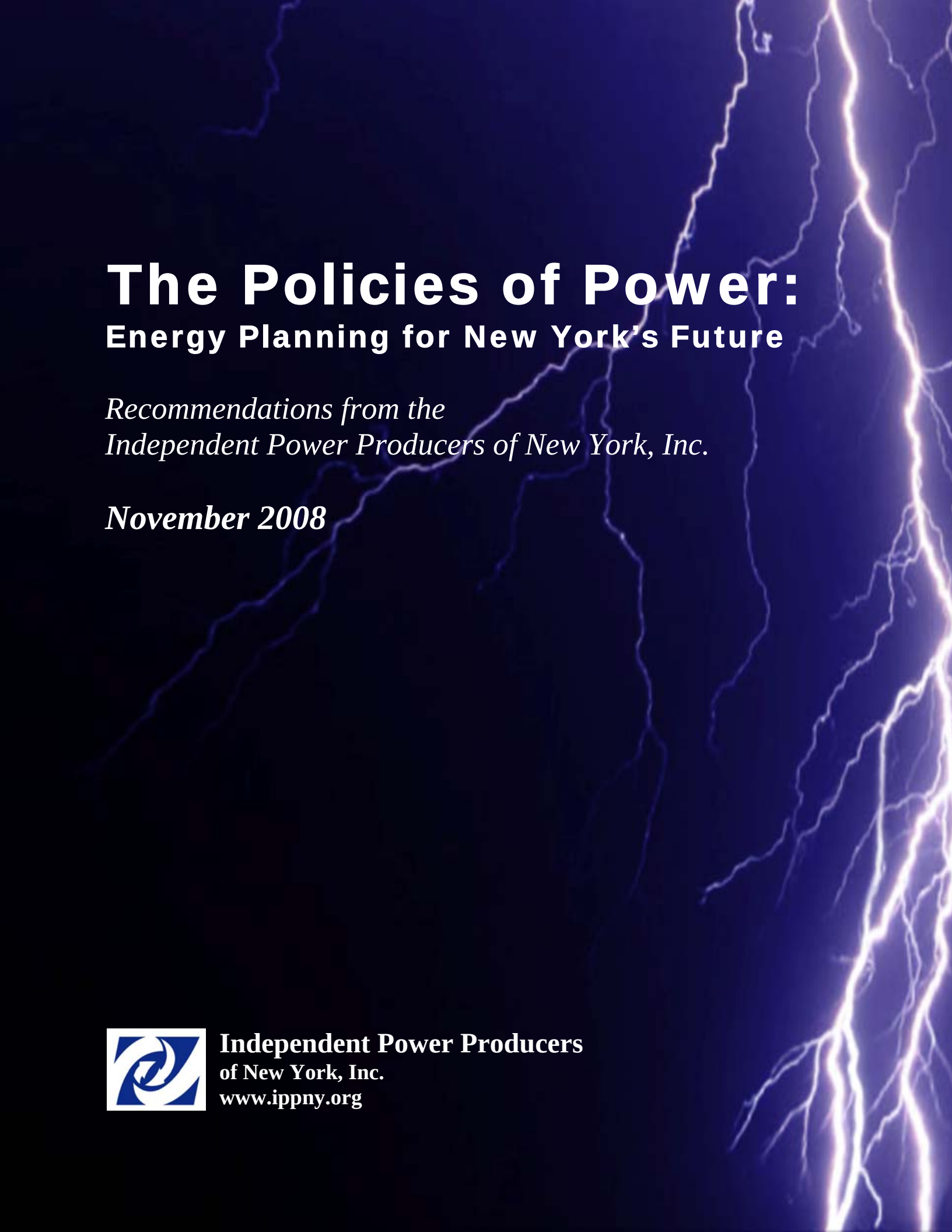

The Policies of Power:

Energy Planning for New York's Future

Recommendations from the
Independent Power Producers of New York, Inc.

November 2008

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Table of Contents

Background

On April 9, 2008, Governor David Paterson issued Executive Order No. 2, thereby establishing a process to develop a State Energy Plan ("Energy Plan"). A State Energy Planning Board ("Energy Board") was created and tasked with the development of the Energy Plan. On August 7, 2008, the Energy Board released a Final Scope of the 2009 New York State Energy Plan. A draft Energy Plan is scheduled to be released no later than March 31, 2009, to be followed by a comment period and a release of a final Energy Plan no later than June 30, 2009.

During the development of the Energy Plan, "The Board shall consult with and seek to maximize input from State departments, agencies and public authorities, as well as private and public entities, including the New York Power Authority, the Long Island Power Authority, and the New York Independent System Operator, with respect to the development of the Energy Plan."[1] Although no official process or timeline has been established to submit comments to the Energy Board prior to the release of the draft Energy Plan, it has been stated often by those tasked with drafting the plan that public input is welcome.

[1] Governor David Paterson, Executive Order No. 2, April 2009

Executive Summary / List of Recommendations

The Independent Power Producers of New York, Inc. ("IPPNY") is a trade association representing companies involved in the development of electric generating facilities; the generation, sale, and marketing of electric power; and the development of natural gas facilities in the state of New York. IPPNY members generate over 75 percent of New York's electricity using a wide variety of technologies and fuels, including hydro, nuclear, wind, waste, coal, natural gas, oil, and biomass. New York's independent power producers have invested over $10 billion to purchase, construct, and operate their facilities, and well over $30 million in their communities located throughout New York State. Additionally, New York's generators pay annual taxes of nearly $300 million and employ more than 10,000 individuals across the state. This document contains information and recommendations garnered from IPPNY's broad membership.[2]

Although several topics fall under the umbrella of an Energy Plan, IPPNY's comments will focus primarily on the following, as described in the Final Scope of 2009 New York State Energy Plan:

> As is evident from the Executive Order, the 2009 NYS Energy Plan is intended to identify and assess critical factors that will affect the State's ability to meet its projected future energy needs, including its ability to sustain an environment capable of attracting reasonably priced capital to support necessary investments. Maintaining the adequacy and reliability of critical systems and infrastructure will be a primary focus of the Plan.

The ongoing evolution of New York State's competitive wholesale energy markets is essential for continuing to meet New York's energy needs in the future. This evolution is vitally dependent upon regulatory certainty and consistency, as an ever-changing or unpredictable regulatory landscape stifles the development of any market. New York is to be applauded for its efforts to develop a blueprint, which, ideally, will provide a clear indication of the tenor, scope, and direction of policies affecting the energy industry to come. To that end, IPPNY has outlined recommendations on a broad spectrum of energy-related issues in this White Paper.

Recommendations:

1) The Energy Plan should strongly re-affirm a commitment to the competitive market model as the most appropriate approach to satisfy the long-term needs for reliability of energy supply at the lowest possible cost, for the benefit of consumers in New York State. Additionally, the Energy Plan should advance new policies only after full consideration has been given to the potential impact that such policies may have on New York's competitive markets. The importance of

[2] All of the views expressed in these comments do not necessarily represent the positions of each of IPPNY's members. In addition, nothing in these comments should be deemed to waive any rights that IPPNY or any of its members may have to challenge the procedural or substantive legality of the State Energy Plan or any element thereof.

regulatory certainty cannot be overstated in terms of attracting needed investment to New York.

2) Sound energy policy should reflect a balance that encourages adequate supplies of three inter-related elements – generation, transmission and distribution, and energy efficiency and demand response. Sound regulatory policy should be characterized by a balanced approach to pursuing the sometimes conflicting goals of efficient and reliable electric markets, environmental stewardship, and maintaining and improving the state's economic health.

3) Fuel diversity is an essential element of a reliable generation portfolio, and New York's Energy Plan should promote policies to maintain and expand our diverse generation mix. The development of a comprehensive and efficient, fuel-neutral power generating facility siting statute is one of the critical components in this effort.

4) Additionally, fuel-specific policies will promote fuel diversity:

    a. **Natural Gas** – Adequate and diverse sources of supply and improved infrastructure are needed to the extent that New York's reliance on natural gas as a fuel source to power generating facilities increases. New natural gas pipelines or expansions of existing pipelines from historical sources of supply are needed, as is the monitoring of new sources of supply. Liquefied natural gas is one technology that can provide access to additional sources of supply.

    b. **Coal** – The United States has an ample supply of coal, which is a relatively less expensive fuel. Existing economic and environmentally compliant coal facilities should remain part of the state's generation portfolio. Furthermore, as carbon dioxide targeted environmental initiatives move forward, the development of carbon capture and sequestration technology becomes more important. Funds collected under the Regional Greenhouse Gas Initiative should be used, in part, for research and development of such technologies.

    c. **Nuclear** – Nuclear energy provides reliable, virtually emission-free baseload power, and, therefore, it is imperative that the Energy Plan supports the ongoing operation of the state's existing nuclear facilities, in addition to encouraging the development of additional nuclear resources.

    d. **Renewable Energy** – The state's Renewable Portfolio Standard (RPS) program has provided incentives to successfully advance renewable projects. Therefore, the Energy Plan should call for full funding of the RPS and call for the expansion of the program to include existing, non-governmental merchant hydroelectric facilities and energy-from-waste facilities as eligible for RPS incentives.

5) To ensure the continued development of competitive wholesale markets, the Energy Plan should recommend further exploration by the Public Service Commission ("PSC") and the New York Independent System Operator ("NYISO") into the establishment of a properly structured forward capacity market approved by the Federal Energy Regulatory Commission ("FERC"). Absent the implementation of such a forward capacity market, the use of competitively procured long-term contracts by and between regulated utilities or load serving entities and merchant parties to meet load should be explored. Both measures may be practical tools to aid in the financing of needed future projects.

6) New York's Energy Plan should set a clear, long-range direction that balances energy policy with environmental and economic development initiatives. To best prepare future environmental policy, it is vital that the Energy Plan assess the cumulative impacts that all existing and pending environmental regulations may have on all aspects of energy policy, including cost, reliability, and fuel diversity, as well as areas of economic development. New York should be engaged in advocating for properly structured national emission reduction programs in lieu of state or regional efforts, which create geographic, economic and investment imbalances.

7) The New York Power Authority and the Long Island Power Authority should utilize requests for proposals ("RFPs") in lieu of self-supply to competitively procure power from the market to satisfy their energy needs, to the extent that a forward capacity market is not adopted for New York. Neither entity should be encouraged, or indeed permitted, to engage in construction of infrastructure, unless it has been clearly demonstrated that a critical energy need cannot be met through the investment of private resources.

8) Empire Zone benefits are an important method of encouraging businesses to locate and expand in New York and should continue to be offered as incentives for the construction and/or expansion of all types of generating facilities.

9) A robust and dependable transmission and distribution system is essential for the continued reliable operation of the state's power grid and for the addition of new generation. New York State should evaluate proposed transmission projects on a case-by-case basis, consistent with the cost allocation and recovery mechanisms contained in the NYISO's FERC-approved tariff.

10) Energy efficiency and demand response ("EE and DR") are valuable tools, which can help meet load under peak conditions and, when properly targeted, can even reduce the need for major infrastructure investment. However, due to the relatively long lead times for new construction, New York needs to proceed cautiously and avoid over-reliance on EE and DR as a long-term replacement for iron in the ground. In order to avoid reliability issues in the future arising from a supply/load imbalance, these resources must be properly targeted, measured, and verified.

IPPNY appreciates the opportunity provided to us and other stakeholders to submit input to members of the State Energy Planning Board, as you develop the 2009 New York State Energy Plan. Sound energy policy in New York State is vital for the future of our state, and the policies set forth in the Energy Plan will help set the course for how New York will overcome its energy, economic, and environmental challenges in years to come. We offer ourselves as a resource going forward in this planning process.

Discussion

Specific recommendations are made by this document in regards to individual policies; however, there are two broader themes that IPPNY contends must be adhered to as an Energy Plan is developed.

First:

New York State must maintain and enhance its commitment to policies that foster the continued evolution and implementation of competitive energy markets.

In fact, previous State Energy Plans have endorsed competitive electric markets and recognized the leadership role that New York has attained on an international level in the architecture of these markets. In 2002, the State Planning Board proclaimed, "The events of the past four years continue to support the validity of the 1998 State Energy Plan findings. In all the key areas (price, reliability, economic development, adequacy, and environmental impact) the evidence shows that competition has been beneficial, but greater benefits can be achieved."[3] IPPNY contends that this statement remains applicable today.

Second:

New York's Energy Plan must acknowledge that one of the critical underpinnings of robust, competitive markets is regulatory certainty and consistency.

Minimizing regulatory uncertainty and unpredictability will reduce risk and attract investment at lower costs. The availability of capital for investment is a critical factor for the success of any industry that is capital-intensive in nature; the energy industry is no exception. Generating facility upgrades cost in the millions of dollars, and the development and construction of new, or repowering of existing, power generating facilities costs hundreds of millions, if not billions, of dollars. Investment in such facilities comes with the inherent risk of vying in competitive wholesale energy markets, a risk borne by investors rather than ratepayers. Investors must weigh the merits of each project against those risks and make an informed decision about whether or not such an investment is prudent. However, the ability to make an informed decision is diminished by an ever-changing regulatory landscape, when shifts in policy and the resulting changes in regulations can make otherwise sound investments uneconomic almost overnight. As has been made even more apparent recently, there is limited capital in the world, in this country, and in this region. In the face of this changed financial landscape, we must foster – not thwart – commitment by those looking to invest in New York State. Therefore, the Energy Plan should develop a blueprint that sets the appropriate tone and the direction for policies going forward, providing assurance that viable projects today are not stripped of such viability tomorrow.

[3] 2002 State Energy Plan and Final Environmental Impact Statement, June 2002

Competitive Wholesale Energy Markets Benefit New York State

In 1996, the New York State Public Service Commission issued its seminal order setting forth its policy on competitive electricity markets and declaring its intent to encourage competition wherever feasible.[4] The PSC found that introducing competition to the electric industry in New York was expected to reduce rates, spur innovation and efficiency, increase customer choice, and encourage economic growth. The results from introducing competition into New York's energy markets have justified making the transition.

One of the most important benefits of well-functioning competitive markets is that they provide the appropriate incentives for efficient investment and operational decisions. The lack of an ensured regulated return, which is central to competitive markets, is a strong inducement that drives innovation and dictates that generation resources are operated efficiently. Unlike the regulated paradigm, competition provides the price signals to promote an efficient level of investment in appropriate locations. Though only a little over a decade old, competitive markets have bolstered system reliability, increased generator availability and efficiency, retained needed existing generating facilities and, to some degree, encouraged the development of new generation. All of these benefits are critically important and show that New York's energy needs can continue to be satisfied by electricity producers in the future.

In fact, generator availability has reached an all time high in New York under the competitive market design. Impressively, average generating facility availability increased from 87.5 percent (1992–1999) to 94.4 percent (2000–2007).[5] This increased availability of existing facilities is equivalent to adding 2,400 megawatts ("MW") – four medium-sized generating facilities – to the grid. The importance of generator availability cannot be overstated, especially during times of peak demand. It is essential to note that in 2006, when electricity demand records were set three times in rapid succession in one summer, independent power producers continued to operate their facilities with unprecedented efficiency to meet the needs of consumers.

Not only are consumers' needs being met reliably, the cost of electricity, when adjusted for inflation, has been trending lower. According to the New York State Department of Public Service, the total real cost of electricity for the typical residential customer in New York dropped by almost 16 percent between 1996 and 2004.[6] Similar reductions were experienced by commercial and industrial customers. Correspondingly, despite upward pressure on prices from record fuel prices, continued increased usage and additional government regulation, wholesale power prices remained stable on an inflation-adjusted basis. Another study

[4] Cases 94-E-0952 *et al*., *In the Matter of Competitive Opportunities Regarding Electric Service*, Opinion and Order Regarding Competitive Opportunities for Electric Service, Opinion 96-12, May 20, 1996

[5] "New York's Energy Future," NYISO President and CEO Stephen Whitely, Presented at IPPNY Fall Conference, September 2008 http://www.ippny.org/files/pdfs/Fall08/SWhitley_Fall2008.pdf

[6] "Staff Report on the State of Competitive Energy Markets: Progress To Date and Future Opportunities," New York State Department of Public Service, March 2006

found that "…comparing changes in consolidation of control areas within New York, combined with reduced outage rates for nuclear and fossil generating units, results in [savings for New York consumers] between $100 and $200 million/year…"[7]

These natural results occur when competition is introduced into an industry that previously had little incentive to become more efficient and cost-effective. An equally compelling benefit of competition is that it shifts the risk of poor investment and operational decisions from the consumer to the company's shareholders. Under the regulated paradigm, investment decisions largely were rewarded with both a return of, and on, the investment. In the competitive arena, merchant companies internalize fully risks associated with recovering a return of, and on, its investment. Thus, in the event of poor investment decisions, consumers are no longer subjected to the costs of uneconomic resources through utility rates.[8]

Independent power producers in New York clearly have been willing to take the risk of investment. Merchant companies have spent billions of dollars to acquire generating facilities from the investor-owned utilities through protocols that were designed to maximize auction proceeds for the benefit of New York's consumers. In addition, substantial new generation has been built in New York State since 2000, with more than 80 percent of it sited where demand is greatest. The trend experienced here in New York has mirrored the national trend. According to an October 2007 study,[9] between 1996 and 2004, roughly 74 percent of electricity capacity additions nationwide were made by non-utility entities who are not assured full cost recovery through rate based, cost-plus contracts. A conservative estimate of the capital costs of the capacity added nationally between 2000 and 2007 is approximately $73 billion. As a result, private investors, not consumers, have borne the financial risk of the new generating capacity built in many parts of the country.

"…private investors, not consumers, have borne the financial risk of the new generating capacity…"

The importance of this shift in risk cannot be overstated. As shown in the Figure 1 on page 14,[10] cost overruns from utility-built projects are not unusual and continue to this day. Most often, consumers are forced to foot this bill, which has amounted to billions of dollars.

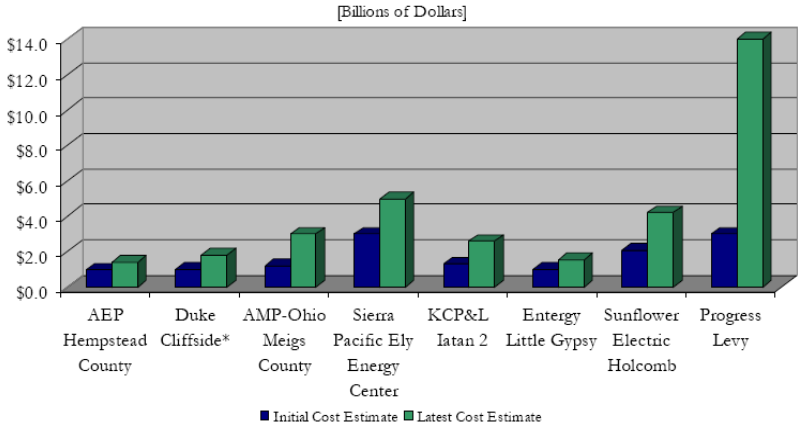
[7] "A Cost-Benefit Analysis of the New York Independent System Operator, The Initial Years," The Analysis Group, March 2007

[8] Ratepayers would not be required to pay the more than $350 million of cost overruns incurred by Consolidated Edison Company of New York, Inc. ("Con Edison") in its construction of its East River Repowering Project ("ERRP"), had the project been developed by an independent power producer. See Case 05-S-1376, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc., for Steam Service*, Direct Testimony of Con Edison witness Victor Gonnella, Exhibit VG-2 (testifying that at the time Con Edison submitted its Article X application, Con Edison estimated the cost of the ERRP to be $406 million) and Order Determining Revenue Requirement and Rate Design (September 22, 2006) at 6 (capping cost recovery for ERRP at $788.3 million)

[9] "Decoding Developments in Today's Electric Industry — Ten Points in the Prism," The Analysis Group, October 2007

[10] "POWERFACT: Rising Utility Construction Costs in Regulated States Place Consumers at Risk," Electric Power Supply Association, April 2008

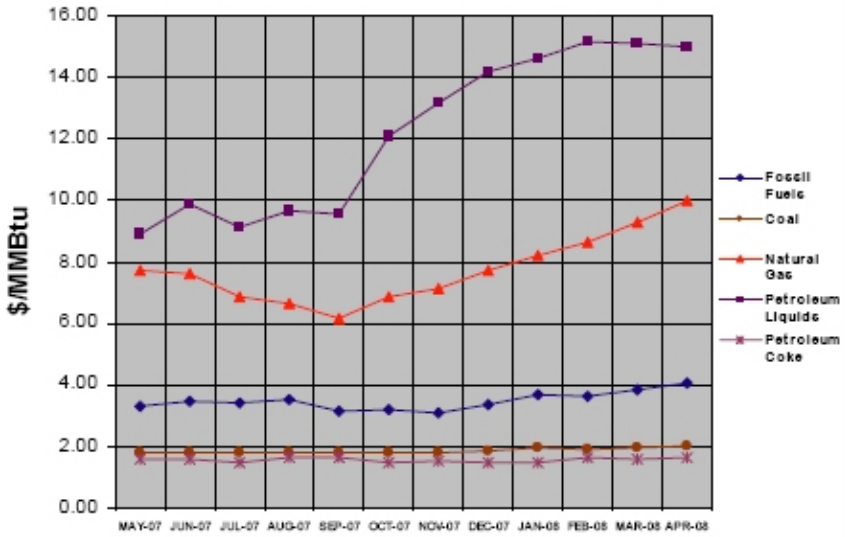
Figure 1. Utility Construction Cost Estimate Increases: Original vs. Latest Estimates



[* Note: Duke Cliffside estimates are shown for the one 800-MW unit granted approval, not the two 800-MW units originally proposed]

In any market structure, several factors affect the cost to produce electricity that are out of the control of the consumer, the utility, and the independent power producer. The price of fuel is the most prominent factor in rising energy prices across the country (see Figure 2 below), and New York State is not immune to these effects. Natural gas prices play a particularly important role in this state's energy market. According to the NYISO, "New York State's generation supply has been, and remains, heavily dependent on oil and natural gas. Over 60 percent of the state's installed capacity burns one or both of these fuels. The prices of oil and gas have risen at stunning rates over the past decade and are unlikely to return to previous levels."[11] In addition, with the exception of renewable energy projects, proposed generation projects have been predominantly gas-fired units. As such, this

Figure 2. Electric Power Industry Fuel Costs May 2007 through April 2008 - EIA



[11] Power Trends 2008, New York Independent System Operator

reliance on natural gas will continue for, and may increase in, the foreseeable future. However, it is not natural gas only that has seen an increase in price. Comparing January through April 2008 to the same period last year, the prices were up 21.5 percent for gas, 81.1 percent for petroleum liquids, and 9.7 percent for coal.[12]

Additionally, the price for all classes of commodities important to electricity infrastructure has been increasing rapidly. According to the Brattle Group,[13] over the past ten years the cost of steel products has increased 70 percent, copper 300 percent, aluminum 70 percent, cement 40 percent and electric wire nearly 60 percent. As a result, the construction cost index for a range of new generating facilities has increased by 130 percent between 2000 and 2007.[14] This rapid cost increase has continued in 2008.

Beyond input costs, environmental compliance is significantly increasing the cost of operation and construction, most notably for coal-fired facilities, and has become a driving factor with respect to the type of facilities that will be constructed as we go forward. Meeting existing clean air regulations is expected to cost an additional $2.7 billion a year in 2010 and $4.4 billion in 2015.[15] This total is before taking into account the recently adopted Regional Greenhouse Gas Initiative ("RGGI") and the potential for federal carbon requirement, which could be enacted in the next few years.

Despite these overwhelming challenges, independent power producers continue to own, operate, and develop generating facilities, and they are doing so better than ever before. Competition has spurred greater efficiencies, funded by investors, rather than consumers. Indeed, competitive market structures motivate power producers to undertake investments and improvements that lead to productivity gains, and many of the nation's generating facilities now are operated much more efficiently than in the past. Just as in any competitive market, market signals embedded in the competitive wholesale markets in New York have created incentives for producers to undertake needed investments and creative improvements in operating practices to achieve such cost savings.

Generation divestiture combined with competitive conditions has led to operational improvements in existing facilities that in one way or another have reduced their operating costs. According to a study by the Economic Analysis Group ("EAG," located within the U.S. Department of Justice's Antitrust Division), "There is now substantial evidence that, in states that have restructured, generating firms have lowered their costs and improved their operating performance… Greater efficiency and lower costs enhance total economic welfare, provide investment incentives and save on scarce input resources."[16] These improvements include: increases in the efficiency of fuel-consumption (i.e. heat rates) of fossil fuel-fired facilities; decreases in the length of refueling outages; lower operations and maintenance expenses; and

[12] Electric Power Monthly, Energy Information Administration, August 2008
[13] "Transforming America's Power Industry: The Investment Challenge, Preliminary Findings," The Brattle Group, April 21, 2008
[14] IHS Inc. and Cambridge Energy Research Associates, "Power Capital Costs Index," February 14, 2008
[15] "Decoding Developments in Today's Electric Industry – Ten Points in the Prism," The Analysis Group, October 2007
[16] "Electricity Restructuring: What Has Worked, What Has Not, and What is Next," Jeff Lien, Economic Analysis Group, April 2008

decreases in labor and other non-fuel operations and maintenance costs across all facilities. Improvements that increase generator availability are particularly valuable because they increase the quantity of power produced by less-costly generating facilities and have limited the need to bring additional new facilities on line to meet the same load levels.

Another strong attribute of restructured markets is that they have improved the efficiency by which facilities are "dispatched" (i.e., turned on and off) to meet consumer demand. In principle, all grid operators attempt to dispatch the least-costly mix of generating facilities to meet consumer load. Restructuring has increased the efficiency of these decisions in a number of ways. It has facilitated the increased "geography" of dispatch decisions, which allows costs to decline by using lower-cost resources in one region to displace higher-cost power resources in another. The EAG study also found that "[Independent System Operator] markets produce spot prices that more clearly reflect the cost and value of consumption and production than the pricing mechanisms that existed prior to restructuring. ISO pricing and dispatch generally ensure that when the transmission network allows it, lower cost generators will run before higher cost generators." The result of geographic consolidation in New York, through state of the art dispatch and control of the power system, allows lower cost generation resources to take advantage of minute-by-minute increases and decreases of reliability margins on the transmission system. This fact, in addition to the impact of reduced outage rates for nuclear and fossil fuel units, results in benefits of between $100 and $200 million per year, which is roughly five percent of the system-wide production and fixed operation and maintenance costs.[17]

These efficiencies also bode well for the environment. Adding newer, more efficient power production technology and dispatching the system more efficiently has led to reductions in air emissions from generating facilities. In addition to the environmental benefits associated with efficiency, competitive markets also have allowed renewable energy to flourish.[18] According to the American Wind Energy Association ("AWEA"), the development of renewable energy facilities is thriving under competition. In addition to the facilities already on line, eighty-three wind-powered generation projects are currently under construction nationally, totaling just over 8,500 MW. These projects are expected to be completed this year or in early 2009. According to AWEA, of the wind generation projects currently under construction, 7,944 MW (93 percent) are being developed by competitive suppliers, while 7,841 MW (92 percent) are being constructed in regions that have organized wholesale electricity markets. Here in New York State, over 700 MW of wind generation capacity has been incorporated into the grid, with over 7,000 MW worth of projects in the development queue. More renewable projects have been developed in

[17] "Decoding Developments in Today's Electric Industry — Ten Points in the Prism," The Analysis Group, October 2007

[18] "Whereas wind companies are developing projects both in areas with regional wholesale competitive market structures and those without; and Whereas development has proven to be easier in areas with competitive wholesale electricity markets and this fact is confirmed by studies and experiences in Europe and the US… The AWEA board … supports the preservation and expansion of competitive regional wholesale electricity markets," American Wind Energy Association Board of Directors Resolution, January 2008

Regional Transmission Organization ("RTO")-operated markets, due to the open access transmission policies that enable suppliers to obtain economical transmission service, the visibility of prices by location and time of day, and the ability to sell into spot markets and/or to multiple buyers.

Meeting New York's Future Energy Needs

To date, due to the ongoing development of New York's wholesale markets, market signals have retained needed existing facilities and supported the development of demand response programs. As a result, the market is providing the resources that are necessary to meet load for the near future. There are, however, significant impending capacity needs. It can take several years to design, permit, and build new facilities needed to maintain reliability. In order to maintain the system's long-term reliability, new facilities must be readily available or under development to meet future needs.

The NYISO, in conjunction with stakeholders in the New York market, utilizes a process to identify long-term bulk power system reliability needs and how those needs will be met. This process, called the Comprehensive Reliability Planning Process ("CRPP"), begins with a Reliability Needs Assessment ("RNA"), which determines the state's reliability needs over a 10-year planning period, based on the forecast demand for electricity and projected system conditions. When needs are identified, the second part begins with the request for solutions, with the expectation that Market-Based Solutions will come forward to meet the identified needs. The NYISO then evaluates all proposed solutions to determine whether they will be sufficient to meet the identified reliability needs. Finally, a Comprehensive Reliability Plan ("CRP") is developed, setting forth the facilities and schedule that are expected to be implemented to meet those needs. Relating to the Energy Plan, IPPNY believes that the NYISO's planning processes to evaluate state energy needs and solutions should continue to be relied upon as we go forward.

The 2008 RNA[19] reported that an equivalent of 500 MW in Zone J (New York City), or a total of 750 MW with either 250 MW each in Zones F (Capital), G (Hudson Valley, Millwood, or Dunwoodie), and J or 250 MW in Zone G and 500 MW in Zone J is required to meet anticipated power needs in 2012. By 2017, the equivalent of 2,750 MW of resources should be available to the state's bulk electricity grid to accommodate the anticipated retirement of some existing capacity and increased electricity demand, so that federally mandated reliability guidelines are met. About half of those megawatts should be located in the southeastern part of the state, according to the report.

The most recently completed CRP, [20] issued in July of this year, indicated that the market has responded with project proposals to meet identified reliability needs. That response is yet another indication of the willingness of independent power producers to assume the business risks associated with the development and construction of projects that will satisfy the energy needs of New York in the future. Certain regulatory risks, however, continue to cause uncertainty, and steps must be taken now to provide certainty with respect to these risks, thereby increasing the likelihood of successful development of new merchant resources.

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[19] "2008 Reliability Needs Assessment, Supporting Documents, and List of Appendices For The 2008 Comprehensive Reliability Planning Process," New York Independent System Operator, December 10, 2007

[20] "2008 Comprehensive Reliability Plan, *A Long-Term Reliability Assessment of New York's Bulk Power System"* FINAL REPORT, New York Independent System Operator, July 15, 2008

The NYISO currently is in the process of finalizing its draft 2009 RNA. While this study does not find any reliability needs on the system resulting from violations of the loss of load expectation ("LOLE") reliability criteria, its findings are based on two core components included in the study's base case: (i) a lower load forecast; and (ii) a defined and significant degree of success in the state's energy efficiency efforts.

The Energy Plan must set policy to foster the construction of new, and the continued retention of, needed existing energy resources. To achieve this result, the Energy Plan must establish a balanced approach, incorporating three components of a successful energy system – generation, transmission and distribution, and energy efficiency and demand response. The following suite of recommendations is designed to ensure that the state's energy needs continue to be met in the future in a reliable and cost-effective manner, while limiting environmental impacts.

Electricity Generation

Even with successfully implemented energy efficiency programs, New York State is likely to need additional electric generating capacity to meet our energy needs going forward. That is why the core component of sound energy policy is promoting the development of new generation resources and maintaining the needed megawatts currently operating on the system. In doing so, it is important that we balance environmental considerations to ensure that fuel diversity is maintained. In addition, a comprehensive siting law should be enacted, and the competitive wholesale market structure should continue to be refined.

In assessing New York's generation needs, special consideration must be given to New York City, due to the likely constrained nature of this area and its concentrated load patterns. In addition, the role played by two New York authorities, the New York Power Authority ("NYPA") and the Long Island Power Authority ("LIPA"), must be addressed. Lastly, the importance of Empire Zone designations as applied to electric generating facilities must be recognized.

Fuel Diversity

Fuel diversity is one of the keys to affordable and reliable electricity. A diverse availability of fuel and power supply resources, bolstered by additional strides in efficiency, will strengthen our economy and security, while making important global contributions to a cleaner environment. In order to best ensure fuel diversity and system reliability, New York must maintain its needed existing facilities and promote the siting and development of a broad spectrum of new resources.

Governor Paterson appears to have embraced the importance of fuel diversity, as his Executive Order refers specifically to "[A]n assessment of objectives and strategies to increase energy supply and to reduce energy demand, considering factors **such as fuel diversity,** environmental justice, consumer costs, economic competitiveness, greenhouse gas reduction, renewable resources, and the maintenance of reliable electric and natural gas systems." [Emphasis added]

A diverse fuel mix protects consumers from contingencies such as fuel unavailability, price fluctuations, and changes in regulatory practices. To meet future energy needs while maintaining the state's diverse fuel portfolio, IPPNY makes the recommendations found on the following pages.

Balanced Environmental and Energy Policies

A clean and healthy environment is a goal that can be supported universally. Unquestionably, New York State has taken an aggressive approach to addressing environmental concerns, the goals of which are laudable and could lead to new economic opportunities. Environmental regulations, however, if not implemented in a balanced manner, also may significantly affect the state's ability to maintain fuel diversity and, therefore, overall system reliability. The NYISO's *Power Trends 2008* report underscored the importance of evaluating the cumulative effects of environmental regulatory initiatives to determine overall impacts on energy system reliability and the competitive marketplace.[21] This effort is not about reducing environmental protection; instead, it is about making sure that the state's environmental rules and its energy policy can work well together, without jeopardizing the state's reliable and fuel-diverse energy system.

"This effort…is about making sure that the state's environmental rules and its energy policy can work well together…"

IPPNY is encouraged that the Governor's Executive Order and the Scope of the State Energy Plan identify the importance of assessing state environmental policies and programs that impact the state's development and implementation of energy policy and programs. To date, New York has not taken a comprehensive approach to balancing avoided environmental impacts with the need to maintain system reliability and fuel diversity, as well as energy investment for economic development.

The Energy Plan should set a clear, long-range direction for energy policy that environmental initiatives will follow. Certainty and advanced planning in environmental regulations will allow developers to make efficient investment decisions, which ultimately will support public benefit goals of achieving cleaner and cost-effective sources of supply. To best prepare future environmental policy, it is vital that the Energy Plan assess the cumulative impacts that all existing and pending environmental regulations may have on reliability and fuel diversity. This evaluation under the State Energy Plan should be conducted in coordination with the NYISO's Comprehensive Reliability Planning Process, with specific input from the NYISO and its Environmental Advisory Council, from the New York State Reliability Council ("NYSRC"), and from market participants.

This cumulative impact evaluation is especially important because the NYISO has identified that new generating capacity may be needed under certain circumstances during the same period when these rules are anticipated to take effect. It will be essential for any reliability and market concerns that are identified by the cumulative assessment to be factored into the NYISO's CRPP. This is important for two reasons. **First**, it will dictate whether proposed regulations are feasible and should, on balance, go forward in light of their impacts. **Second**, when such comprehensive review – balancing environmental, energy, and economic development considerations – finds a

[21] "The extensive scope of the electric power sector's role in the implementation of various environmental initiatives requires a collaborative and coordinated effort among state and local government agencies, the NYISO and stakeholders throughout the electric industry so that environmental goals can be met in a manner consistent with the essential reliability requirements," Power Trends 2008

proposed regulation should be pursued, it will allow the market sufficient time to send appropriate price signals for the development and construction of required new generating capacity. New development and upgrades to existing facilities require long lead-time capital-intensive investments.

As New York State considers additional new initiatives, the Energy Plan should be the forum to consider their ramifications, including in areas such as: (1) the potential interstate impacts of New York specific rules (such as leakage and how a given program may alter the current equilibrium in New York versus the larger Northeast region and the rest of the nation); (2) methods to incorporate mechanisms to deal with unintended consequences from environmental initiatives that could impact energy reliability and costs (such as the need to plan ahead on how to minimize disruptions and build in "safety valve" features); and (3) the need to focus on areas where the greatest benefits versus costs for the attribute that is being targeted can be achieved.

All of these factors must be assessed comprehensively. To that end, IPPNY has developed a document (attached, pg. 36) that outlines the confluence of several environmental initiatives taking place in New York. Attention must be focused on the structure and timing of these programs and their overall effects. For example, the current initiatives have widely varying impacts and require different solutions. A cumulative look must be taken at all programs (existing and new) to evaluate cost and reliability impacts. In particular, in light of the substantially changed financial situation as well as the fact that the first auction cleared at a price more than 50 percent higher than was modeled in the impact analyses, an overall Regional Greenhouse Gas Initiative assessment must take place sooner than the scheduled 2012 review. Thus, an evaluation of the ongoing allowance auctions under RGGI should be performed by Potomac Economics, the auction monitor, along with stakeholder input, following the auction that is scheduled to be held this December. The results of this analysis should be provided to the public prior to the March 2009 auction.

Furthermore, the process that is developed for conducting this cumulative analysis and incorporating its results into decision-making should become standard practice for the development of Regulatory Impact Statements, which accompany environmental regulations that have energy impacts. Without balancing environmental proposals with energy and economic development needs and goals, environmental regulations can potentially have a negative cumulative effect on cost, at minimum and overall system reliability in the worst case.

Although balanced environmental policies will aid in the maintenance of fuel diversity, specific actions can be taken to advance the vitality of individual fuel sources.

- **Natural Gas**

Natural gas-fired generation is a clean and efficient fuel source for producing power. Due to its dispatchable (flexible) nature, it also provides important load-following capability, which becomes even more critical as more sources that are intermittent are added to the energy system. As our reliance on natural gas has grown, we also must make sure that we have adequate and diverse sources of supply – especially in high demand areas like Long Island and New York City, where there is a limited ability to bring other forms of generation on

line, due to significantly greater environmental restrictions in those areas. The need for a more abundant and reliable supply of natural gas and sufficient delivery infrastructure is necessary to ensure that the newest and most efficient generating facilities can operate when needed, without being forced off line or being required to fuel switch due to fuel limitations, and that the cost of electricity can be reduced.

The need to augment natural gas fuel supply becomes even more evident, considering modeling that was conducted prior to the implementation of the RGGI. This modeling showed that an even greater usage of natural gas (almost double) is projected to occur after the initiative is implemented.[22] Without a reliable and more abundant supply of natural gas, it will be more difficult to reach the state's RGGI goals and consumer costs will likely increase, perhaps substantially.

To ensure a reliable and more affordable supply of natural gas, the state must develop a diverse portfolio of supply options. New natural gas pipelines or expansions of existing pipelines from historical sources of supply, like Western Canada and the US Gulf Coast, should be evaluated. The state also should continue to monitor the potential to draw from new sources of supply, like the US Rockies and the Appalachian Shale. However, siting, permitting and building of natural gas pipelines in the state is not a certainty. The state and the public have a mixed record in supporting these initiatives. Furthermore, it must be recognized that New York's location near the end of the pipeline system from the most prolific supply basins handicaps its ability to maximize reliability and reduce cost, as the gas must travel great distances through other North American consuming regions.

Therefore, in considering the diversification of natural gas supply options, the state also must consider liquefied natural gas ("LNG").The ability to ship LNG long distances in state-of-the art tankers has the potential to open the state up to a new world of gas supplies that currently lack a market. Furthermore, the ability to deliver significant quantities of natural gas directly into the New York pipeline system has the benefit of increasing supply diversity and reliability, while reducing costs. Consistent with IPPNY's position on competitive electric markets, we believe that gas supply additions would benefit competition; generally, whenever there are more suppliers, supply options, and competition, markets become more efficient and consumers benefit.

In evaluating new pipeline and LNG proposals, the state must be scientific and evaluate projects on their respective merits. It is important to support those projects that minimize adverse impacts to the environment, are technically and economically feasible, and are being developed by credible parties. Furthermore, it is also essential for the state to take a longer-term view of the natural gas supply horizon and evaluate the cumulative impacts of multiple smaller natural gas supply projects versus fewer larger natural gas supply options.

While renewables, conservation and efficiency programs are critical to slow the growth in demand for natural gas, they will not supplant demand, particularly in southeastern New York where natural gas supplies are most needed. In any event, it will take time to develop these programs fully. To close the gap between demand and supply, stabilize energy prices and continue to advance air quality and economic goals, the region must look to new sources of

[22] Regional Greenhouse Gas Initiative Modeling Results, http://www.rggi.org/about/history/modeling

natural gas that can be delivered directly into the region.

- **Coal**

The Energy Plan must recognize coal-fired facilities as an important component of New York's generation fleet. Coal is our nation's most abundant fuel, according to the U.S. Department of Energy.[23] Within our country's borders, we have enough coal to last the next 200 years. America has more than 250 billion tons of recoverable coal reserves – the equivalent of 800 billion barrels of oil, more than three times Saudi Arabia's proven oil reserves. Additionally, coal is a relatively stable and generally less expensive fuel source for the generation of power, which is why it accounts for approximately fifteen percent of the energy generated in New York. These facilities also provide critical load-following capability that is needed to balance the system. As more wind facilities are added in the western part of the state to meet the Renewable Portfolio Standard ("RPS") goals, such capability becomes all the more essential. The positive attributes of coal as a fuel source warrant the continued operation of New York's coal-fired generating facilities, as long as these facilities are economic and have incorporated appropriate and available emission control equipment to satisfy applicable environmental requirements.

Coal facilities have added controls or taken other measures and, as a direct result, are running cleaner now than ever before. However, at the present time, there simply is no available, economically feasible control technology to address carbon dioxide ("CO_2") emissions. Therefore, research, development, and implementation of clean coal technology is vital to future energy production. Given its clear commitment to the environment and the many positive attributes that coal provides to the state as a fuel source, New York State should take affirmative steps to help advance this technology. For example, an important component of clean coal facilities in the state is the development of carbon capture and sequestration technology along with a clear process for permitting of carbon storage. The Energy Plan should call for Energy Efficiency and Clean Technology Account funds, as collected under RGGI, to be used explicitly for the research and development of carbon capture and sequestration technology, among other purposes.

Finally, New York State can continue to offer economic incentives for the development of clean coal facilities. The New York State General Municipal Law currently allows all clean coal technologies to be eligible for development and to receive Empire Zone benefits. Specifically, pulverized coal technology, circulating fluidized bed technology, and integrated gasification combined cycle technology that is capable of capturing CO_2 for sequestration or capable of being retrofitted to capture CO_2 for sequestration are all considered eligible under the statute. The Energy Plan should continue to utilize this law, among other measures, to support the development of a clean coal facility in New York State.

- **Nuclear**

Because of the advantages that nuclear energy offers, neighboring states and much of the world have embraced nuclear power, in conjunction with renewable sources and energy efficiency, as essential to dealing with both climate change and meeting electric needs. As a high capacity, baseload energy source, nuclear energy is an efficient

[23] "Coal Basics 101," Energy Information Administration

and highly reliable source of energy that produces near zero CO_2 emissions. In New York State, for the year 2007, nuclear energy constituted 13 percent of the supply portfolio, and in 2006, produced 29 percent of the energy to meet consumers' needs.[24] To assess the role these facilities play to meet needs in its system, particularly in the highly constrained southeastern New York area, the NYISO conducted a sensitivity analysis in its draft 2009 RNA Report that modeled the impacts of the result from the retirement of two of these baseload nuclear facilities, located at the Indian Point Energy Center in the Town of Buchanan.

In southeastern New York, depending upon load levels, the Indian Point nuclear facilities are relied upon to provide at least 20 percent and as much as 40 percent of the power needed to meet customers' needs. As reflected in the NYISO's analysis, the reliability impacts that directly result without these facilities are severe. Specifically, to meet mandated reliability criteria, New York State must demonstrate that its loss of load expectation does not exceed one day in ten years (represented as 0.1 days/year). Without the two Indian Point nuclear facilities in southeastern New York, New York State would violate its reliability requirements by a substantial margin in a critical area of the state. The NYISO study finds that the LOLE skyrockets to as high as 4.11 days per year.[25] In addition, due to their location, these facilities also provide critical voltage support services in a highly sensitive part of the state's transmission system.

Thus, from purely a reliability perspective, New York State must support the continued operation of needed existing nuclear facilities as an integral part of its overall supply portfolio mix. These facilities are key in meeting a substantial portion of the state's energy needs, avoiding the release of millions of tons of greenhouse gas emissions that would otherwise result were this energy produced by fossil-fueled facilities going forward. Indeed, as reflected in the modeling results in support of the implementation of the RGGI, the viability of the RGGI program is premised on the continued operation of existing nuclear facilities.

In addition, the Energy Plan should go beyond embracing New York's existing nuclear facilities and welcome the development of new nuclear energy facilities. If and when the United States Nuclear Regulatory Commission issues approval for nuclear projects proposed for New York, New York State should provide every opportunity to allow such projects to succeed.

- **Renewable Energy**

New York State currently has over 700 MW of wind generation in operation. Another 7,000 MW of "green power" projects are proposed for interconnection. As stated earlier, New York's competitive markets have facilitated tremendous growth in renewable energy. By virtue of its carefully developed structure, the RPS has made it possible to bring many renewable projects on line, while importantly limiting the impact on competitive markets. Additionally, more market opportunities are likely to arise for renewable energy resources following the implementation of the RGGI program.

New York should continue to promote renewable energy, and the state's RPS program is an excellent vehicle to do so. An update provided to the PSC in April of this year indicated that the RPS initiative, now

[24] NYISO 2007 Load and Capacity Data Book
[25] NYISO 2009 Reliability Needs Assessment Draft report (dated October 21, 2008) at I-27

approaching its fourth year, continues toward its goal of having 25 percent of the state's energy come from renewable sources by 2013. Since its creation by the PSC in September 2004, the initiative has supported the development of 1,345 MW of renewable electricity, mainly wind and hydro, some of which is now on line. Last year, nearly $267 million was contracted for renewable energy attributes in New York under RPS auspices, an increase of 49 percent from $178 million in 2006. New York must ensure that the RPS continues to receive full funding going forward.

However, in addition to full funding, RPS program eligibility should be expanded. Hydroelectric facilities not only aid in maintaining the state's power grid, but they also provide significant environmental benefits to the state. One way to support hydroelectric development in New York State is to expand the RPS program to include Low Impact Hydropower Institute ("LIHI")-certified hydroelectric facilities. Currently, hydroelectric megawatts (pre-1997) are exempted from the state's RPS and, therefore, not acknowledged for the environmental benefits that they provide. LIHI-certified hydro owners make significant investment to reduce the environmental impacts of their facilities and must undergo a rigorous review to prove they have satisfied the following low-impact criteria: river flows; water quality; fish passage and protection; watershed protection; threatened and endangered species protection; cultural resource protection; recreation; and facilities recommended for removal. These criteria standards are based on the most recent, and most stringent, mitigation measures recommended for the hydro dam by expert state and federal resource agencies, even if those measures are not a requirement for operating. While it is understood that the RPS program was implemented to stimulate new renewable investments, maintaining current renewable infrastructure is also critical in obtaining the overall goal of the program. Including LIHI projects in the program will help ensure that this result occurs.

Additionally, New York State can assist in incentivizing additional capacity and sustaining existing capacity by supporting energy-from-waste's ("EfW') inclusion in New York's RPS. We believe this recommendation is consistent with the state plan for renewable energy, as all renewable technologies should be aggressively pursued and encouraged. EfW is indigenous and sustainable – defined as renewable at the Federal level, as well as in 25 states – and it is included in the renewable portfolio standard of almost every state that has both an RPS and EfW.

EfW from New York's ten facilities offers around 2.4MM MWhr/yr, and maintaining or increasing this capacity has the same economic challenges as does other alternative energy sources. EfW facilities can play an important role toward reaching New York's current renewable energy targets and future carbon reduction targets, while producing clean and reliable electricity and providing safe solid waste management in New York. Relative to greenhouse gases, EfW in New York currently offsets almost 4MM tons per year of CO_2. Also, EfW is able to provide power at a very high land density factor, which allows for placement closer to needed load centers. The combined benefits offered by EfW merit its inclusion in the RPS. This approach ensures the continued health of the current EfW portfolio and opens the door for additional EfW facility development as well as the expansion/enhancement of existing ones.

Modifications to the RPS also should consider additional incentives for generation that is capable of being dispatched by the NYISO. As the amount of intermittent renewable generation on the system increases, it is important that public policies recognize that there is additional value to renewable generation that is capable of following the load. For example, there are a number of options for backing up intermittent renewables, such as biomass repowering, bio-diesel, and gasification. The re-fueling of existing fossil facilities to biomass also will create a new fuel supply industry that can become a major economic engine in upstate New York.

Finally, it is imperative that New York State embraces all of the renewable energy resource technologies as defined in existing New York State Energy Law.[26] Unfortunately, the Department of Environmental Conservation ("DEC") and the PSC have chosen to interpret renewables in a manner limited primarily to non-emitting fuels. Under existing New York State Energy Law, renewable energy resources are sources that are capable of being continuously restored by natural or other means or are so large as to be useable for centuries without significant depletion. This definition applies to energy sources beyond wind and hydro and includes power generated by EfW and possibly nuclear. New York needs to continue to consider broadening RPS eligibility and exploring opportunities to have the RPS available on a more level playing field with all fuels included in existing law as eligible for the same funding opportunities, RFPs, renewable standards, and other provisions.

[26] Subdivision 12 of Section 1-103 of the New York State Energy Law

Generating Facility Siting

As we go forward in New York, we will need to repower some of our existing generating facilities and build new facilities of all fuel types. Any effort of this magnitude faces many significant challenges. To that end, a comprehensive and efficient generating facility siting law is an important component to allow New York to do so. With fierce competition for investment dollars in energy markets and given the current financial climate, now more than ever, it is important to send a strong message to the financial world that New York is committed to developing new, efficient sources of electric generation through a fair and timely process. To that end, investors and power producers need to be able to assess permitting costs, timeframes, and their likelihood of success realistically.

"…it is important to send a strong message to the financial world that New York is committed to developing new, efficient sources of electric generation…"

New York's previous siting statute expired at the end of 2002. The current process for the siting of generating facilities is governed by the State Environmental Quality Review Act ("SEQRA") under Article 8 of the New York Environmental Conservation Law. Under the previous siting statute, SEQRA governed the review of generating facilities less than 80 MW; now, SEQRA applies to all sizes of generating facilities. SEQRA necessitates support of the locality in which the facility would be built, in order for the facility to complete the regulatory review process. The previous statute had allowed the Siting Board to waive the application of local requirements to the facility siting project, if the Board found that those

requirements would be unreasonably restrictive in light of the need to build facilities to meet the state's energy needs. Without the renewal of a workable siting statute, the ability of needed facility projects to complete the siting process is too uncertain.

To assist in bringing new facilities on line, any newly enacted siting statute must contain several essential elements. First, the process needs to be fuel neutral; no technology should be excluded before it has a chance to be fully reviewed by a Siting Board. Technological advances in terms of environmental compatibility, together with future availability and price of fuels, cannot be completely known, and, therefore, no fuel or technology type – including coal and nuclear facilities – should be excluded. All fuels and technologies should be considered on a level playing field. It is the Siting Board that must decide, on a case-by-case basis in light of the record of evidence presented, which specific projects should receive certificates to go forward with construction.

Secondly, environmental protection is very important, but it must not be the dominating criteria for generating facility siting. Environmental criteria should not be used as a gate to exclude some technology types. Environmental considerations are a significant factor in the siting process. In fact, in the previous siting statute, and in all proposals for a siting law since that statute's expiration, the DEC had a seat on the Siting Board and lends its expertise on environmental issues to all those involved in the decision-making process. Additionally, the DEC issues permits that an applicant must comply with in order to build and operate a facility. No Siting Board may approve a project that cannot adhere to current federal and state environmental regulations, much in the same way that DEC does not allow any facility to ignore the same standards.

IPPNY suggests that the Energy Plan underscore the urgency of enacting a generating facility siting law to help facilitate the development, siting and construction of state-of-the-art generating facilities to ensure that the state continues to have a reliable and fuel-diverse electric energy supply. The Energy Plan must state clearly that an effort has to be made to develop a generating facility siting statute that allows developers of facilities – utilizing all fuels and technologies, as long as they comply with existing environmental regulations – to participate in a comprehensive process with clearly defined criteria, timelines, and costs.

Wholesale Energy Markets

A generating facility siting law alone, however, will not ensure the development of new resources. As with any industry, a properly designed, transparent and non-discriminatory market is imperative for supporting investment in needed existing resources and new facilities. IPPNY urges the Energy Board to utilize the work currently conducted by the NYISO and the NYSRC through their existing processes on the development of the RNA, the CRP, and the Installed Reserve Margin ("IRM"). The Energy Plan should adopt the results of these planning tools without modification.

New York's competitive electricity markets have evolved since their inception in 1999. Today, efforts are ongoing to improve various facets of the market. Some proposed enhancements can have a very positive impact on the state's energy future. Perhaps the most important market enhancement will be the implementation of a transparent and

non-discriminatory forward capacity market. Forward capacity markets have been implemented in PJM[27] and in the New England RTOs over the last few years; New York now has proposed to implement a similar concept, specifically designed to square with the NYISO's CRPP. At this point, the forward capacity market proposal advanced by the NYISO includes voluntary capacity auctions five and six years ahead of the capability year, with a mandatory auction to lock in the projected capacity at four years ahead. This system, which is open to all resource types, including demand response, is designed to allow sufficient lead-time for new projects to bid in and develop their resources, if accepted. There also would be reconfiguration auctions closer to the year being scheduled to allow for the inevitable changes in load forecast, changes in project status, and other factors that can impact the capacity markets and spot market auctions utilizing the demand curve structure.

The forward capacity market construct would provide much-needed, longer-term pricing signals to enhance the market's ability to respond to reliability needs. The financially binding nature of these markets will improve the ability of developers to obtain necessary financing and will provide for a known revenue stream for needed existing, as well as new, generation resources, which will better support the planning and management of investments necessary to meet the state's capacity needs. The development of new generators and upgrades to existing resources are long-lead time projects that require significant upfront investment. The forward capacity market will reduce the risks associated with such investment and will directly support a coordinated and efficient response to reliability and consumer needs going forward. The Energy Plan should recognize the potential benefits offered by properly structured, FERC-approved forward capacity markets and recommend and support the continuation of their development by the NYISO and market participants.

Absent the implementation of a properly structured forward capacity market, another potentially useful development has been discussed in PSC proceedings – the use of long-term contracting to complement the competitive markets. Procurement of resources using long-term contracts can allow loads to hedge the cost of electricity and provide more price certainty and better revenue streams for generation resources as they seek to obtain financing from banks that are becoming increasingly more adverse to risk. However, these procurement activities must be conducted in a non-discriminatory and transparent manner, and the contracts must be structured to be consistent with the markets to ensure there are no adverse impacts to the competitive wholesale markets. Long-term contracts awarded to merchant developers are an option that warrants further consideration. The Energy Plan should promote the development of regulations that facilitate the use of competitively procured long-term contracts by regulated utilities or load serving entities.

In addition, in the last two CRPs issued by the NYISO and the last two annual State of the Market reports issued by the NYISO's market advisor, Dr. David B. Patton, both the NYISO and Dr. Patton have identified needs for more supply in the Lower Hudson

[27] PJM Interconnection is a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

Valley. Another development that will enhance the market's ability to respond to reliability needs is the development of a Lower Hudson Valley Capacity Zone as part of the NYISO's capacity market structure. This zone is proposed to include the lower Hudson Valley, New York City and Long Island, and it will have its own Installed Capacity ("ICAP")[28] demand curve based on the cost of new entry in this zone, as is true of the original locality zones of Long Island and New York City. The creation of this zone will recognize that the costs for new entry may be higher as one approaches the New York City metropolitan area and will provide more accurate pricing signals for the development of new resources in that area.

Most importantly, any actions endorsed within the Energy Plan must be structured in a way to minimize any adverse impact on competition. IPPNY re-emphasizes the need for the Energy Planning Board to coordinate its activities with entities such as the NYISO and the NYSRC to ensure that the policies advocated under the Energy Plan do not interfere with the current operation of, and/or impede the ongoing evolution of, these markets.

New York City

Generation located in New York City is critical to maintaining and improving the levels of reliability that are needed in this area. Indeed, the population density and economic importance of New York City to the state as a whole requires that special attention be given to this area with regard to reliable, cost-effective and environmentally sound sources of energy supply. The options available to New York City to develop new generation or to import additional power to meet future energy needs are limited. At the same time, much of the existing local sources of supply are aging, less efficient and less environmentally friendly than the current state-of-the art technology. Given the needs in New York City, it is absolutely critical that correct and efficient market-based price signals are provided to attract and retain needed infrastructure. This scenario will allow for efficient investment in needed existing resources, while also supporting a process that encourages repowering and new development consistent with the objectives that have already been identified in New York City's PlaNYC[29] and the NYISO's CRPP.

Currently, however, development in New York City is hindered by a number of factors, some of which have been discussed above. First and foremost, the absence of a comprehensive generating facility siting law all but ensures that new generation and/or generating facility repowerings will face an almost insurmountable uphill battle. Narrow special interests must not be allowed to subvert the overall energy needs of New York City, and a generating facility siting law at least assures that a big-picture view will be used in determining the merits of particular projects while ensuring local views are heard and addressed. Additionally, more power generation requires the reliable supply of fuel. In New York City, for environmental and other reasons, any new generation will

[28] Installed Capacity or ICAP is defined by the NYISO as a generator or load facility that complies with the requirements in the Reliability Rules and is capable of supplying and/or reducing the demand for energy in the New York Control Area for the purpose of ensuring that sufficient energy and capacity are available to meet the Reliability Rules. The Installed Capacity requirement, established by the NYSRC, includes a margin of reserve in accordance with the Reliability Rules.

[29] "PlaNYC: A Greener, Greater New York," The City of New York, Mayor Michael Bloomberg, April 2007

predominantly be natural gas fired. Once again, in light of this fact, the Energy Plan should call for improvements in natural gas infrastructure and embrace LNG as an option.

Also, as addressed above, the ability to site a project does not equate into the ability to finance one. New York City is faced with significant issues concerning uncertainty in price signals, financing, and long-term revenue. For example, the capacity market in New York City currently provides price signals only on a month-to-month basis, and that price has been influenced in the recent past by load supported uneconomic entry, i.e. contracting with out-of-market resources via discriminatory auctions or self-supplying and offering those resources to the competitive market ignoring actual costs (offering resources for $0). Recent FERC decisions[30] have attempted to mitigate this behavior; however, continued monitoring of buyer and seller bidding behavior and development of appropriate rules to ensure competitive outcomes is critical to support confidence in the markets.

Recommendations made above, such as a forward capacity market, long-term contracts employing transparent, non-discriminatory procurement practices, and the creation of an additional capacity zone, will assist in attracting investment into New York City and the surrounding area. The Energy Plan should support existing processes to advance these outcomes.

[30] FERC Dockets EL07-39-002 ER08-695-000 ER08-695-001, ORDER ON REHEARING AND FURTHER ORDER ON COMPLIANCE TARIFF SHEETS, Issued September 30, 2008, clarified several issues with respect to In-City ICAP Market Mitigation, in particular that any new entry, whether by a net buyer or not, would be subject to buyer side mitigation rules as proposed by the NYISO.

Additionally, a recent change in law has eliminated property tax incentives (Industrial and Commercial Incentive Program) for utility property improvements and developments in New York City, including generation resources. This incentive was reflected in the price points for the demand curves for the New York City zone. The NYISO Board, however, when informed of this change, which should have resulted in a 39 percent increase in the cost of new entry for New York City, decided that it was not necessary to update the curves immediately. The NYISO Board instead opted to wait for the next routine update cycle in two plus years. This delay adversely contributes to the perception that the current markets will not provide the price signals and certainty that are required for development in New York City. This issue is now pending before the FERC for resolution. The Energy Plan should encourage all decision makers to strive to ensure that all reasonable steps are taken and changes are supported where necessary to allow efficient market outcomes and accurate price signals.

New York Power Authority / Long Island Power Authority

IPPNY recognizes that legitimate needs exist for the New York Power Authority ("NYPA") and the Long Island Power Authority ("LIPA") to acquire energy supply. In order to enhance the competitive nature of the markets in New York, these public entities should look to the markets to meet their needs. In the absence of a properly-structured, FERC-approved forward capacity market, transparent and non-discriminatory RFPs can be used effectively to solicit proposals and arrange contracts for long-term supply. This approach is important, particularly given that, in light of the most recent FERC

orders, contracts cannot be used to drive the price of installed capacity in the rest of the market down through uneconomic entry. The FERC's latest decisions in its New York City ICAP mitigation proceeding go a long way to making the RFP process a useful mechanism for bringing new resources into the mix.

Competitive procurement should continue to be part of NYPA's economic development Power for Jobs program. Legislation signed by the governor in June 2008 will allow current program participants to extend their contracts through June 30, 2009. The law should be extended for a longer period to allow certainty and price benefits associated with longer-term power contracts. NYPA should enter into power purchase agreements (short, medium and long-term energy and capacity purchases) with power producers. IPPNY contends that NYPA should keep facilitating the addition of energy supply for economic development through competitive procurement. Competitive procurement, which allows fair competition for existing as well as new resources, is the process that best allows for a full examination of each proposal's benefits and drawbacks and for a determination of which project, ultimately, is best for New York's consumers. The Energy Plan should emphasize this point.

Empire Zones

The Empire Zone program is designed to generate tangible economic benefits to the State of New York by encouraging the creation of jobs and increased investment in the economy. Existing generating facility owners have communicated that, if not for these benefits, it is unlikely that they would have been able to move forward with development.[31] Empire Zone benefits should continue to be offered as incentives for the construction and/or expansion of all types of generating facilities.

Power generation is not an inherently labor-intensive industry, and generation facility owners contribute economically to the communities that they serve. In the electric generating sector, the sources of jobs are often broader than those at the facility alone. Besides the workforce required for routine daily operations, generating facilities employ significant levels of positions from local unions, contractors and consultants for periodic maintenance outages and capital improvement programs. Generators provide reliable supplies of power for businesses and other energy consumers throughout the Empire Zones and, indeed, statewide, due to the manner in which the electricity marketplace operates; these supply sources support jobs in those sectors. In some instances, generators provide an economic source of steam, which is essential to the operation of many businesses and other "thermal hosts" and enables these entities to create and maintain jobs. For example, facilities provide steam to Consolidated Edison, which supplies this resource to New York City.

Success for New York's generators should not be measured solely by job creation but also by the aggregate assessment of employment, community investment, taxes paid, and, in the case of power producers, the efficiency and reliability with which they generate electricity for consumers. Considering the additional economic gain

[31] "The Empire Zone program is instrumental in NRG's decision to maintain operations and expand investment in its New York-based plants," Curt Morgan, Executive Vice President of NRG Energy Inc in a September 21, 2006 letter to the editor, Syracuse Post Standard

resulting from the jobs retained or created by sectors that support electricity (railroad, fuel and equipment supply, etc), the direct benefit of these generators is enormous.

Going forward, generators should not be subject to different requirements than other businesses. Electric generating facilities that already are certified as eligible to be part of the Empire Zone Program should continue to receive their existing program benefits until their existing certification term expires. Otherwise, changes would subject existing facilities to new rules that would affect their real property taxes and the economics under which the facilities operate and make investments. When these companies re-apply for program benefits, they should be eligible to participate in the program in the same manner as any other program participant.

Transmission and Distribution

A robust energy delivery infrastructure operated by financially healthy utility companies is essential to a sound energy system and should be included in the Energy Plan as the second important component of meeting energy needs. As has been evidenced in recent utility rate cases before the PSC,[32] the transmission and distribution ("T&D") system has ongoing large annual capital requirements, yet energy system restructuring included a decade of rate freezes for T&D companies, as well as the required sale of generation assets that also reduced the capital base of these companies. Utilities need to have access to capital and financial strength to invest in delivery system enhancements to allow the energy system to continue to be reliable.

As transmission projects are proposed, the appropriate authorities should consider these projects fully. Transmission cannot be evaluated in a vacuum, however. There may be instances where strategically placed generation or energy efficiency is a better alternative that could bring more benefit to customers. The Energy Plan must emphasize that it is in New York State's interest to develop policies that take a comprehensive look at transmission and distribution upgrades.

Energy Efficiency / Demand Response

Energy Efficiency and Demand Response are the third component of a sound energy system. In some circumstances, future energy needs will not be met by increasing the amount of electricity generated or improving the delivery of that electricity. Rather, avoided load, through properly structured EE and DR programs, will play a significant role. Indeed, New York State is developing a plan to achieve its stated goal of a 15 percent reduction in load by the year 2015. On May 16, 2007, the PSC initiated a proceeding to design an electric and natural gas Energy Efficiency Portfolio Standard ("EEPS"). This proceeding is a major avenue for the implementation of the "15 by 15" Initiative. The EEPS establishes targets for energy efficiency intended to address the pattern of increasing energy use in New York.

EE and DR are valuable tools and can help meet load under peak conditions. As reflected in the most recent Con Edison rate

[32] PSC Case 08-E-0539, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service, Filing Letter (dated May 9, 2008)

case,[33] these resources can even reduce the need for major transmission and distribution infrastructure investment. However, EE and DR have limits, and, given the relatively long lead times for new infrastructure development, New York needs to be cautious concerning the degree to which EE and DR are relied upon as long-term replacements for iron in the ground. In order to avoid any reliability issues, these resources must be properly targeted, measured, and verified. Furthermore, whether or not specific generators can be replaced, or the output from their operations significantly reduced, by demand response or energy efficiency is a very technical, yet essential, question that necessitates full assessment of reliability implications.

According to the NYISO, questions about whether demand response resources could replace some generating units and to what extent demand-side options can replace the output of supply-side options cannot be answered by an easy analysis. This concern is particularly true of the complex nature of the energy system in New York City. The NYISO has indicated that some generating units in load pockets may be needed, even if demand is lower.

This difficulty is especially true for peaking facilities in New York City with its complex and highly loaded electrical network, which contains a number of sub-pockets within this highly constrained load pocket. For example, in order to meet reliability criteria, a certain portion of the generation needs of New York City must be met by generators physically located within, or directly interconnected to, the City. Similarly, certain generators may be required for voltage support, black start, or other system operation needs. Whether one or more peaking units could be replaced would depend on the units in question, their location, and the availability of sufficient, targeted energy efficiency within that area.

As being discussed within the EEPS proceeding, the PSC should work with the NYISO and the NYSRC to identify and quantify whether and, if so, what amount of increased reliance on demand response, energy efficiency, and special case resources to meet peak load will maintain system reliability. The NYISO, PSC, and NYSRC also should determine the extent that it may be possible or appropriate to repower facilities to modern, state-of-the-art generation that meets New Source Performance Standards.

Specifically, the PSC should work with the NYISO and the NYSRC to conduct two analyses. The first would determine the potential for EE and DR programs to address the high demand period requirements and to assess whether their increased use can be accomplished without undermining reliability before determining what market-based price signals should be advocated. The second analysis should determine the potential for replacement of the output of the peaking units and what market based price signals are needed to make replacement possible and economic. These evaluations should be conducted in cooperation with the NYISO's CRPP, with input from market participants, and the recommendations of the CRPP should be provided to the Energy Planning Board.

The development of these market-based price signals should include the input of the owners of the peaking generation in order to create a competitive solution to meet the needs of this initiative. To that extent, the program could contain market solutions in

[33] PSC Case 08-E-0539, supra, Direct Testimony of Company Infrastructure Investment Panel, May 9, 2008, at 18-20, 46

the form of a) RFPs for repowered generation through the NYISO, utilities, NYPA and LIPA, which would be bid into the market following market rules; b) market-based credits for those facility owners who choose to repower their units without a contract (similar to the Renewable Energy Credit market for wind capacity); or c) a long-term capacity market obligating loads to make forward capacity purchases from these repowered facilities. The Energy Planning Board should accept the findings of the CRPP and encourage the use of market-based price signals to facilitate investments to meet the goals of the EEPS proceeding.

Conclusion

New York must have an Energy Plan that clearly outlines the state's priorities and policies regarding energy. It must evidence a balance among energy, environmental and economic development factors. IPPNY believes that such a plan should leave no doubt that New York is committed to competitive wholesale energy markets and will do what is in its power to ensure that the state provides the regulatory certainty – particularly with regard to the restructured energy markets, environmental policy, and generating facility siting laws – that is necessary to attract crucially required investment in needed new and existing resources in our state. New York's markets still are evolving, but so far they have delivered in terms of reliability, efficiency, cost, new investment, and several other ways. The recommendations put forth by IPPNY in this White Paper will assist in the continued evolution of these markets and in meeting future energy needs, and we hope that the Energy Planning Board incorporates them into the state's Energy Plan.

Attachment

DEC Environmental Initiatives Affecting Generating Units

The following list of environmental initiatives describes specific regulations or plans to put in place additional constraints on electric generating units. The cumulative impacts of all these actions could affect energy policy.

Regional Greenhouse Gas Initiative (RGGI) – *APPROVED*

Description: Carbon dioxide (CO_2) emissions would be stabilized from 2009 until 2015 and then reduced by ten percent from 2015 until 2019. Generating facility owners are required to buy (for the first time) allowances to operate their facilities, while meeting emission requirements.
Problems: Strong concerns have been expressed by entities charged with ensuring the reliability of the electric system about negative impacts on reliability and the diversity of fuels that generating facilities use. No limit exists on costs, no guarantees ensure the availability of allowances to affected generating sources, and unregulated emissions from outside the RGGI region may reduce benefits.
Solutions: Generating facility owners should have priority access (like in other programs) to the emission allowances needed for facilities to operate in a reliable manner; anyone now is allowed to buy the allowances that generating facility owners need. A limit should be imposed on the cost of the emission allowances, and increased use of offset project allowances should be allowed. RGGI should end when a Federal program takes effect.
Status: The first allowance auction occurred on September 25, 2008. On December 17, 2008, New York's allowances will begin to be sold. New York's RGGI Rules took effect on October 8 (auction) and 9 (basic program). The regional program is scheduled to start on January 1, 2009. Future auctions are scheduled for: March 18, 2009; June 17, 2009; September 16, 2009; and December 16, 2009. Facilities must demonstrate compliance in 2012 for the 2009 – 2011 compliance period.

NO_x RACT and High Electric Demand Day (HEDD) Initiative Regulations – *PENDING*

Description: Nitrogen oxide (NO_x) emissions from generating facilities need to be reduced to comply with the National Ambient Air Quality Standard for Ozone. The HEDD initiative is intended to address emissions from peaking electric generating units on high ozone days. However, DEC is considering modifying the Reasonably Available Control Technology (RACT) limits for all existing sources.
Problems: Cost-effective emission controls have been installed, so further reductions will be significantly more expensive and difficult to implement. Therefore, overly aggressive control limits could impact electric system reliability by forcing unit retirements not currently expected.
Solutions: Emission reduction levels need to be reasonable to enable generating facilities to meet requirements using available technology at a feasible cost along an implementable timeframe and to allow fuel flexibility. The current flexibility available to average emission reductions across units has been very successful and should be continued.
Status: The DEC is in the process of drafting a rule.

Greenhouse Gas Performance Standard – *PENDING*

Description: DEC intends to establish a performance standard requirement to limit CO_2 emissions directly from the stacks of new or reconstructed generating facilities and other stationary sources (without any of the flexibility of a cap and trade program), even though needed emission control equipment is not available. Generating facilities would need to meet this requirement first and then also buy allowances under the RGGI program.
Problems: If the performance standards are set too low, they could force the use of specific technologies and fuels. Again, strong concerns exist about negative impacts on reliability and fuel diversity.
Solutions: DEC should not impose this additional requirement on generating facilities and instead should ensure proper RGGI implementation. Also, the state should foster the development of carbon capture and sequestration technology that would allow emission reductions to occur at generating facilities.
Status: The DEC is in the process of drafting the new rule.

New Source Review Program – *PENDING*

Description: Air emissions are reviewed for new sources and major modifications to existing sources, involving a long permit process and the installation of emission control equipment in certain instances.
Problem: DEC's proposed rules are much more stringent than the Federal rules, making the state's rules unnecessarily complex and burdensome. The rule does not make adequately clear which changes to a facility are routine maintenance and which trigger more emission control equipment, discouraging investments in generating facilities.
Solution: The definition of routine maintenance needs to be improved, as IPPNY has proposed.
Status: DEC has issued a revised version of the draft rule for public comment through October 24, 2008, and the definition of routine maintenance, repair and replacement remains unchanged.

DEC's Clean Air Interstate Rule (CAIR) – *Federal Program Vacated by Court, and EPA has filed for rehearing; Congress May Revise the Federal Rule (NYS Specific Rules Remains in Place)*

Description: Emissions of sulfur dioxide (SO_2) and NO_x from generating facilities are reduced.
Problem: DEC was considering selling allowances under the Federal version of the program, resulting in potential negative impact on reliability and fuel diversity. Based upon the value of NO_x allowances, CAIR ozone season allowances could cost of $21.7 million, and CAIR annual allowances could cost an additional $91.2 million. If New York sells its allowances and other states do not, New York facilities and energy consumers will have this added competitive burden.
Solution: Allowance allocation provisions of existing NYS specific rules should remain in place.
Status: The Federal program was to have started in 2007, and compliance was required in 2009 for NO_x and 2010 for SO_2.

NYS NO_x / SO_2 Rules – *ADOPTED*

Description: A cap and trade program was established to reduce SO_2 and NO_x emissions at electric facilities, prior to the adoption of the EPA's CAIR requirements, and those state regulations remain in place.
Status: The first phase of the SO_2 reduction started on January 1, 2005, and the second phase started on January 1, 2008.

DEC's Mercury Rule – *ADOPTED*

Description: Mercury emissions from coal generating facilities are reduced, in a stricter manner than Federal requirements.
Problem: The required emission rate of 0.6 pounds mercury per trillion Btu is an aggressive number, and planned emission control programs may not be able to meet the stringent requirements.
Solution: Emission limit averaging time should be revised to a quarterly average, rolled daily, reported quarterly.
Status: The program was promulgated in late 2006. Facilities are installing monitoring equipment in 2008, will be measuring emissions in 2009, and must begin demonstrating compliance in 2010.

Clean Water Act – Intake Cooling (316 (b)) – *ADOPTED*

Description: The program governs the location, design, construction and capacity of cooling water intake structures at large existing generating facilities.
Problems: Retrofitting existing facilities to add closed-cycle cooling (cooling towers) is extremely costly ($50 - $100 million), requires significant space, and will decrease the efficiency of the units. This requirement should not be implemented, because it could force units to retire, subsequently affecting reliability and fuel diversity.
Solutions: DEC should continue to conduct site-specific best technology available reviews and not implement a one-size-fits-all technology requirement.
Status: The program took effect in 2004.

Dam Safety Rule – *PENDING*

Description: DEC would require owners of dams to prepare safety programs, including inspections, monitoring, maintenance and operation, and emergency plans.
Problem: Hydropower facilities already are regulated by the Federal Energy Regulatory Commission (FERC).
Solution: DEC should develop its program in a manner that is compatible with the FERC program and allow the FERC to take the lead on provisions that would impact owners of FERC-regulated dams.
Status: DEC issued a draft rule for comment through May of 2008. DEC is preparing a response to public comments, as part of deciding whether to make any changes to the draft rule.

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