

Testimony of Gerald A. Norlander, Esq.

Executive Director

Public Utility Law Project of New York, Inc.

Before the

New York State Assembly

Standing Committee on Corporations, Authorities, and Commissions

and

the Standing Committee on Energy

*Hearing to Examine the State of New York's Electric Commodity Market
Under the Stewardship of the New York Independent System Operator*

March 5, 2009

I am Gerald Norlander, Executive Director of the Public Utility Law Project of New York, Inc. (PULP). PULP represents the interests of low income customers in utility, telecommunications and energy matters, focusing on matters affecting universal service, consumer protection, and affordability.

Thank you for holding these hearings to examine the wholesale electricity auction markets operated by the New York Independent System Operator (“NYISO”) and providing the opportunity to submit testimony. I will briefly summarize why the NYISO role is increasing in

importance, how its spot markets operate, why prices have increased, and suggest some steps the Legislature might take to begin to address the situation.

Background

The Legislature was bypassed in the enthusiastic rush of the PSC to deregulate the wholesale and retail electric industries. None of the other fifteen states did this without legislative action. When the PSC embarked on its restructuring and effective deregulation of the wholesale electricity prices in 1996 it believed this would reduce prices paid by New York consumers and that the gap between electric rates in other states and New York would narrow.

Instead, the bills paid by New Yorkers are among the highest in the continental United States, second only to Connecticut in the latest 2008 year-to-date EIA data available. See attached chart. The gap between prices in New York and prices in other states that retained traditional state regulation of electric utilities has also grown. Last year service was turned off to more than 300,000 New York customers who could not afford to pay their high and often unpredictable bills that were affected by high NYISO prices and spot market price spikes.

Most of New York's investor-owned electric utilities agreed with the PSC to sell most of their power plants to new owners to align themselves with the 1996 PSC policy statement and "vision" that was in vogue at that time. As a result, today New York utilities must buy nearly all the electricity needed to serve their customers rather than produce it themselves. Much of that electricity for New York consumers is bought through the NYISO spot markets, and additional amounts are bought under contracts that incorporate or which are indexed to NYISO rates.

Accordingly, the NYISO wholesale electricity markets have taken on a new importance for New York consumers. Prices set at the private NYISO with no real regulatory oversight are

having have a major effect on the electricity bills business and residential customers. It is appropriate to shed more light on how the NYISO operates, how prices are set by the NYISO, and to consider whether to make adjustments in light of a decade of experience.

Overview of The NYISO and its Energy Spot Markets

The NYISO has an unusual organizational and legal structure. It is organized as a private New York state non-profit corporation led by a self-perpetuating Board of Directors. It is also an electric corporation under the state Public Service Law, and it is a utility under the Federal Power Act. As successor to the former New York Power Pool, it also directs the operation of the bulk power system in New York, which must be in accordance with reliability standards. The NYISO operates bid-based wholesale electricity spot markets, a “Day-Ahead Market” (“DAM”),¹

¹ The DAM creates hourly market-clearing prices based on buyers’ indications of the quantity needed for each hour of the next day and the prices demanded by sellers for each hour. Sellers’ bids are “stacked” in ascending order, so that the least expensive power bid is allocated first to meet the need. Additional bids are accepted, going up the price “stack” until the expected need for each hour of the next day is met. All sales are made at the market clearing price, which is the bid in the stack that meets the last increment of need, i.e., the “market clearing price.” Thus there are 24 auctions for each day in the DAM. Sellers are permitted to bid portions of the output of power plants at different prices, so one seller’s bid for one of the hours might be offered at multiple prices. This is a simplification because the prices are calculated separately for geographic zones taking into account transmission costs and limits. The computer algorithm used by the NYISO to calculate prices is secret.

and the “Real-Time Market (RTM)”² In addition, NYISO operates day-ahead and real time markets for ancillary services such as spinning reserves, and a capacity market.

A distinguishing result of the NYISO energy market design, and similar markets in areas serving states that “restructured” like New York, is that prices are “bid-based.” i.e., based on what sellers demand, with no direct connection to the seller’s actual costs. Further, the clearing price is paid to all sellers, even though, based on their bids, some sellers are willing to sell for less.

This is a major departure from traditional state and federal ratemaking, which normally sets prices based on some measure of the seller’s cost. The NYISO market structure is enabled by policies of the Federal Energy Regulatory Commission (FERC) which, for more than a decade, has liberally allowed sellers of wholesale electricity to have “market-based rates.”

The market-based rate doctrine allows sellers deemed by FERC to lack market power to demand and charge whatever rates they wish and not to file all their rates and charges publicly in advance, as the language of Section 205 of the Federal Power Act specifies.³

² The RTM sets the price for electricity needed to more precisely match available supply with expected demand in the next hour to meet variations not anticipated in the DAM.

³ Last year, in a case involving a dispute over a contract involving a seller with market rate permission from FERC, the Supreme Court caustically observed that the FERC doctrine for excusing sellers from statutory public filing and review procedure is “somewhat metaphysical” and twice indicated that it was not deciding whether the FERC market rates system is lawful. See *Supreme Court Leaves Fundamental Questions About FERC Market Rate Scheme Unanswered*, PULP Network, June 26, 2008, available at <http://pulpnetwork.blogspot.com/2008/06/supreme-court-leaves-fundamental.html> (“We have not hitherto approved, and express no opinion today, on the lawfulness of the market-based-tariff system,

The Uniform Clearing Price Theory

Advocates of deregulation and spot markets such as the NYISO argue that in a competitive auction where all sellers are paid the same, it is to the advantage of each seller to price its offers to sell electricity at or only slightly above its marginal or incremental cost of production. That way, when the “bid stack” is evaluated by the NYISO market software, if the plant is selected to run, the proceeds will always meet or exceed the running costs. The plant will never run for even an hour at a loss. The difference between the seller’s cost and the clearing price - the “inframarginal” amount – permits the seller to gain – sometimes a lot – whenever the clearing price is set by a seller whose bid is higher.

Adherents of the system believe that a price set in such a fashion reflects the marginal cost for the whole system and is the correct economic “price signal” to transmit to buyers, even if most of the energy sold is produced at a much lower cost.

There are vigorous debates over whether this is a bad idea altogether. Is it reasonable to price all electricity the same, particularly when there are enormous differences in the cost of production?

If you needed 30,000 flyers tomorrow, would you pay the printer ten cents a page for the entire job when only a few copies will need to be made on his expensive slow machine, and most of the job will be done by machines that produce copies for two cents?

which is not one of the issues before us.* * * * We reiterate that we do not address the lawfulness of FERC's market-based-rates scheme, which assuredly has its critics.”).

Is it reasonable for retail utilities to buy most of the energy needed just one day in advance when much of the demand is predictably known, and can be anticipated well in advance?

If all producers used the same fuel, for example, natural gas, the clearing price system might sort out the set of most efficient gas plants to run at any given time. But when there are diverse types of production, with widely differing marginal costs, when the clearing price is typically set by a higher cost producer, a seller with low operating costs can be paid far in excess of any reasonable measure of its costs.

When such plants were part of a fleet of power plants owned by the traditional utility, they were under state cost of service regulation, and the value of low cost, largely depreciated plants benefitted consumers. With the advent of the NYISO markets, the depreciated plants became more valuable to new investors, who could get high NYISO wholesale market rates for the output, than they were worth to the utility investors, who only had a chance to recover their operating costs and a return on any remaining undepreciated investment. With the lure of holding company structures offered by the PSC, most utilities agreed to sell their plants. Some of the revenue from the sales was used to hold “delivery” rates down awhile, and some utilities entered into long term contracts with the new buyers. But when those short term effects phased out, the result was exposure to high and spiking NYISO prices. I have attached to my testimony a chart which shows the effects of NYISO power purchases since its inception.

Does the Uniform Clearing Price Yield System Marginal Costs?

Although proponents of NYISO type spot markets claim it prices all electricity at system marginal cost, it is not evident that the NYISO market prices are set at or close to marginal cost because sellers are not bidding their marginal costs, they are demanding more and engage in

strategic bidding tactics to elevate market prices. The Court of Appeals for the Ninth Circuit discussed this failure in California's electricity markets, which in many respects are similar to those of the NYISO:

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⁴ *PUC of California v FERC*, ___F.3d slip op. at 8785-8786 (9th Cir. Dkt. No. 01-71051 Aug. 2,

In comments to FERC in a case reviewing rules for market rates the National Association of State Utility Consumer Advocates (“NASUCA”) pointed out concerns that repetitive auction markets of the type run by the NYISO may be “gamed” to yield uncompetitive prices through strategic bidding tactics which participants learn and employ, possibly without flagrant price fixing or overt collusion:

The Commission assesses a seller’s horizontal market power by utilizing presumptive “screens” to identify sellers with potential for sustaining higher prices. These market structure screens consider stand alone market share of total capacity and the share of capacity reserve margin at peak (the “pivotal supplier” test). They fail to take into account the difference between electricity and storable, readily substitutable products, and fail to take into account knowledge and experience regarding the interaction of sellers in repetitive spot market auctions where behavior, such as gaming, strategic bidding, and parallel conduct can achieve the effects of collusion without overt price fixing.

Game theory mathematics, economics laboratory experiments, and experience all indicate that sellers who have passed the Commission’s “screens” for stand alone market power may eventually arrive at an equilibrium where prices are driven up, without overt collusive price fixing, through strategic “gaming” behavior in repetitive spot markets for electricity. See, e.g., Kovenock, Tacit Collusion and Capacity Withholding in Repeated Uniform Price Auctions, *Purdue* (2004);⁵ Rudkevich, A.; Duckworth, M.; Rosen, R., *Modeling Electricity Pricing in a Deregulated Generation Industry: The Potential for Oligopoly Pricing in a Poolco*, *The Energy Journal*, Vol. 19, No. 3 (1998);⁶ T.D. Mount, W.D. Schulze,

2006).

⁵ *Available at*

<http://scholar.google.com/url?sa=U&q=http://www.iui.se/wp/wp636/IUIWP636.pdf> .

⁶ “Our principal findings are that generating firms can exercise market power in such markets by adopting mutually profit-maximizing, stable bidding strategies, consistent with the Nash Equilibrium, that lead to average prices considerably higher than those expected from production cost bidding. Our findings have strong policy implications for the deregulation of electricity markets across the U.S., and suggest that

R.J. Thomas, R.D. Zimmerman, “Testing the Performance of Uniform Price and Discriminative Auctions,” Cornell University Dept. of Applied Economics and Management and Dept. of Electrical and Computer Engineering (July 16, 2001).⁷

Despite these demonstrations, FERC’s market power screens are still based on static analysis of single sellers’ market shares, rather than any assessment taking into account market behavior and the potential to manipulate repetitive auction markets. Less than a 20% share of the relevant market capacity is deemed sufficient, and less than the supply margin on the annual peak day satisfies the “supply margin assessment.” Neither of these tools addresses the problem identified in the research, that sellers in these specialized markets effectively communicate through their bidding behavior, and they can learn to raise prices well above competitive levels without overt collusion or conspiracy. The Commission should conduct a technical conference to consider this research, and should reassess the sufficiency of its market power standards and screens.

Last year, FERC rejected NASUCA’s modest request, for a conference to air the researchers’ insights into ISO/RTO market design defects, saying it would be unduly burdensome. Last year a coalition of more than 45 state and national consumer groups asked FERC to examine whether the ISO/RTO markets are yielding the just and reasonable rates required under the Federal Power Act. FERC refused.

current DOJ and FERC guidelines may not be adequate in countering the exercise of market power in bid-based power pools. The analysis of market power in poolco markets should, to the extent possible, be extended to include simulation modeling of the various bidding strategies that could be adopted by generating firms to influence market clearing prices.” *Id.*

⁷ Available at <http://www.pulp.tc/uniformprice.pdf>.

Today no bona fide consumer group supports the design and results of the ISO/RTO markets. I believe it is necessary for the New York Legislature to take action to begin to address the NYISO situation.

What can New York do?

State regulators cannot revise a rate for wholesale electricity that has been set in accordance with federal law, and must allow a purchasing utility to pass the wholesale purchase cost through to ultimate consumers. Yet there are numerous measures that New York could take. For example,

1. Retain and acquire power plants to be operated under state regulation.

Thirty five states did not follow the advice of Enron, and did not allow their utilities to sell off power plants, and none have done so since the demise of Enron in 2001. All of them have lower rates than New York, and the gap between them and New York's higher rates has increased over the past decade.

The Legislature could stop utilities that still own power plants from selling them, by barring the PSC from approving transfer or by buying the plant through a power authority. This could prevent the sale of some low cost power now available to consumers to merchant power companies that could sell it at higher NYISO rates. New generation could be owned by power authorities (NYPA and LIPA) and their output could be made available at cost, rather than at market rates. Indeed, due to the failure of the NYISO markets to stimulate private investment, much of the new generation built in the New York City area has been built by NYPA. It is significant that the investor-owned utility with the lowest rates in the state, RG&E, is also the utility that retained most of its power plants for which it receives cost based rates under state

regulation, instead of NYISO rates under federal jurisdiction. See the attached chart comparing retail residential rates of the major New York utilities.

2. Police Bids in Excess of Marginal costs.

The PSC retained jurisdiction to determine if owners of divested power plants are acting in the public interest or exercising market power, but the Commission has not exercised that jurisdiction. There was a PSC “draft” staff report in 2000 finding that there was market power abuse, but that report was not made final.

There are ways for New York to shine light on and discipline any sellers who are not bidding in the NYISO at their marginal costs, for example, those who make “hockey stick” bids. The Legislature could find it to be in the public interest to require sellers to report their marginal costs of power production to the PSC. The PSC already receives bid information from the NYISO. Sellers who bid in excess of their costs, or who engage in anomalous transactions, could be found not to be acting in the public interest, and a range of corrective actions could be taken, including revocation of the certificate and forcing a sale to a buyer who will act in the public interest.

3. Change utility power purchasing practices to discourage purchases in spot market auctions.

It is sometimes wrongly assumed that the only “competitive” retail price is a spot market price. FERC has observed that it is not prudent for retail utilities to purchase very much of the electricity for retail customers in the wholesale spot markets, which are analogous to convenience stores:

A retail rate design that exposes consumers to the volatility of commodity prices would be extraordinary, particularly when consumers do not have the ability to receive or respond to price signals. While the Commission has no authority over

retail electricity rates nor authority to rule on the prudence of SDG&E's provision of retail electric service, *we would expect any responsible retail supplier to rely on a portfolio of resources and to turn to the spot market only to engage in economy transactions or to meet portions of its load that could not be predicted well in advance or which were not anticipated due to resource outages greater than are covered by prudent reserves.*

San Diego Gas & Electric Company, FERC Docket No. EL00-95-000, p. 10 (Aug. 23, 2000).

The New York utilities, however, are using the NYISO to buy more than half of the energy for ultimate consumers. Remarkably, the PSC thinks this is prudent and is encouraging more, not less, reliance on the NYISO and less and less reliance on long term contracts. As a result, customers of some utilities see major price spikes they cannot handle and we can look forward to more spikes as the long term contracts expire.

Consumers trying to live on fixed incomes from low wages, pensions and Social Security do not see their incomes adjusted monthly to be in tune with NYISO spot market prices. When consumers can no longer afford safe electricity it can lead to the termination of service, as happened to 300,000 New York utility customers last year, causing hardship and other adverse consequences in their households, which can be lethal when there is no safe supply of utility service.

The Legislature could reverse the PSC direction, which is to gradually introduce more and more reliance on variable rates based on the price of power purchased at the NYISO, by requiring utilities to offer fixed price service and to meet their customers' needs through a portfolio purchasing approach that relies far less upon day-ahead purchases at the NYISO. With the dip in fuel prices, this may be an auspicious time to require a portfolio purchasing approach and to encourage more long term contracting and less reliance on the NYISO. The PSC could also

provide incentives to the retail utilities to bargain harder in making long term contracts that achieve prices below the NYISO prices.

4. Seek Revocation of Market Rate Permission of Sellers who are Gaming the System

FERC has said that “market-based rates” are a “privilege” and not a right. The PSC could ask FERC to revoke “market-based rate” permission that FERC has granted to wholesale sellers in New York based on evidence of gaming, such as hockey stick bidding, the Lake Erie loop flow gambits that burdened rates last year, and other anomalous tactics used to create scarcity and price spikes.

The PSC has the data. It knows or should know who is making extreme bids or trying to manipulate transmission “congestion pricing” to elevate rates. It has not acted. The Legislature could direct the PSC to take action at FERC to seek revocation of market rate permissions of sellers who abuse the system, seek reform of NYISO rules, and seek refunds of unreasonable charges, and require the PSC to report regularly on those efforts.

5. Revise NYISO Structure and Governance.

Today the NYISO is operating as a private utility company establishing rates outside any meaningful FERC or PSC scrutiny. The ISO could be reorganized as an Authority, or a subsidiary of an existing Authority, or as a Public Benefit Corporation, with its Board of Directors selected by the Governor and confirmed by the Senate. Reforms would be more likely to emerge if the NYISO were governed by a Board that is held accountable to the public. A Board with a concern for the public and consumers, for example, could adopt rule changes that would prohibit

anomalous bidding and make refunds possible as a remedy, bring sunshine to the bidding process, and make reforms in the market design.

It is highly unlikely that the current NYISO Board would, for example, change its rules to publish the bids of generators the next day. Today, if there is a sudden price spike, the public cannot know who demanded the price that was stratospheric and far above any reasonable measure of cost which will drive up the price paid to all sellers. Under current NYISO rules, bid data is secret, is provided to the PSC with a stipulation it cannot be publicly revealed, and is only publicly divulged six months later with no identification of particular sellers.

The California ISO has been reorganized along the lines I suggest, and its Board is now selected by the Governor and members are confirmed by the California state senate. That reorganization was upheld in federal court.

6. Reduce Administrative Costs of the NYISO.

The NYISO budget is at least \$100 million per year higher than was projected in 1997 before it was formed. There is no effective external review of its budgets, which are set by the NYISO and then met by the NYISO adding a charge to its wholesale rates that is not reviewed by FERC before it is put into place. This cost is then passed through to retail purchasers.

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I again thank you for this opportunity to discuss these matters, and welcome any questions you may have.