

**Comments on the Pennsylvania Public Utility Commission's Proposed Rulemaking
Re Electric Distribution Companies' Obligation to Serve Retail Customers at the
Conclusion of the Transition Period Pursuant to 66 Pa. C.S. §2807(e)(2)
Docket Numbers L-00040169 and M-00041792**

**Submitted by David Magnus Boonin, TBG Consulting
April 26, 2005**

Introduction – Allow Default Service Providers to Use True Market-Based Pricing

The Pennsylvania Public Utility Commission's Proposed Rulemaking dealing with default service is generally sound in developing a process for default service providers to seek resources through a solicitation for forward contracts but unnecessarily omits the critical option of the provider meeting all or part of its resource requirements for at least smaller customers through spot purchases from its RTO or ISO. This seems to have done to protect these smaller customers from price volatility sometimes associated with the spot market. In the Commission's quest to ensure that smaller users have the opportunity to purchase electricity at a known price, it has almost certainly imposed a large price premium on these default customers, estimated to be 10 to 15% higher than needed as compared to spot-based approach with volatility protection described in these comments.

The proposed regulations require that the default provider submit a fixed-price (time-of-year and time-of-day variations allowed) for these customers for at least twelve months based mainly on bids accepted from an auction process. This is the purchase of a future contract. The economic literature is replete with evidence that the PJM forward market for electricity has a significant upward price bias or risk premium, as much as 100% during summer months as compared to the spot market. This bias or risk premium could be eliminated if the default provider met customers' requirements with purchases from PJM on a spot basis, allowing the consumer all of the benefits of one of the world's largest and most liquid electricity markets.

The main purpose of these comments is to propose an additional default supply protocol other than an auction-based model that should more accurately charge default customers a rate based upon the prevailing market price and reduce the cost of default service while offering protection from price volatility. The Commission has indicated that absent the concern about price volatility that the PJM spot market is the fundamental prevailing market rate (e.g., see the proposed regulations at §54.187(i) and §54.188(e)). This proposed default service protocol is called, herein, Spot Market-Based Pricing (SMBP). The Commission should through its final rulemaking allow utility default providers to:

- Purchase its customers' needs on the PJM spot market. Rates charged for this service must be fixed for at least one year for smaller customers and be pre-approved by the Commission.

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- Establish a mechanism such as a Volatility Protection Fund discussed below that protects customers and the supplier from spot-market price volatility by allowing the default service provider to charge customers a pre-determined and Commission approved fixed rate.

The use of SMBP could be voluntary and could be used in lieu or in combination with the auction-program. The auction-based program would still be allowed as described in the rulemaking. Given the huge price premium of meeting customer's needs through forward contracts, a provider that uses these forward-purchased resources to meet its default customers' needs should be required to show why these purchases are in the public interest and possibly be required to run pilot programs on Spot Market-Based Pricing and/or perform ongoing analysis on the risk premium associated with forward contracts implicit in the auction approach.

Energy obtained to meet the Commonwealth's Alternative Energy Portfolio standards should be obtained under different protocols that recognize the need for longer-term commitments to ensure the cost-effective development of these resources and to not limit the cost-recovery mechanisms granted to the Commission in Alternative Energy Portfolio Standards Act.

Why Spot Market-Based Pricing is Superior to Auction/Bid-Based Default Service

As summarized above, default service delivered under Spot Market-Based Pricing should:

- Produce lower prices to default service customers than auction based prices.
- Produce prices that are closer to the prevailing or spot market price than a futures auction.
- Provide customers with prices that are predictable and free of the volatility that usually is associated with market-based electricity prices when coupled with the Volatility Protection Fund discussed herein.

Lower Prices: The economic and financial analysis (see below for a partial list of research that has been considered) of PJM forward contracts and options consistently state that forward contracts for electricity:

- Include huge risk premiums;
- Are biased, inefficient and tend to overreact to perceived market trends;
- Are unduly influenced by changes in current load; and
- Cannot mitigate risk in traditional ways because the commodity cannot be economically stored.

What these experts are saying is that unlike with most commodities or markets, the futures price of electricity contains a substantial risk premium that makes it significantly higher than the expected spot price. The risk premium is highest during periods of high

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demand or high demand volatility such as the summer and disappears during periods of low and stable demand.

Below are listed some indicative findings that quantify what the research categorized as huge risk or price premiums.

- The average summer risk premium of a futures contract price was 54% more than buying the same power on the spot market through 2001
- The risk premium in the summer of 2000 for forward purchases was 100% greater than spot prices.
- Updated analysis using data through 2002 confirmed these findings although the risk premium was slightly less than in the earlier analysis.

These are indicative samples of the research results. The attached charts (See Appendix B) are extracted from the December 2003 research of Pirrong and Jermakyan cited below and are also indicative of the findings found in all the research cited. Please note that these huge price premiums are not for single anomalous hours, but are indicative of the average price increase over all hours during the periods mentioned, e.g., the entire summer. Some of the research notes that it is the volatility of the spot market for electricity that contributes to these risk premiums. Spot market volatility should, therefore, not be confused with higher prices when compared to forward market contracts. In short, there is a large price premium that consumers pay for electricity price insurance when purchased through forward contracts.

These huge price premiums associated with forward contracts may be underestimated by the assessments performed in the research. In the research, the quantities of resources being bought are always known. An additional risk associated with forward-contract default service auctions is that the resource needs is not known. This is an additional risk that must be hedged by anyone responsibly offering to provide service through the bid process. It can be eliminated by breaking the bids into pieces, but the last piece will always be fraught with the uncertainty of consumer demand, whether driven by price, the number and mix of default customers, business cycles, demographics or weather. This risk is on top of the risk premiums discussed above and are also avoided by using the spot market approach. The proposed regulations allow for spot purchases from the ISO if the supply is insufficient with these potentially volatile costs, being recovered from customers.

Market risks that cannot be traditionally managed typically with physical hedges, lead to customers paying an enormous premium for price certainty by buying forward contracts and options. Default service auctions only add to this risk and the related price premium as the supplier needs not only to meet a known demand during periods of uncertainty as with most forward contracts but an unknown demand of the default service customers during periods of price uncertainty. Not only is this the findings of this rigorous research,

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it is also my personal observations as someone who once headed a competitive energy company and needed to price competitive services in the PJM marketplace.

It is possible to conservatively conclude that if the futures price is only 50% higher than the spot price during the summer months and not affected at any other time of year (even though empirical evidence shows similar but smaller trends in the winter), then the year-round price premium that consumers are asked to bear for the volatility protection provided by forward purchases is in the neighborhood of 15%, weighting for peak months' usage. At 5 cents/kWh this would be a 0.75 cent increase on every kWh used throughout the year. This is more than what was gained through some of the rate reductions and rate freezes achieved the market was restructured. Unfortunately, the current market structure has not yielded any way to abate this risk premium other than effective demand-side management, which is still being developed and has yet to be implemented.

Prevailing Market Price: When people in the industry talk about prevailing market prices for electricity in this region, they generally mean the PJM spot price. As stated above, the proposed regulations echo this sentiment. It is only when the issue of price volatility is introduced that there is deviation from the concept that prevailing market price and the PJM spot price are synonymous. As demonstrated above, auctions, although an accurate barometer of future prices including huge risk premiums, are not closely tied to the PJM spot price, especially during periods of peak demand.

The Spot Market-Based Pricing methodology is based on the spot price because the real-time spot market price is the prevailing market price. As discussed below, there is a cost for a volatility hedge of real-time prices, but that cost should be much less than the 15% conservatively estimated as the huge annual premium of the auction-approach as compared to the expected spot price.

Protection From Price Volatility: The Spot Market-Based Pricing solution need not end at this point. The Commission is proposing that smaller consumers should be provided protection from market volatility. As discussed above, when electricity futures are at the core of price stability programs, customers are likely to be charged an enormous risk premium.

A cheaper solution would be to create a customer supported volatility-smoothing fund – herein referred to as a Volatility Protection Fund (VPF). The VPF could be set looking at the maximum and the average impact volatility has had on the expected spot price over several years, future and historic. Assuming that the default rates were set reasonably accurately the cost of this fund to consumers would only be the cost of capital to support the fund. As with the auction-approach, the VPF could be required to be offered or provided to smaller customers and optional for larger customers.

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If the VPF were established as an off-balance sheet asset, it should be possible to keep the cost of capital at the cost of low-risk debt, funding it with special purpose bonds serviced by dedicated revenues. An off-balance sheet approach may be preferable so as not to upset the utility's capital structure while simultaneously isolating the capital costs that would be needed to be recovered to support the VPF.

This fund could operate by first establishing a Commission-approved amount for the fund. When prices exceed the amount charged in rates, the utility default provider could withdraw dollars from the fund. When rates exceed prices, deposits would be made to the fund. Although not the objective of this approach, over time, with conservative rate setting, the bonds associated with fund could possibly be retired and replaced by internally generated funds. These internally generated funds could be a zero-cost customer contribution, given the off-balance sheet, dedicated funding approach being proposed, herein. The use of a volatility self-insurance fund should be possible at a cost significantly below that incurred by buying volatility insurance in the form of a forward contract resulting from an auction.

Following through on the research results summarized above, the annual cost premium associated with a futures contract was in excess of 15%. If a volatility fund equal to 1/3 of the entire forecasted energy purchase for the year were needed, a very conservative initial estimate, and the cost of capital were as high as 7.5% - again a conservative assumption in today's market given for the potential of AAA ratings - the annual premium on the spot price of electricity would only be 2.5%, before any net offsets for interest earned by the VPF. This is one-sixth of the forward contract price premium and more typical of what an unbiased and efficient future commodity price costs relative to spot prices for other commodities or financial services. This example demonstrates that even if in the early years of the program the VPF were set conservatively high, it should still provide lower cost volatility protection than forward contracts.

If programs such as demand-side response evolve to a point where volatility and the risk premiums associated with them were greatly reduced or disappeared, the VPF could be reduced or eliminated. The spot price or the average of the projected spot price could be used without the need for a volatility safety net. Unfortunately, this is not the case today.

What fine points should be included or excluded in any SMBP proposal?

The design of specific SMBP programs should be left to the utilities and subject to approval by the Commission. All SMBPs, however, should include:

- Fixed rates for at least twelve months and in twelve-month increments thereafter, consistent with the Commission's proposed rulemaking.
- Justification for establishing these proposed rates. There are many models currently in use that project the spot market prices. Default providers would need to submit the assumptions and results of their analyses. The Commission, over time, could potentially select a particular universal model.

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- The utility should have the option of submitting zoned rates base upon forecasted locational marginal pricing or a single set of rates for the utility's service territory. LMP is not, however, a necessary component of this program, and may not be appropriate especially for smaller customers.
- These rates would be approved by the Commission.
- The use of time-of-day and time-of-year rates to more closely reflect prevailing market prices. This is consistent with these proposed rulemaking.
- A volatility priced protection plan. This may include the establishment of a VPF and the recovery of associated costs including interest and fund management costs, again subject to commission approval. The estimated and levelized rate would constantly be compared to the actual spot price, with dollars placed in and out of the fund as appropriate. Interest earned by the VPF should be used as an offset against the VPF's expenses.
- Reconciliation should only be allowed in extraordinary situations per the proposed rulemaking. Adjustments to the VPF that do not have an immediate impact on rates and should rather be reviewed annually, should not be governed by this provision. These adjustments should be minor and often be in the customers' favor.
- As in the proposed rulemaking, multi-utility proposals should be permitted and even required by the Commission.

Power purchased to comply with the Commonwealth's renewable resource standards will generally need to be purchased through a mechanism other than PJM spot market, such as auctions or bilateral contracts. As envisioned by the Alternative Energy Portfolio Standards Act, long-term contracts, endorsed by the Commission, should be encouraged so that the cost of capital needed to support these projects is reduced and the cost of meeting these standards is reduced to consumers of electricity in Pennsylvania.

Utilities may have other electric supply resources under their control. Unless customers have a vested interest in these resources, the resources should be excluded from use by a utility in developing its SMBP program. Rather, these resources should be made available to the market or sold-off through bilateral contracts, thereby ensuring adherence to the prevailing market price principle.

Why is SMBP good for Default Customers?

SMBP is good for default customers because empirical research indicates that it better reflects prevailing market rates than an auction, is cheaper than futures contracts that contain huge risk premiums and can still provide price stability.

Why is SMBP good for Default Service Providers?

As proposed, SMBP is good for default service providers because it eliminates the risk associated with providing this service and allows the recovery of costs associated with volatility protection. With the utility as the default provider, lower prices within the service territory without an adverse impact on earnings are also good for the utility.

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Why is SMBP good for the Commonwealth?

Lower electricity prices are good for the Commonwealth's economy. Eliminating huge risk premiums without any detriment to anyone other than market speculators keeps more money in the state for more useful purposes.

Why is SMBP a good fit for competitive markets?

SMBP should have no negative impact on an efficient energy market. The demand for default service would be served through PJM's efficient spot market. Competitive suppliers could still provide supply customers through bilateral contracts that would be compared to true market prices with a small volatility protection charge rather than a huge forward market risk premium.

Additionally, a spot market-based program should produce greater opportunities and potential incentives to consumers to participate in demand side resource initiatives than prices established months or years in advance by an inflexible contract.

Why is SMBP a good fit with the cost recovery of the costs associated with Pennsylvania's Alternative Energy Portfolio's standards?

Not only is SMBP a good fit with the cost recovery associated with Alternative Energy Portfolio standards, it is a better fit than the bid methodology currently included in these proposed regulations. Note that these comments suggest that default service provider be allowed to recover the costs associated with meeting its portfolio standards through long-term contracts. The Alternative Energy Portfolio Standards Act states that the costs of procuring this energy in excess of the RTO's real-time locational marginal price shall be treated as a regulatory asset and recovered through sliding scale of rates. The SMBP is based upon RTO's real-time marginal price and can thus be tied directly and seamlessly to this requirement and calculation.

Should SMBP be mandatory?

Based upon all of the above, one could easily argue that SMBP should be Commission's preferred approach for providing default service. Lower prices, a closer match to prevailing market prices, less expensive price volatility protection and an easier link to demand-side resources make SMBP extremely appealing.

Conversely, SMBP is a late addition to the Commission's policy discussion on default service provision. Because of this, it is recommended that the Commission's rulemaking order only allow but not require utilities to submit programs based in whole or in part upon the principals of SMBP. Given the strong evidence of its potential, any utility that does not utilize SMBP or uses the forward market auction-based approach to meet its resource needs should be required to: explain why it feels forward contracts are a desirable component of its resource portfolio, initiate a pilot SMBP program and/or be required to present the Commission with reports annually of how its future purchases compared to actually occurring PJM spot prices for electricity.

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Specific Language

Specific language needed to integrate the SMBP into the Commission's rulemaking is provided as Appendix A. Proposed edits are in bold and larger type. The approach has been to expand the definition of the competitive procurement process to allow spot purchases supplemented by a VPF with the existing bid-solicitation process and the alternative energy portfolio resources already allowed in the proposed rulemaking.

Background Information

These comments were prepared by David Magnus Boonin, President of TBG Consulting. He is also a default service customer of a Pennsylvania jurisdictional utility. Mr. Boonin has held several relevant positions, including but not limited, to Chief Economist of the Pennsylvania Public Utility Commission and President of New Energy – Mid-Atlantic. Among other work, he has conducted analysis on the valuation of merchant power plants and the pricing of electricity in competitive markets. Mr. Boonin has extensive experience in finding lower cost solutions to pressing challenges faced by regulated utilities and their regulators. One of Mr. Boonin's current clients is an investment bank.

In addition to his own experience, Mr. Boonin relied, in part, on input from finance professors at the Wharton School and Auburn University and the research papers listed below. Mr. Boonin would like to thank Nomura Securities for supporting the development of these comments. The positions are, however, solely those of Mr. Boonin.

- The Price of Power: The Valuation of Power and Weather Derivatives, Craig Pirrong and Martin Jermakynen, October 12, 2001 and December 4, 2003
- Pricing Power Derivatives: A two-Factor Jump-Diffusion Approach, Pablo Villaplana, September 2003
- Valuation of Electricity Forward Contracts: The Role of Demand and Capacity, Pablo Villaplana, Work in Progress
- Equilibrium Pricing and Optimal Hedging in Electricity Forward Markets, Hendrik Bessembinder and Michael L. Lemmon, Journal of Finance 2002
- Electricity Forward Prices: A High Frequency Empirical Analysis, Francis A. Longstaff and Ashley W. Lang, 2003.

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APPENDIX A

Proposed Edits to Proposed Regulations

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ANNEX A
TITLE 52. PUBLIC UTILITIES
PART I. PUBLIC UTILITY COMMISSION
Subpart C. FIXED SERVICE UTILITIES
CHAPTER 54. ELECTRICITY GENERATION
CUSTOMER CHOICE
Subchapter A. CUSTOMER INFORMATION

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§54.4. Bill format for residential and small business customers.

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(b) The following requirements apply only to the extent to which an entity has responsibility for billing customers, to the extent that the charges are applicable. The [provider of last resort] default service provider will be considered to be an EGS for the purposes of this section. Duplication of billing for the same or identical charges by both the EDC and EGS is not permitted.

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§ 54.5. Disclosure statement for residential and small business customers

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(b) The EGS shall provide the customer written disclosure of the terms of service at no charge whenever:

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(3) Service commences from a [provider of last resort] default service provider.

(c) The contract's terms of service shall be disclosed, including the following terms and conditions, if applicable:

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(9) The name and telephone number of the [provider of last resort] default service provider.

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(h) If the [provider of last resort] default service provider changes, the new [provider of last resort] default service provider shall notify customers of that change, and shall provide customers with their name, address, telephone number and Internet address, if available.

§54.6. Request for information about generation supply.

(a) EGSs shall respond to reasonable requests made by consumers for information concerning generation energy sources.

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(2) The [provider of last resort] default service provider shall file at the Commission the annual licensing report as required by the Commission's licensing regulations in this chapter and shall otherwise comply with paragraph (1).

Subchapter B. ELECTRIC GENERATION SUPPLIER LICENSING

§54.31. Definitions.

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[Provider of last resort] Default service provider – [A supplier approved by the Commission under section 2807(e)(3) of the code (relating to duties of electric distribution companies) to provide generation service to customers who contracted for electricity that was not delivered, or who did not select an alternative electric generation supplier, or who are not eligible to obtain competitive energy supply, or who return to the provider of last resort after having obtained competitive energy supply] The incumbent EDC within a certificated service territory or a Commission approved alternative default service provider.

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§54.32. Application process.

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(h) An EDC acting within its certificated service territory as a [provider of last resort] default service provider is not required to obtain a license.

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§54.41. Transfer or abandonment of license.

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(b) A licensee may not abandon service without providing 90 days prior written notice to the Commission, the licensee's customers, the affected distribution utilities and [providers of last resort] default service

providers prior to the abandonment of service. The licensee shall provide individual notice to its customers with each billing, in each of the three billing cycles preceding the effective date of the abandonment.

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Subchapter E. COMPETITIVE SAFEGUARDS

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§54.123. Transfer of customers to default service.

The following standards shall apply to the transfer of a retail customer's electric generation service from an EGS to a default service provider within the meaning of §54.182:

(a) An EGS shall not transfer a retail customer from its electric generation service to the default service provider without the consent of the default service provider, except in the following situations:

(1) Upon Commission approval of the abandonment, suspension or revocation of an EGS license, consistent with §§54.41 and 54.42 (relating to transfer or abandonment of license and license suspension; license revocation).

(2) Upon nonpayment by a retail customer for services rendered by the EGS.

(3) To correct an unauthorized or inadvertent switch of a retail customer's account from default service to an alternative EGS's service.

(4) Upon the normal expiration of contracts that are not structured in a way to exploit seasonal variations in market prices for electric generation service

(b) An EGS may initiate transfers in the above situations through standard electronic data interchange protocols.

(c) An EGS may not initiate or encourage transfers of service to a default service provider from the EGS to exploit seasonal variations in market prices for electric generation service.

(d) The Commission may impose a penalty for every retail customer transferred to default service in violation of §54.123, consistent with 66 Pa. C.S. §§3301-3316 (relating to violations and penalties).

Subchapter G. DEFAULT SERVICE

§54.181. Purpose.

This subchapter implements §2807(e) of the Electricity Generation Customer Choice and Competition Act, 66 Pa. C.S. §§2801-2812, pertaining to an EDC's obligation to serve retail customers at the conclusion of the restructuring transition period. These regulations ensure that all retail customers who do not choose an alternative EGS, or who contract for electric energy that is not delivered, have access to generation supply at prevailing market prices. The EDC shall fully recover all reasonable costs for acting as a default service provider of electricity to all retail customers in its certificated distribution territory.

§54.182. Definitions.

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise:

Alternative energy portfolio standards – A requirement that a certain percentage of electric energy sold to retail customers in the Commonwealth of Pennsylvania be derived from alternative energy sources, as defined in the Alternative Energy Portfolio Standards Act, No. 213 of 2004.

Bid Solicitation Process – The procurement of electricity

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by a default services provider through forward purchases obtained via competitive bids.

Commission – The Pennsylvania Public Utility Commission.

Competitive procurement process – A fair, transparent, and non-discriminatory process by which a default service provider acquires electric generation supply to serve its default service customers.

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Default service –

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(i) Electric generation service provided by a default service provider to a retail electric customer who does not choose an alternative EGS or who contracts for electric energy and it is not delivered.

(ii) Electric generation service provided pursuant to a Commission approved default service plan.

Default service implementation plan – A filing submitted by a default service provider to the Commission that identifies the means for procuring generation supply for default service customers at prevailing market rates, the reasonable costs associated with default service, and all other necessary terms and conditions of service.

Default service provider – The incumbent EDC within a certificated service territory or a Commission approved alternative default service provider.

EDC – Electric Distribution Company – This term shall have the same meaning as defined in 66 Pa. C.S. §2803.

EGS – Electric Generation Supplier – This term shall have the same meaning as defined in 66 Pa. C.S. §2803.

FERC – The Federal Energy Regulatory Commission.

Fixed rate option – A default service price that is set in advance for the entire term of the default service implementation plan that may include seasonal, **time-of-day and/or on/off peak** differences.

Hourly priced service – A default service price where the energy component of the generation supply charge is based on the RTO or ISO's LMP for energy, or other similar, mechanism.

ISO – A FERC approved independent transmission system operator.

LMP – Locational marginal pricing – A pricing mechanism used by some RTOs and ISOs, as defined in their FERC approved tariffs.

Prevailing market price –

(i) The price of electric generation supply for a term of service realized through a default service provider's implementation of and compliance with a Commission approved default service implementation plan, **whether through spot purchases and a volatility protection plan and/or a bid solicitation process.**

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(ii) The price of electric generation supply in the RTO or ISO administered energy markets in whose control area default service is being provided, acquired pursuant to the conditions specified in §§54.186(g), 54.187(i) or 54.188(e).

Replacement procurement process – A Commission approved process, submitted as part of the default service implementation plan, which provides for the acquisition of generation supply in the event that a supplier fails to deliver generation contracted for under the terms of a competitive procurement process.

Retail customer or retail electric customer – These terms shall have the same meaning as defined in 66 Pa. C.S. §2803.

RTO - A FERC approved regional transmission organization.

Spot Purchases – Purchases by the default service provider from its RTO or ISO on a real time basis.

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Volatility Protection Fund - A fund raised by the default service provider for the purpose of stabilizing rates charged to default service customers when spot purchases from the provider's RTO or ISO are part of the provider's resource portfolio.

§54.183. Default service provider.

(a) The default service provider shall be the incumbent EDC in each certificated service territory, except as provided for pursuant to §54.183(b).

(b) An EDC may petition the Commission to be relieved from the default service obligation. In the alternative, the Commission may propose through its own motion that an EDC be relieved from the default service obligation. The Commission may approve such a request if it is in the public interest. In such circumstances, the Commission will announce through an order a competitive process to determine the alternative default service provider, which may be either an EDC or a licensed EGS.

(c) When the Commission finds that an EDC should be relieved of the default service obligation, the competitive process for the replacement of the default service provider shall be as follows:

1. Any EDC or EGS that wishes to be considered for the role of the alternative default service provider shall apply for a certificate of public convenience, consistent with 66 Pa. C.S. §§1101-1103 (relating to certificates of public convenience).

2. Applicants shall demonstrate their operational and financial fitness to serve and their ability to comply with all Commission regulations, orders and applicable laws pertaining to public utility service.

3. If no applicant can meet this standard, the incumbent EDC shall be required to continue the provision of default service

4. If one or more applicants meet the standard provided in §54.183(c)(2), the Commission shall grant a certificate of public convenience to act as a default service provider to the applicant best able to fulfill the obligation

5. An EGS that is granted a certificate of public convenience to act as an alternative default service provider shall be considered a public utility within the meaning of 66 Pa. C.S. §102.

§54.184. Default service provider obligations.

(a) A default service provider shall be responsible for the reliable provision of default service to all retail customers who are not receiving generation services from an alternative EGS within the certificated territory of the EDC that it serves.

(b) A default service provider shall comply with all applicable Commission regulations and orders to the extent that such obligations are not modified by this subchapter.

(c) A default service provider shall continue the universal service program in effect in the EDC's certificated service territory or implement, subject to Commission approval, a similar customer assistance program consistent with the provisions of the Electricity Generation Customer Choice and Competition Act, 66 Pa. C.S. §§2801-2812.

§54.185. Default service implementation plans and terms of service.

(a) A default service provider shall file a default service implementation plan with the Commission's Secretary's Bureau no later than fifteen months prior to the conclusion of the currently effective default service plan or Commission approved generation rate cap for that particular EDC service territory, unless the Commission authorizes another filing date.

(b) Default service implementation plans shall comply with all Commission regulations pertaining to documentary filings, except when modified by this subchapter. The default service provider shall serve copies of the default service implementation plan on the Pennsylvania Office of Consumer Advocate, Pennsylvania Office of Small Business Advocate, the Commission's Office of Trial Staff, and the RTO or ISO in whose control area the default service provider is operating.

(c) A default service implementation plan shall propose a minimum term of service of at least twelve months, or multiple twelve month periods, or for a period necessary to comply with §54.185(f).

(d) A default service implementation plan shall propose a fair, transparent and non-discriminatory competitive procurement process consistent with §54.186 for the acquisition of sufficient electric generation supply, at prevailing market prices, to meet the demand of all of the default service provider's retail electric customers for the term of service. The default service plan shall identify its method of compliance with the Alternative Energy Portfolio Standards Act, No. 213 of 2004.

(e) The Commission may direct that some or all default service providers file joint default service implementation plans that propose a competitive procurement process to procure electric generation supply for all of their default service customers. In the absence of such a directive, some or all

default service providers may jointly file default service plans that propose a competitive procurement process to procure electric generation for all of their default service customers. A multi-service territory competitive procurement process shall comply with §54.186.

(f) A default service provider shall document that its proposal is consistent with the legal and technical requirements pertaining to the generation, sale and transmission of electricity of the RTO or ISO in whose control area it is providing service. The default service plan's term of service and generation supply acquisition processes shall align with the planning period of that RTO or ISO.

(g) The default service implementation plan shall include a schedule of rates, rules and conditions of default service in the form of proposed revisions to its tariff. The default service provider may use the already effective retail customer classes in the EDC's service territory, or may propose a reclassification of retail customers.

(h) The default service implementation plan shall identify the costs, consistent with §54.187, that will be recovered through a schedule of rates for the provision of default service.

(i) The default service implementation plan shall include reasonable credit requirements, or other reasonable assurances of any supplier of electric generation services' ability to perform, as approved by the Commission.

(j) The default service implementation plan shall identify the load size and end date of all existing long-term generation contracts that are in effect between the EDC and a retail customer within its service territory. **This list**

shall distinguish between qualifying Alternative Energy Portfolio resources from other resources.

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(k) The default service implementation plan should include copies of any proposed confidentiality agreements for the protection of proprietary information of the default service provider and generation suppliers. The Commission will approve reasonable confidentiality agreements, including expiration provisions, that will be binding on the default service provider, generation suppliers and any third party involved in the administration, review or monitoring of a default service supply procurement process.

(l) The default service provider shall include in its implementation plan a replacement procurement process to ensure the reliable provision of default service in the event a supplier fails to deliver electric generation supply it has agreed to provide pursuant to the terms of a Commission approved competitive procurement process.

(m) The Commission may issue orders further specifying the form and content of default service implementation plans when necessary to enforce or carry out the provisions of the Electricity Generation Customer Choice and Competition Act, 66 Pa. C.S. §§2801-2812, and other applicable law.

§54.186. Default service supply procurement.

(a) A default service provider shall procure the electricity needed to provide default service through a **bid solicitation** process **including a replacement procurement process approved by the Commission, spot purchases from its ISO or RTO including a volatility protection plan; and/or purchases or development of resources necessary to meet the standards of its Alternative Energy Portfolio, subject to the following restrictions.**

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(2) Supply procured through RTO or ISO administered energy markets consistent with §§54.186(g), 54.187(i) or 54.188(c).

(b) A default service provider's **bid solicitation** process shall adhere to the following standards:

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(1) A default service provider's supplier affiliate may participate in any **bid solicitation** process. The default service provider shall propose and implement protocols to ensure that its supplier affiliate does not receive an advantage in either the solicitation and evaluation of competitive bids, or any other aspect of the **bid solicitation** process. The process shall comply with the codes of conduct promulgated by the Commission at §54.122 (relating to code of conduct).

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(2) A default service provider's proposed **bid solicitation** process shall include:

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(i) A bidding schedule.

(ii) A definition and description of the power supply products on which potential suppliers shall bid.

(iii) Bid price formats.

(iv) The time period during which the power will need to be supplied for each power supply product.

(v) Bid submission instructions and format.

(vi) Bid evaluation criteria.

(vii) Relevant load data, including the following:

(A) Aggregated customer hourly usage data for all retail customers.

(B) Number of retail customers.

(C) Capacity peak load contribution figures by rate schedule.

schedule.

(D) Historical monthly retention figures by rate

(E) Estimated loss factors by rate schedule.

(F) Customer size distribution by rate schedule.

(c) **A default service provider may obtain all or part of its resources needed to provide its default customers through purchases of spot resources on a real time-of-day basis from its ISO or RTO subject to the following conditions.**

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(1) All costs associated with these supplies may be recovered including but not limited to energy charges, capacity charges and ancillary charges.

(2) Whenever this approach is used to provide customers with loads of less than 500 kW, the default service shall submit to the Commission for its approval:

1. Fixed rates for a period of not less than one year. This may include rates for different classes of customers and may include on and off peak differentials.

The Default Service Provider shall

submit all underlying assumptions it used to reach these rates, the basis for these assumptions and a description of the model or methodology used to determine the estimates of spot prices needed to determine these rates.

2. A Volatility Protection Plan. This plan may operate by the default service provider establishing or having established a Volatility Protection Fund (VPF). The initial size and cost of the fund must be approved by the Commission. The default service provider must submit detailed explanation of why the VPF is being set at its proposed size. The cost of maintaining this fund, including but not limited to interest and the costs of managing the Fund shall be full recoverable through default service rates.

- a. Whenever rates charged are in excess of costs incurred to provide the service, this excess shall be deposited into the VPF by the default service provider. If this situation is persistent, the Commission may order a reduction in the VPF.**
- b. Whenever rates charged are less than the costs incurred, the deficiency shall be withdrawn from the VPF by the default service provider. If this condition is persistent the Commission may order the default service provider to increase the VPF.**
- c. Changes in the size of the VPF may result in the cost associated with maintaining the Fund.**
- d. Any interest earned by the VPF shall be used to offset the costs of maintaining the Fund.**

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e. The VPF may be audited periodically as the Commission finds appropriate.

(3) Larger default customers served by spot market purchases may be either charged the spot rate or allowed to participate in the Volatility Protection Plan in accordance with the approved terms and conditions of the Plan.

(c) A default service provider may employ a third-party to design and implement the competitive procurement process **including the development of its base prices and Volatility Protection Plan.**

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(d) The competitive procurement process may be subject to direct oversight by the Commission or an independent third party. Any third party shall report to the Commission. Commission staff and any third party involved in oversight of the procurement process shall have full access to all information pertaining to the competitive procurement process, and may monitor the process either remotely or where the process is administered. Any third party retained for purposes of monitoring the competitive procurement process shall be subject to confidentiality agreements identified in §54.185(k). **Whenever the**

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resource mix includes resources from a bid solicitation process, the default service provider must demonstrate why these resources are preferable to spot purchases made from its ISO or RTO. Whenever the resource mix excludes direct purchases

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from the RTO or ISO the default service provider must demonstrate why this resource was not considered to be an appropriate supply resource.

(e) When using a bid solicitation process, the default service provider shall evaluate and select winning bids in a non-discriminatory manner based on bid evaluation criteria set forth consistent with §54.186(b)(2)(vi).

(f) The Commission shall review the acquisition of generation supply and verify compliance with the approved competitive procurement process as follows:

(1) The Commission's review shall occur within a time period as specified in the approved competitive procurement process.

(2) The review period may not be less than 3 business days.

(3) The Commission's verification of compliance with an approved competitive procurement process shall constitute its certification of the default service provider's compliance with the approved default service implementation plan.

(g) If the implementation of a competitive procurement process under this section does not result in sufficient electric supply to meet the default service provider's full load requirements, the default service provider shall repeat the competitive procurement process. The default service provider may petition for necessary changes to the previously approved competitive procurement process to ensure the acquisition of sufficient supply. When necessary to procure electric generation supply before the completion of another competitive procurement process, a default service provider shall acquire supply at prevailing market prices and shall fully recover all reasonable costs associated with this activity. In this circumstance, the prevailing market price shall be the price of electricity in the

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RTO or ISO’s administered energy markets in whose control area that service is being provided. The default service provider shall follow acquisition strategies that reflect the incurrence of reasonable costs, consistent with 66 Pa. C.S. §2807(e)(3), when selecting from the various options available in these energy markets.

(h) The bids submitted by a supplier under the competitive procurement process shall be treated as confidential through the expiration date identified in the confidentiality agreement approved by Commission pursuant to §54.185(k). The default service provider, the Commission, and any third party involved in the administration, review or monitoring of the procurement process, shall be subject to this confidentiality provision.

§54.187. Default service rates and the recovery of reasonable costs.

(a) The costs incurred for providing default service shall be recovered through the following mechanisms or charges:

(1) Generation supply charge – the generation supply charge is a non-reconcilable charge that includes all reasonable costs associated with the acquisition of generation supply **through §54.186**, exclusive of the costs of generation supply recovered through §54.187(a)(3), to meet default service demand. **Non-reconcilable shall not apply to ongoing adjustments associated with the VPF that may affect the actual annual net interest expense of the VPF.** The associated costs with this charge include:

- (i) The prevailing market price of energy.
- (ii) ~~The prevailing market price of RTO or ISO capacity or~~ any similar obligation.

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(iii) The costs associated with the VPF including but limited to the fund management cost and the estimated net interest expense adjusted for prior periods.

(iv) FERC approved ancillary services and transmission charges. Deleted: iii

(v) Required RTO or ISO charges. Deleted: iv

(vi) Applicable taxes. Deleted: v

(vii) Other reasonable, identifiable generation supply acquisition costs. Deleted: vi

(2) Customer charge – The customer charge is a non-reconcilable, fixed charge, set on a per customer class basis, that includes all identifiable, reasonable costs associated with providing default service to an average member of that class, exclusive of generation supply costs and costs recovered through §54.187(a)(3). The associated costs with this charge include:

(i) Default service related costs for customer billing, collections, customer service, meter reading, and uncollectible debt.

(ii) A reasonable return or risk component for the default service provider, **excluding any interest expenses associated with the VPF.**

(iii) Applicable taxes.

(iv) Other reasonable and identifiable administrative or regulatory expenses.

(3) A default service provider shall use an automatic energy adjustment clause, consistent with 66 Pa. C.S. §1307 to recover reasonable costs

incurred through compliance with the Alternative Energy Portfolio Standards Act, No. 213 of 2004. **The amounts recoverable shall be considered regulatory assets.**

(4) The costs recovered through the preceding charges and mechanisms shall not be recovered by an EDC acting as a default service provider through its Commission approved distribution rates.

(b) A default service plan shall include a fixed rate option for all residential customers.

(c) A default service implementation plan shall include a fixed rate option for non-residential default service customers whose load test indicates a registered peak demand of 500 or less kilowatts.

(d) The default service provider shall include an hourly rate in its implementation plan for all default service customers whose load test indicates a registered peak demand of greater than 500 kilowatts. The default service provider may propose a fixed rate for these customers in its default service implementation plan.

(e) The rate for hourly priced service shall include:

(1) The RTO's or ISO's LMP or the equivalent pricing mechanism.

(2) The prevailing market price of RTO or ISO capacity or any similar obligation.

(3) FERC approved ancillary services and transmission charges.

(4) Required RTO or ISO charges.

(5) Applicable taxes.

(6) Other FERC approved or reasonable, identifiable RTO or ISO charges and costs directly related to the hourly priced service.

(7) Other reasonable and identifiable administrative or regulatory expenses.

(f) The default service implementation plan shall include rates that correspond to demand side response and demand side management programs available to retail customers in that EDC service territory.

(g) The default service implementation plan may include mechanisms that allow default service providers to adjust their prices during the term of service to recover reasonable, incremental costs of significant changes in the number of default service customers or reasonable, incremental costs of other events that would materially prejudice the reliable provision of default service and the full recovery of reasonable costs.

(h) The default service provider's projected and actual incurred costs for providing service may not be subject to Commission review and reconciliation except in extraordinary circumstances, or as provided in §54.187(a)(3).

(i) When a generation supplier fails to deliver generation supply to a default service provider, the default service provider shall be responsible for acquiring replacement generation supply consistent with its Commission approved replacement procurement process. When necessary to procure electric generation supply before the completion of the replacement procurement process, a default service provider shall acquire supply at prevailing market prices and shall fully recover all reasonable costs associated with this activity. In this circumstance, the prevailing market price will be the price of electricity in the RTO or ISO's administered energy markets in whose control area the default service is being provided. The default service provider shall follow acquisition strategies that reflect the incurrence of reasonable costs, consistent with 66 Pa. C.S. §2807(e)(3), when selecting from the various options available in these energy markets.

§54.188. Commission review of default service implementation plans.

(a) A default service implementation plan shall initially be referred to the Office of Administrative Law Judge for further proceedings as may be required.

(b) The Commission will issue an order within six months of a plan's filing with the Commission on whether the default service implementation plan demonstrates compliance with this subchapter and the provisions of the Electricity Generation Customer Choice and Competition Act, 66 Pa. C.S. §§2801-2812. The Commission may order modification of the terms of the proposed plan to ensure that a default service plan is compliant.

(c) The Commission will evaluate the default service implementation plan to ensure that it includes a fair, transparent and non-discriminatory competitive procurement process for all potential suppliers provided under §54.186.

(d) Upon entry of the Commission's final order, the default service provider shall acquire generation supply for the term of service in a manner consistent with the terms of the approved competitive procurement process provided under §54.186, and report the bids submitted by EGSs in writing to the Commission.

(e) The Commission will certify the results of a competitive procurement process in their entirety or reject them due to non-compliance with the approved procurement process. If the Commission rejects the results due to non-compliance, the default service provider shall repeat the approved competitive procurement process. When necessary to procure electric generation supply before the completion of the subsequent competitive procurement process, a default service provider shall acquire supply at prevailing market prices and shall fully recover all reasonable costs associated with this activity. In this circumstance, the prevailing market price will be the price of electricity in the

RTO or ISO's administered energy markets in whose control area that service is being provided. The default service provider shall follow acquisition strategies that reflect the incurrence of reasonable costs, consistent with 66 Pa. C.S. §2807(e)(3), when selecting from the various options available in these energy markets.

(f) Upon completion of the competitive procurement process, the default service provider shall provide written notice to all default service customers and the named parties identified in §54.185(b) of the Commission certified default service prices and terms and conditions of service no later than 60 days before their effective date, unless another time period is approved by the Commission. The default service provider shall also provide written notice to the named parties identified in §54.185(b) containing an explanation of the methodology used to calculate the price for electric service.

(g) A default service provider may petition for a waiver of any part of these regulations, in a manner consistent with 52 Pa. Code §5.43 (relating to petitions for issuance, amendment or waiver of regulations). The Commission may grant waivers of these regulations to ensure the reliable provision of default service and to enforce and carry out the provisions of the Electricity Generation Customer Choice and Competition Act, 66 Pa. C.S. §§2801-2812 and any other applicable laws.

§54.189. Default service customers.

(a) At the conclusion of an EDC's Commission approved generation rate cap, all retail customers who are not receiving generation service from an EGS shall be assigned to the Commission approved default service implementation plan.

(b) A default service provider shall accept all applications for default service from new retail customers and retail customers who switch from an EGS, if the customers comply with all Commission regulations pertaining to applications for service.

(c) A default service provider shall treat a customer who leaves an EGS and applies for default service as it would a new applicant for default service.

(d) A default service customer may choose to receive its generation service from an EGS at any time, if the customer complies with all Commission regulations pertaining to changing generation service providers.

(e) A default service provider may not charge a fee to a retail customer that changes its generation service provider in a manner consistent with Commission regulations.

CHAPTER 57. ELECTRIC SERVICE
Subchapter M: STANDARDS FOR CHANGING A CUSTOMER'S
ELECTRIC GENERATION SUPPLIER

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§57.178. [Provider of Last Resort] Default service provider.

This subchapter does not apply when the customer's service is discontinued by the EGS and subsequently provided by the [provider of last resort] default service provider because no other EGS is willing to provide service to the customer.

APPENDIX B

Extracted from:
The Price of Power: The Valuation of Power and Weather Derivatives
Craig Pirrong and Martin Jermakyn
December 4, 2003

*Comments submitted by David Magnus Boonin
Re: PA PUC's Rulemaking on Default Service
Docket Numbers L-00040169 and M-00041792
Page 35*

Figure 4 PJM Expected Spot and Fitted Forwards

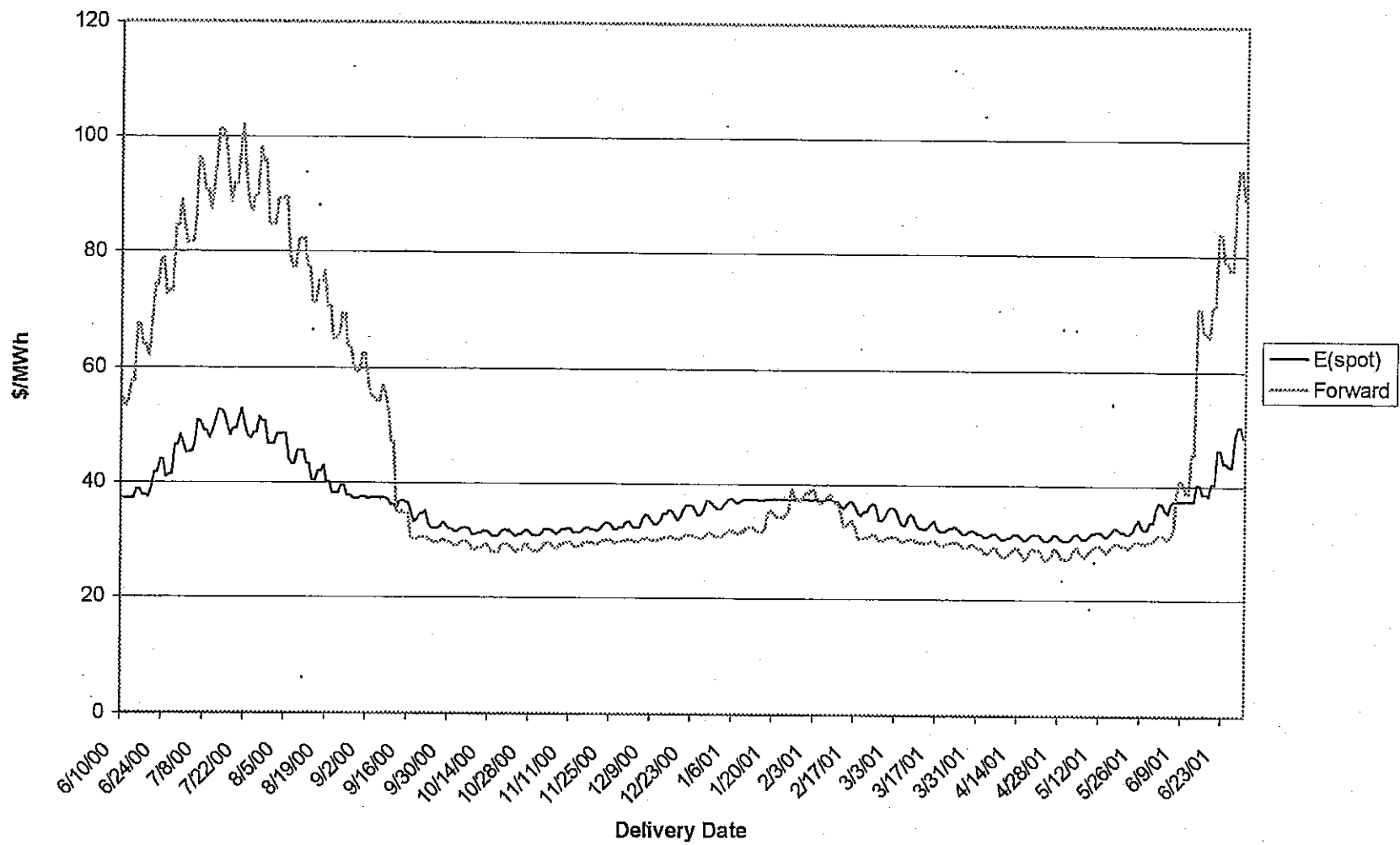


Figure 5
PJM July Forward and Expected Spot Prices

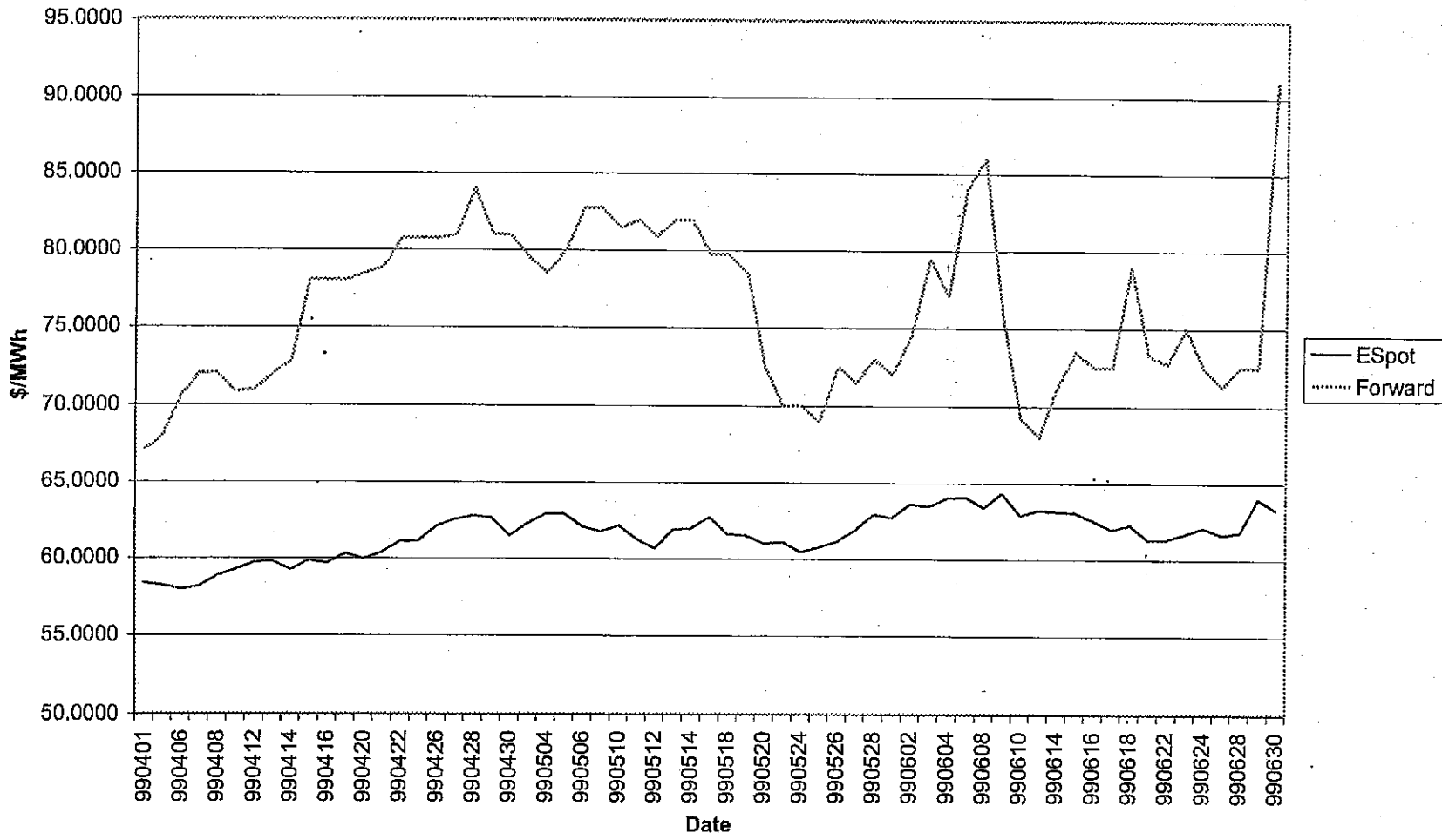


Figure 6
PJM August Forward and Expected Spot Prices

