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June 5, 2007

Hon. Jaclyn A. Brilling
Secretary
New York State Public Service Commission
Three Empire State Plaza
Albany, NY 12223

RE: Proceeding on Motion of the Commission as to the Policies, Practices and Procedures For Utility Commodity Supply Service to Residential and Small Commercial and Industrial Customers.
Case 06-M-1017

Dear Secretary Brilling:

Enclosed please find the original and five (5) copies of the Verified Statement of Drs. L. Lynne Kiesling and Andrew N. Kleit, which is submitted as the response of Direct Energy Services, LLC ("Direct Energy") to the "Long Term Contract Issues" raised in the Commission's *Order Requiring Development of Utility-Specific Guidelines for Electric Commodity Supply Portfolios and Instituting a Phase II to Address Longer-Term Issues* issued in this proceeding on April 19, 2007 ("the Order").

Direct Energy is a member of the Retail Energy Suppliers Association ("RESA") and also supports the responses to the eleven specific questions posed by the Commission in the Order that are being filed by RESA today.

Copies of this letter have been served on all parties on the Commission's Active Party List in this proceeding.

Respectfully submitted,

George M. Pond

Attorney for Direct Energy Services, LLC

Encl./5 copies
cc: All parties in Case 06-M-1017

BEFORE THE
PUBLIC SERVICE COMMISSION
STATE OF NEW YORK

Proceeding on Motion of the Commission as to the Policies, Practices and Procedures For Utility Commodity Supply Service to Residential and Small Commercial and Industrial Customers.	Case 06-M-1017

VERIFIED STATEMENT OF DRS. L. LYNNE KIESLING AND ANDREW N. KLEIT ADDRESSING LONG TERM CONTRACT ISSUES

Introduction

My name is L. Lynne Kiesling. My business address is 3228 Andersen Hall, 2001 Sheridan Road, Northwestern University, Evanston, IL 60208. My name is Andrew N. Kleit. My business address is 507 Walker Building, The Pennsylvania State University, University Park, PA 16802-5013.

We submitted direct and rebuttal testimony on behalf of Direct Energy Services, LLC ("Direct Energy") in New York State Electric & Gas Corporation's recent electric rate case (Case 05-E-1222). We have also submitted testimony on behalf of Direct Energy in this proceeding on November 17 of last year, and rebuttal testimony on December 11 of last year. Our professional qualifications are attached to this statement.

Direct Energy has asked us to respond to the Commission's *"Order Requiring Development of Utility-Specific Guidelines for Electric Commodity Supply Portfolios and Instituting a Phase II to Address Longer Term Issues"* ("Order"). In particular, we have been asked to examine whether the Commission should adopt a program of centralized capacity planning under which regulated electric distribution companies ("EDCs") or perhaps other entities would be *required* to enter into long-term electricity supply contracts.

At the outset, we would note that a return to such a "command and control" approach to wholesale electric power markets would represent a substantial departure from the Commission's well-established, effective, and highly regarded policy that emphasizes the incentives created by competition. We believe that the public interest will be better served by competition than by old-fashioned command and control regulation. The Commission reaffirmed its commitment to this approach on pages 29 to 30 of its April 19, 2007 Order in this proceeding, where it stated that:

> Before discussing the details, it is important to note that this Commission has consistently found that the development of competitive markets, where feasible, will assist in assuring the provision of safe and adequate utility services at just and reasonable costs. We have consistently endorsed competition where it is more effective than regulation, but also realize that markets alone may not automatically satisfy a broad range of public policy needs and goals. (footnotes omitted)

We agree with this statement and believe that it should guide the Commission's evaluation of any need for Integrated Resource Planning (IRP) implemented through mandated long-term contracts. Specifically, the Commission should first determine whether there are any barriers to the proper operation of wholesale competitive markets in New York State. In the absence of any clearly identified obstacles to effective competition (which, we note, have not been identified to this point), we would strongly recommend that the Commission maintain its historical commitment to competitive wholesale power markets. If the Commission identifies one or more barriers to competitive wholesale markets, it should carefully consider whether those barriers require the abandonment of competitive markets in favor of a return to command and control regulation, or whether other, less restrictive alternatives can be fashioned that will eliminate these obstacles, thereby enabling competitive markets to function properly.

In our view, it would be a mistake for a state that has had tremendous success in creating electricity markets at all levels – generation, wholesale, and retail – to replace those markets with bureaucratic processes unless such action is absolutely necessary. This view rests on two tenets. First, the current market based system has shown itself to be well suited for meeting the needs of New Yorkers, within the public policy constraints that have been imposed. Second, trying to find the optimal mix of electricity assets to serve New York through centralized planning in which every public policy consideration is up for grabs would devolve into a morass of special pleading by various interest groups attempting to win through administrative process what they could not win in the free market or in the broader political arena.

Moreover, any policy of forcing EDCs to enter into long-term supply contracts will expose consumers to several important types of potential harm. A program of mandated long-term contracts will undermine both: (1) the powerful incentives for conservation and demand reduction that market-based pricing provides to large and small consumers alike; and (2) the gains in efficiency of operation of existing generating facilities stimulated by market forces. In addition, long-term contracts carry a high risk of future stranded costs and the erosion of the financial health of EDCs. If EDCs are forced into such arrangements, these costs will be passed through to consumers.[1]

In addressing these issues, this statement will take the following approach.

- In Section I, we begin our consideration of whether there is, in fact, an obstacle to the proper operation of competitive markets that is creating insufficient new generation in New York State. We begin this analysis with an examination of the reliability of the bulk electric system. We conclude that the challenges confronting the bulk electric system in Upstate New York (UPNY) are markedly different from the challenges confronting the bulk electric system in Southeastern New York (SENY).

  UPNY generally has plenty of capacity and transmission, little or no expected load growth, and low barriers to entry into capacity markets. Thus, we see no basis for concluding that Upstate markets are incapable of operating properly.

  In SENY, however, loads are growing and barriers to new entry are uniquely high due to the siting, environmental, fuel delivery and transmission risks and constraints that arise from the unique geography and demographics of the area. These barriers merit further examination to determine whether they create an obstacle to the proper operation of competitive markets or are simply challenges that competitive markets are better at addressing than old-fashioned command and control regulation.

- In Section II we examine whether forcing EDCs and the consumers they serve to pay for the construction of new generating capacity in SENY through long-term contracts is either necessary or desirable. We conclude that it is neither.

  If long-term contracts were necessary as a general matter to induce investment in new capacity, one would see a distinct lack of investment in other restructured jurisdictions that have eschewed the use of mandated long term contracts in favor of relying primarily or exclusively on market forces. We find this not to be the case. In fact, restructured states and countries have in many instances seen substantial investments in new capacity without the need to impose the burden of mandatory long term contracts on EDCs and the consumers they serve.

[1] To be clear, we write here in opposition to mandated long-term contracts between EDCs and generators that expose captive ratepayers to excessive risk. Long-term contracts that are voluntarily and freely entered into by economic parties that have a choice of what contract portfolios (both on the supply side and the demand side) they wish to enter into stand on very different ground. Such voluntary long-term contracts can have important efficiency properties, such as hedging risks to both suppliers and demanders. Indeed, we are aware that many such long-term contracts have arisen in the restructured jurisdictions discussed above, between non-utility entities and generators. In these instances, each of the parties involved had the opportunity to weigh the costs and benefits of long-term contracts versus other alternatives. Most importantly of all, the ratepayers in the relevant jurisdictions were not guaranteeing the rates embedded in the contracts; the risk of the contracts being financially beneficial was borne solely by the owners of the non-utility party entering into the contract.

Further, displacing competitive wholesale markets with mandated long-term contracts will undermine the powerful incentives for efficient use of New York's existing fleet of generating facilities by both producers and consumers, while at the same time exposing EDCs and their rate payers to a high level of financial risk and a high likelihood of adding a new layer of stranded costs to those that New Yorkers are still paying.

- Assuming that the Commission were to conclude that some form of regulatory action is required to induce the entry of new generation in SENY or elsewhere, we will present what we believe to be the optimal method to address this problem in Section III of our comments. This approach involves: (1) extended implementation of dynamic pricing to induce economically efficient and socially beneficial behavior by individual electricity consumers; (2) targeted elimination of barriers to the construction of new transmission facilities in South East New York; and (3) where the implementation of (1) and (2) leaves a shortfall that threatens reliability in an area, closing that shortfall through targeted acquisition of only those capacity resources needed to address the reliability concern, as has been done in other states.

In reading the Commission's order, we infer that the Commission is advancing the hypothesis that New York's electricity markets do not create the amount of new electricity capacity that would allow it to reach toward maximizing the benefits of electricity consumers in New York. We respectfully note, however, that there is no direct statement in the order outlining what problems the Commission believes need to be addressed, or the goals of any suggested solutions.

I. IS THERE A PROBLEM? A BRIEF LOOK AT RESOURCE ADEQUACY IN NEW YORK STATE

In determining whether competitive markets can ensure that New York State has access to sufficient generation to avoid the need for the Commission to return to traditional command and control regulation, we believe it is appropriate to begin with an examination of the reliability of New York's bulk electric system. If enough new generating facilities or effective substitutes for generation – such as conservation and load reduction – are being added to the bulk power system in the areas needed to meet load growth and retirement of existing units as determined by the NYISO, then it is highly unlikely that there is market failure in generation that would justify regulatory intervention to force new capacity investment.

A. NYISO's Approach to Resource Adequacy

Electricity has product attributes that make it different from other economic goods. Electricity, in very large part, cannot be stored. As a result, the amount of electricity demanded by consumers must roughly equal the amount supplied at any point in time. This in turn leads to the need for real-time balancing in the physical operation of the network. In addition, if the amount demand in an area is greater than the amount supplied, this can cause "cascade effects," with power outages potentially across several power systems.

Thus, ensuring that the supply of electricity continuously matches the demand for electricity is a crucial problem for any electricity system. An improperly structured competitive market may not supply appropriate incentives for such a system to remain reliable. This can occur, for example, if electricity consumers are charged the same retail price for electricity no matter what the true scarcity value of that electricity is at any time, and if that price fails to reflect the value of the insurance against price risk that consumers receive. Regulated, fixed retail prices disconnect both producers and consumers from the true value of electricity during such periods of high demand, thereby stifling the self-correcting properties that exist when supply and demand are connected.

In the electric power system, system operators play a crucial role in ensuring such forward-looking resource adequacy. The New York Independent System Operator (NYISO) is a not-for-profit corporation that is responsible for the reliable operation of the bulk electric system in New York State. NYISO has an open planning process to address reliability issues over a 10 year period. NYISO has recently issued its annual report concerning reliability issues in New York State ("NYISO Power Trends 2007"). We summarize the report here, and its implications.

NYISO (at 6) estimates that peak electricity demand will grow at a rate of over two percent in SENY. However, NYISO also estimates that demand will remain almost constant (an annual increase of 0.4 percent, see Table 3 of "NYISO Power Trends") in the rest of the state. Because these two areas are separated by transmission constraints, demand increases in SENY have the ability to reduce reliability significantly in that part of the state, but can be expected to have relatively little impact on reliability in UPNY.

NYISO reports (at 1) that over the past year 1250 MW of new capacity have been added to the NYISO system. Even more importantly for reliability purposes, over 1500 MW of peak demand have been placed in one of NYISO's three demand response programs. This amount of demand response represents approximately a 250 percent increase since the programs began in 2001, and it indicates the potential value that demand has as a reliability resource, as discussed below in Section III.

Another important addition to system reliability has come through increased power plant reliability. NYISO reports that since 1994 unplanned outages have fallen from 14 percent of the time to 4 percent of the time. Much of that reduction can be attributed to the economic incentives created by restructuring. (See Tierney and Kahn, A Cost-Benefit Analysis of the New York Independent System Operator: The Initial Years, Analysis Group, Boston, Massachusetts, March, 2007.) In effect, because firms are only paid for the electricity they generate, they have strong incentives in restructured markets to keep their facilities running as often as possible.

In particular, NYISO has addressed reliability concerns by pushing ahead strongly with demand-side peak reduction programs. Peak reduction programs, through such market mechanisms as interruptible contracts and price mechanisms to induce wholesale market consumers to reduce their peak demand, use market mechanisms to reduce demand during times of high wholesale prices. NYISO has shown particular innovation in encouraging retail demand aggregators to employ peak reduction programs for their customers (NYISO report at 10). (We will discuss NYISO's peak reduction plans further below in Section III.) We encourage the Commission to support NYISO in its activities to increase demand-side peak demand reductions.

B. New York State's Resource Adequacy Concerns Are Located Almost Entirely in SENY

NYISO's reports make clear that reliability concerns are much more severe in SENY than in other parts of the state. This fact is hardly surprising, since urban density and geographic configuration make both New York City and Long Island natural load pockets. NYISO's 2007 Comprehensive Reliability Planning Process ("CRPP", issued March 16, 2007, at 33-34) starkly presents the difference in reliability issues across the regions of New York State. The CPR presents NYISO's estimates of the estimated loss of load per year for the next nine years, starting in 2008. NYISO uses the industry standard for resource adequacy that is met when the probability that electricity use will be involuntarily curtained is once per 10 years, or 0.1 days per year.

Forecast Loss of Load Estimates Per Year
Source: 2007 NYISO CRPP
Load fractions are calculated from NYISO, Locational Installed Capacity Requirements Study Covering the New York Control area For the 2005 – 2006 Capability Year

		Year								
Zones	State Load fractions	2008	2009	2010	2011	2012	2013	2014	2015	2016
Upstate Zones (62.2% of Load)										
A,C,D,F, and H	51.1%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B	3.8%	0.00	0.01	0.03	0.04	0.06	0.09	0.10	0.13	0.17
E	2.7%	0.00	0.00	0.02	0.02	0.04	0.04	0.06	0.08	0.10
G	4.5%	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
Downstate Zones (37.8% of Load)										
I	3.0%	0.01	0.04	0.06	0.08	0.14	0.18	0.27	0.37	0.46
J	23.9%	0.01	0.05	0.01	0.14	0.25	0.32	0.44	0.59	0.74
K	11.0%	0.00	0.00	0.00	0.01	0.02	0.02	0.05	0.08	0.12

The implications of these tables are startling. This year NYISO estimated that that there were literally zero resource-related reliability problems for five upstate New York zones (A, C, D, F, and H) through 2016, constituting slightly over 51 percent of 2005 New York state load. In the three other upstate zones, B, E, and G, constituting about 11 percent of 2005 New York state load, NYISO's estimates of loss of load due to resource inadequacy remain small until 2014, and even in years 2014 through 2016 these loss of load estimates are not far above the 0.1 LOLE threshold.

On the other hand, NYISO estimated that resource adequacy concerns will increase for the New York City area starting in 2011. In particular, LOLE estimates rise to 0.74 days per year in Zone J in 2016, constituting almost 24 percent of 2005 New York State load. This LOLE estimate is over seven times the concern threshold of 0.1 days per year.

This forecast makes clear that any actions taken by the Commission with respect to reliability should be limited to the New York City area. There is literally no reason for the Commission to address problems with reliability in UPNY, because no such problems exist now or are projected to exist in the foreseeable future.

II. LONG TERM CONTRACTS WOULD BE AN UNNECESSARY AND RISKY CHOICE FOR ADDRESSING ANY CAPACITY CONCERNS IN SENY.

One of the assumptions underlying the Order seems to be that adequate investment in new generating capacity in restructured electricity markets cannot be ensured in the absence of mandated long-term contracts. If this assumption were true, one would expect to see little investment in new capacity in any restructured states and countries in the absence of mandated long term contracts. On the other hand, if robust entry does occur in other restructured electricity markets in the absence of state-mandated long term contracts with EDCs, it should be clear that restructured markets are not so inherently flawed that they must rely on regulatory interventions such as mandated long-term contracts to induce capacity investment.

To test this hypothesis, we examined levels of actual capacity additions in several prominent restructured state markets and several foreign restructured markets. This analysis shows that each of these restructured markets has seen robust investment in new capacity without resorting to extraordinary market interventions. As a result, we conclude that government intervention through mechanisms such as mandated long term contracts is not necessary to secure adequate investment in new generating capacity in restructured electricity markets.

We also conclude that long term contracts, even if merely sufficient to induce capacity investment, are not a desirable means of doing so. In fact, they expose ratepayers to an extraordinary level of risk, and their extensive use would almost certainly result in a new layer of stranded costs for which ratepayers would ultimately be responsible.

A. Long Term Contracts Are Not Necessary To Induce Investment.

1. Evidence from Restructured Markets

In preparing this statement, we examined the success of the three most prominent restructured state markets in the United States -- Pennsylvania, Texas, and New York – in adding new generation capacity. We also examined similar evidence of generation capacity expansion in several foreign restructured markets. This analysis, which is presented in greater detail in Attachment A to this statement, shows that adequate investment has occurs in a number of markets without the need for regulatory intervention in the form of mandated long term contracts with merchant generators.

Specifically, this analysis reveals that:

- Over the eight year period since restructuring began in Pennsylvania in 1998, generation capacity in that state grew a robust 22.8 percent, rising from 36,556 MW of summer capacity to 44,897 MW, an increase of over 8000 MW.
- Between 1998 and 2005 capacity grew in Texas grew at a remarkable 35 percent, increasing from 74,571 to 101,046 MW.
- For the period 1998 to 2005, generating capacity in New York State rose 4142 MW, from 34,980 MW to 39,122 MW, representing an increase of 11.8 percent.

Significant additions in generating capacity were also observed in restructured markets in Alberta, Australia, Chile, New Zealand and the United Kingdom. These results are summarized in the tables below, and elaborated on in the Appendix.

Increases in Electricity Capacity in Restructured States
1998 to 2005 (MWs)

State	2005 Capacity	1998 Capacity	Change in Capacity	% Change in Capacity
Pennsylvania	44,897	36,556	8,341	22.8%
Texas	101,046	74,571	26,475	35.5%
New York	39,122	34,980	4,142	11.8%

Increases in Electricity Capacity in Non-U.S. Restructured Jurisdictions 1998 to 2005 (MWs)

Country or Province	2004 Capacity	1998 Capacity	Change in Capacity	% Increase in Capacity
Alberta	11,733	8,632	3,101	35.9%
Australia	48,630	39,252	9,378	23.9%
Chile	10,737	7,544	3,193	42.3%
New Zealand	8,642	7,899	743	9.4%
United Kingdom	76,187	70,158	6,029	8.6%

This analysis also demonstrates that restructured markets can induce the entry of a diverse mix of fuel sources, also in the absence of long term contract mandates. Evidence for this diversity includes:

- The existence of more than 17,000 MW of proposed wind capacity in the queue for interconnection in Texas;[2]
- The proposed construction of new merchant coal, natural gas and nuclear plants in Texas;[3] and
- The proposed construction of a new merchant low-emissions coal plant in Illinois.[4]

In none of these jurisdictions were long-term contracts *mandated* by the regulatory authority. Thus, we recommend that the Commission reject the assumption that mandated long-term contracts are the only way to assure resource adequacy in restructured wholesale power markets.

B. Mandated Long Term Contracts Subsidize Production Of Electricity At The Expense Of Consumers And The Environment

A Commission program of mandated long-term contracts could clearly increase the amount of generation in New York City or any other region within the State. It would do so by relieving those generators fortunate enough to receive such long term contracts of many of the risks that they appear to be unwilling to accept at today's market prices. While this approach may be appealing on a purely superficial level since the actual costs to consumers of this transfer of risks is not clearly known at this time, it nonetheless represents a very real and potentially significant subsidy for the construction of new

[2] Texas Public Policy Foundation, "Competition in the ERCOT Market," February 7, 2007.

[3] See, e.g., http://www.snl.com/irweblinkx/file.aspx?IID=4057436&FID=2499948.

[4] Peabody Energy's Prairie State Energy Campus, to be built in southwestern Illinois near Saint Louis. See http://www.peabodyenergy.com/Operations/PrairieState.asp

generating facilities that should be rejected as inconsistent with State policies promoting conservation and energy efficiency.

The precise amount of this subsidy is impossible to determine in advance, except by reference to actual results in properly functioning competitive wholesale power markets. To the extent that the Commission concludes that regulatory intervention through mandated contracts is required because wholesale power markets are not functioning properly, the true costs of this subsidy will only be known after the fact. Past experience with both nuclear power plants approved through the IRP process and mandated purchases from PURPA QFs demonstrates that arrangements that appeared reasonable when executed can result in billions of dollars of stranded costs in later years.

While such stranded costs are obviously unacceptable at any time, it would be particularly inappropriate to expose consumers throughout the state to such potential liabilities simply to subsidize increased consumption of electricity in New York City, especially when such a subsidy policy runs counter to other meaningful policy objectives with respect to the environmental effects of increased electricity consumption. To the extent that existing environmental and siting requirements raise the cost of producing electricity in New York City to levels above those in other, less congested areas, New York City residents should be given the choice between paying the full costs of their decisions concerning energy use *today* or making the investments in conservation required to reduce those demands. Mandatory long-term contracts deny New York City residents that choice. Thus, a Commission policy of mandating long term contracts in order to lower electricity prices below market levels would harm both consumers and the environment.

Moreover, replacing New York's competitive wholesale power markets with a series of mandated long-term contracts would deprive both producers and consumers of the essential information that only competitive markets can provide on how to minimize the true economic costs of meeting consumer needs for electric service. The purpose of electricity restructuring is the promotion of social well-being by enabling competition in both the retail and wholesale markets for electricity, and using market forces to benefit society. In terms of economic theory, this opening to competition presents the opportunity not only to lower prices to consumers, but also to increase overall wealth to society. It does so by moving electricity markets toward both "static efficiency" and "dynamic efficiency."

Static efficiency means moving retail electricity prices towards the marginal cost of producing electricity. Static efficiency measures the extent to which resources are allocated, produced and consumed efficiently (that is, in ways that maximize total well-being or total surplus). Part of this implies reducing prices charged to consumers if the regulated prices were above what would occur in a competitive market. In addition, static efficiency implies enabling prices to consumers to change on a timely basis as the marginal cost of producing that power changes, not only across seasons, but across the hours of any particular day.

While static efficiency is an essential goal for restructured electricity markets, dynamic efficiency is even more important. Dynamic efficiency means that the proper level of resources are invested in the electricity sector. Dynamic efficiency measures the extent to which investment, innovation, and technological change occur that optimizes resource allocation, production and consumption over time. More specifically, it means that the optimal balance between supply and demand is created from a variety of sources, while consumers are empowered to revise their consumption patterns in response to market incentives, and suppliers take those patterns, and consumer preferences for environmental quality, into account when siting new generation facilities and choosing the fuel mix to offer their customers.

Competitive markets work toward dynamic efficiency through price signals and the information that price signals communicate across time. Simply put, if the market price is above the full cost of entry, new generating capacity will be attracted into the market. If the market price of electricity is below the full cost of entry, investment in new generation will be unattractive and existing plants of marginal economic viability will be encouraged to exit the market.

Significantly, the price signals created by dynamic efficiency are self-correcting. If there is not enough generation in a market, investors will observe that market prices are above their full costs, and they will be encouraged to enter the market, increasing capacity in the market. If prices are below full costs of production, that signals investors not to enter the market, and existing firms to exit. The long-run result is that prices move toward costs, and society has the optimal amount of capacity in the market for electricity generation. Any effort to stimulate investment in new generating capacity by adopting measures that displace these incentives for static and dynamic efficiency will inevitably harm consumers and the environment.

C. The Commission's Proposal Threatens to Put New York State Back on the Road to Stranded Costs

Market forces have a further benefit. Investors in generation capacity in a free market do not have the guarantee that their costs will be covered by ratepayers or by the government. Thus, these investors have strong incentives not to engage in excessive costs. These gains from restructuring, of course, will not happen overnight, as investment in electricity generators is a multi-year concern. Despite this, Wofram, Fabrizio, and Rose find that electricity restructuring has increased from three to five percent efficiency in the "medium term" in electricity generation.[5]

Historically, the electricity sector has not used the powerful signal of market price to move the electricity market toward the optimal amount of generation. Rather, it has used a variety of regulatory forms, including resource planning. In effect, instead of using market forces, commissions like the New York Public Service Commission used a structure of committees and political decision-making to make resource decisions. The

[5] See Wolfram, Fabrizio, and Rose, "Do Markets Reduce Costs? Assessing the Impact of Regulatory Restructuring on U.S. Electric Generation Efficiency," *American Economic Review*, forthcoming.

result of this process was billions of dollars in stranded cost overruns. In particular, utility investments in the R.E. Ginna, James Fitzpatrick, Indian Point, Nine Mile Point and Shoreham nuclear power plants and a variety of long-term contracts under the Public Utility Regulatory Policies Act Of 1978 have resulted in billions of dollars in stranded costs in New York State.

The Commission is well aware of the burden that stranded costs have placed on New York ratepayers. But it is important to review why stranded costs occurred. Stranded costs have occurred for two important reasons.

First, regulatory decision makers, both in New York and across the United States, were incorrect about their assessment of the demand for electricity generation. We submit that they could not help but be wrong. A political committee structure, with the inherent time delays in decision making, cannot be expected to react to the information that arises through market processes as efficiently and effectively as independent investors.

Second, because these investments were required to meet utility service obligations, all such investment costs that were deemed "prudent" by the commission required ratepayers to bear those costs. Thus, the firms that built generation resources under Commission direction had poor incentives because of guaranteed cost recovery if investors follow regulatory guidelines. Private investors face no such guarantee.

We suggest to the Commission that one primary benefit of electricity restructuring is eliminating the possibility of stranded costs and the burden they place on ratepayers. The thrust of this proceeding, however, is to abandon market forces and return to precisely the regulated structure that created the stranded cost problem in the first place. We strongly recommend that the Commission not take these steps. Rather, we suggest that any relevant problems can be addressed without abandoning market processes and their self-correcting tendencies, and the benefits those market forces bring to society as a whole.

III. <u>POTENTIAL PROBLEMS AND APPROPRIATE SOLUTIONS</u>

If restructuring itself is not the problem and long term contracts are not the cure, then it is time to consider the factors that may, in fact, be preventing an adequate level of investment in certain areas of the state, and how to relieve those constraints. As discussed above, there is only evidence of inadequate capacity investment in Southeast New York. This situation is caused by factors other than restructuring, and can best be addressed through means other than state-mandated long term contracts.

A. Capacity Issues in New York State

The discussion above indicates that robust growth in electricity generation can and does occur in restructured markets. There may be some concern, however, that the growth of generation capacity is somehow lagging in New York State. Using some basic economic analysis, however, we do not believe that the results indicate any type of deficiency in New York's electricity markets. Rather, we suggest that there are three basic reasons for the *relative* lack of growth of electricity capacity.

First, new entrants in any industry are attracted by growing markets. Growing markets mean more room for entrants, and a higher price for their product. Upstate New York, however, as discussed above in the section on reliability, is not growing in terms of demand for electricity. Thus, the *relative* lack of entry in that area is not surprising. Furthermore, it does not imply any type of market failure. High prices are signals to market participants that new entry is both privately profitable and socially valuable. The lack of high prices implies the opposite. Thus, a relative lack of new entry does not necessarily imply any type of market failure. Rather, it may simply imply that new entry would not be socially valuable.

Second, downstate New York, on the other hand, is growing in its demand for electricity. Downstate New York, however, is an extraordinarily difficult place to site electricity generation. Downstate New York is heavily urbanized, and siting generation there may have serious environmental consequences.[6] This again helps us understand the *relative* lack of growth of electricity capacity in New York State.

Finally, as both NYISO and the city of New York have made clear, the lapsing of Article X of New York Public Service Law in 2002 has served to make generation siting more difficult in New York. We are not in a position to make recommendations on whether or not the lapsing of Article X was advantageous or not for New York. All electricity generation issues also involve a set of environmental issues. Each state must make its own choices about its particular preferences. We would emphasize, however, that this choice has consequences. If the state desires more electricity generation capacity, this may lead to negative environmental consequences. If the state is more concerned about environmental issues, then stringent restrictions on generation sitings may be appropriate, but this may lead to increased electricity costs. Given existing technology there is no escaping this tradeoff.

B. Overcoming These Barriers While Achieving Other Societal Benefits

The capacity issues in South East New York can be addressed through far more effective means that will not expose ratepayers to the risk of new stranded costs, and that will also achieve other desirable goals.

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[6] New electricity generation capacity in New York during the period 1998 to 2005 was almost evenly split between upstate and downstate regions, with the upstate areas gaining 50.2 percent of the new capacity and downstate areas gaining 49.8 percent.

1. Approaches Suggested by New York City and NYISO's Demand Response Program

A separate earlier analysis from the New York City Energy Task Force also states that New York City will have reliability concerns in the near future. Further, the report states that "The best way to meet this goal will be through a combination of generation plants (both new and repowered), transmission lines, and distributed resources—including clean on-site generation and various methods of energy efficiency and demand reduction."

The report lists several methods by which New York City can address these reliability issues. These methods include:

- Energy efficiency;
- Fuel switching applications;
- Thermal storage;
- Clean on-site generation;
- Peak-load management; and
- Renewable energy.

Each of these methods may prove highly effective at addressing New York City's reliability concerns. In addition, the New York Independent System Operator (NYISO) has initiated demand response programs aimed at large commercial and industrial customers have contributed substantially to reducing peak demand in several critical periods over the past six years. Current enrollment in NYISO programs statewide is 1996 MW, but enrollment grew at 12.5 percent in the past year, and demand response at this level remains an underexploited resource.

NYISO initiated demand response programs aimed at large industrial and commercial customers in the summer of 2001, to help manage peak load during summer months. NYISO's approach incorporated both price-responsive demand and interruptible or curtailable contracts. Their price-responsive demand program, Day-Ahead Demand Reduction Program (DADRP), enables customers to bid into the day-ahead market for load reductions they would make on the following day. Through this bidding process they discover the price they would be paid to commit to a scheduled load reduction on the following day; once the time period for which they scheduled the reduction is complete, the customer is paid for the reduction. The interruption program, Emergency Demand Reduction Program (EDRP), is a day-of interruptibility contract that is available for hours when there is a shortfall in reliability reserves. Customers can choose to allow the NYISO to interrupt their service, for which the customer is paid a price determined through a bidding process. NYISO also offers a special resource demand response program specific to its installed capacity resources.

NYISO demand response programs have regularly contributed to peak demand reductions. For example, during three particularly hot days in August 2001, almost 300 EDRP customers curtailed 420 megawatt hours, on average. During these three days

NYISO's demand hit its all-time high, but there were no forced outages.[7] More recently, customers in these demand response programs on Long Island and in New York City accounted for over 1,000 MW of reductions on August 2, 2006, preventing peak demand from exceeding 35,000 MW in New York City.[8]

Since its inception in 2001, NYISO's DRP programs have experienced substantial growth; between 2006 and 2007 alone, participation grew by 12.5 percent. However, the DRP participation forecast used in NYISO's Reliability Needs Assessment assumes no growth in participation over the next five years.[9]

2. Empowering customers to change their consumption behavior through dynamic pricing is a cost-effective and desirable alternative to new generating capacity.

a. Definition of Dynamic Pricing

We applaud New York City and NYISO for taking innovative steps to address New York City's electricity reliability problem. Regrettably, these entities omit dynamic retail pricing as a reliability and resource adequacy mechanism, thus limiting the potential effectiveness of its recommendations. By presenting customers with time-varying rates and differentiated products, dynamic pricing can promote a variety of policy objectives – economic efficiency, reliability, fairness, and environmental quality, among others. Harnessing the symbiotic relationship between dynamic pricing and enabling digital metering technology in buildings is one of the most effective means of accomplishing this set of objectives.

The cost of generating and distributing electric power service to end-use customers varies over the day and across seasons. The fixed retail rates that customers generally face mean that the prices individual consumers pay bear little or no relation to the marginal cost of providing power in any given hour. Facing fixed prices, consumers have no incentive to change their consumption as the marginal cost of producing electricity changes. Furthermore, fixed prices ignore any variation in benefits of electricity use to consumers across time. The consequences of this disconnect among cost, price, and consumption transcend inefficient energy consumption to include inappropriate investment in generation and transmission capacity.

Currently, with most U.S. consumers paying average prices, consumers have little incentive to manage their consumption and shift it away from peak hours during the day. This leads to more capital investment in power plants than would occur if consumers could make choices based on their preferences. Static, average pricing also leads to a mismatch between the retail price and the cost of providing power in that hour. This

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[7] Neenan, Bernie, Richard Boisvert, and Peter Cappers. "What Makes a Consumer Price Responsive?" *Electricity Journal* April 2002, pp. 52-59.
[8] New York Independent System Operator, *Power Trends 2007*, p. 11, Table 6.
[9] NYISO *Reliability Needs Assessment 2007*, Table 4.3.

mismatch creates inefficiency through generation resource misallocation. It also creates inequity because off-peak consumers subsidize peak consumers through the higher prices paid during off-peak hours.

Dynamic pricing can include time-of-use rates ("TOU"), which are different prices for different blocks of time over a day, based on expected wholesale prices. Dynamic pricing can also include real-time pricing ("RTP") in which actual market prices are transmitted to consumers, generally in increments of an hour or less. A time-of-use rate typically applies predetermined prices to specific time periods by day and by season. RTP differs from TOU mainly because RTP exposes consumers to unexpected variations (positive and negative) due to demand conditions, weather, and other factors. In a sense, fixed retail rates and RTP are the endpoints of a continuum of how much price variability the consumer sees, and different types of time-of-use systems are points on that continuum. Thus RTP and TOU are but two example of dynamic pricing. Both RTP and TOU provide better price signals to end-use customers than current average prices do. They also enable companies to sell, and customers to purchase, electric power service as a differentiated product.

Consumers of all types can and do respond to electricity price signals available through dynamic pricing. Furthermore, consumers have responded to price signals with even the most rudimentary digital technology – a simple interval meter. Numerous programs and analyses over the past 30 years have documented sizable residential demand response to dynamic pricing, and a substantial amplification of the demand response due specifically to the technology available to the consumer. All types of customers – residential, commercial, and industrial – can and do respond to dynamic pricing, creating a variety of benefits for themselves and for society in the process.

b. Benefits of Dynamic Pricing

Dynamic pricing creates a variety of individual and social benefits. Here we emphasize three benefits of dynamic pricing: dynamic economic efficiency, reliability and resource adequacy, and environmental quality

In addition to resource allocation (static efficiency) benefits, dynamic pricing provides dynamic efficiency benefits. The interaction of supply and demand through market processes communicates information about what services and resources are more or less valuable, and market processes allow investors to act on that information over time. This is the process by which capital investment in new capacity occurs. More importantly, that process also leads to further innovation, taking the form of new technologies, new value propositions, and new ways of organizing transactions.

Increased reliability is one particularly valuable benefit of dynamic pricing. Although reliability has traditionally been treated as a supply issue, it is also a demand issue. With dynamic pricing, demand can be a reliability resource, and using digital technology and contractual agreements, that demand reduction can be operationally dispatchable. Active demand response to price signals inherently acts to moderate strains on the entire system when that system's use is properly priced. Dynamic pricing and demand response reduce peak-period consumption, either through load shifting or conservation, thereby reducing strain on the transmission network at precisely the times when it is most strained and decreasing the need for expensive transmission investments. Customer load reduction can also serve long-run reliability functions, by reducing the likelihood of transmission bottlenecks and insufficient generation.

Dynamic pricing can also contribute to improving environmental quality by enabling customers to shift demand away from peak periods with high prices, and/or by reducing their overall use. This economizing incentive is the source of the conservation benefits of market-based pricing. Conservation brought on by market-based pricing reduces energy costs and increases energy efficiency. This conservation typically takes two forms – curtailing consumption (reducing overall use) and shifting use to non-peak hours.

The extent to which peak shifting induced by dynamic pricing reduces power plant emissions depends on the fuel mix of the generation portfolio between baseload and peak units, and how much additional pollution is produced during peak unit startup. However, the environmental benefits of dynamic pricing are much more evident in the effect that customer responses have on the investment decisions with respect to new generation capacity. The shift away from peak consumption reduces the required investment in generation capacity to satisfy peak period demand. Customers shifting and reducing demand would lead to less investment and new plant construction, which would also reduce long-run average cost by reducing capital costs. Furthermore, many of those assets are used during only a few peak hours each year, which means that building to meet peak requires using many physical and financial resources that sit idle much of the year. In addition to the cost saving from reducing the amount of idle peak capacity, reducing peak capacity creates environmental value by reducing required resource use to meet our electricity needs. Thus dynamic pricing would lead to both environmental benefits and reduced production costs.

c. Estimates of the Resource Value of Dynamic Pricing in New York City

This proceeding has brought out specific questions of resource adequacy to meet reliability requirements in New York. Our previous arguments suggest focusing on Southeast New York and its unique reliability requirements and constraints. We use evidence from dynamic pricing product offerings in other areas to estimate the extent to which dynamic pricing can serve as a resource in meeting these requirements.[10]

[10] For further information on these programs and products, and on other demand response and dynamic pricing activity, see Lynne Kiesling, "The Role of Retail Pricing in Electricity Restructuring," in Andrew Kleit, ed., *Electric Choices: Deregulation and the Future of Electric Power* (Rowman & Littlefield, 2007), and Lynne Kiesling, "Retail Electricity Deregulation: Prospects and Challenges for Dynamic Pricing and Enabling Technologies," *Annual Review of Regulation*, Searle Center for the Study of Regulation, 2007.

Dynamic pricing to retail end-use customers can serve as a resource in meeting those peak requirements, by reducing peak demand through conservation and/or intertemporal demand shifting. To estimate the potential effect of dynamic pricing as a resource, we rely on estimates of peak demand reductions from three different dynamic pricing programs and product offerings:

- **California Statewide Pricing Pilot (2003-2004):** residential customers facing a TOU rate with a critical peak price (CPP) on critical summer days achieved peak demand reductions on critical days ranging from *13 percent to 15 percent.*[11]
- **Gulf Power (ongoing):** residential customers facing a four-part TOU rate responded to high prices with peak demand reductions averaging *22 percent.*[12]
- **GridWise Olympic Peninsula Demonstration Project (2006-2007):** residential customers, some facing a TOU rate and some facing an RTP rate, achieved peak demand reductions of *15 percent to 17 percent.*[13]

Here we present the results obtained when we apply the evidence from these dynamic pricing products and programs to the SENY reliability and resource shortfall situation. As discussed above, SENY will have electricity reliability concerns starting in 2011 The table below reports the NYISO forecast peak demand for the New York City Area, including Areas J and K, through 2011. We calculated the resource requirement by multiplying the forecast peak by 1.165, reflecting the need to meet the 16.5% reserve margin in addition to peak demand. The Reliability Needs Assessment reported forecast available resources as well as forecast peak, and we subtracted available resources from our estimate of the resource requirement to generate an estimated forecast revenue shortfall.

New York City Area (NYCA+J+K)
Peak Demand and Resource Requirement Forecast (MW)
Source: 2007 NYISO Reliability Needs Assessment, Table 4.3

Year	**2007**	**2008**	**2009**	**2010**	**2011**
Forecast peak	51,880	51,912	52,566	53,172	53,724
Resource requirement	59,625	60,477	61,239	61,945	62,588
Available resources	57,733	57,335	56,441	56,441	56,441
Resource shortfall	1,892	3,142	4,798	5,504	6,147

Taking the NYISO's peak forecast, and our calculation of forecast resource shortfall in SENY, we constructed a hypothetical in which 10 percent of peak demand is

[11] Charles River Associates, *Impact Evaluation of the California Statewide Pricing Pilot*, March 2005.
[12] Borenstein, Severin, Michael Jaske, and Arthur Rosenfeld. "Dynamic Pricing, Advanced Metering, and Demand Response in Electricity Markets," Center for the Study of Energy Markets Working Paper 105, October 2002. Available at http://repositories.cdlib.org/ucei/csem/CSEMWP-105. Appendix B.
[13] Lynne Kiesling, "Retail Electricity Deregulation: Prospects and Challenges for Dynamic Pricing and Enabling Technologies," *Annual Review of Regulation*, Searle Center for the Study of Regulation, 2007.

on a dynamic pricing contract. Table 5 shows that in this case, 5,118-5,372 MW of peak demand would be able to respond to dynamic price signals. The dynamic pricing results above suggest that dynamic pricing induces peak reduction in the range of 13-22 percent. We then apply that range of peak reduction to the SENY forecast.

Application of Dynamic Pricing Results to Forecast Resource Shortfall, 2007-2011
Range of Peak Reduction Seen: 13-22 percent
Assumption: 10 percent of peak demand on a dynamic pricing contract

Year	2007	2008	2009	2010	2011
MW on dynamic pricing	5,118	5,191	5,257	5,317	5,372
Low peak reduction (13%)	665	675	683	691	698
Share of resource shortfall met by low estimate	35.2%	21.5%	14.2%	12.6%	11.4%
High peak reduction (22%)	1,126	1,142	1,156	1,170	1,182
Share of resource shortfall met by high estimate	59.5%	36.3%	24.1%	21.3%	19.2%

This analysis suggests that if 10 percent of SENY's peak demand was on a dynamic retail pricing contract, their responses would meet between 11.4 percent and 59.5 percent of the forecast resource shortfall in the region over the next five years. This response amounts to reductions ranging from 665 MW to 1,182 MW. This potential for dynamic retail pricing to contribute to regional resource adequacy is substantial.

Those 665-1,182 MW represent supply-side resources that New York ratepayers would never have to pay for having built. It also represents 665-1,182 MW of peak emissions that would either not be emitted at all (if the dynamic pricing induces conservation), or would be emitted at a non-peak time when the surrounding environment would be better able to absorb the emissions. Thus dynamic pricing would also contribute significantly to achieving environmental policy objectives in the SENY region.

The estimates presented above are conservative, lower-bound estimates that are based on evidence of residential customers responses to dynamic pricing. Commercial and industrial customers typically are more able to change some of their consumption patterns in response to dynamic pricing, and because their premises tend to be larger, their changes can have a larger impact on peak demand reduction.[14] Thus we could expect actual peak reductions and responses to dynamic pricing to be larger than those suggested here.

[14] Hopper, N., C. Goldman, R. Bharvirkar and B. Neenan, "Demand Response from Day-Ahead Hourly Pricing for Large Customers," *Electricity Journal*, Vol. 19, Issue 3 (2006), Pages 52-63.

2. Relieving transmission constraints can also be a cost-effective and desirable substitute for new generation.

Although the Commission has been successful in creating competitive wholesale markets for energy, capacity and many other generation-related services, to date no workable model has been developed for expansion of the transmission system. As a result, investments in transmission capacity have continued to be made by the EDCs under traditional cost-based regulation.

Unfortunately, the regulatory structure in New York State has unintentionally created several serious obstacles to the construction of new transmission corridors – or upgrades to existing corridors – that could permit New York City to obtain a greater share of its electric power requirements from generating facilities in other less congested areas. While most of the transmission facilities connecting New York City to UPNY are owned by National Grid and the New York Power Authority (NYPA), under NYISO's current market structure neither National Grid nor NYPA receives any reimbursement for the embedded cost of those facilities when electricity from a generator in UPNY is used to serve load in New York City.

In such circumstances, it is hardly surprising that neither National Grid nor NYPA has responded to the energy needs of New York City by upgrading their existing transmission facilities. At the same time, the Commission has failed to take any actions to encourage Con Edison to invest in new transmission lines to bring additional energy and capacity into New York City.

The Commission can and should consider taking direct action to address these transmission issues before stimulating investment in new generating capacity in New York City through a program of mandated long term contracts. Failure to do so will deprive consumers in New York City of the benefits of any subsequent actions to eliminate these transmission bottlenecks.

3. Fill any shortfalls that threaten reliability through targeted and limited means.

If there is a reliability problem, we suggest that the Commission address the problem directly. The Commission should (either itself or through the NYISO) issue request for proposals (RFPs) to construct new facilities to address perceived reliability problems. This is exactly what NE-ISO is doing to deal with reliability problems in southwestern Connecticut. Furthermore, those RFPs should treat supply construction and demand reduction proposals equivalently, as is currently being done in PJM and is expected to be done in ERCOT and MISO as they proceed with their resource adequacy market designs. Moreover, the contracts resulting from such RFPs should be for capacity only, not capacity and energy.

Acquiring the energy as well as the capacity from these resources exposes ratepayers to the risk associated with the price of the underlying fuel. It may well appear to be a safe bet today that energy prices will continue to rise. This same intuition, however, was in part responsible for the investments in the 1970s that turned into stranded costs. The only thing we can say for sure about what the prices of various fuels might be in 10 or 15 or 20 years is that they will be very different from whatever they are forecast to be today.

Consider, for example, a requirement that utilities enter into long-term contracts. Such a requirement might well induce new capacity generation. But would such generation be in the right place to deal with reliability problems or a desire to lower economic prices in peak periods? In other words, long-term contract requirements are a very blunt instrument to be used to address specific problems that may arise in the New York utility grid.

There is no reason to address any perceived reliability problems through an indirect and potentially unreliable mechanism such as long-term contracts. We suggest that if there is any perceived problem it should be attacked directly. RFPs have shown themselves to be an effective mechanism for doing so.

We also encourage the Commission to avoid the temptation to go beyond reliability concerns in attempting to stimulate the addition of specific capacity in a particular area of the state. We acknowledge that this temptation, to tinker with the generation and wholesale markets through direct interventions such as mandated long term contracts, can be great. The use of EDCs and perhaps other entities as a vehicle to acquire social goods can seem to be a convenient response to a wide variety of public concerns. But long term contracts with EDCs are a poor means of acquiring social goods, and the risk that what seems highly desirable and economically advantageous today will appear to be just the opposite 10 or 15 or 20 years hence is very high. New Yorkers have been through this before, and can see what it cost them every month on their utility bill. There is no need to repeat this particular experiment.

CONCLUSION

Electricity restructuring has taken hold in New York State. Through its commitment to market processes, the Commission has created the potential for important benefits for New York State. Unfortunately, the proposed use of centralized planning and mandated long term contracts with EDCs threatens to roll back much of the progress New York has made. Perhaps the most important objective of restructuring is to eliminate the need for stranded cost recoupment, and the additional resulting burden on rate-payers. This objective and other important benefits would be lost were the Commission to return to very policies that have failed in the past.

There are challenges facing the Commission in the area of reliability. Reliability concerns, however, are almost entirely concentrated in the downstate area. There is no reason to take regulatory action affecting the entire state to address this problem. One potential method of addressing this issue is through transmission improvements, which cannot be expected to occur through normal market processes. In addition, advances in dynamic pricing can serve to address this issue, as well as to reduce in general strain on the state's electricity delivery system.

We note that there is no inherent flaw in restructured electricity markets with respect to encouraging new entry. Evidence from several other restructured markets shows robust entry into electricity capacity, and New York State has seen significant entry as well. While New York State's increase in capacity may be less than some other restructured jurisdictions, this can be accounted for by stagnant demand in upstate markets, and New Yorkers' strong interest in environmental goods. A (perhaps perceived) lack of new capacity does not necessarily imply any type of market failure.

In the end, if the Commission wishes to address a perceived problem, we suggest that it do so directly. The most obvious and most efficient mechanism for address specific problems is to use an RFP mechanism to arrange for direct solutions. Using long-term contracts to indirectly address a perceived problem is unlikely to be effective.

Finally, we respectfully suggest that the rationale for the Commission's current proposal is not well stated. In our view, the proposal advances solutions to problems that are not fully explained.

ATTACHMENT A
Details on Capacity Growth in Restructured Markets

The first state to restructure its electricity markets in the U.S. was Pennsylvania. Pennsylvania restructuring occurred in 1998. Since that time substantial growth has occurred in Pennsylvania's electrical generating capacity.

Figure 1
Pennsylvania Summer Capacity - All Sources

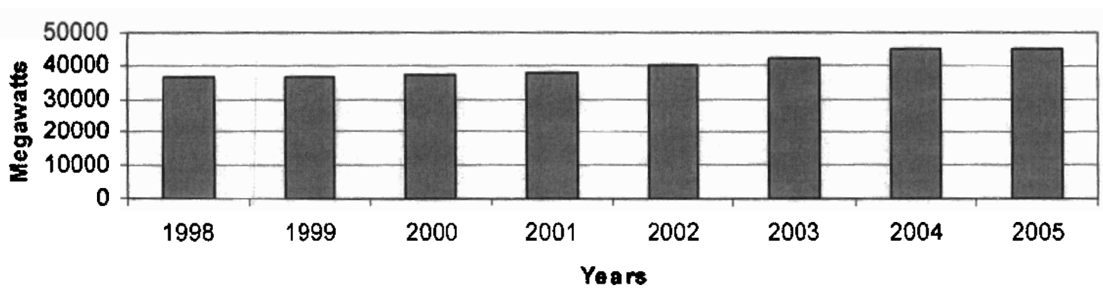


Figure 1 outlines the growth in Pennsylvania's electricity capacity.[1] Over the eight year period Pennsylvania generation capacity grow a robust 22.8 percent, rising from 36,556 MW of summer capacity to 44,897 MW, an increase of over 8000 MW.

Figure 2
Pennsylvania Summer Capacity - Natural Gas

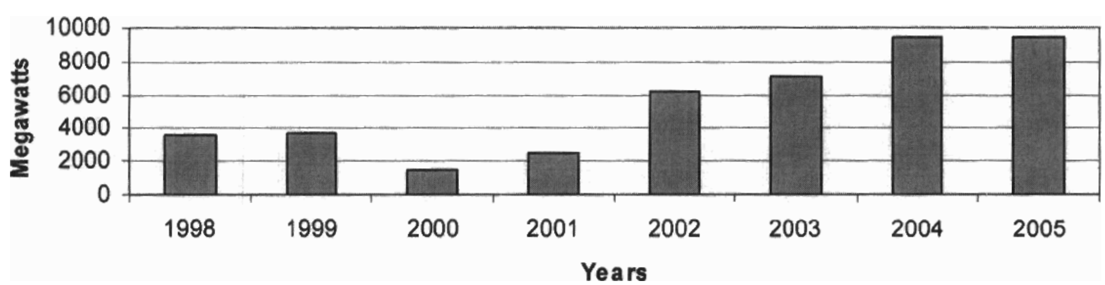
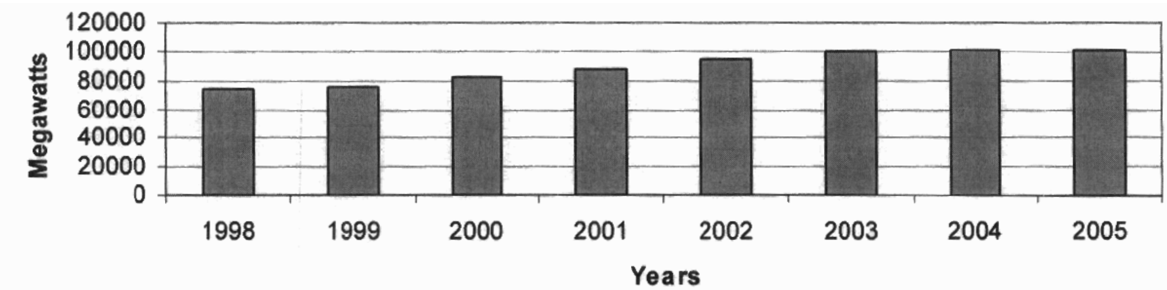


Figure 2 presents the growth pattern in the source with the largest capacity additions in Pennsylvania, natural gas. The capacity of electricity production from

[1] All data on U.S. state capacity in this section comes from the Energy Information Administration, and dates from 1998 to the last year data was available, 2005. The capacity measure used is "summer capacity," to reflect the relevant peak system demands.

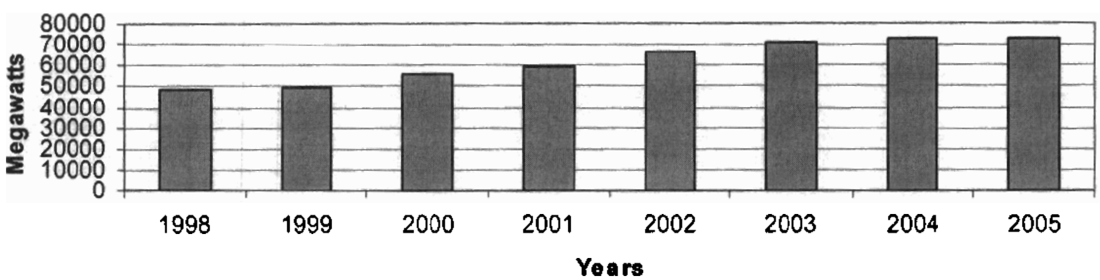
natural gas in Pennsylvania has grown 158 percent since 1998, with an increase in capacity from 3639 to 9400 MW.

Figure 3
Texas Summer Capacity - All Sources



Electricity capacity growth has also been robust in Texas, as presented in Figure 3. Between 1998 and 2005 capacity grew a remarkable 35 percent. Capacity rose 26,475 MW, from 74,571 to 101,046 MW.

Figure 4
Texas Summer Capacity - Natural Gas



As in Pennsylvania, the largest growth in energy source for electricity capacity was in natural gas fired units. As illustrated in Figure 4, electricity capacity in Texas grew a strong 50.7 percent, rising 24,463 MW from 72,726 to 48,263 MW.

Figure 5
New York Summer Capacity - All Sources

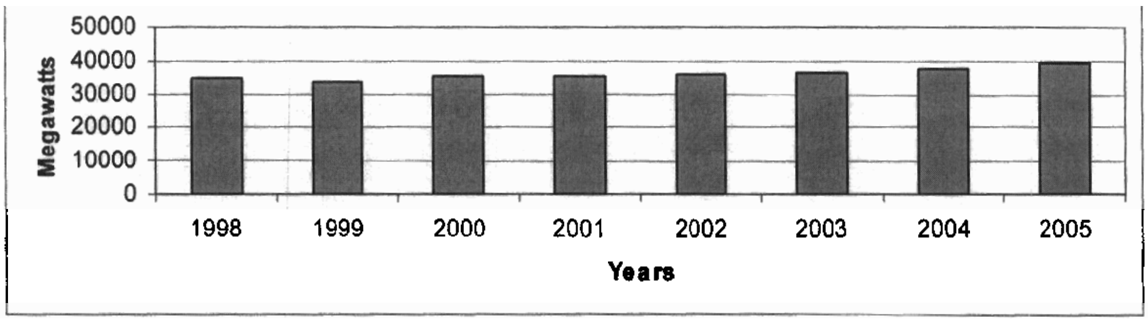
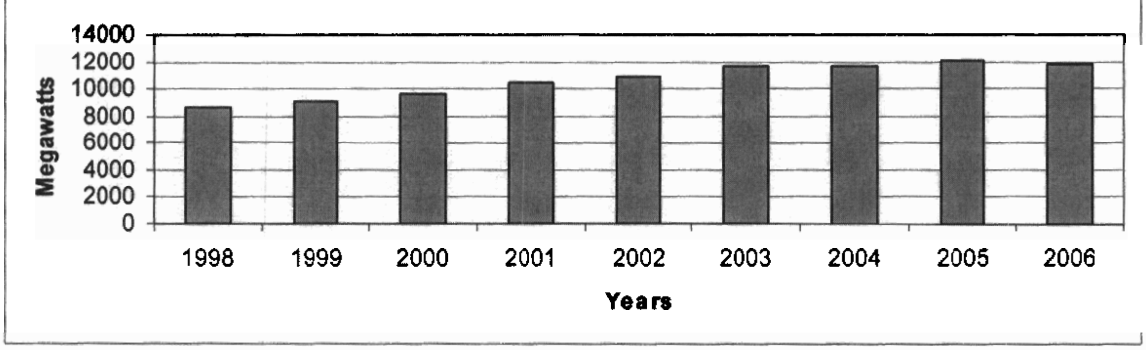


Figure 5 presents the electricity capacity numbers for New York State In a relatively short number of years (compared to the time that planning for capacity requires) 11 percent growth may be considered an impressive number. But it is clear that New York's growth in electricity capacity does not match that of Pennsylvania or Texas. The data for the three restructured states are summarized below in Table 2.

2. Evidence from Restructuring in Other Countries

As the Commission is aware, other jurisdictions across the world have also engaged in electricity restructuring. In this section, we examine the changes in Alberta, Australia, Chile, New Zealand, and the United Kingdom. Each of these restructured jurisdictions has shown significant increases in electricity capacity since 1998. (For each jurisdiction except for Alberta we have data only available to 2004).[2]

Figure 6
Total Installed Capacity - Alberta



[2] Our data on international capacity, obtained from the Energy Information Administration (except for the Canadian province of Alberta), does not extend to 2005.

Figure 6 presents data on electricity capacity for 1998 to 2006 from the Canadian province of Alberta.[3] From 1998 to 2004 electricity generating capacity in Alberta's restructured electricity market rose from 8631 MWs to 11,732 MW an increase of 3101 MW, or slightly less than 36 percent. (Capacity in Alberta only rose slightly from 2004 to 2006, to 11,760 MWs.)

Figure 7
Total Installed Capacity - Australia

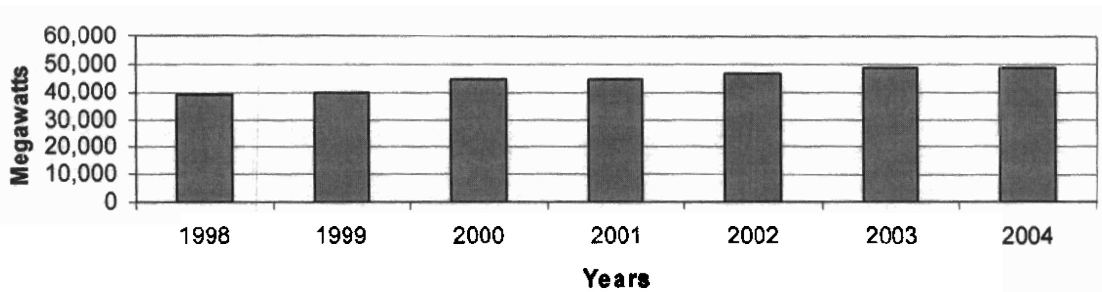


Figure 7 outlines the increases in electricity capacity in Australia for the period 1998 to 2004, a country whose electricity markets were restructured in the late 1990s. Australian capacity rose from 38,252 MWs in 1998 to 46,630 MWs in 2004. This represented an increase in electricity generation capacity of slightly less than 24 percent.

Figure 8
Total Installed Capacity - Chile

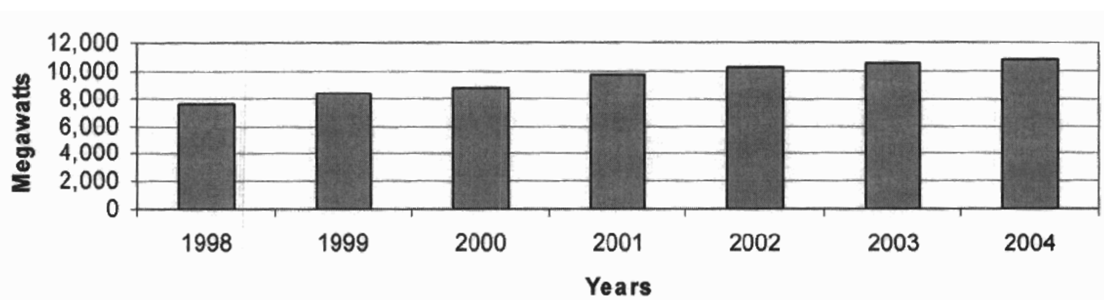


Figure 8 presents the increase in capacity for Chile, whose electricity markets were restructured in 1986. Electricity capacity in 1998 was 7544 MW, rising to 10,737 MW in 2004, an increase of 42 percent.

[3] See Alberta Electric Industry Annual Statistics ST28. Data was updated through conversations with staff of the Alberta Electric System Operator.

Figure 9
Total Installed Capacity - New Zealand

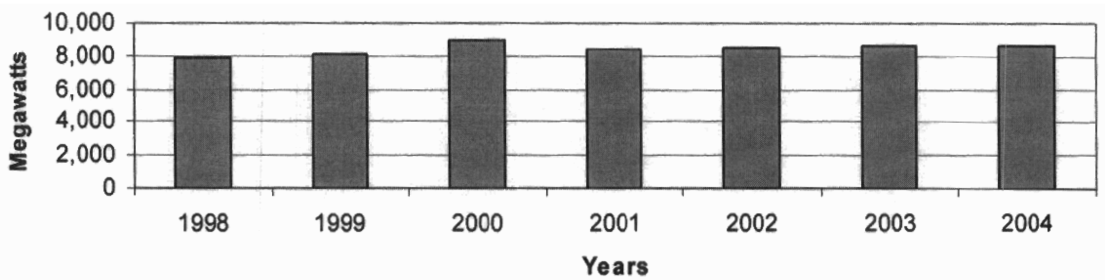
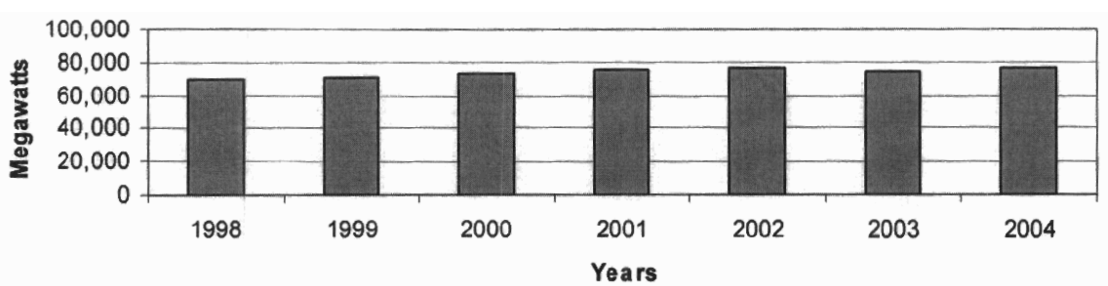


Figure 9 presents the increase in electricity capacity for New Zealand from 1998 to 2004. Similar to Australia, New Zealand's electricity markets were restructured in the late 1990s. Electricity generation capacity in New Zealand grew from 7,899 MWs in 1998 to 8,642 MWs in 2004. This represents an increase of 9.4 percent. Given New Zealand's relatively slow economic growth, this again shows that restructured electricity markets have robust incentives to induce entry into electricity generation.

Figure 10
Total Installed Capacity - United Kingdom



Finally, Figure 10 reviews the increase in electricity generation in the United Kingdom since 1998, a country were the majority of the population (in England and Wales, approximately 89 percent of the total country's population) gained restructured electricity service in 1990. Capacity rose 6029 MWs, starting at 70,158 MW in 1998, and reading 76,187 MW in 2004, an increase of almost 9 percent. The capacity increases in restructured countries and provinces is summarized in Table 3.

BEFORE THE
PUBLIC SERVICE COMMISSION
STATE OF NEW YORK

Proceeding on Motion of the Commission as to the Policies, Practices and Procedures For Utility Commodity Supply Service to Residential and Small Commercial and Industrial Customers.	)	Case 06-M-1017

VERIFICATION
<u>OF DR. L. LYNNE KIESLING</u>

City of Evanston)
State of Illinois)

Dr. L. Lynne Kiesling, being duly sworn under oath states that she has read the foregoing Verified Statement and that the statements made therein are true and accurate to the best of her knowledge, information and belief.

L. Lynne Kiesling
Dr. L. Lynne Kiesling

I do hereby certify this ~~3rd~~ 4th day of June, 2007, Dr. L. Lynne Kiesling personally appeared before the undersigned Notary Public and made an oath to the foregoing.

Notary Public

My Commission expires on: 6-12-08

OFFICIAL SEAL
MARIA ORTIZ
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 6-12-2008

BEFORE THE
PUBLIC SERVICE COMMISSION
STATE OF NEW YORK

Proceeding on Motion of the Commission as to the Policies, Practices and Procedures For Utility Commodity Supply Service to Residential and Small Commercial and Industrial Customers.	)	Case 06-M-1017

VERIFICATION
OF DR. ANDREW N. KLEIT

City of University Park)
State of Pennsylvania)

Dr. Andrew N. Kleit, being duly sworn under oath states that he has read the foregoing Verified Statement and that the statements made therein are true and accurate to the best of his knowledge, information and belief.

Dr. Andrew N. Kleit

I do hereby certify this 3rd day of June, 2007, Dr. Andrew N. Kleit personally appeared before the undersigned Notary Public and made an oath to the foregoing.

Notary Public

My Commission expires on: 11-10-07

NOTARIAL SEAL
Ronald E. Flebotte, Notary Public
State College, Centre County
My commission expires November 10, 2007