Independent Power Producers of New York, Inc. (IPPNY)

Charting a Course for the Future:

New York's Electricity Markets Today & Tomorrow

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Independent Power Producers of New York, Inc.
19 Dove Street, Suite 302
Albany, New York 12210
(518) 436-3749
www.ippny.org

Contact Information:

Independent Power Producers of New York, Inc.
19 Dove Street, Suite 302
Albany, New York 12210
Tel: (518) 436-3749
Fax: (518) 436-0369
www.ippny.org

Gavin J. Donohue, ***Executive Director***
Email: gavin@ippny.org

Glenn Haake, ***General Counsel***
Email: glenn@ippny.org

Carolyn Brown, ***Policy Director***
Email: carolyn@ippny.org

Vanessa Anctil, ***Office Manager***
Email: vanessa@ippny.org

Mary Williams, ***Administrative Assistant***
Email: mary@ippny.org

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Introduction

New York's electricity markets are in a precarious state. There is broad recognition that New York urgently needs to retain its existing electric generation infrastructure and add significant amounts of new electric generation capacity, particularly in New York City ("NYC") and on Long Island. Unfortunately, for a number of reasons, new generation facilities are not being constructed in New York at a pace sufficient to meet this critical need. Moreover, policies have been enacted and proposed that threaten the viability of many existing generating units and that discourage in-State private generation capacity investment.

New York is at a crossroads. Policy decisions made now will determine whether New York can attract and retain the electric generation capacity required for an efficient and reliable electricity market and a growing economy. This whitepaper describes the situation New York finds itself in at the present time and identifies steps that must be taken to rectify New York's ailing energy markets. In short, as will be described below, New York must fully embrace an open, competitive marketplace for electricity and eschew policies that unduly interfere with free market competition, if it is to meet the challenge of a successful energy future.

The Advent of Competition

In 1996, New York was in the vanguard of energy policy; its Public Service Commission (the "PSC") instituted proceedings to evaluate the benefits of moving to a competitive marketplace for the generation and sale of electricity and away from the command and control model of rate-of-return regulation then prevalent in the nation. These proceedings ultimately led to the divestiture by New York's regulated utilities of the vast majority of their generation capacity and the creation of a competitive wholesale market for the purchase and sale of electricity administered by the newly created New York Independent System Operator (the "NYISO").

In addition, the PSC promulgated policies at that time intended to encourage the creation of a robust competitive retail marketplace. Policy makers recognized that wholesale competition is enhanced when it is supported by a vigorously competitive retail marketplace. Numerous buyers and sellers in the wholesale marketplace would promote the least cost provision of utility service, as opposed to the prior paradigm in which only seven major investor-owned utilities "competed" to purchase energy from power producers and enjoyed a monopoly in the provision of service to end users.

Finally, in recognition that New York's tax structure places New York generators at a competitive disadvantage relative to those in neighboring states, the administration took positive steps to reduce the tax burden on New York generators by lowering, and in some cases, eliminating taxes on generators. However, more needs to be done in this area, as property taxes in New York remain substantially higher than in competing markets.

At the outset, New York's move to competition was very successful. Numerous firms competed in the auction process to purchase the utilities' generation assets, thereby driving up the price utilities received. Ratepayers benefited from the divestiture of utility generation assets through rate relief made possible by virtue of the proceeds from the asset sales.

In addition, a large number of companies responded to the recognized need for additional generation capacity in the State by committing significant expenditures for the development of new generating units. New York's Article X siting law was pressed into service with a vengeance, as 18 proposed projects sought approval to construct in the late 1990's.

Capacity Needs Not Met

Unfortunately, in the late '90s, very few projects were successful in completing the Article X process, and even fewer commenced construction. Although great strides have been made in the past two years to expedite the Article X process, early impediments and procedural delays prevented approval of plants during the late '90s at a rate necessary to satisfy the foreseen need for capacity additions. While New England and the Mid-Atlantic states saw thousands of additional megawatts come on-line in the past few years, not one large generation facility has reached commercial operation in New York since 1996.

The early Article X difficulties caused New York to miss the window of opportunity for large scale plant construction. Although several facilities have now received final Article X approval, very few have commenced construction. At least one plant that had received approval has been cancelled and several other projects in the midst of their proceedings have been delayed.

Two major developments contributed to this condition: (1) there has been a sea change in the financial markets, in the wake of the Enron bankruptcy and accounting irregularities affecting numerous companies in varied industries, which has drastically reduced the capital available for project construction, and (2) New York essentially stopped part way along its path toward full competition and recently has started to retrench away from a competitive marketplace, sending contradictory signals about its commitment to competition and introducing market uncertainty.

At the same time that financing has become scarce, policy makers have enacted and proposed policies that make New York a less attractive place for investment in new power plants and that seriously threaten the viability of some existing facilities in the State. As discussed below, these policies simultaneously increase the cost of doing business in New York, depress energy prices in the spot market and limit the availability and utility of long-term contracts for the sale of energy and capacity. Left unchanged, these policies will continue to make it difficult to attract investment dollars to New York and will drive certain existing units out of business, thereby exacerbating New York's tight supply/demand balance.

Thus, early delays, recently changed financial circumstances, and increased business risks to existing suppliers result in a situation in which very little construction has occurred and little can be expected in the near term. Accordingly, New York is on the verge of a significant capacity shortage. The New York Independent System Operator forecasts that 7,100 MW of capacity must be constructed in New York by 2005, much of it in NYC and on Long Island.[1] Utilities in NYC and on Long Island acknowledged that they faced serious capacity shortages this summer.[2] Moreover, the forecast capacity need is premised on the retention of existing capacity in the State. If unduly stringent environmental initiatives or market mitigation measures drive any of New York's energy infrastructure out of service, the capacity shortfall will be that much more critical.

Current Problems in New York's Electricity Industry

In order to determine what New York should do to ensure that it can meet its future energy requirements in a reliable fashion, it is necessary to review the problems that currently plague New York's electricity markets.

A. Flawed Capacity and Energy Markets

The electricity market in New York is really two markets; one for installed generating capacity ("ICAP") and another for the energy commodity. Structured properly, these two markets will complement each other and provide appropriate incentives for the required levels of investment that will both ensure the reliability of New York's electric system and provide stable, competitively determined energy rates. Unfortunately, for a number of reasons, these markets currently are not working to achieve these objectives.

As dictated by the law of supply and demand, when demand grows and supply remains constant, prices rise. It is the same in any competitive industry. As prices rise, they send a signal to producers that investment in additional capacity will be fruitful. Following capacity additions, prices fall. It is the same in the electric markets. New York has implemented and proposed policies, however, that undermine competition and distort the price signals necessary to spur capacity additions.

As explained below, policies have been put in place that eliminate any incentive for load serving entities ("LSEs") (i.e., regulated utilities and competitive retail energy service companies ("ESCOs")) to enter into long term ICAP and energy contracts that would support the financing of new energy projects.

[1] New York State Independent System Operator, ***Power Alert II: New York's Continuing Energy Crisis***, March 2002.

[2] ***In a Switch, Utilities Say Power is Low***, New York Times, July 12, 2002

1. Capacity Market Flaws

The purpose of an ICAP market is to ensure that sufficient capacity exists in the State to meet consumer demand. Payments are made to generation units via an auction pursuant to which these units are selected to provide ICAP. These payments are intended to cover a facility's fixed capital costs and to provide price signals as to when additional capacity is needed. In return, facilities are available to meet the State's demand, including sufficient reserves. It was, in part, the lack of an ICAP market that caused so many of the problems in California during the summer of 2001, as generators had no obligation to provide their energy to California LSEs and so chose to sell outside the State when California implemented price caps.

The New York State Reliability Council (the "NYSRC") establishes a minimum ICAP level that LSEs are obligated to purchase in order to ensure they can serve their load reliably, taking into account historical levels of planned and unplanned plant outages. The NYSRC has set this level eighteen percent (18%) above forecast peak demand (the "Minimum Capacity Level"). It is important to note that the Minimum Capacity Level is the minimum amount of ICAP an LSE needs to meet reliability requirements in order to ensure the lights stay on during the peak day.

From a market efficiency standpoint, the Minimum Capacity Level does not provide the optimal amount of capacity to ensure that energy prices are set based on competitive forces. As load approaches peak requirements, there is little if any excess capacity to provide the competitive check that ensures energy prices reflect a competitive outcome. Indeed, the NYISO's Independent Market Advisor has declared that in order to ensure workable competition under all conditions, the system requires additional ICAP.[3]

The market requires sufficient, competitively priced generators in order to function optimally and ensure stable pricing, while at the same time providing an incentive for new development and improvements at current facilities. The 18 percent figure does not ensure robust competitive markets.

In fact, the Minimum Capacity Level requirement promotes a boom-bust cycle. When capacity installed in the State exceeds this Minimum Capacity Level, prices set at ICAP auctions fall to levels insufficient to cover unit fixed costs. When capacity installed in the State falls short of the Minimum Capacity Level, prices for ICAP can rise above competitive levels. Obviously, this boom-bust cycle benefits no one; consumers are not advantaged by periods of price volatility, and developers cannot rely on stable ICAP rates as a foundation on which to finance new power plants or substantial renovation and refurbishment of existing ones.

A second flaw related to the ICAP market has to do with the lack of incentive for LSEs to procure ICAP outside of the auction process by entering into long term bilateral contracts. Policies implemented by the NYISO and the PSC actually provide a disincentive to LSEs to hedge their

[3] New York Independent System Operator, ***Power Alert: New York's Energy Crossroads***, March 2001.

capacity and energy costs by entering into such contracts, because they artificially depress the price signals that would induce entry into such contracts, fail to reward LSEs for responsibly hedging these costs, and threaten to penalize them via cost recovery disallowance if they do enter such contracts and subsequent prices result in those contracts being deemed imprudent.

In a fully competitive market, as capacity becomes scarce, energy and capacity prices rise. Additionally, in a properly structured competitive market, LSEs, the retail service providers, have a strong incentive to avoid these volatile prices by entering into bilateral contracts. These long term contracts, in turn, provide lenders the assurance of a stable revenue stream sufficient to finance new capacity.

Unfortunately, in New York, certain LSEs do not have any incentive to enter into contracts and are permitted to pass through changes in the price of electricity directly to their consumers. Those LSEs that have a full pass through mechanism have no incentive to avoid these costs by responsible contracting. In addition, excessive price constraints have been imposed on the energy markets to dampen price volatility, and existing market flaws further artificially depress price signals. These policies further reduce the incentive of loads to hedge their costs. They also send artificially depressed price signals to potential capacity providers, reducing their interest in additional capacity investment.

As a result of these ICAP market flaws, New York currently is in a situation where, despite a recognized urgent need for additional capacity, the ICAP market provides no incentive for new facilities to be built. In fact, recent ICAP auctions have demonstrated a trend toward reduced ICAP revenues. Thus, generators are unable to cover their fixed costs via ICAP revenues and, due in part to flaws in the energy market discussed below, no incentive exists for long term contracts that can support new construction.

2. Energy Market Flaws

The ICAP market flaws would not be as critical as they are if energy prices were permitted to rise to levels reflecting scarcity of capacity. But when an inadequate ICAP market is coupled with an energy market in which price constraints unduly dampen energy price volatility, it is a prescription for future serious capacity shortages. This is precisely the situation in New York.

As the list in Section C of this Whitepaper indicates, the New York electricity market is burdened with a multitude of price controls. Theses price controls essentially are intended to ensure that generators bid their marginal cost of production. Unfortunately, although the Federal Energy Regulatory Commission (the "FERC") has recognized that opportunity costs and scarcity value are appropriate elements of marginal cost, the PSC and the NYISO have taken steps to ensure that generators cannot include these components in their bids to any meaningful degree.

It is crucial to recognize that with an ICAP market that does not cover fixed costs, generators must recover a portion of their fixed costs through the energy market. But when the energy market does

not allow marginal units to receive more than their narrowly defined marginal costs, it is obvious that these marginal units cannot remain solvent. Thus, not only do unduly stringent price controls deter new units from siting in New York, but existing units are threatened with an inability to cover their fixed and variable costs.

These price controls have the effect of preventing scarcity values from being reflected in market clearing prices for the day ahead market (the "DAM") and the real-time market (the "RTM"). The most severe of these constraints are those applicable to the New York City market (the "In-City Mitigation"). Thus, in one of the areas where capacity is most urgently needed, New York's policies erect the greatest impediment and disincentive to investment. In fact, in a recent report on the NYISO-administered markets, the NYISO's Independent Market Advisor has concluded that "current market revenue would not likely support new investment in gas turbines ("GTs") outside NYC with significant uncertainty regarding GTs within NYC. . . ."[4]

In addition to the intentional price constraints that distort necessary price signals, there are a number of flaws in the market rules and in the computer programs used to dispatch and commit generation units that also have the effect of depressing prices. Indeed, in the same report, the NYISO's Independent Market Advisor found that "current pricing rules and operating procedures have hindered the market from setting efficient prices during shortage conditions."[5]

Moreover, there is a strong perception among the generation community that the NYISO and PSC do not act with anywhere near the same degree of urgency and alacrity to rectify market flaws that depress prices as they do to address those that increase prices. This perceived bias is one more reason why developers and lenders find New York to be a less than attractive venue for investment.

B. Regulatory Uncertainty

A brief review of the policy changes that have occurred in New York since the advent of competition provides additional evidence of why lenders and project developers would think twice about additional investment in New York State. This section will focus on the NYC market, as it is one of the areas in the State where additional capacity is most urgently needed and where existing policy is least suited to attract that investment.

As mentioned, the PSC issued orders directing the divestiture of utility generation assets and creating the current deregulated market. In order to guard against the possibility of these generation assets winding up in too few hands, resulting in a potential for undesirable levels of market power, the PSC specifically broke up the units in NYC into sets and directed that no single entity could purchase more than one set of assets. The PSC further designed a mitigation program applicable to only certain of those divested units (not all units located in NYC) that would apply only in the DAM.

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[4] Dr. David B. Patton, ***Summer 2002 Review of the New York Electricity Markets***, October 15, 2002

[5] Id.

Of course, those entities that bid for the divested NYC assets made calculations of what a reasonable bid price should be, based on the rules designed by the PSC for the operation and limited mitigation of the competitive marketplace it designed. Based on that market design, the auction yielded billions of dollars for the divested assets. Unfortunately, the PSC and the NYISO have repeatedly and dramatically revised the playing field following commencement of the competitive market, in what a cynic might construe as a classic bait and switch.

Since the opening of the NYISO-administered markets in November of 1999, a deluge of price controls have been instituted and proposed that have radically altered the market design and which inappropriately prevent needed price signals reflecting looming capacity shortfalls from reaching the market. The price controls that the NYISO has imposed or proposed in the past two years are extensive, as the following list illustrates:

Price Controls Proposed and Imposed Since January 2000

- $1,000/MWh cap on energy bids
- $2.52 bid cap on 10-minute non-synchronized reserve bids
- Temporary Extraordinary Procedures Authority
- Automatic Mitigation Procedure
- Retroactive Price Adjustment Proposal
- Generator Penalty Proposal
- Extension of In-City Mitigation in the Day-Ahead Market to all units in NYC
- Creation of In-City Mitigation in the Real-Time Market for all units in NYC

This is a substantial number of proposals and enactments given the short history of the NYISO. The list sends a clear signal to lenders and developers that New York is not committed to allowing the competitive market to function, but rather stands ready upon the occurrence of any price volatility to implement price constraints and measures that undermine the competitive market.

In addition to overly intrusive interference in the energy markets, New York has changed, or threatened to revise, the environmental regulations applicable to power generators in ways that will dramatically increase their cost of operation and construction and may well drive many units out of service. When State environmental regulations exceed national standards, such as the proposed NOx and SO_2 and potential CO_2 and cooling water regulations would, energy companies are more likely to opt to locate in other states. New York plants compete with those in other states, so additional cost burdens can put our plants at a serious competitive disadvantage.

C. Cost of Doing Business in New York

When evaluating where to invest, generating companies attempt to determine where their scarce investment dollars will yield the greatest return. New York falls short on both sides of the equation. As discussed, New York's energy and ICAP markets are flawed in a manner that reduces the revenues that a developer can expect to realize, while at the same time New York's taxes, labor costs and environmental requirements dramatically increase the cost of construction and operation in New York in excess of the costs associated with constructing and operating facilities in neighboring states.

D. Uncertain Financial Markets

We have already explained that the current financial market is a difficult one in which to secure financing for generation facilities. When investment capital is scarce, the least attractive and most risky locations will be the last to realize investment. The deterrent effect of flawed market rules, high cost of doing business and regulatory uncertainty take on even greater significance in investment decisions when economic times are tight. Thus, in times of scarce capital, New York must enact policies that increase its attractiveness to the investment community.

Recommended Action Steps

1. Market rules and policies must be structured to provide regulated utilities an incentive to sign forward energy and ICAP contracts with generators.

A mix of short, medium, and long-term contracts for energy and ICAP allows utilities to hedge against changing market prices. Hedging allows utilities to offset volatile wholesale prices and stabilize consumer prices. Currently, PSC policies hinder utility willingness to enter into these contracts. Utility executives worry that should contracts they enter into later prove to be uneconomical, the PSC will penalize the utilities for committing to contracts later found to be above market. PSC policies must adapt to the new market reality by encouraging transmission owners to enter into long term contracts without the later threat of cost recovery disallowance. The use of these forward contracts encourages investors to develop generation within New York and will offer financial institutions the confidence they need to finance projects.

2. Market design must embody regulatory certainty as a keystone.

The energy market should embody a standard market design that encourages regulatory certainty with workable and stable rules. Commitment to a vibrant ICAP market must be part of that standard market design, and is absolutely necessary if the ISO continues to implement mechanisms which limit energy prices as a result of public policy objectives. Certain market controls are necessary in the transition to a deregulated competitive market. But the number and type of market control measures proposed by the NYISO and the PSC indicate a trend toward ever more

constraining price controls. Volatility in the energy markets encourages development of new and/or more efficient power plants. Controlling wholesale market prices through regulation, instead of relying on market based solutions, like hedging, discourages investment in New York's market by creating uncertainty about the profitability of new power plants.

3. New York should participate in a larger regional electricity market in which standard rules rationalize the buying and selling of power.

The FERC has ordered electric systems around the country to reorganize into larger, regional markets or Regional Transmission Organizations. New York would benefit from a multi-state, regional market through the elimination of differing market regulations and operating systems which currently increase the cost of buying and selling electricity between adjacent electricity systems. Recognizing the benefits of a larger marketplace, the NYISO and ISO-New England recently filed merger documents with the FERC. Every level of government in New York should be supporting these efforts.

A study conducted by the NYISO and ISO-New England, determined that merging the two RTOs would result in market benefits totaling $220 million by 2005.[6] This amounts to three percent of the total wholesale power cost in the New England states and New York. In New York alone the benefits to the market of joining a RTO with New England would amount to $282 million in annual wholesale power costs savings in 2005, 6.1 percent of total wholesale power costs in New York. In 2010, New York's benefit would be $147 million, or 3.1 percent of wholesale power costs. These reduced costs will, in turn, be passed along to energy consumers in a competitive marketplace.

4. New York should refrain from implementing environmental regulations that could reduce existing generating capacity.

New York must remain sensitive to the interdependent relationship that exists between energy and environmental policy. Both areas, at a minimum, are regional in scope. In particular, New York should not enact new environmental standards that create competitive disadvantages for in-state generation and potentially force existing generating capacity into early retirement.

5. The Article X power plant siting law should be renewed and revised to accelerate the siting process.

Renewal of Article X, and changes which streamline the process, will send a signal to both the energy industry and investment community that New York is serious about encouraging the construction of power plants. More power plants online in New York will mean more benefits of competition will be felt by New York businesses and consumers. In addition to increasing competition, new power plants will help maintain a safe, reliable supply of electricity to the state, a key component of New York's continued economic success.

[6] ***Northeast RTO Costs and Benefits Assessment***, May 15, 2002

Glossary and List of Terms

Automatic Mitigation Procedure NYISO price control under which generator bids in the Day Ahead Market are automatically reviewed to determine if they are higher than NYISO determined reference prices. Bid prices are automatically mitigated to the Day Ahead reference price when certain criteria are met which the NYISO asserts meet a pattern of economic withholding in an attempt to assert market power.

Capacity The capability to generate or transmit electrical power measured in megawatts.

Day-Ahead Market (DAM) The NYISO administered market in which capacity, energy and/or ancillary services are scheduled and sold. Day-Ahead consists of the Day-Ahead scheduling process, price calculations and Settlements.

Extension of In-City Mitigation Extension of mitigation rules which formerly applied only to generation once owned by Consolidated Edison to all generators in New York City region.

Generator Penalty Proposal Mitigation measure which would have placed onerous penalties on generators accused of exercising market power.

Marginal Cost The cost (or increase in total cost) required to produce one additional unit of output. The Marginal Cost includes all incremental system costs.

Megawatt Enough electricity to power 1,000 homes.

Real-Time Market The NYISO administered market in which capacity, energy and ancillary services are sold for one-hour periods. The Real-time market closes 75 minutes before the hour scheduled. Real-time prices are adjusted every five-minutes throughout the day based on generation and energy transaction bids offered to the NYISO. Typically less than 10 % of energy transactions processed by NYISO occur in the Real-Time market.

Retroactive Price Adjustment Proposal Mitigation measure which would have retroactively adjusted payments to generators alleged to misuse market power.

Temporary Extraordinary Procedures Authority Authority granted to the NYISO by FERC which allows the system operator to change prices and market regulations without going through the normal procedures. NYISO cites a need to propose to impose extraordinary corrective procedures to the NYISO markets in an emergency as the reason for the granting of this authority.

6. Government intervention in the electricity market should be limited.

The potential for the New York Power Authority and the Long Island Power Authority to use their ability to obtain taxpayer subsidized financing, and command preferential regulatory treatment, to construct plants discourages investors from entering New York markets. Private companies are at an unfair competitive disadvantage when they must compete with an authority seeking to serve the same market. When the authority also controls transmission, as do NYPA and LIPA, it becomes even more difficult for a private entity to compete. Government authorities should not be used to control the market and further hinder the development of fully competitive electric markets.

7. Encourage the development of competitive retail energy markets.

Utility electric rates should enable energy service companies to compete with existing utilities and offer service to New York residential customers and businesses. Time-of-use rates that allow consumers to pay different prices for electricity consumed at different times, similar to the variable rates telephone companies offer, should be adopted. In addition, more attractive financial incentives for switching retail electricity providers should be incorporated in the utility electric rates. With limited competition in the retail sector, the utilities and transmission organizations have no incentive to offer innovative pricing plans and services to consumers and competition for available power is limited in the wholesale market. A vibrant retail electricity market will lead to a fully competitive wholesale electricity market encouraging new power plant development.

Conclusion

As we have explained, New York must take immediate action to rectify the serious policy and market rule infirmities that plague New York's electricity markets. This paper has provided a description of the problems and impediments that afflict New York's electricity markets and has also suggested some of the steps that New York must take to ensure a safe, reliable, and competitive electric supply for the future. If New York does not take action quickly, it will face severe capacity shortfalls and pricing disruption in the near future. IPPNY stands ready to work cooperatively with policy makers to forge a successful energy future and avert this looming crisis.

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