SECTION 2.1

PROMOTING ENERGY INDUSTRY COMPETITION

INTRODUCTION

The 1994 State Energy Plan introduced the potential for energy competition in New York State, and the 1998 State Energy Plan identified New York's vision and the State's actions and plans for achieving that vision. This 2002 State Energy Plan (Energy Plan) reflects on the achievements made to date in opening energy markets to greater competition and considers whether any changes should be made in the State's vision for the future. The pursuit of effective competition, wherever practicable, in the provision of natural gas and electricity services is the policy of the State of New York. Such competition has the potential to reduce energy costs over the long term, increase customer choices and satisfaction, provide economic development advantages, enhance system reliability, promote technological changes and improvements, and improve environmental quality.

In the wake of recent developments in energy markets, particularly in the western region of the country, many people question whether customers are better off today than they were under full regulation of utility services. To answer that question, several key areas should be considered: price, reliability; economic development; adequacy of supply and delivery capability; and environmental impact. Each of these were discussed in the 1998 Energy Plan and findings were made. This section of the Energy Plan will discuss those areas, relating the 1998 findings to current conditions, and then will present and discuss several specific issues that are currently facing New Yorkers. The Electricity and Natural Gas Resource Assessments, found elsewhere in this Energy Plan, provide a more detailed review of the state of the competitive markets, as well as the state of the infrastructures available to support those markets.

STATUS OF COMPETITION

Price

The 1998 State Energy Plan noted that the natural gas and electric industries were in transition to retail competition. Prior to reaching the end-state, however, the 1998 State Energy Plan concluded that customers would still experience reduced prices because of multi-year rate plans that had been authorized by the New York State Public Service Commission (PSC) and because customers would now begin to have the ability

to choose suppliers. In particular, the 1998 State Energy Plan projected that electric rates could be expected to decrease statewide by an average of 9.7% by 2002 even though modest increases in the prices of fuels used to generate electricity could be expected. The 1998 State Energy Plan also found that restructuring the gas and electric industries would provide consumers with competitive energy prices and services, stimulate economic growth, and improve the job market.

From 1998 until recently, the State has experienced significant economic growth, job markets have improved, and energy delivery rates have declined, as anticipated. In addition, those customers that have opted to seek competitive suppliers have been able to receive lower commodity prices than they might have received through their utility company as full service customers. Wholesale commodity prices for both natural gas and electricity, however, increased significantly in 2000 due to factors mainly unrelated to industry restructuring, which in turn had significant impacts on the overall prices that customers paid for their utility services. Of these factors, the most significant was the sharp increase in the wholesale price of natural gas from the second quarter of 2000 to the second quarter of 2001 (see the "Natural Gas Assessment" for a discussion of this increase).

Subsequent to that time, wholesale natural gas prices receded toward the level prior to the dramatic run-up in 2000. Electricity prices have also fallen back to earlier levels. In the long-term, wholesale natural gas prices (which are beyond the State's control) are forecast to decline in real terms through 2006 and then increase slowly until the end of the planning period, but they are not projected to exceed the real price experienced in 2000. Retail natural gas prices are forecast to follow a similar trend, as discussed in the Natural Gas Resource Assessment. With regard to electricity prices, the "Electricity Resource Assessment" presented in this Energy Plan projects that average retail prices should decline in real terms throughout the planning period.

Reliability

The 1998 State Energy Plan found that electric system reliability can be maintained or enhanced in a competitive market. Indeed, since the transition to wholesale electric competition began, the State has continually met or exceeded all of the reliability criteria established by the Northeast Power Coordinating Council and by the New York State Reliability Council. While bulk electric resources have been strained at times, the criteria have not been violated. As new generation and demand reduction resources become available over the next few years, bulk electric system reliability should continue to improve. With regard to electric distribution system resources,

reliability has generally remained stable, although pressures have increased for utility managers to minimize capital costs, as well as operations and maintenance costs. Utilities have responded by utilizing preventative maintenance programs and increasing the productivity of their work forces.

Economic Development

The 1998 State Energy Plan held that it is sound policy for New York State to use some of the benefits of restructuring the electric and natural gas utility industries to maximize economic development. Industrial and large commercial customers have taken advantage of the opportunities available to them to choose their energy suppliers through the competitive markets, and they have also benefitted from reduced delivery charges that became available through the regulatory process. Innovative programs, such as the new price response demand and load bidding programs established by the utilities and the New York Independent System Operator (NYISO), are also important opportunities that can help these classes of customers manage their utility budgets effectively. As new electricity generation and additional gas transportation capability become available, the benefits of competition will expand and so will the potential for greater economic development.

Adequacy of Supply and Delivery

The 1998 State Energy Plan held that energy supplies should continue to be adequate throughout the planning period, but new facilities would be needed sometime within the 2001 to 2005 time frame. Recent events have shown that the 1998 prediction was accurate, although the need for the new resources arrived somewhat earlier than was expected due to economic and load growth at the upper bound of the forecast range. Fortunately, the policies put in place to facilitate competition in New York have set the stage for new baseload generation to be built and operational in the near future and for demand reduction programs to be developed. Prior to the summer of 2001, the New York Power Authority's (NYPA) "Power Now!" projects added approximately 450 megawatts (MW) of new gas turbines in the New York City and Long Island areas. In addition, public and private sector utilities and the NYISO developed and initiated demand reduction programs that enabled the State to maintain a reliable electric system as the new baseload generation and further growth in demand reduction programs are pursued. The Electricity Resource Assessment, presented later in this Energy Plan, provides an in-depth assessment of the electricity infrastructure and demonstrates that electric system reliability can be maintained as competitive markets develop.

With regard to the siting of major electric facilities under Article X of New York's Public Service Law (PSL), the 1998 State Energy Plan held that certification may be premised on a determination that the proposed facilities would promote or contribute to a competitive market for wholesale or retail electricity. As of May 1, 2002, twenty four major electric power plant proposals subject to Article X have been announced formally to date, and 18 formal applications have been filed (one was subsequently withdrawn). Seven of those proposals have been approved (one of the seven has recently been canceled), and four projects are now under construction. With regard to natural gas, additional delivery system facilities are needed, and several proposals are pending before the Federal Energy Regulatory Commission (FERC) or have recently been authorized. The New York State Energy Research and Development Authority (NYSERDA) and the NYISO initiated a study to assess the interrelationships between natural gas and electricity, as well as the interrelationship with petroleum products. The results of that study to date are discussed below (see "Natural Gas and Electricity Interrelationships").

Environmental Impacts

The 1998 State Energy Plan maintained that increased competition in the energy markets would not have an undue adverse impact on the environment, as compared with traditional industry regulation, because environmental oversight would continue and mitigation measures would be implemented as necessary. Most of the Article X applications filed to date are for efficient, gas-fired combined cycle generation units; several are simple cycle installations. All use state-of-the-art clean technology, and several will result in the repowering of existing, inefficient, and more polluting generation. Modeling on these proposed power plants show expected reductions in air pollution in the State through the displacement of older, more polluting, electricity generation, and the analyses performed for the Electricity Resource Assessment in this Energy Plan support these results. Equally important are new programs designed to reduce customer energy demand, increase the efficiency of generation technologies, and promote indigenous and renewable resource development.

All Article X applicants and non-Article X power project developers must apply for applicable air and water quality permits from the New York State Department of Environmental Conservation (DEC). The permits are based on compliance with all applicable State and federal air and water quality regulations and requirements, including Prevention of Significant Deterioration (PSD), New Source Review (NSR), and Maximum Achievable Control Technology (MACT). Many Article X applicants have proposed air-cooled condensers (dry cooling), which use very little water compared to wet evaporative cooling or once-through cooling technologies. Additionally, depending

on site locations, other environmental mitigation measures have been imposed by the Article X Siting Boards.

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. The transition to competitive energy markets continues, and the State must remain ready to identify and resolve issues as they may arise.

COMPETITIVE ISSUES FOR THE FUTURE

The Electricity and other Resource Assessments presented in this Energy Plan provide assessments of both the state of the energy infrastructure and the markets supported by this infrastructure. The Assessments identify issues and barriers that confront the implementation of competitive markets and present various options that might be available to address those issues or overcome the barriers. With the background provided by the Assessments, this section addresses in more detail several critical issues affecting competition.

Policy Framework

The rigid, statutory-based approaches used for restructuring the utility industries in other regions of the country have led to significant problems and caused some advocates of competition to reevaluate their positions. Consequently, several states have retreated to "wait and see" positions, and some have even considered reversing course. In contrast, New York State's flexible approach to restructuring is designed to allow adjustments to be made as new policies are implemented and competitive barriers are revealed.

For example, most stakeholders agree that a primary barrier to effective wholesale competition in the energy industries is the lack of adequate resources in certain areas where they are needed most. This translates to a need for additional supply resources (either commodity or delivery resources) and demand-reduction techniques. The lack of adequate natural gas delivery and storage infrastructure in some areas constrains the market, which, in turn, leads to more volatile prices. For electricity, additions to the delivery system and/or added generation and reduced demand in certain areas of the State are needed. In response, the State has advocated increasing gas and

electric transmission into constrained areas, and it has taken steps to install small gas-powered facilities in New York City and on Long Island.

The "Electricity Resource Assessment" and the "Natural Gas Resource Assessment" in this Energy Plan each describe the state of competition for their sectors and discuss the remaining impediments to fully competitive markets, competitive prices, and additional choices for customers. The Assessments then identify the many initiatives and actions that have been taken and are underway. As these initiatives and actions unfold, the impediments identified are being addressed, and the State will endeavor to make any modifications that might be necessary for those issues that fall under its purview.

As described in the Assessments, the regulation of wholesale electricity and natural gas is primarily under the jurisdiction of the FERC. Consequently, the State has little direct control over the wholesale price of energy, but it does take an active advocacy role in support of maintaining system reliability and truly competitive markets. Over the next several years, wholesale markets will continue to mature, the NYISO will continue to improve its operations, the FERC will continue its deliberations on regional transmission operations, and the U.S. Congress will continue to consider nation-wide industry restructuring legislation. New York will monitor these activities and provide input where necessary to ensure that the State's interests are protected, especially with regard to energy systems security and reliability, and the ability of consumers to seek the lowest possible commodity prices.[1]

One concern that has surfaced in the wake of recent reports of the financing practices of major electricity generating companies involves the ability of merchant plant developers to obtain financing in the absence of long term contracts for the output of proposed plants. New York designed and implemented an installed capacity (ICAP) market to provide a stable source of revenue for recovering capital costs associated with the construction of plants. The ICAP market, however, has proven to be volatile, tending to provide very little revenue to generators whenever supplies are adequate (greater than reserve requirements). PSC Staff, along with the NYISO and the market participants, are discussing ways to redesign the ICAP market, among other solutions, to address the problem of access to financing.

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[1] The State supports development of a single, regional common market, subject to certain principles described in the Electricity Resource assessment. Similarly, as discussed later in this issue paper, the State supports federal legislation to remove some of the current barriers to effective competition in the utility industries.

While it remains the policy of the State of New York to pursue effective competition whenever practicable, the State recognizes that it may be required to advocate for customers at FERC and the NYISO, and also take other actions at times to protect the public, the environment and the industry. The State has assisted in establishing the NYISO and its organizational structure, established demand reduction programs at the utilities and the NYISO, and enabled construction and operation of critically needed additional electricity generation in the New York City and Long Island areas. The State recognizes that actions taken to secure adequate resources must be well-considered and undertaken with utmost restraint so as not to interfere unreasonably or unnecessarily in the development and operation of the market.

Power Plant Siting

PSL Article X authorizes the Siting Board to issue a Certificate of Environmental Compatibility and Public Need prior to construction and operation of an electricity generating facility with a capacity of 80 MW or more. Article X, enacted July 24, 1992, expires on January 1, 2003. It remains operative and effective with regard to applications filed on or before December 31, 2002.[2]

Article X provides for a pre-application process that encourages early public involvement and agreement between the affected agencies and parties on the scope of studies and analyses necessary to complete an application. Intervenor funding is available to municipal and local parties for expert witnesses and consultants once an application is filed. The Siting Board is required to render a final decision within twelve months of notice of a complete application. The Siting Board is required to make specific findings in support of its decisions on applications. Local laws apply, but the Board is authorized to waive application of any local laws upon certain findings (PSL § 168 (2) (d)).

Article X has been modified and streamlined in several ways. In 1999, the State enacted amendments to Article X that authorize the Department of Environmental Conservation (DEC) to issue air and water permits for proposed facilities. The

[2] Before enactment of Article X, PSL Article VIII established requirements relating to siting of major steam electric generating facilities. Article VIII was first enacted as Chapter 385 of the Laws of 1972; it expired in 1978 and was re-enacted by Chapter 708 of the Laws of 1978, which expired in 1988 when Chapter 519 of the Laws of 1992 became effective. The Law was subsequently amended in 1999 and 2001. An interruption in the PSL certification process occurred from January 1, 1989 to January 20, 1993. The State Environmental Quality Review Act applied to developers of major generating facilities during the interruption.

amendments were necessary to ensure continued federal delegation for air and water permits. The 1999 amendments also increased intervenor funding (from $150,000 to $300,000 per application) and strengthened the agencies' mandate for public involvement programs and increased public awareness and involvement in the process. In 2001, Article X was further amended to provide a shortened certification period for repowering projects, provided that certain air emissions will be reduced by at least 75% and water usage will be reduced dramatically.

The State agencies administering Article X and the air and water permitting have also undertaken measures to streamline the process and to provide opportunities for participation. Intervenor funding is initiated soon after an application is determined to be complete, and the New York State Department of Public Service (DPS) web site was expanded to provide ready access to case documents, status reports and a user friendly guide to Article X. The agencies conduct workshops to explain the process and filing requirements to applicants, as well as forums to explain the process to the public. The agencies also conduct one-on-one meetings with potential applicants and public interest groups to disseminate Article X material. These measures have helped Article X certification develop maturely into a smooth and expeditious process, which enhances public participation without unduly delaying consideration of the applications.

In response to the State Energy Planning Board's (Planning Board) request for comments on the scope of the Draft Energy Plan, written and oral comments were received regarding the effectiveness of Article X. In general, the comments call for extending Article X for five years. Recommendations for improving Article X included proposals for:

- Streamlining Article X procedures, including conducting more expeditious proceedings;
- Providing priority for brownfield and repowering facilities;
- Exempting mini power plants (a single turbine or pairs of turbines with a nameplate rating of over 80 MW but an actual output to the electric system of under 80 MW);
- Providing more and earlier public involvement;
- Requiring cumulative power plant and neighborhood impact (environmental justice) analyses;

- Evaluating health issues associated with fine particulates ($PM_{2.5}$) and non-ammonia technologies;
- Coordinating reviews by State and federal agencies;
- Locating generating facilities closer to the loads they are intended to serve; and
- Ensuring reliability of supply.

Comments subsequently received on the Draft Plan's discussion of Article X reflected those submitted during the scoping process.

Some commentors propose streamlining Article X to shorten the process. In addition, citizen and environmental groups and local governments request more meaningful public participation. These two objectives might be addressed through evaluation of the effectiveness of the current statutory language for intervenor funding and continuation/expansion of State agencies' pre-application information programs and training workshops for prospective applicants and others interested in the process. In addition, the Article X procedural requirements might be modified to enable Siting Boards to streamline review where interested parties, including affected community groups, reach consensus on specific issues presented by an Article X application.

In addition to Article X certification, construction of proposed generating facilities is subject to other federal and State requirements. Some groups call for more coordination between the Article X review process and the processes conducted by other State and federal agencies. Applicants could improve coordination by filing applications earlier with the other State and federal agencies and providing regular reports to the Siting Board on the other regulatory review processes. In addition, the State could consider amending Article X to designate as statutory parties other State organizations with responsibilities relating to siting electricity generating facilities.[3] Statutory parties are required to participate in the certification process if they determine that a proposed facility impacts a resource under their jurisdiction.

The benefits that Article X provides the State justify its reauthorization. In that process, the following should be considered:

[3] The New York State Department of State has been delegated responsibility for coastal zone management, and the Office of Parks, Recreation, and Historic Places has been delegated certain responsibilities with regard to historic places and parks.

1. Increased public participation in the Article X siting process through creation of an Office of Public Advisor to assist and advise interested parties and members of the public regarding participation in the siting and certification processes for major electric generating facilities. State agencies should continue their pre-application information programs and training workshops for prospective applicants and affected communities.

2. The effectiveness of current statutory language providing for intervenor funding, giving consideration to providing funding at the time of project preliminary scoping and allowing broader use of intervenor funding.

3. The appropriateness of developing specific procedures with respect to the expansion, modification, or repowering of existing major generating facilities.

4. Additional modifications and measures to Article X's procedural requirements that would enable the Siting Board to streamline its review where interested parties, including affected community groups, have reached consensus as to the specific issues presented by an Article X application.

5. Adding the New York State Department of State and the New York State Office of Parks, Recreation, and Historic Preservation as statutory parties to Article X proceedings in order to coordinate relevant permit requirements for Article X applications.

Natural Gas and Electricity Interrelationships

Natural gas is the fuel of choice for new power generation projects (see Electricity Resource Assessment). Plans to build about 15,000 MW of new gas-fired generation capacity have been announced, with about 70% of these to be located in an area extending from Orange and Rockland counties through and including Long Island. It is not clear which and how many of these plants actually will be built or when they will be built. In addition, the sponsors of some of these proposed plants are seeking permits to burn oil as an alternate fuel and have proposed the installation of oil storage facilities. Other proposed generators would be natural gas-only plants. These new plants will compete against other generators and may well displace natural gas now used in older, less efficient power plants.

The natural gas delivery capacity that exists today was built to serve the winter peak needs of core (residential, commercial, and industrial) customers. In essence, it is now operating at maximum capacity during peak periods. Some project sponsors have signed agreements for capacity on proposed pipeline projects, at least to meet some of their requirements. Others, however, have not and plan to rely on wholesale marketers to

provide them with natural gas. Some wholesale marketers have contracted for capacity on proposed new pipeline expansion projects, but that capacity would not necessarily be dedicated to particular power plants.

NYSERDA and the NYISO initiated a study of the interrelationships between the electricity and natural gas systems in New York. Through integrated modeling of the natural gas pipeline and electric generation systems, the study analyzed the level of gas and oil use for electricity generation under a variety of pipeline and electricity generation expansion scenarios. Ongoing analysis is examining the interactions of the gas and electric system in contingency situations (*e.g.*, pipeline or compressor station outages, electric generator failures and system re-dispatch). See the "Natural Gas Assessment."

As a starting point, for the year 2002, the analysis assumes that electric generation and natural gas system expansion projects currently under construction, or expected to be in service throughout 2003, are completed. This includes a net increase in electric generating capacity of 527 MW and an increase in natural gas pipeline capacity of 465 MDT/D (see Natural Gas Asseessment for details).

The study focused on the downstate area where much of the proposed increase in electricity generation capacity would be located and the ability of various increases in gas pipeline capacity to meet electricity generation needs. The study did not evaluate particular pipeline projects but instead examined post-2003 capacity addition of up to 800 MDT/D.

The study's overall findings are that:

1. If no post-2003 pipeline expansion projects are built, the existing gas and oil systems will be adequate to meet all electricity generation scenarios. Additional pipeline capacity, however, would benefit New York through reduced air emissions and enhanced contingency protection;

2. Pipeline capacity additions of between 300 MDT per day and 800 MDT per day would provide additional benefits to the electricity and natural gas systems, including enabling the use of larger quantities of cleaner-burning natural gas and providing better contingency protections.[4] Nonetheless, the more natural gas pipeline capacity built and used to serve electricity generation, the more dependent the electricity system is on natural gas availability and the more exposed it is to natural gas price variation.

[4] Work is continuing to assess the impact on the electricity and natural gas systems resulting from additional contingencies.

3. If 800 MDT/D of post-2003 pipeline capacity projects are built into the downstate New York area, natural gas could meet 100% of all generation scenarios; and

4. If less than 800 MD T/D of pipeline expansions and/or less additional generating capacity are added, a substantial portion of the maximum potential gas demand for generation can still be met. Some oil would need to be burned, but the total annual oil burn in all cases examined in 2005 would be less than the amount burned in 2000 and 2001.

The study considers pipeline capacity that is built to the New York market as capacity that will remain available to customers in New York. This assumes an open pipeline capacity market where bidders can acquire capacity on a short-term basis if they are willing to bid high enough. However, this same pipeline capacity could be used to deliver gas to upstream points. There is a risk that upstream customers (*e.g.*, new generators or other users) might emerge and be willing to sign a long-term contract for that pipeline capacity. If that were to happen, that pipeline capacity would become unavailable to the New York market, and building replacement pipeline capacity may take several years.

New York needs more pipeline capacity for several reasons:

1. New combined cycle generators will seek to burn gas as their only or primary fuel. Depending on how much new generation is added, existing pipeline capacity may be inadequate to meet that need;

2. New market developments could further increase the demand for natural gas to generate electricity (*e.g.*, recommendations for reducing State greenhouse gas emissions);

3. The study assumes that the steam units remain available, and can use residual oil when needed, providing important flexibility to meet peak electricity generation needs. The addition of 4,435 MW of generation capacity and 300 MDT/D of pipeline capacity will result in existing steam units running at very low load factors. Unless these plants can offset this loss of income from the energy market through capacity and ancillary service markets, they could become uneconomic and retire. To the extent that these steam units are retired, either more pipeline capacity will be needed to meet the electric generation needs, or new combined cycle plants will need to have the ability to burn distillate oil as required to meet load. As currently planned, these new combined cycle plants will have neither the distillate oil storage capacity nor air emissions permits to do that;[5] and

[5] Air permits usually limit the use of oil to 720 hours at dual-fueled facilities.

4. The study also assumes normal winter weather for the purpose of calculating non-generation loads. Local distribution companies hold capacity to meet severe weather requirements and can offer that capacity to the market when the weather is less than severe. Electricity generators are unlikely to hold capacity needed in a severe winter. To the extent that weather is colder than normal, less pipeline capacity would be available for the electricity generation market.

Federal Competitive Agenda

There are several actions that the U.S. Congress can take to assist New York State in its energy industry restructuring efforts. These include: repeal of the mandatory purchase of power from qualified generating facilities by utilities under the Public Utility Regulatory Policy Act (PURPA) and establishment of national mandatory reliability rules for the bulk power system (while allowing states and sub-regional reliability organizations such as the NYSRC to continue to set more specific or more rigorous State and local reliability standards when it is in the public interest).

FINDINGS AND CONCLUSIONS

- The findings of the 1998 State Energy Plan related to the introduction of competition in the electricity and natural gas industries remain valid today.

- The State must remain vigilant and flexible and must resolve energy issues as they arise, in order for the competitive energy markets in New York State to reach their true potential and for New Yorkers to realize the full benefits of restructuring.

- The State's administrative approach to restructuring its energy industries was premised on input from stakeholders and experts, and designed to provide flexibility to make adjustments as barriers to effective competition are revealed and competitive markets develop. This approached has served New York State well.

- The primary barrier to achieving effective wholesale competition in the energy industries is the lack of adequate resources (electricity generation capacity, electricity and natural gas delivery infrastructure, and demand reduction techniques) in certain areas where they are needed.

- The Article X Power Plant Siting Process in New York State has benefitted the State while protecting the environment.

- The natural gas delivery system, built to serve the winter peak needs of residential, commercial, and industrial customers, is now fully used during peak

periods. The competitive electricity generation market is moving toward a greater dependency on natural gas. Such a greater dependency on natural gas suggests a need to expand the natural gas infrastructure; use resources that will reduce our dependency on natural gas, such as greater use of renewable energy resources and advanced coal technologies; implement further electricity demand reduction techniques; and continue safe operation of nuclear power plants.

- The U.S. Congress can assist New York by repealing the mandatory purchase of power from qualified generating facilities required of utilities under the PURPA and by establishing national mandatory reliability rules for the bulk power system (while allowing states to continue to set more rigorous standards when it is in the public interest).