: Significant Increased Power Flows*--As a result of the expansion of PJM, we have seen dramatic increases in the amount of power flowing from this region into "classic" PJM, including from coal-based generation, as illustrated on exhibit A attached to my testimony. I should note that these power flows are a good news story for electric customers in this region. A utility's lowest cost resources first go to serve its native load customers consistent with its state service requirements. These "off system" sales represent generation, over and above that needed to serve native load, available to serve other regional demands at lower cost. Off system sales are then eligible for consideration in each company's retail ratemaking process consistent with individual state requirements;

4. *Taking Regional Planning to the Next Level: "Project Mountaineer"*-- We are today illustrating by way of example, a proposed "Project Mountaineer". Our goal is to demonstrate the possibilities that could result from a targeted cooperative effort to identify additional transmission that could be built in this region to facilitate fuel diversity and improve options for economic generation resources. At this early stage, Project Mountaineer should not be considered a proposal for any specific transmission line. Rather it reflects our commitment to utilizing our Regional Transmission Expansion Planning process involving the states, the FERC, the transmission owners in this region and affected stakeholders, to explore new transmission opportunities to improve reliability and to enhance access to markets for this region's valuable low-cost energy resources.

The balance of my testimony will explore these matters in further detail.

I. MOVING BEYOND THE PAST: REGIONAL PLANNING THAT MEETS 21st CENTURY NEEDS

The Evolution of Regional Transmission Planning

1. The Origins of Transmission Planning---From the beginning of the electric industry, transmission was always considered as a component of major generation projects. As early as Thomas Edison's development of the Pearl Street substation in New York City, transmission was developed to link local generation to local load. Rarely, if ever, was transmission constructed as a stand alone asset not linked to development of a specific planned generation project. Individual utilities each undertook their own planning processes designed to meet their individual state service obligations and their own customer needs. In short, the basis of transmission planning was not to facilitate flows between regions but rather to deliver the output of a utility's own generation to its customers.

Of course, there are some notable early examples of regional planning approaches. PJM Interconnection was formed back in 1927 as a stand alone association of transmission companies in order to manage a shared backbone system designed originally to deliver power from a hydro-electric facility along the Susquehanna River to load centers throughout Pennsylvania, New Jersey and Maryland. Later, PJM transmission owners worked collaboratively to build the 500 kV transmission system to deliver jointly owned coal and nuclear generation to customer load. By the same token, in this region, large holding companies such as AEP and Allegheny Energy sited generation in strategic locations near to the coal fields of the Ohio and Kanawha River valleys and built robust multi-state transmission systems to deliver that generation to customers as far away as Fort Wayne, Indiana and Hagerstown, Maryland. There certainly was a degree of sharing and cooperation among utilities at that time. However, for the most part, transmission was designed to serve individual utility needs.

2. Ensuring Competitive Access to the Transmission Grid---The world of transmission planning changed dramatically with Congress' passage of the Energy Policy Act of 1992. Under that law, Congress embraced wholesale competition in electricity as the law of the land, creating a whole new class of exempt wholesale generators to compete in a competitive market. EPACT as well as subsequent Orders of this Commission, including its landmark Orders 888 and 2000 opened the transmission grid to competitors allowing merchant generation to have the same rights to access the transmission grid as the utility's own generation. In short, transmission was treated like the interstate highway system, providing open non-discriminatory access to all users.

In moving to embrace competition the challenge remained to ensure that the system served the region reliably while still meeting local needs. PJM undertook to meet this challenge from its inception as an independent organization in the late 1990's. The states in the original PJM mid-Atlantic region insisted that PJM move forward with establishing a regional planning process prior to instituting competitive wholesale markets. That process has grown over time to become recognized as one which is robust and transparent. The PJM planning process takes a "big picture" look to ensure that there is sufficient transmission infrastructure to meet projected reliability needs and to relieve congestion in areas where market solutions do not arise. The states are involved in this planning process. To date, over $1 billion of transmission investment has either been constructed or is under development as a result of PJM's planning process. An outline of that process and the "next steps" associated with its further development are outlined in the testimony of my colleague Audrey Zibelman which is attached to this testimony.

II. ENHANCING INTERREGIONAL POWER FLOWS: SUCCESSES TO DATE

The Expanding PJM Footprint Has Increased West to East Power Flows

Although American Electric Power, Dayton, Dominion, Duquesne, and Commonwealth Edison have only been in PJM for less than one year (and in the case of Dominion, only since May 1 of this year), we have already seen a dramatic increase in west to east power flows. Specifically, as a result of these companies joining a Regional Transmission Organization, many of the constraints that served to adversely impact power flows have been internalized---redispatch of generation in response to locational marginal pricing has been used to manage congestion on transmission lines rather than simply curtailing transactions. Secondly, and perhaps most notably, this Commission has eliminated the "through and out" rates between AEP and Commonwealth Edison on one side and PJM on the other as well as between the Midwest ISO and PJM regions as a whole. These "through and out rates" served as a significant barrier to the economical flow of coal-based energy to eastern markets. They acted as artificial toll gates, adversely impacting the economics of coal based resources in this region compared to sources of generation which happened to be located on the other side of the "toll gate". The Commission should be applauded for taking this groundbreaking step.

Our Joint Operating Agreement with the Midwest ISO as well as our Joint Reliability Coordination Agreement among the Midwest ISO, PJM and TVA serve as a key third leg of the stool. These agreements and the development of a joint and common market between the very large PJM and MISO control areas will work to improve reliability, enhance regional

trading and allow us to plan optimal transmission solutions irrespective of whether a particular company is a member of PJM or the Midwest ISO or within the TVA footprint.

III. THE NEXT STEP: "PROJECT MOUNTAINEER"

The Commission has properly asked what are the present impediments to additional interregional trading. I would like to take a moment to outline some of those impediments and a potential solution: an intensive stakeholder effort to further strengthen the region's transmission backbone and provide support for harnessing this region's efficient low cost generation to meet our economy's growing demand for power. We have dubbed this initiative "Project Mountaineer". I wish to be very clear. The project is not to be seen as specific wires and towers at this point, but rather a targeted effort to use our regional planning tools to identify the region's need in a comprehensive manner across a very large footprint. The goal is to focus on all aspects of harnessing the existing and planned generation in this region to meet the needs of the broader PJM market. And because the process is undertaken by PJM in the context of its approved independent regional transmission planning process, we view this effort as one where facts and figures will prevail so as to limit claims that the data represents just the economic interests of a particular group of stakeholders.

A. Present Impediments to West/East Trade

Although west to east power flows have increased by approximately 35% since the integration of Allegheny, AEP, Commonwealth Edison, Dayton, and Duquesne into PJM, there remain certain physical constraints on the transmission system that have limited further flows of coal based generation to markets in the east. These constraints are depicted on Exhibit B and principally exist at three locations:

The Wylie Ridge transformers and Sammis-Wylie Ridge transmission line at the AEP/APS/FE interface;
The Bedington/ Black Oak 500 kV transmission line within the APS system; and
The PJM Eastern Interface along the Delaware River, separating Pennsylvania and New Jersey.

B. Key Features of Project Mountaineer

In order to set forth by way of example potential resolutions of these constraints on west/east power flows, PJM has undertaken a preliminary delineation of the magnitude of the transmission improvements that are needed to enhance power flows by up to 5,000 MW. As Exhibit C indicates, to meet this targeted increase in power flows, two or more new backbone 500 kv and 765 kv transmission paths of approximately 550 to 900 miles in length will need to be constructed from Kentucky and West Virginia to eastern load centers stretching from Washington, D.C. to northern New Jersey. Although there is some existing right of way associated with existing facilities which could be upgraded to handle lines of this magnitude, a great deal of new right of way will be needed. PJM estimates the cost of this new transmission to range from approximately $3.3 to $3.9 billion. Although this is clearly a costly undertaking, it is worth noting that one study recently translated $ 4 billion in new transmission investment to equate to only 1 mill/kwh on a typical residential bill if such costs were spread across the entire PJM footprint.[1]

C. Project Mountaineer's Challenges

There remain considerable challenges to construction of transmission of this magnitude. I raise these challenges not to indicate that the initiative is not worth undertaking, but rather to ensure that we all have a realistic assessment of issues we will need to overcome as a region. The challenges which construction of this magnitude will face fall into a number of categories. I have outlined them below along with potential solutions for each:

1. Siting - High voltage transmission to move power from the coal fields of Ohio, Kentucky and West Virginia to markets along the eastern seaboard will require the siting approval of anywhere from three to six states. Consistent with individual state siting laws, each state will need to address and balance the need for the facility with its attendant environmental impact. For this siting process to be successful, it is critical that states work together, to look at not just individual state impacts but the benefits for the region as a whole in strengthening the interstate electric grid. As we all know too well, any one state can slow down the siting process. In order to ensure an orderly approach, we envision the PJM Regional Transmission Expansion Planning process as providing a forum where states can come together to work through issues associated with the need for these transmission facilities and help to craft multi-state solutions. Each state's sovereignty over the siting process would be respected but the critical

[1] "PJM – The Need for Interstate Bulk Power Transmission System Expansion", George E. Owens, P.E., Downes Associates, Inc., presented on April 20, 2005 to the Maryland Public Service Commission.

information and a forum for development of regional solutions would be available for states within the PJM footprint.

2. Environmental Issues - We need to be especially proactive to address the land use challenges that may arise with construction of this magnitude. We may need to address difficult issues associated with traversing national forest land and other protected areas. We will need to collectively find routes that are the least damaging to the environment of this region. And we will need to be cognizant that any new transmission line of this magnitude will traverse difficult terrain---mountainous areas where there could be considerable construction challenges as well as more urban areas as we move closer into eastern PJM. In short, we need to go about this process wisely and with considerable planning and forethought, including consideration of advanced technology options to mitigate environmental siting impacts, where feasible and to the extent possible. For any such initiative to be successful, public acceptance and ensuring minimal environmental disruption will be critical.

3. Cost Recovery - One of the first issues that policymakers raise is "who pays?" In resolving this issue, we have the benefit of a body of existing precedent within PJM. Through our regional planning process and with FERC's oversight, we have addressed the appropriate rules for allocating costs associated both with economic and reliability upgrades to the transmission system. By way of example, as an independent entity with expertise and a proven track record, PJM can identify the portion of these transmission facilities which are attributable to enhancing overall regional reliability (and whose costs would therefore be spread among all customers in the affected areas) vs. those portions of the line which are needed for economics for which identified beneficiaries would shoulder the cost burden, or can be attributed to the interconnection requirements of specific generating facilities. Although these decisions are by definition judgmental, the existence of a proven body of precedent, PJM's independence and transparency and FERC oversight all provide appropriate checks and balances. Given the magnitude of any such line, we envision that the stakeholder process envisioned under Project Mountaineer would consider the results of applying these cost allocation principles and also work with the states in this region to explore other alternatives to lower the financing costs associated with the construction of these facilities.

4. Coordination Among Transmission Owners - At the beginning of this testimony, I noted that, prior to RTOs, planning was characterized by individual utility efforts with more limited regional coordination. The existence of an independent entity such as an RTO changes that dynamic and opens up new opportunities for cooperative approaches to ownership of transmission. PJM is presently proposing a consortium approach among transmission owners to address issues associated with aging infrastructure.

Through the consortium approach, individual entities come together to utilize their collective buying power and needs to ensure adequate infrastructure across the entire region. There is no reason a similar consortium approach could not be explored under the umbrella of Project Mountaineer. For example, public power entities have expressed interest in ownership of transmission facilities. States in the west are considering state financing of transmission. There are a variety of creative ownership mechanisms that would be explored to avoid a few entities having to take all of the risk and bear all of the cost associated with this massive construction project. The PJM planning process would provide a forum for exploring these consortium approaches.

D. Project Mountaineer: Next Steps

The hallmark of PJM has been its use of open stakeholder processes to address issues which defy individual solutions. Through this process, we have identified over 200 changes to PJM's Operating Agreement almost all but a handful of which have been made through a collaborative process that have resulted in endorsement by our members. We believe that the PJM stakeholder process, as well as dialogue with the newly formed Organization of PJM States, could provide excellent vehicles for further exploration and development of this project. Our collective efforts should not end there. We pledge to work with each of the state economic development entities, the coal industry as well as the utilities in this area who have committed to significant new investment in coal based generation for this region. All of these efforts would be reported to the Commission which can monitor progress.

A Regional Transmission Organization with the size and institutional history of PJM has already brought significant benefits to this region, enhancing reliability, increasing utilization of coal based resources and internalizing constraints. One measure of the success of our efforts, even in the short time since AEP, Commonwealth Edison, Dayton and Dominion have been members of PJM, can be seen in the increased power flows in this region. We stand ready to take our regional planning efforts to the next level---working with the states in the PJM region, the Midwest ISO, our stakeholders and this Commission to roll up our sleeves and focus on ensuring adequate transmission infrastructure to serve as a vital link for this region's clean coal generation to serve this country's needs well into the 21st century. We ask you to join us in our efforts.

Exhibit A

Average Import into MAAC Region From ECAR Region

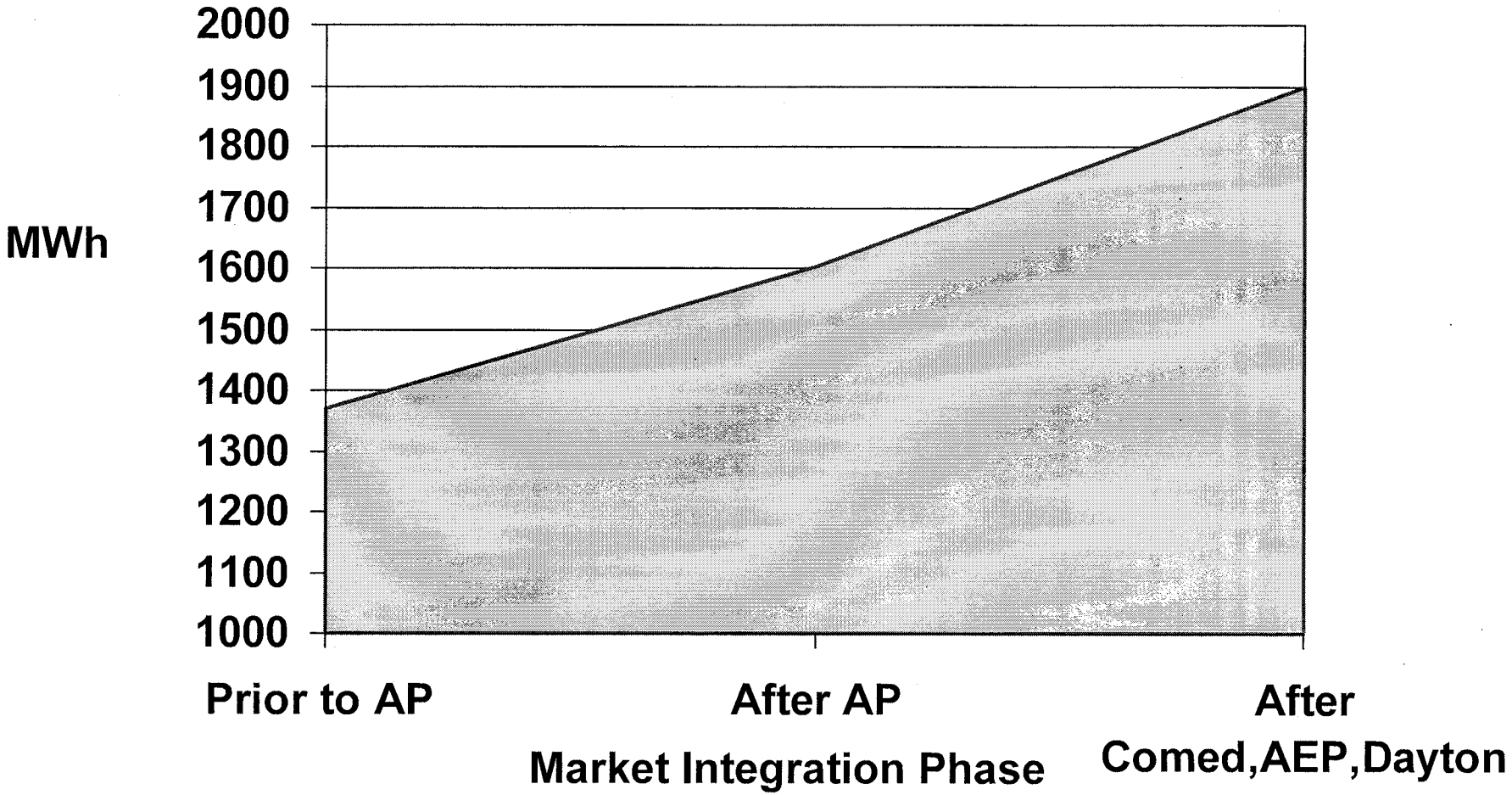


Exhibit B

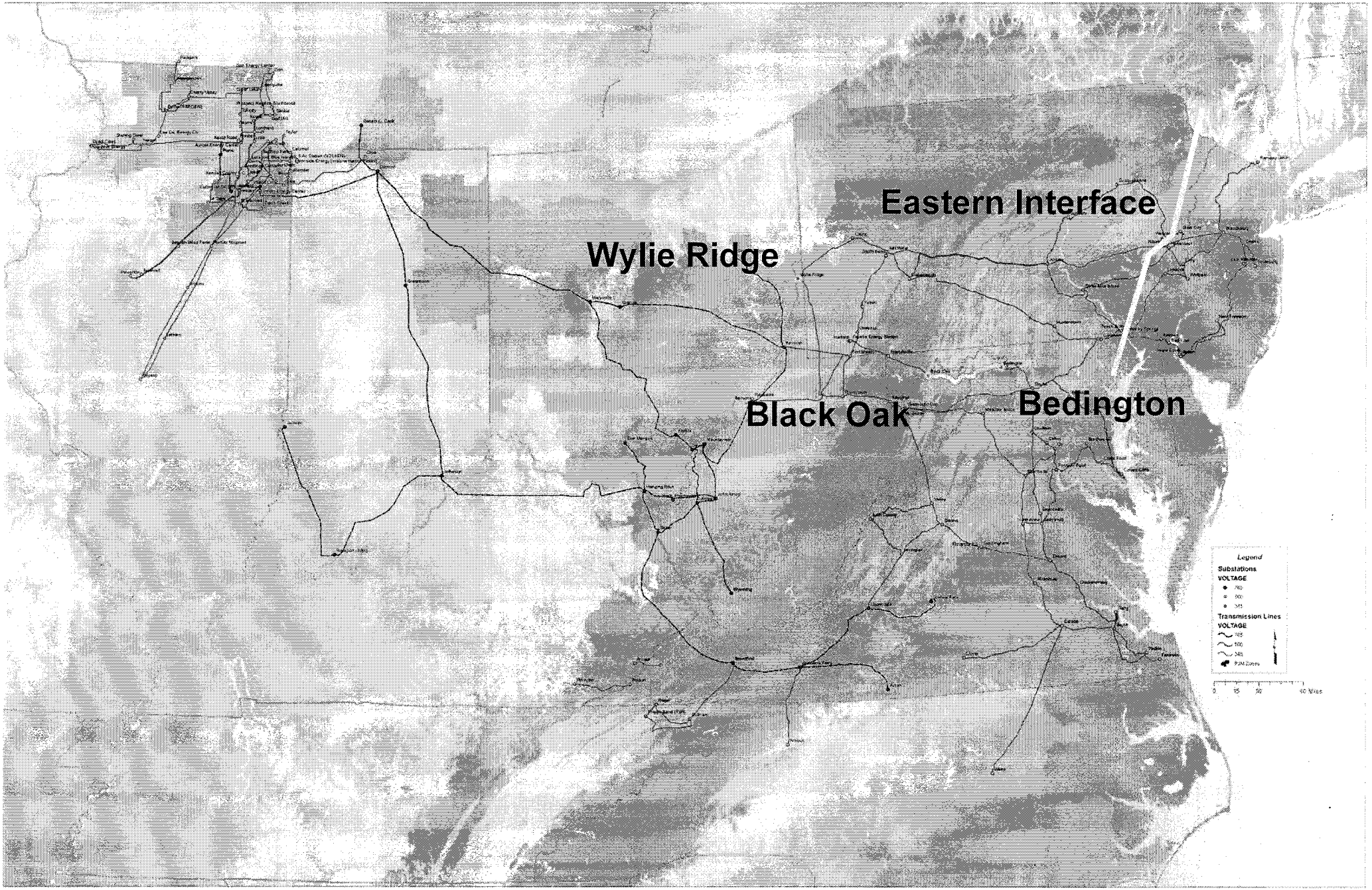
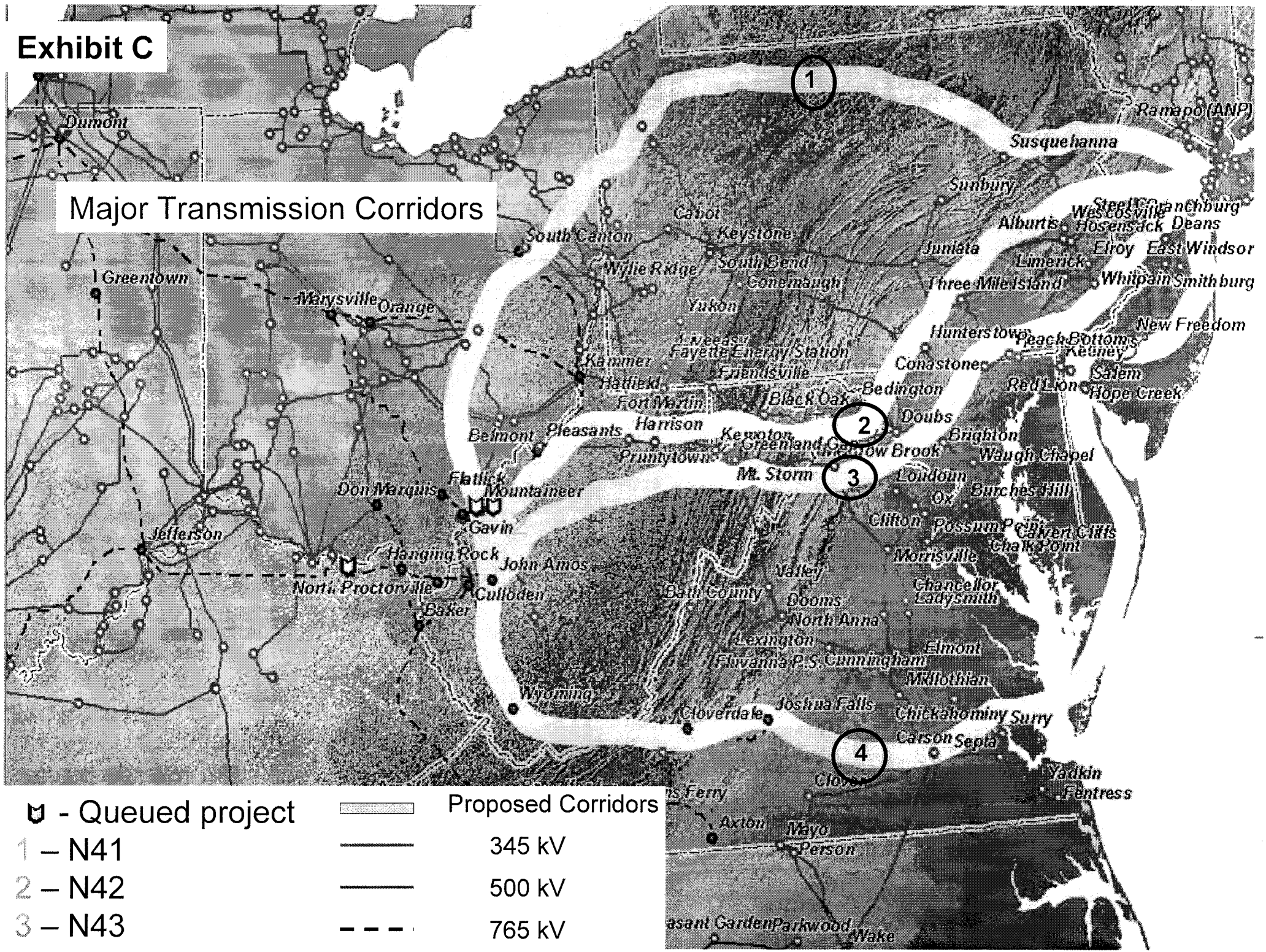

Eastern Interface
Wylie Ridge
Black Oak
Bedington
Legend
Substations
VOLTAGE
Transmission Lines
VOLTAGE
PJM Zones
0
15
30
60 Miles

Exhibit C

Major Transmission Corridors



- Queued project

1 – N41

2 – N42

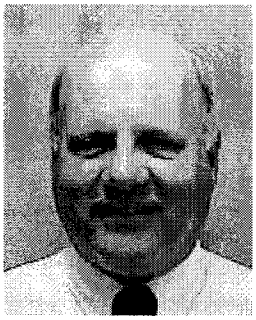
3 – N43

Proposed Corridors

345 kV

500 kV

765 kV



Karl V. Pfirrmann

Karl V. Pfirrmann, president of the PJM Western Region, has more than 32 years of experience in the electric utility industry. He develops, communicates and implements strategies that support the states and stakeholders in the western region and focuses on new members to PJM's existing service area.

His knowledge of the power system and the region to PJM's west are instrumental in identifying and meeting the needs of western regional customers.

Mr. Pfirrmann came to PJM in 2003 from Allegheny Power where he was vice president of energy supply. His other leadership positions at Allegheny have been in transmission planning, system operations and energy procurement. He managed the integration of Allegheny's transmission system into PJM in 2002 and has worked closely with PJM management to develop PJM growth in Maryland, Virginia and West Virginia and Ohio.

Regionally, he is an executive board member for the ECAR (East Central Area Reliability) section of the North American Electric Reliability Council (NERC). He has been active with the NERC Planning Committee, EPRI (Electric Power Research Institute), the Midwest Independent System Operator (MISO) Development Team and the Northeast ITC (Independent Transmission Company) Development Team.

A native of Cincinnati, Ohio, Mr. Pfirrmann has a bachelor of science degree in electrical engineering from Carnegie-Mellon University. He also has completed management training at the University of Idaho.

PJM Interconnection ensures the reliability of the high-voltage electric power system serving 25 million people in all or parts of Delaware, Maryland, New Jersey, Ohio, Pennsylvania, Virginia, West Virginia and the District of Columbia. PJM coordinates and directs the operation of the region's transmission grid; administers a competitive wholesale electricity market, the world's largest; and plans regional transmission expansion improvements to maintain grid reliability and relieve congestion. The expected addition of several utilities to PJM will more than double its size and scope. Visit PJM at www.pjm.com.

EXHIBIT 7

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
FERC FILINGS

QUESTION:
Provide copies of PJM filings with FERC, FERC Orders and PJM tariffs regarding any aspect of the Susquehanna-Roseland line.

ANSWER:
Please refer to Exhibits STL-D-16 (a, b, c, d). The relevant PJM filings, FERC Orders and PJM tariffs regarding any aspect of the Susquehanna-Roseland Project include:

7/23/07 PJM filing - see Exhibit STL-D-16(a), ER07-1186 Filing.pdf (3 MB)
10/18/07 FERC acceptance of 7/23/07 filing - see Exhibit STL-D-16(b), ER07-1186 Order.pdf (151 kb)
12/17/07 PJM filing – see Exhibit STL-D-16(c), ER07-1186 Compliance Filing.pdf (418 kb)
7/1/08 FERC acceptance of 12/17/07 filing may be accessed at:
http://www.pjm.com/Media/documents/ferc/2008-orders/20080701-er07-1186-001.pdf
11/14/08 PJM filing may be accessed at:
http://www.pjm.com/Media/documents/ferc/2008-filings/20081114-er06-456-xxx-part-2a.pdf
11/25/08 PJM filing (corrections to 11/14/08 filing) may be accessed at:
http://www.pjm.com/Media/documents/ferc/2008-filings/20081125-er06-456-xxx.pdf
12/30/08 PJM filing may be accessed at:
http://www.pjm.com/Media/documents/ferc/2008-filings/20081230-er09-xxx-000.pdf
1/28/09 FERC acceptance of 11/14/08 as amended on 11/25/08 – see Exhibit STL-D-16(d), ER06-456 Order (clean-up) 1/28/09.pdf (58 kb)

3/2/09 PJM filing may be accessed at:
http://www.pjm.com/Media/documents/ferc/2009-filings/20090302-er09-585-000.pdf
3/30/09 PJM filing may be accessed at:
http://www.pjm.com/Media/documents/ferc/2009-filings/20090330-er09-xxx-000.pdf
4/10/09 FERC acceptance of 3/2/09 filing may be accessed at:
http://www.pjm.com/Media/documents/ferc/2009-orders/20090410-er06-456-019.pdf

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0487	Build new 500 kV transmission facilities from Susquehanna to Pennsylvania – New Jersey border at Bushkill		AEC (2.05%) / AEP (16.79%) / APS (5.96%) / BGE (4.91%) / ComEd (16.11%) / Dayton (2.53%) / DL (2.08%) / DPL (2.93%) / Dominion (13.22%) / JCPL (4.57%) / ME (2.04%) / Neptune* (0.47%) / PECO (6.10%) / PENELEC (2.09%) / PEPCO (4.47%) / PPL (5.16%) / PSEG (7.58%) / RE (0.30%) / UGI (0.14%) / ECP** (0.23%)

* Neptune Regional Transmission System, LLC
** East Coast Power, L.L.C.

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0489	Build new 500 kV transmission facilities from Pennsylvania – New Jersey border at Bushkill to Roseland		AEC (2.05%) / AEP (16.79%) / APS (5.96%) / BGE (4.91%) / ComEd (16.11%) / Dayton (2.53%) / DL (2.08%) / DPL (2.93%) / Dominion (13.22%) / JCPL (4.57%) / ME (2.04%) / Neptune* (0.47%) / PECO (6.10%) / PENELEC (2.09%) / PEPCO (4.74%) / PPL (5.16%) / PSEG (7.58%) / RE (0.30%) / UGI (0.14%) / ECP** (0.23%)

* Neptune Regional Transmission System, LLC
**East Coast Power, L.L.C.

(13) Rockland Electric Company

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0314	Install 35 MVAR capacitor at Closter 69 kV substation		RE (100%)

(14) UGI Utilities, Inc.

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)

EXHIBIT 8

Exhibit STL-D-16d

126 FERC ¶ 61,069
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Acting Chairman;
Suedeen G. Kelly, Marc Spitzer,
and Philip D. Moeller.

PJM Interconnection, L.L.C.

Docket Nos. ER06-456-018
ER06-456-017
ER06-954-014
ER06-954-013
ER06-1271-013
ER06-1271-012
ER07-424-009
ER07-424-008
EL07-57-005
EL07-57-004
ER06-880-013
ER06-880-012

ORDER ACCEPTING COST RESPONSIBILITY ASSIGNMENTS

(Issued January 28, 2009)

1. On November 14, 2008, as amended on November 25, 2008, PJM Interconnection, L.L.C. (PJM) submitted revisions to Schedule 12-Appendix of the PJM Open Access Transmission Tariff (Tariff) to incorporate cost responsibility assignments for below 500 kV upgrades included in the PJM Regional Transmission Expansion Plan (RTEP). In this order, we accept PJM's proposed tariff sheets and suspend them for a nominal period, subject to refund and subject to the outcome of further proceedings. In addition, we require PJM to make certain modifications to the proposed tariff sheets, as discussed below.

I. Background

2. PJM files cost responsibility assignments for transmission upgrades that have been approved by the PJM Board of Managers (PJM Board) as part of PJM's RTEP, in accordance with Schedule 12 of the PJM Tariff (Schedule 12) and section 1.6 of Schedule 6 of the PJM Operating Agreement (Schedule 6), and pursuant to section 205 of

the Federal Power Act.[1] The RTEP provides for the construction of expansions and upgrades to PJM's transmission system in order to comply with reliability criteria, and to maintain and enhance the economic and operational efficiency of PJM's wholesale electricity markets.

3. On January 5, 2006, May 4, 2006, July 21, 2006, and January 11, 2007, PJM filed: (1) reports containing assignment of cost responsibility for certain transmission projects approved by the PJM Board as part of PJM's RTEP; and (2) revised tariff sheets incorporating into Schedule 12-Appendix of the PJM Tariff the assignments of cost responsibility for the approved projects pursuant to the procedures established in the PJM Tariff. The Commission accepted and suspended the filed tariff sheet revisions, made them effective subject to refund, established hearing and settlement judge procedures, and consolidated the proceedings (Docket No. ER06-456, *et al.*, or RTEP proceedings).[2] In the April 19, 2007 Rehearing Order, the Commission expanded the scope of the hearings previously established in the RTEP proceedings to include the appropriate methodology for the allocating costs associated with upgrades that operate below 500 kV in the RTEP based on a "beneficiary pays" approach.[3]

4. On July 23, 2007, November 16, 2007, and June 3, 2008, pursuant to the procedures established in the PJM Tariff, PJM filed: (1) reports containing assignment of cost responsibility for additional transmission projects approved by the PJM Board as part of PJM's RTEP; and (2) revised tariff sheets incorporating the assignment of cost responsibility for these additional projects into Schedule 12-Appendix of the PJM Tariff. The Commission accepted and suspended the filed tariff sheet revisions, and made them effective subject to refund and subject to the outcome of proceedings in Docket No. ER06-456, *et al.*[4] Because the methodology to determine the cost responsibility

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[1] 16 U.S.C. § 824d (2006).

[2] *See PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,261 (2006); *PJM Interconnection, L.L.C.*, 116 FERC ¶ 61,118 (2006); *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,058 (2006), *order on reh'g*, 119 FERC ¶ 61,067 (2007) (April 19, 2007 Rehearing Order), *order on reh'g*, 122 FERC ¶ 61,217 (2008), *order on compliance*, 124 FERC ¶ 61,241 (2008) (September 18, 2008 Order), *reh'g pending*; *PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,033 (2007), *order on reh'g*, 120 FERC ¶ 61,193 (2007).

[3] April 19, 2007 Rehearing Order at P 16.

[4] *See PJM Interconnection, L.L.C.*, 121 FERC ¶ 61,034 (2007); *PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,130 (2008); *order on reh'g*, 124 FERC ¶ 61,245; *PJM Interconnection, L.L.C.*, 124 FERC ¶ 61,197 (2008); *reh'g pending*.

assignment for facilities that operate below 500 kV was under consideration in the proceeding established by the April 19, 2007 Rehearing Order, the Commission granted PJM's requested waiver of the PJM Tariff requirement that it file a report reflecting the cost responsibility assignments for upgrades that operate below 500 kV.

5. The Commission approved a settlement agreement (Settlement) submitted by the parties in Docket No. ER06-456, *et al.* that set forth the methodology by which PJM will assign the costs of RTEP reliability upgrades that are planned to operate below 500 kV.[5] The Commission directed PJM to submit cost responsibility assignments for the below 500 kV facilities that were previously waived. Additionally, the Commission directed PJM to make "clean-up" revisions to previously approved Schedule 12-Appendix filings to ensure that these tariff sheets accurately reflect the cost allocations proposed in the Settlement.[6]

II. PJM's Filing

6. On November 14, 2008, PJM submitted cost responsibility assignment summaries and revisions to the Schedule 12-Appendix to reflect new cost responsibility assignments for the below 500 kV facilities that were filed in Docket Nos. ER07-1186, ER08-229, and ER08-1065.[7] PJM states that, consistent with the methodology approved in the Settlement, the proposed new assignments of cost responsibility use a distribution factor analysis based methodology for determining the beneficiaries for reliability upgrades and therefore who should pay. In addition, to ensure that all tariff sheets filed prior to the Commission's approval of the Settlement reflect the appropriate cost responsibility assignments, PJM submitted retroactive and currently effective tariff sheets to incorporate the cost responsibility assignments for facilities that operate below 500 kV filed in Docket No. ER06-456, *et al.* and approved as part of the Settlement.

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[5] *PJM Interconnection, L.L.C.*, 124 FERC ¶ 61,112 (2008); *see also PJM Interconnection, L.L.C.*, Docket No. ER06-456-015, *et al.* (unpublished letter order, October 15, 2008) (October 15, 2008 Letter Order). The settlement resolved all issues set for hearing in Docket No. ER06-456, *et al.*, except for matters regarding assignment of cost responsibility to merchant transmission facilities. An Initial Decision regarding this issue was issued on September 18, 2008. This issue is currently pending before the Commission.

[6] October 15, 2008 Letter Order at 2.

[7] On November 25, 2008, PJM requested that certain tariff sheets be withdrawn because they included incorrect designations or other errors. PJM submitted replacement tariff sheets as part of this amended filing.

7. PJM notes that because issues relating to cost responsibility assignments to merchant transmission facilities remain unresolved, all cost responsibility assignments to merchant transmission facilities are based on "Interim Values" as set forth in the Settlement and Schedule 12 of the PJM Tariff. Such cost responsibility assignments are subject to refunds and surcharges based upon a resolution of the remaining issues set for hearing in Docket No. ER06-456, *et al.*

III. Notice, Interventions, and Protest

8. Notice of the November 14, 2008 filing was published in the *Federal Register*, 73 Fed. Reg. 80,385 (2008), with interventions and protests due on or before December 14, 2008.[8] Notice of the November 25, 2008 filing was published in the *Federal Register*, 73 Fed. Reg. 75,422 (2008), with interventions and protests due on or before December 26, 2008.[9]

9. On December 15, 2008, Old Dominion Electric Cooperative (ODEC) submitted a protest of PJM's filing. ODEC notes that it has filed a request for rehearing of the Commission's September 18, 2008 Order, objecting to the Commission's acceptance of the cost responsibility assignments for five PJM RTEP projects. Specifically, ODEC's rehearing request contended that because these projects are transformers with a high side voltage of 500 kV and a low side voltage below 500 kV, the cost for these facilities should be allocated on a region-wide basis. ODEC's rehearing request is currently pending before the Commission. ODEC notes that the tariff sheets in the instant filing reflect allocations for four of the five projects at issue in ODEC's pending rehearing request.[10] ODEC states that if the Commission grants ODEC's rehearing request, the Commission should require PJM to revise its tariff sheets accordingly.

IV. Discussion

10. We find that PJM has allocated cost responsibility for below 500 kV upgrades consistent with the methodology set forth in the Settlement. We also recognize that ODEC's concerns regarding the treatment of certain upgrades are pending on rehearing of the Commission's September 18, 2008 Order. Accordingly, we accept and suspend PJM's filing, effective on the dates requested, subject to refund, and subject to the outcome of the proceeding in Docket No. ER06-456, *et al.* regarding allocation of costs to merchant transmission facilities and rehearing of the September 18, 2008 Order.

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[8] *See* November 25, 2008 Notice Extending Comment Period.

[9] *See* December 2, 2008 Notice Extending Comment Period.

[10] Specifically, Projects b0210, b0231, b0269, b0321.

11. We note that several tariff sheets[11] included in PJM's filing have not been designated in compliance with FERC Order No. 614.[12] Additionally, several retroactive tariff sheets[13] reflect responsible customer designations for above 500 kV projects that were not in effect until January 1, 2008. Because these tariff sheets have effective dates prior to January 1, 2008, they should reflect the previously approved designations for above 500 kV projects. Accordingly, PJM should submit corrected tariff sheets in a compliance filing within 30 days of the date of this order.

The Commission orders:

(A) PJM's revised tariff sheets are hereby accepted for filing and suspended for a nominal period, subject to refund and to the outcome of further proceedings, as discussed in the body of this order.

(B) PJM is directed to submit a compliance filing within 30 days of the date of this order, as discussed in the body of this order.

By the Commission. Commissioner Kelliher is not participating.

(S E A L)

Kimberly D. Bose,
Secretary.

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[11] Third Substitute Second Revised Original Sheet No. 270D.08 and Second Substitute First Revised Original Sheet No. 270F.01j.

[12] *Designation of Electric Rate Schedule Sheets*, Order No. 614, FERC Stats. & Regs., Regulations Preambles July 1996-December 2000 ¶ 31,096 (2000) and 18 C.F.R. § 35.9 (2006).

[13] First Revised First Revised Sheet No. 270E.08a and First Revised Sixth Revised Sheet No. 270F.

Document Content(s)