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January 9, 2009

James J. McNulty, Secretary
Secretary's Bureau
Pennsylvania Public Utility Commission
2nd Floor North, Commonwealth Keystone Building
Harrisburg, PA 17110

Re: Reply Comments of the Electric Power Generation Association to Testimony Presented at the *En Banc* Hearing on December 18, 2008, Docket No. M-2008-2066901.

Dear Secretary McNulty:

Please find enclosed an original and ten copies, as well as a copy in electronic format on diskette of the Electric Power Generation Association's Reply Comments with regard to the December 18 Hearing on Current and Future Wholesale Electricity Markets.

If there are any questions or you need additional information, please feel free to contact our office.

Very truly yours,

A handwritten signature in black ink that reads "Terrance J. Fitzpatrick".

Terrance J. Fitzpatrick
General Counsel

TJF:sb

Enclosures

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Hearings on Current and Future : M-2008-2066901
Wholesale Electricity Markets :

**Reply Comments of the Electric Power Generation Association Regarding
the December 18, 2008 *En Banc* Hearing**

The Electric Power Generation Association ("EPGA")¹ appreciates this opportunity to submit reply comments regarding the testimony presented at the December 18, 2008 *En Banc* hearing on wholesale electricity markets. EPGA respectfully submits that, when viewed in its totality and scrutinized carefully, the testimony presented at the December 18, 2008 hearing and in the previous two hearings shows clearly that wholesale electricity markets are competitive and are providing substantial benefits to Pennsylvania consumers and to society in general.

- 1. The Consumer Advocate's criticisms of wholesale markets are not supported by the facts, and his proposed policies would lead back to cost-of-service regulation, which is plainly inferior to relying on markets.**

In his testimony, Consumer Advocate Sonny Popowsky questions whether we do have, or even can have due to electricity's unique characteristics,

¹ The Electric Power Generation Association (EPGA) is a regional trade association of electric generating companies with headquarters in Harrisburg. Its members include AES Beaver Valley LLC, Allegheny Energy Supply, Cogentrix Energy Inc., Constellation Energy Commodities Group Inc., Dynegy Inc., Edison Mission Group, Exelon Generation, FirstEnergy Generation Corp., LS Power Associates LP, PPL Generation, Reliant Energy, Sunbury Generation LP, Tenaska Inc., and UGI Development Company.

competitive wholesale electricity markets.² However, he does not cite facts to support these doubts. In contrast, PJM's independent market monitor, Dr. Joseph Bowring, testified at an earlier hearing that wholesale electricity prices are competitive, and he based this conclusion upon an exhaustive review of the costs and revenues of generators.³ Clearly, Dr. Bowring's testimony is more persuasive on this point, and establishes that wholesale electricity prices are competitive.

Mr. Popowsky then states that there are "serious problems" in wholesale markets and asserts that existing generators are "vastly overcompensated" by current market prices.⁴ He goes on to explain his view that "prices are too high for energy and capacity from most existing generation, but may be too low to attract the kinds of generation that we need to meet our future needs on a timely basis." This can only mean that he supports a system that pays different prices to generators based upon their individual costs. Pennsylvania had such a system before restructuring – cost-of-service regulation. This system bred inefficiency and created a host of problems such as cost overruns during construction of plants, excess generating capacity, wide cost disparities across the industry, and extended outages at some plants. The public interest would not be served by returning to this policy.

The notion that different generators should be paid different prices based upon the age and type of plants they operate is incompatible with markets. A kilowatt of electricity is a kilowatt of electricity regardless of the characteristics of

² Testimony of Sonny Popowsky, December 18, 2008, p.2.

³ Testimony of Dr. Joseph Bowring, October 23, 2008, pp.7-8, 11-12.

⁴ Popowsky testimony, p.2.

the plant that produced it. As EPGA President Doug Biden testified, industrial customers who complain about wholesale electricity prices would never accept a price discrimination scheme under which their older manufacturing plants could not charge a market-clearing price for a commodity they produce.⁵

Former Federal Energy Regulatory Commissioner William Massey stated at the December 18 hearing that all commodity markets operate under the “law of one price.” He served on FERC during the historic period when FERC implemented federal policy to promote wholesale competition. FERC sought advice from experts around the world on how to set prices, and those experts championed the single clearing price methodology due to its inherent bidding discipline. Similarly, Dr. Bowring emphasized that single clearing price markets are very transparent as to marginal costs so it is much easier to detect the exercise of market power.⁶ Finally, Dr. Roy Shanker, an expert with over thirty years experience, testified that a pay-as-bid market structure is inefficient, lacks transparency, and leads to higher prices as suppliers guess what the market-clearing price will be instead of bidding at their marginal cost.⁷

The use of a single market clearing price in PJM's energy market resulted from a lengthy FERC proceeding that occurred before the electricity restructuring cases in Pennsylvania. The Consumer Advocate and the Philadelphia Area Industrial Energy Users (“PAIEUG”) submitted testimony in the utility restructuring dockets in the late 1990's that showed their awareness that energy prices would be driven by the fuel costs of generators needed to supply the last

⁵ Testimony of Douglas L. Biden, December 18, 2008, p.7.

⁶ Transcript of October 23, 2008 hearing, p.71.

⁷ Testimony of Roy Shanker, December 18, 2008, p.8.

increment of demand. For example, Douglas Smith testified on behalf of the Consumer Advocate in the PECO restructuring case as follows:

[I]n the restructured PJM energy market, all generating units selected to operate in PJM at any given time will receive the single PJM market energy price.

* * * * *

The market prices that PECO will receive for the output of its generating units will also depend on fuel prices. However, those prices will depend primarily on the fuel prices faced by the 'marginal' generating units in the PJM electricity market – those units that tend to operate during high demand periods, but not on an around-the-clock basis. In PJM, the margin is defined primarily by coal, oil and gas-fired sources. Nuclear and hydroelectric sources will rarely (if ever) define the market price.⁸

Since the Consumer Advocate and PAIEUG clearly knew and accepted at the time of restructuring how energy prices would be set at PJM, they can hardly claim to be surprised or disappointed in this methodology.

Another question raised by the discriminatory pricing schemes favored by market critics is when does a "new" generator become "existing" and no longer merit the same level of compensation as "new" units? Marji Phillips, Managing Director – Market Development for PSEG Energy Resources and Trade LLC queried at the December 18 hearing why critics view new resources as being better than existing resources. Such a view dismisses the significant benefits that improved efficiencies, uprates, and life extensions have provided to the market. *These improvements at existing plants have displaced the need to add some new generation, which is very costly due to increases in the prices of commodities used to build new generating plants.*

⁸OCA Statement No. 2, Application of PECO Energy for Approval of Restructuring Plan, Dkt. No. R-00973953, pp. 4, 12.

Contrary to the unsupported allegations of the critics of markets, the prices resulting from the PJM market design are competitive and are providing incentives for additional significant investment in generation resources and demand response. As Dr. Bowring testified, the single market clearing price methodology, called "Locational Marginal Pricing" ("LMP") in PJM, is working as designed and producing competitive results. Dr. Bowring explained that the most direct measure of the competitiveness of markets is markup,⁹ and based on his analysis, PJM's pricing mechanism is producing competitive prices with bid margins that are very low. Andrew Ott, Senior Vice President of Markets at PJM testified at the October 23, 2008 hearing that, when adjusted to account for changes in fuel costs, wholesale energy prices have actually dropped 23% since the markets began operating, and this decrease reflects the increased efficiency of the industry in response to market incentives.¹⁰

Additionally, EPGA President Doug Biden highlighted the significant benefits this Commonwealth has enjoyed as a result of the market incentives for generation performance improvements and additional investment of billions of dollars in generation -- all at the risk of the investors, not consumers. As Mr. Biden stated, current generating plants essentially are not the same plants -- and many have even changed hands -- since restructuring. In the years 1998 to 2007, EPGA members invested more than \$12 billion in existing plants in Pennsylvania for environmental controls, capacity uprates, turbine upgrades and

⁹ Markup is the difference between the price of the marginal unit(s) and the marginal cost of the marginal unit(s). Bowring testimony, p. 11; Tr. at 71.

¹⁰ Testimony of Andrew Ott, October 23, 2008 p. 5.

other miscellaneous capital expenditures to keep plants running.¹¹ They have spent billions of dollars more on wages, fuel and taxes at these plants.¹² In addition, based on data from some EPGA members, some plants have plans totaling more than \$14 billion of investment in the years 2008 through 2013.¹³

Restructuring was a good deal for Pennsylvania consumers. They received the benefit of capped rates for over ten years (even as stranded costs were recovered) and the tremendous benefit of improved performance of existing generation which delayed the need for more costly new generation to be built to maintain reliability. This represents billions of dollars of value for consumers. The shifting of risk from consumers to investors is significant. To further put these benefits of competition into context, Angie Beehler of Wal-Mart Stores, Inc. cited examples in traditionally regulated states where expenditures for Construction Work in Progress (CWIP) will be borne by consumers, such as \$34 million for a coal plant that will never come on-line in Florida.¹⁴ Clearly, this was not a good result for consumers. Similarly, regulators in Indiana recently approved Duke Energy's request to pass on to ratepayers an additional \$365 million (of an estimated total cost of \$2.35 billion) for construction of a coal-gasification plant that is being opposed in litigation by environmental groups.¹⁵ Assigning the risk of new development to investors, on the other hand, acts to discipline investment decisions and ensure that the most economic resources are built when and where they are needed most.

¹¹ Biden testimony, p.8.

¹² *Id.*

¹³ *Id.*

¹⁴ Oral testimony of Angie Beehler, December 18, 2008,

¹⁵ "Indiana panel approves cost increase for coal plant.", *Chicago Tribune*, January 7, 2009

Commissioner Massey and both customers who testified on December 18 also highlighted how accurate market price signals have spurred large customers' investment in technologies that assist in managing their energy usage. As Commissioner Massey stated, "The organized markets also offer the best tools for customers to manage electricity costs. For example, transparent price signals and demand response programs allow customers to shift usage times and aggregate their demand in order to lower costs and even get paid for providing demand-response resources to the market."¹⁶ This benefit had even been recognized by industrial customers in a Commission proceeding focused on alternative energy, energy conservation and demand side response.¹⁷

Steve Elsea, Director of Energy Services, Leggett & Platt, Inc., testified that their Sterling melt shop purposefully adjusts its operation schedule to ensure that it does not operate during periods when electricity would be more costly.¹⁸ He recognized that by their doing so, they contribute to ensuring the reliability of the PJM system. Leggett & Platt also has enrolled 3MW in the PJM Interruptible Load for Reliability Program, and 2 MWs into RPM for the periods 2009-2010 and 2010-2011.¹⁹ Mr. Elsea further commented on the improvements in technology and communications that provide real-time access to energy usage data behind-the-meter, which enables customers to be able to respond to the

¹⁶ Testimony of William Massey, December 18, 2008, p. 7.

¹⁷ Pamala C. Polacek, on behalf of the Industrial Energy Consumers of Pennsylvania, testified that PJM's load response programs are the "most direct vehicle by which . . . customers can achieve the Commission's mitigation goals by reducing or shifting loads from periods when demand and prices for electricity are high to periods when demand and prices are low, thereby having a decisive effect on reducing overall wholesale energy costs both to the reducer as well as other consumers." Statement of Pamela C. Polacek, Alternative Energy, Energy Conservation and Efficiency, and Demand Side Response, (November 19, 2008) at 2.

¹⁸ Testimony of Steve Elsea, December 18, 2008, p. 5.

¹⁹ *Id.* at 6.

wholesale market signals.²⁰ It is important to note that not only do individual customers benefit from the cost savings of their load response, but the entire market benefits as the load response displaces the need for the next incremental cost generation to be dispatched.

2. Capacity has Never Been Free: It Is a Necessary Cost of Ensuring Reliability.

At the December 18 hearing, Mr. Popowsky claimed that a problem with RPM is that all generation is paid for providing capacity, which is equivalent to trying to “fill a glass of water by turning on all the fire sprinklers in the ceiling and flooding the entire room.”²¹ This analogy is flawed. It implies that the capacity existing generators provide to ensure the reliability of the PJM system should be free. That simply has never been the case; capacity has never been free. Capacity prices may fluctuate depending on the level of available supply, but even before restructuring capacity had a price. The Consumer Advocate and the PAIEUG understood this at the time of restructuring and even projected capacity prices in the context of establishing stranded cost recovery which were higher than what has actually occurred under RPM.²² Using the PECO restructuring testimony as an example, Dr. Shanker noted that PAIEUG presented capacity projections based on the cost of a peaking unit with a forecast for the 2011-12 period of about \$200/MW-day, which is dramatically higher than the RPM clearing price for this period of \$110/MW-day.²³

²⁰ *Id.*

²¹ Popowsky testimony, p. 2.

²² Testimony of Roy Shanker, December 18, 2008, p.13.

²³ Shanker testimony, pp.14, 20.

²⁶ Shanker testimony, pp.5-8.

In addition, the analogy of a fire sprinkler overlooks the fact that under monopoly regulation, the faucet was on full-force and filled the glasses of all generators regardless of whether the generator was efficient or even needed. Now, under RPM, capacity revenue is paid only to the lowest cost mix of new and existing generators required to meet reliability needs. Not all generation is paid capacity revenue under RPM. For example, almost 5,000 MW of existing generation did not clear in the 2011-2012 RPM auction, and, therefore will not receive capacity revenue. In addition, since RPM allows customers to bid demand reduction offers in competition with supply offers, it can be said that RPM allows customers to turn off the faucet when the glass is full.

3. Natural Gas From the Marcellus Shale Formation Should Have A Long-Term Moderating Effect on Natural Gas Prices

The critics of the single clearing price methodology focus on the recent run up in fuel prices. But the wholesale market design should not be determined based on short-term commodity price fluctuations. The most efficient wholesale market design is one based on marginal cost, such as PJM's Locational Marginal Pricing mechanism.²⁶ While marginal costs have been increasing rapidly, and fuel cost is a significant element of those marginal costs, the rising fuel prices are providing an incentive for additional exploration and development of alternative fuel sources which, over the long-term, will contribute to downward pressure on fuel prices. For example, according to a study prepared for the American Clean Skies Foundation by Navigant Consulting, there are at least 21 major shale basins located in the United States that will be important sources of natural gas

into the future.²⁷ As Rick Smead, one of the co-authors of the report, stated, “The assessments and estimates of natural gas supply are very impressive and have, frankly, caught industry forecasters off guard.”²⁸

Notably, the Marcellus shale basin covers 54,000 square miles and is located close to the northeast load centers, with its core running through much of Pennsylvania and parts of West Virginia, Ohio and New York.²⁹ In early 2008, geology professors at the Pennsylvania State University and the State University of New York surprised everyone with estimates that the Marcellus Shale might contain more than 500 trillion cubic feet of natural gas, and that 50 trillion cubic feet of this amount might be recoverable using existing drilling methods. This volume of natural gas would be enough to supply the entire United States for about two years and have a wellhead value of about one trillion dollars.³¹ As Mr. Biden testified, such a tremendous discovery of natural gas is predicted to have a long-term moderating effect on natural gas prices.³²

4. Pennsylvania Should Remain Committed to the Competitive Model

At the December 18 hearing, Consumer Advocate Sonny Popowsky applauded a requirement in Connecticut that utilities procure long term contracts for new generation, and he suggested that Pennsylvania do the same. This

²⁷ Navigant Consulting, “North American Natural Gas Supply Assessment,” report prepared for American Clean Skies Foundation, (July 4, 2008), at 34.

<http://www.cleanskies.org/upload/MediaFiles/Files/Downloads2/finalncippt2.pdf>

²⁸ American Clean Skies Foundation press release, “Study Finds Existing U.S. Natural Gas Supply Extends Into the 22nd Century,”

http://www.cleanskies.org/printpage.aspx?page_id=%7B55B3B34E-E7AA-442C-95B9-634112CB0542%7D

²⁹ *Id.* at 38.

³¹ See, www.geology.com / Marcellus Shale.

³² Oral testimony of Douglas Biden, December 18, 2008.

appears to reflect his view that new generation will not be built without the regulatory certainty of ratepayer-funded long term contracts. The facts do not support this view.

As EPGA President Doug Biden testified, the members of EPGA have invested many billions of dollars in new generation and in generation upgrades and capacity expansions because of the incentives provided by the competitive market model. Moreover, there is no basis to conclude that a regulated long term contract will produce better results than competition for customers.

For example, Mr. Popowsky appeared to endorse a long term contract for a hydroelectric project³³ even though the developer concluded that the project was uneconomic, a conclusion that was supported by the analysis of Mr. Shanker.³⁴ The Consumer Advocate's central planning approach involving long term commitments by utilities backed by regulatory guarantees of cost recovery not only would shift financial risks to ratepayers, but also would have a chilling effect on competitive investments in new plants. These investments are costly, risky undertakings given the uncertainty of future fuel prices, load levels, technology costs, and climate change and other environmental costs.

It is unlikely that private developers will put their capital at risk on new plants if the Commission creates an uneven playing field with regulatory cost recovery guarantees for certain projects. In the long run, it will be better for Pennsylvania consumers to rely on competitive markets to make efficient

³³ Popowsky testimony, pp.3-5.

³⁴ Oral testimony of Roy Shanker, December 18, 2008.

investment decisions, rather than relying on government central planning backed by ratepayer guarantees.

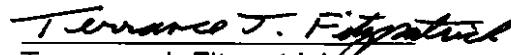
Conclusion

EPGA respectfully requests that the Commission consider these reply comments in its deliberations on current and future wholesale electricity markets.

Respectfully submitted,



Douglas L. Biden
President



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