NEW YORK STATE BOARD ON ELECTRIC GENERATION SITING AND THE ENVIRONMENT

IN THE MATTER

of the
Application by Kings Park Energy, LLC for a Certificate of Environmental Compatibility and Public Need to Construct and Operate a 300 Megawatt Simple Cycle Generating Facility in the Town of Smithtown, Suffolk County, New York

Case 00-F-1356

Direct, Rebuttal and Surrebuttal Testimonies of David A. Schlissel

On behalf of Townline Association, Inc.

September 2002, October 2002 and January 2003

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Direct Testimony of
David A. Schlissel

On behalf of
Townline Association, Inc.

September 30, 2002

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QUALIFICATIONS

Q. Please state your name, position and business address.

A. My name is David A. Schlissel. I am a Senior Consultant at Synapse Energy Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

Q. On whose behalf are you testifying in this case?

A. I am testifying on behalf of the Townline Association, Inc. ("TAI").

Q. Please describe Synapse Energy Economics.

A. Synapse Energy Economics ("Synapse") is a research and consulting firm specializing in energy and environmental issues, including electric generation, transmission and distribution system reliability, market power, electricity market prices, stranded costs, efficiency, renewable energy, environmental quality, and nuclear power.

Q. Please summarize your educational background and recent work experience.

A. I graduated from the Massachusetts Institute of Technology in 1968 with a Bachelor of Science Degree in Engineering. In 1969, I received a Master of Science Degree in Engineering from Stanford University. In 1973, I received a Law Degree from Stanford University. In addition, I studied nuclear engineering at the Massachusetts Institute of Technology during the years 1983-1986.

Since 1983 I have been retained by governmental bodies, publicly-owned utilities, and private organizations in 24 states to prepare expert testimony and analyses on engineering and economic issues related to electric utilities. My clients have included the Staff of the California Public Utilities Commission, the Staff of the Arizona Corporation Commission, the Staff of the Kansas State Corporation Commission, the Arkansas Public Service Commission, municipal utility systems in Massachusetts, New York, Texas, and North Carolina, and the Attorney General of the Commonwealth of Massachusetts.

I have testified before state regulatory commissions in Arizona, New Jersey, Connecticut, Kansas, Texas, New Mexico, New York, Vermont, North Carolina, South Carolina, Maine, Illinois, Indiana, Ohio, Massachusetts, Missouri, and Wisconsin and before an Atomic Safety & Licensing Board of the U.S. Nuclear Regulatory Commission.

A copy of my current resume is attached as Exhibit DAS-1.

Q. Have you previously testified in any Article X Proceedings before the Siting Board?

A. Yes. I have testified in Case 99-F-1627 concerning NYPA's proposed 500 MW Astoria Project. I also submitted testimony in Case 99-F-1191 concerning the proposed SCS Astoria Energy facility. However, that case was settled before I testified.

INTRODUCTION

Q. What is the purpose of your testimony.

A. Synapse was retained by TAI to examine a number of issues related to Kings Park Energy's (also "the Applicant") proposed 300 Megawatt simple cycle electric generating facility. This testimony presents the results of our examination and investigation of the following issues set forth in the Examiners' June 12, 2002 Ruling Identifying Article X Issues and Establishing Schedule Milestones:

1. Article X Issue No. 14 - Are the Article X Application's claims about the need for the proposed facility reasonable and, if not, what are the implications of this in the context of evaluating requested waivers of local laws and determining if the facility is in the public interest.

2. Article X Issue No. 5 - Is the proposed facility in the public interest taking into account:

a. whether the proposed facility will displace generation by older facilities, and thereby reduce air emissions and improve air quality on Long Island.

b. whether the proposed facility will provide power at a relatively lower price.

3. Article X Issue No. 3 - Would the proposed simple cycle generation facility minimize adverse environmental impacts (excluding air and wastewater discharge impacts) considering the state, nature, and economics of combined cycle technology.

4. Article X Issue No. 16 - The need for the capability to burn a backup fuel.

5. Article X Issue No. 1 - Was the facility selected pursuant to an approved procurement process, and will it contribute to competition in electricity markets generally and in the spinning reserve, ancillary-services market specifically.

Q. Please explain how Synapse conducted its investigations and analyses on these issues.

A. We reviewed the Article X Application and the appendices to the Application. We also submitted discovery to Kings Park Energy and reviewed the materials that were provided in response to that discovery. In particular, we examined the Applicant's production modeling analysis and assessed the reasonableness of the input assumptions used in these analyses.

We also reviewed materials that were presented in other recent Article X proceedings in New York State. In particular, we compared the results of Kings Park Energy's analyses with the production modeling analyses that have been presented by other Article X applicants.

Finally, we reviewed materials issued by LIPA, the New York Independent System Operator ("NYISO") and the New England Power Pool.

SUMMARY OF FINDINGS

Q. Please summarize your findings.

A. We have found that:

1. The claims in the Article X Application concerning the need for the proposed Kings Park Energy facility are not reasonable because they do not reflect either the 407.6 MW of new peaking capacity that has been installed on Long Island this year or the new power plants that have been certified by the Siting Board or that are currently undergoing Siting Board review.

2. An independent assessment of projected peak system demands and available generating capacity demonstrates that it is not reasonable to claim that the 300 MW of capacity from the proposed Kings Park Energy facility will be needed before 2008 or 2009, at the earliest, even if Long Island continues to experience extreme summer weather conditions.

3. If more typical summer weather conditions are assumed, it is not reasonable to claim that the 300 MW of capacity from the proposed Kings Park Energy facility will be needed before 2015 or 2016, at the earliest.

4. Long Island will have enough generating capacity to satisfy the New York Independent System Operator's locational installed capacity requirements under projected extreme summer weather conditions even without the proposed Kings Park Energy facility.

5. My conclusion that the claims in the Article X Application concerning the need for the proposed Kings Park Energy facility are unreasonable is conservative because it does not reflect the potential repowering of any of KeySpan's existing generating facilities. Generally speaking, repowering a generation facility means replacing the plant's old, inefficient and polluting equipment with a newer, combined cycle unit.

6. The repowering of KeySpan's existing facilities on Long Island could provide additional efficient generating capacity and significantly reduce air emissions.

7. It is possible that the proposed Kings Park Energy facility would not even be available to serve load during all peak and near-peak demand hours.

8. Because the claims in the Article X Application about the need for the proposed Kings Park Energy facility have not been established there is no need for the Siting Board to overrule Suffolk County Article 7.

9. There is no credible evidence to support a finding that the construction and operation of the proposed Kings Park Energy facility would be in the public interest.

10. The production modeling analyses provided by the Applicant do not support the claim that the proposed facility would provide significant environmental benefits through the reduction of NO_x and SO_2 emissions both on Long Island and throughout New York State.

11. The production modeling analyses provided by the Applicant do not reasonably reflect future conditions on the Long Island and New York State electric systems because they exclude both the 407.6 MW of fast track combustion turbine capacity that has recently been installed on Long Island and the 250 MW of combined cycle capacity that would be provided by KeySpan Energy's proposed Spagnoli Road facility.

12. The addition of the fast track combustion turbine capacity and the Spagnoli Road combined cycle facility to the production modeling analysis can be expected to substantially reduce, if not eliminate, the environmental benefits claimed for the proposed Kings Park Energy facility.

13. The production modeling analyses provided by the Applicant do not support the claim that operating the proposed facility would provide meaningful electric cost savings benefits.

14. In fact, the Applicant's production modeling analyses show that, at best, the operation of the proposed Kings Park Energy facility would not result in any change in the average wholesale spot market energy price for New York State as a whole.

15. The Applicant's production modeling analyses also show that, at best, that the operation of the proposed Kings Park Energy facility would result in a very minor 0.2 cents per kilowatt hour, or 0.6 percent, reduction, saving in the average wholesale spot market energy price on Long Island.

16. The Applicant's production modeling analyses further show that operation of the proposed Kings Park Energy facility actually would lead to minor increases in the average wholesale spot market energy price throughout much of upstate New York.

17. However, the Applicant's production modeling analyses overstate the cost savings benefits that would be realized from operating the proposed Kings Park Energy facility because they exclude the recently installed fast track combustion turbines and the Spagnoli Road facility. The inclusion of these generators can be expected to reduce or eliminate the minor cost savings that the Applicant's production modeling analyses show for the proposed Kings Park Energy facility.

18. Construction and operation of the proposed Kings Park Energy facility would not be in the public interest because it could hinder or even prevent the repowering of any of the units at the Northport Station. The repowering of even one of the Northport Units could produce more substantial environmental benefits than the Applicant's production modeling analyses show for the proposed Kings Park Energy facility.

19. Unless it is clear that peaking capacity is needed a combined cycle plant is more preferable from the perspective of both fossil fuel use and the minimization of air pollution because the combined cycle facility is much more efficient that a simple cycle unit.

20. Additional peaking capacity is not needed on Long Island given LIPA's recent addition of the 407.6 MW of fast track combustion turbines and its announced intention to add another 200 MW or peaking capacity by the summer of 2003.

21. The ages and efficiencies of the existing generating units on Long Island suggest the need for new intermediate or baseload combined cycle capacity.

22. A combined cycle unit uses less fossil fuel to produce a given amount of energy than a simple cycle plant of the same size. Thus, it avoids environmental problems related to the production of the unused fossil fuels.

23. A combined cycle unit also is likely to displace more generation from older, less efficient and dirtier plants than a simple cycle unit because it has a significantly lower heat rate. There are environmental benefits from this additional displacement both in terms of reduced cooling water usage at some of the displaced facilities (thereby mitigating the impact of the facilities on their neighboring aquatic environments) and reduced fossil fuel usage at those facilities.

24. There is no evidence that overriding Suffolk County Article 7 which controls the storage of hazardous materials would significantly improve the reliability of Long Island's electric system.

25. The proposed Kings Park Energy facility still could be shut down for 80 percent or more of peak and near-peak demand hours when loads exceed 3,200 MW even if the facility has the requested backup fuel capability.

26. The revised NYISO reliability rule does not specifically require that the proposed Kings Park Energy facility be shut down when loads on Long Island exceed 3,200 MW if it does not have backup fuel capability.

27. The Applicant has not provided any evidence that any increased competition in the electricity markets resulting from the proposed Kings

Park Energy facility would lead to lower prices for ratepayers. In fact, the Applicant's production modeling analyses show that, at best, the addition of the proposed facility would not lower the average price of electricity in the wholesale spot energy market in New York State and would only have an extremely minor affect on the average price of electricity in the wholesale spot energy market on Long Island.

28. The Applicant has not provided any evidence that ancillary-services costs would be reduced as a result of the availability of the proposed Kings Park Energy facility.

29. The Applicant's claim that the proposed Kings Park Energy facility would make the ancillary-services markets somewhat more competitive should not be an important factor influencing the Siting Board's determination of whether the construction and operation of the proposed facility would be in the public interest.

ARTICLE X ISSUE NO. 14 - THE REASONABLENESS OF THE CLAIMS IN THE ARTICLE X APPLICATION CONCERNING THE NEED FOR THE PROPOSED FACILITY

Q. What claims were presented in the Article X Application concerning the need for the proposed 300 MW facility?

A. The Article X Application claims that the proposed facility is needed to address a projected lack of capacity to meet Long Island's projected peak demands. For example, the Article X Application states:

- The Facility's timely construction will help alleviate a predicted shortage of electric capacity on Long Island. Current and planned generation resources combined with available import capabilities are unlikely to support Long Island's peak power requirements by, and after, the Summer of 2003.[1]

[1] Article X Application, at page ES-1.

- The Facility will provide clean, competitively priced electricity at a time when the Long Island region needs new power generation capacity.[2]

Q. Are these claims of need for the proposed Kings Park Energy facility reasonable?

A. No. The claims in the Article X Application do not reflect either the 407.6 MW of new peaking capacity that has been installed on Long Island or the new power plants that have been certified by the Siting Board or that are currently undergoing Siting Board review.

Q. Have you prepared an independent analysis to examine the reasonableness of the claims made by Kings Park Energy?

A. Yes. I have compared forecast customer loads and projected generating and transmission capacity to examine whether Kings Park Energy's claims concerning the need for its proposed facility are reasonable. The results of my analyses are shown in Tables 1 and 2 below.

Table 1 shows that it is not reasonable to claim that the 300 MW of capacity from the proposed Kings Park Energy facility will be needed before 2008 or 2009 even if Long Island continues to experience extreme summer weather conditions. This is due to the addition of the capacity provided by the "fast track" combustion turbines recently installed by LIPA, the Brookhaven Energy Facility, and the new transmission line from Connecticut,.

[2] Article X Application, at page ES-10.

Table 1 – Loads and Resources – Extreme Weather – Without Spagnoli Road

	2003	2004	2005	2006	2007	2008	2009
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938
Transmission Import Capability	1430	1430	1430	1430	1430	1430	1430
Brookhaven Energy	0	0	580	580	580	580	580
Total Available Capacity	6368	6368	6948	6948	6948	6948	6948
Peak Demand	5185	5315	5447	5584	5723	5866	6013
Peak + 17.5% Reserve	6092	6245	6401	6561	6725	6893	7065
Capacity Surplus/(Deficiency)	276	123	547	387	223	55	-117

Table 2 then shows that it is not reasonable to claim that the 300 MW of capacity from the proposed Kings Park Energy facility will be needed before 2009 or 2010 if the 250 MW from the proposed Spagnoli Road Unit also is considered. Table 2 also assumes that Long Island continues to experience extreme weather conditions.

Table 2 – Loads and Resources – Extreme Weather – With Spagnoli Road

	2003	2004	2005	2006	2007	2008	2009	2010
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938	4938
Transmission Import Capability	1430	1430	1430	1430	1430	1430	1430	1430
Brookhaven Energy	0	0	580	580	580	580	580	580
Spagnoli Road	0	0	250	250	250	250	250	250
Total Available Capacity	6368	6368	7198	7198	7198	7198	7198	7198
Peak Demand	5185	5315	5447	5584	5723	5866	6013	6163
Peak + 17.5% Reserve	6092	6245	6401	6561	6725	6893	7065	7242
Capacity Surplus/(Deficiency)	276	123	797	637	473	305	133	-44

Q. Please explain the bases for the assumed loads shown in Tables 1 and 2.

A. The projected peak demands presented in Tables 1 and 2 are based (1) on the extremely hot weather that was experienced this past summer (and which resulted in a record 5,059 MW peak demand on Long Island) and (2) on an assumed 2.5 percent annual growth rate.

Q. What is the basis for the assumption that there is currently 4,938 MW of generating capacity on Long Island?

A. This figure was taken from Kings Park Energy's response to Data Request TAI-10-148.[3]

Q. Does the 1,430 MW of transmission import capability shown on Tables 1 and 2 reflect the recently installed link between New Haven, CT and Shoreham?

A. Yes. I have included the 330 MW of transmission import capability from the new TransEnergie HVDC connection between Connecticut and Long Island.

Q. Is it reasonable to expect that New England will have sufficient capacity to provide power to Long Island over the newly installed TransEnergie HVDC transmission line during peak demand periods?

A. Yes. The New England Power Pool projects that for the foreseeable planning horizon, i.e., the next ten years, New England will have substantial reserve margins even during the peak summer months.[4] In fact, New England's capacity reserve margins are expected to be above 30 percent during the summers of 2003 through 2008. New England capacity reserve margins are then projected to remain above 25 percent in the years 2009 to 2011. These reserves will enable New England to supply 330 MW of capacity to Long Island even during summer peak periods.

Q. Are the peak demands shown on Tables 1 and 2 conservative?

A. Yes. The analyses presented in Tables 1 and 2 reflect the extreme summer weather experienced in the summer of 2001 and 2002. If the analyses instead used the peak demands projected for Long Island by the NYISO in the Spring of 2002, the proposed 300 MW from the King Parks Energy facility would not be needed

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[3] See Exhibit DAS-2.

[4] The relevant pages from the New England Power Pool's April 1, 2002, "Forecast of Capacity, Energy, Loads and Transmission – 2002-2011" are included in Exhibit DAS-3.

until the year 2015, at the earliest. This comparison is shown on Tables 3 and 4 below.

Table 3 – Loads and Resources – Spring 2002 NYISO Forecasts – Without Spagnoli Road

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938
Transmission Import Capability	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430
Brookhaven Energy	0	0	580	580	580	580	580	580	580	580	580	580	580
Total Available Capacity	6368	6368	6948	6948	6948	6948	6948	6948	6948	6948	6948	6948	6948
Peak Demand	4939	5014	5090	5166	5244	5323	5402	5483	5566	5649	5734	5820	5907
Peak + 17.5% Reserve	5803	5891	5981	6070	6162	6254	6348	6443	6540	6638	6737	6838	6941
Capacity Surplus/(Deficiency)	565	477	967	878	786	694	600	505	408	310	211	110	7

Table 4 – Loads and Resources – Spring 2002 NYISO Forecasts – With Spagnoli Road

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938
Transmission Import Capability	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430
Brookhaven Energy	0	0	580	580	580	580	580	580	580	580	580	580	580
Spagnoli Road	0	0	250	250	250	250	250	250	250	250	250	250	250
Total Available Capacity	6368	6368	7198	7198	7198	7198	7198	7198	7198	7198	7198	7198	7198
Peak Demand	4939	5014	5090	5166	5244	5323	5402	5483	5566	5649	5734	5820	5907
Peak + 17.5% Reserve	5803	5891	5981	6070	6162	6254	6348	6443	6540	6638	6737	6838	6941
Capacity Surplus/(Deficiency)	565	477	1217	1128	1036	944	850	755	658	560	461	360	257

In addition, it is possible that future peak loads could be reduced through the implementation of more aggressive energy conservation/efficiency and/or demand response programs. The implementation of such programs could delay the need for the capacity from the proposed Kings Park Energy facility even further into the future.

Q. Is it reasonable to expect that the NYISO's locational installed capacity requirement for Long Island will be satisfied without the proposed Kings Park Energy facility?

A. Yes. The NYISO has had an installed capacity requirement for Long Island equal to 93 percent of the expected peak demand.[5] This has meant that there must be capacity actually present on Long Island equal to 93 percent of the projected peak loads. However, the NYISO is in the process of reducing this requirement to 87 percent of the expected peak demand as a result of the addition of the new 330 MW TransEnergie transmission tie to Connecticut.[6]

As shown on Tables 5 and 6 below, Long Island will have enough generating capacity without the proposed Kings Park Energy facility to satisfy this requirement for the foreseeable future even under extreme weather conditions:

Table 5 – Installed Capacity Requirement on Long Island – Extreme Weather - without Spagnoli Road

	2003	2004	2005	2006	2007	2008	2009
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938
Brookhaven Energy	0	0	580	580	580	580	580
Total Available Capacity	4938	4938	5518	5518	5518	5518	5518
Peak Demand	5185	5315	5447	5584	5723	5866	6013
Installed Capacity Requirement	4511	4624	4739	4858	4979	5104	5231
Installed Capacity Surplus/(Deficiency)	427	314	779	660	539	414	287

[5] *Locational Installed Capacity Requirements Study for the 2002-2003 Capability Year*, New York Independent System Operator, February 28, 2002, at page 3.

[6] *Locational Installed Capacity Requirements Study for the 2002-2003 Capability Year*, New York Independent System Operator, February 28, 2002, at page 3.

Table 6 – Installed Capacity Requirement on Long Island – Extreme Weather - with Spagnoli Road

	2003	2004	2005	2006	2007	2008	2009
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938
Brookhaven Energy	0	0	580	580	580	580	580
Spagnoli Road	0	0	250	250	250	250	250
Total Available Capacity	4938	4938	5768	5768	5768	5768	5768
Peak Demand	5185	5315	5447	5584	5723	5866	6013
Installed Capacity Requirement	4511	4624	4739	4858	4979	5104	5231
Installed Capacity Surplus/(Deficiency)	427	314	1029	910	789	664	537

Q. Are the available capacity resource figures shown on Tables 1 through 6 conservative?

A. Yes. The available capacity figures used in Tables 1 through 6 do not reflect LIPA's recent announcement that it will install an additional 200 MW of peaking capacity by the summer of 2003 or the capacity that LIPA is seeking to obtain from wind farms.

Moreover, the available capacity projections used in Tables 1 through 6 do not reflect the additional capacity that could be available if some of KeySpan Energy's existing facilities were repowered. According to a recent study by the Center for Management Analysis at Long Island University, Long Island's electric supply could potentially be increased by as much as 4,700 MW if all of existing capacity on the KeySpan system were converted to combined cycle.[7] Several thousand MW of new generating capacity could be obtained if only a few of KeySpan's units were repowered.

[7] *The Feasibility of Re-Powering KeySpan's Long Island Electric Generating Plants to Meet Future Energy Needs*, Long Island University, Center for Management Analysis, August 6, 2002, at page 14. See Exhibit DAS-4.

Q. Please describe briefly what is meant by the term repowering.

A. Generally speaking, repowering a generation facility means replacing the plant's old, inefficient and polluting equipment with a newer, combined cycle unit. In practice, this can be done in at least two ways: 1) by actually rebuilding and replacing part or all of an existing power plant or 2) by closing down an existing power plant and building a new unit next to it.

Q. What are the electric and environmental impacts of repowering older power plants?

A. In general, repowering older power plants can provide a number of important environmental and electric system reliability benefits: improved plant availability, lower plant operating and maintenance costs; increased plant capacity and generation; reduced facility heat rates which lead to significantly more efficient fuel use; reuse of industrial sites; up to 98 percent reductions in water intake and related fish impacts; and large reductions in NO_x and SO_2 emissions both overall and in terms of emissions per MWH of electricity. The Governor and New York State Legislature have recognized the general benefits of repowering existing power plants by amending Article X to expedite the siting process for plant repowering applications. N.Y. Pub. Service Law § 165(4)(b).

Q. Is it generally recognized that repowering an existing power plant can provide significant environmental benefits?

A. Yes. The recent Long Island University study on repowering KeySpan's Plants noted that repowering would provide cost effective generating capacity to carry Long Island at least into the next 20 to 40 years and beyond, and would provide "compelling" environmental benefits:

> Improvements in efficiency from about 35% to close to 60% in the conversion of fuel to electricity can be achieved. The resulting reduction in fuel burned for a given amount of generation will be significantly less nitrogen oxides and carbon monoxide emitted. Modern combined cycle units have state of the art emission control systems in contrast to the older steam electric units with no such controls. The re-powered units achieve emission reductions immediately since they replace higher emitting, older units that would

likely continue to operate in an expansion program of new greenfield projects.[8]

Q. Is repowering of existing power plants a common practice?

A. Yes. The repowering of existing power plants is becoming a common practice in the electric industry.

Q. Are any repowering projects currently underway in New York State?

A. Yes, ConEd is currently repowering its East River Plant and PSEGNY is repowering the Bethlehem Energy Center outside Albany. These two projects will add 1,110 MW of new combined cycle capacity to the electric system. This represents a net increase of 510 MW of generating capacity.

Reliant Energy also is proposing to repower its Astoria Generating facility. This repowering ultimately will add another 1,816 MW of combined cycle capacity to the electric system in New York City.

Q. Is it possible that the proposed Kings Park Energy facility would not even be available to serve load during peak and near-peak demand hours?

A. Yes. The Applicant has claimed the existing reliability rules would require that the proposed Kings Park Energy facility be shut down when loads on Long Island exceed 3,200 MW unless the plant has the ability to use a backup fuel such as Jet Fuel A.[9]

The Applicant has said that it is requesting authority to burn such backup fuel for up to 100 hours per year in order to satisfy these rules. However, loads on Long Island exceeded 3,200 MW for 500 or more hours during 2000 and 2001 and can be expected to do so in future years.[10] This means that capacity from the proposed Kings Park Energy facility may not be available to serve customer

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[8] Ibid., at page 8.

[9] See the Article X Application, at pages 7-17 and 7-18.

[10] Article X Application, at page 9-48.

demands during 80 percent or more of peak and near-peak demand hours even if the facility has the capability to burn a backup fuel.

Q. What is the significance of a finding that the Applicant's claims concerning the need for the proposed facility are not reasonable?

A. Because the claims in the Article X Application about the need for the proposed Kings Park Energy facility have not been established there is no need for the Siting Board to overrule Suffolk County Article 7.

ARTICLE X ISSUE NO. 5 – WHETHER THE CONSTRUCTION AND OPERATION OF THE PROPOSED FACILITY WOULD BE IN THE PUBLIC INTEREST

Q. Please explain why it is important that an Applicant show that its proposed facility would produce environmental and economic benefits when seeking to obtain a certificate to build and operate a major electric generating facility.

A. PSL Sections 168(1) and 168(2) require that the Siting Board must make a number of specific findings on the basis of the record developed before the Presiding Examiner before it may grant a certificate for the construction or operation of a major electric generating facility. These findings include:

> (b) The nature of the probable environmental impacts, including an evaluation of the predictable adverse and beneficial impacts on the environment and ecology, public health and safety … air and water quality, including the cumulative effect of air emissions from existing facilities and the potential for significant deterioration in local air quality with particular attention to facilities located in areas designated as severe nonattainment.…
>
> (c) That the facility (i) minimizes adverse environmental impacts …. (ii) is compatible with the public health and safety, … (iv) will not emit any pollutants to the air that will be in contravention of applicable air emission control requirements or air quality standards.…
>
> (e) That the construction and operation of the facility is in the public interest, considering the environmental impacts of the facility ….

It is essential that there be a reasonable estimate of the environmental and economic benefits that the proposed facility could offer in order for the Siting Board to make the balancing of benefits called for under these Sections of the Public Service Law.

Q. What claims has Kings Park Energy made concerning the benefits that would be created by the construction and operation of the proposed facility?

A. The Article X Application claims that the proposed 300 MW Kings Park Energy facility will produce significant environmental and economic benefits:

> Failure to build the Project will also have several adverse environmental consequences. The Market Assessment and Portfolio Strategies (MAPS) model simulations demonstrate that the Project will displace output from older, higher emission producing generating stations. Consequently, the operation of the Project will actually result in the reduction of air emissions. The MAPS analyses also show electric cost savings benefits from operating the Project.[11]

Q. Are these claims supported by the Applicant's production modeling analyses?

A. No. The Applicant's production modeling analyses (also called "MAPS" analyses after the GE Market Assessment & Portfolio Strategies model which is used in the analyses) do not reasonably reflect future conditions on the Long Island and New York State electric systems because they exclude both the 407.6 MW of "fast track" combustion turbine capacity that has been installed on Long Island since January of this year and the 250 MW of combined cycle capacity that would be provided by KeySpan Energy's proposed Spagnoli Road facility.

Q. Have the production modeling analyses presented in any other recent Article X proceedings included the fast track combustion turbines that were installed on Long Island this year?

A. Yes. In March of this year ANP Brookhaven Energy revised its production modeling analyses to include, among other changes, the fast track combustion

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[11] Article X Application, at page 8-2.

turbines that at that time were proposed for Long Island.[12] LIPA and the Staff of the Department of Public Service also filed production modeling analyses in that proceeding that included the fast track combustion turbines.

Q. Has King Park Energy performed any production modeling analyses that include either the fast track facilities recently installed by LIPA or the Spagnoli Road facility?

A. No.[13]

Q. Why is it important that these combustion turbines be modeled in a production modeling evaluation of the environmental and economic benefits that would be provided by the proposed Kings Park Energy facility?

A. The fast track units that were installed on Long Island this past spring and summer will provide 407.6 MW of the same type of combustion turbine capacity that would be used at the proposed Kings Park Energy facility. Consequently, these units already will achieve the same environmental and economic benefits that Kings Park Energy's production modeling analyses project for the proposed facility.[14]

The question then becomes whether the proposed Kings Park Energy facility will achieve additional environmental or economic benefits on top of those that will be achieved by the fast track units. This question can only be fully answered by rerunning the MAPS production modeling analyses to include these plants.

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[12] Rebuttal Testimony of George Dean, Robert Stein, and John Marczewski in Case 00-F-0056 on behalf of the Brookhaven Energy Limited Partnership, at page 37, lines 9-14.

[13] Kings Park Energy responses to Data Request TAI-2-69 and TAI-2-70. See Exhibit DAS-2.

[14] Actually, the new fast track combustion turbines can be expected to produce greater environmental and economic benefits than the proposed Kings Park Energy facility because they provide more capacity (407.6 MW vs. 300 MW).

Q. Why is it important for the Applicant's MAPS production modeling analyses to include the proposed Spagnoli Road facility?

A. The proposed Spagnoli Road facility will provide 250 MW of efficient baseload combined cycle capacity that will have a significantly lower heat rate than the proposed Kings Park Energy facility (approximately 7,000 btu/kwh vs. 9,432 btu/kwh). For this reason, it is likely that the Spagnoli Road facility will be dispatched ahead of Kings Park Energy and will produce many of the same environmental and economic benefits that the Applicant's production modeling analyses claim for the proposed Kings Park Energy facility.

As with the fast track combustion turbines, the question is whether the proposed Kings Park Energy facility will achieve additional environmental or economic benefits on top of those that will be achieved by the Spagnoli Road facility. This question can only be fully answered by rerunning the MAPS production modeling analyses to include this plant as well as the fast track combustion turbines.

Q. Has the Siting Board indicated whether the proposed Spagnoli Road facility should be included in production modeling analyses of the environmental and economic benefits from other proposed facilities on Long Island?

A. Yes. In its August 14, 2002 Opinion and Order in Case 00-F-0056, the Siting Board ruled that it was appropriate to include the Spagnoli Road facility in a production modeling analysis of the environmental and economic benefits that would be provided by the Brookhaven Energy plant:

> We disagree with the Applicant that inclusion of the impacts of subsequently filed applications will create an obstacle to investment in new generation. We recognize that either facility may have a lesser impact if the other were considered as part of the base case than if it were excluded, but we will rely on the market forces in a competitive environment to ultimately determine which unit should be built. Our obligation is to ensure that each application meets the requirements of PSL Section 168, which states in part that "the construction and operation of the facility is in the public interest."
>
> In the instant case, Brookhaven claims that the public interest standard should consider the projected production cost savings. We believe that any such projection should, as accurately as possible, assess future

> conditions. No doubt, if the KeySpan unit is approved, it would have a large impact of the projected savings. Since the record has been developed on this subject, in accordance with procedures set forth by the examiners, we will consider the Spagnoli Road Unit in our overall assessment of the public interest.[15]

Q. Does this same reasoning apply in this case?

A. Yes. The Applicant's projections of the environmental and economic benefits that would be produced by its proposed facility should reflect the operation of the proposed Spagnoli Road Unit in order to assess future conditions as accurately as possible.

Q. Should the Applicant's MAPS production modeling analyses also reflect the 200 MW of new combustion turbine capacity that LIPA has said it will install by the summer of 2003?

A. Yes. If the Applicant is required to rerun its production modeling analyses, such studies should include the 200 MW of additional peaking capacity that LIPA intends to install by the summer of 2003.

Q. Are there any other proposed facilities that also should be included in the Applicant's MAPS analyses but have been excluded?

A. Yes. Although it is most important to include the proposed Spagnoli Road Unit when considering the environmental and economic benefits that would be produced by the proposed Kings Park Energy facility, there are a number of other plants that are currently undergoing Siting Board review that should be included in the production modeling analyses. These plants include Reliant Energy's proposed Astoria Repowering Project which ultimately will provide 1,816 MW of new combined cycle capacity in Northwest Queens (562 MW net increase) and two projects that are proposed for the Albany Capitol District Region of Upstate New York – the 520 MW Glenville Energy Project and the 505 MW Besicorp Empire State Newsprint Project.

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[15] Opinion and Order in Case 00-F-0056, at page 71.

Q. Are there any plants that have been included in Kings Park Energy's MAPS production modeling analyses that have been cancelled or otherwise deferred?

A. Yes. The Heritage and Ramapo Energy Projects that were to be built in the lower Hudson River Valley also has been cancelled. Both of these projects should be removed from the Applicant's MAPS analyses.

Q. Do the Applicant's MAPS production modeling analyses, as currently filed, show that the proposed Kings Park Energy Facility will produce significant production cost savings?

A. No. Table 4(a) in Appendix 1-1 of the Article X Application shows that, in the Applicant's own MAPS production modeling analyses, the operation of the proposed Kings Park Energy facility will not result in any change in the average wholesale spot market energy price for New York State as a whole.[16]

Q. Would the proposed Kings Park Energy Facility produce significant production cost savings on Long Island?

A. No. The Applicant's MAPS production modeling analyses, as currently filed, show only an extremely minor 0.2 cents per kilowatt hour, or 0.6 percent, saving in the average wholesale spot market energy price on Long Island.[17] This would translate into production cost savings on Long Island of only $3.4 million per year.[18] However, these savings would be offset by higher prices in Upstate New York.

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[16] This conclusion is based on the Applicant's MAPS production modeling analyses that reflect the operation of the Brookhaven facility. The Applicant's MAPS production modeling analyses that exclude Brookhaven show that the operation of the proposed Kings Park Energy facility would, at best,, have only a very minor impact on the average wholesale spot market energy price for all of New York State. See Table 4(b) in Appendix 1-1 of the Article X Application.

[17] Table 4(a) in Appendix 1-1 of the Article X Application.

[18] This conclusion is based on the Applicant's MAPS production modeling analyses that reflect the operation of the Brookhaven facility. The Applicant's MAPS production modeling analyses that exclude Brookhaven show a 0.8 cents per kilowatt hour savings in the wholesale spot market energy price of electricity on Long Island due to the operation of the proposed Kings Park Energy

Q. Is it reasonable to expect that even the minor production cost savings that the Applicant's MAPS production modeling analyses show for Long Island are overstated?

A. Yes. As I mentioned above, the Applicant's MAPS production modeling analyses do not include the 407.6 MW of fast track capacity recently installed by LIPA or the 250 MW of baseload combined cycle capacity that would be provided by the Spagnoli Road facility – the inclusion of both of these generators can be expected to reduce electricity prices on Long Island even if the Kings Park Energy facility is not built. Consequently, any additional production cost savings that might be attributable to the operation of the Kings Park Energy facility would be even smaller than the $3.4 million figure shown in the Applicant's MAPS production modeling analyses.

Q. What evidence have you seen that suggests that inclusion of the fast track LIPA turbines and the Spagnoli Road facility would reduce the production cost savings that Kings Park Energy claims for its proposed facility?

A. The Siting Board has recently noted that inclusion of the proposed Spagnoli Road facility in the production modeling analyses in Case 00-F-0566 reduced the production cost savings from operating the proposed Brookhaven Energy facility by approximately $24 million.[19] A significantly smaller impact from either the fast track facilities and/or Spagnoli Road would eliminate the $3.4 million annual production cost savings that the Applicant's own MAPS production modeling analyses claim for the proposed Kings Park Energy facility.

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facility. This would be approximately $12 million per year. See Table 4(b) in Appendix 1-1 of the Article X Application.

[19] Siting Board Opinion and Order in Case 00-F-0566, at page 71.

Q. Do the Applicant's MAPS production modeling analyses demonstrate that the operation of the proposed Kings Park Energy facility would lead to significantly reduced air emissions on Long Island?

A. No. As I explained above, the Applicant's MAPS production modeling analyses overstate the environmental benefits that would be produced by the proposed Kings Park Energy facility because these analyses exclude the existing 407 MW of new fast track combustion turbine capacity and the 250 MW of combined cycle capacity that would be provided by the proposed Spagnoli Road facility.

Q. Do the Applicant's MAPS production modeling analyses demonstrate that the operation of the proposed Kings Park Energy facility would lead to significantly reduced air emissions in the immediate vicinity of the proposed project site?

A. No. The Applicant's MAPS production modeling analyses project that NO_x and SO_2 emissions in the vicinity of the proposed project site would be reduced by 3.8 percent and 4.9 percent, respectively, if the proposed Kings Park Energy facility were built and operated, as a result of displacement of generation that would otherwise be produced at the Northport Station. However, these claims are overstated because it is reasonable to expect that many, if not all, of these same emission reductions would be achieved through displacement of Northport generation by the new LIPA fast track combustion turbines and the proposed Spagnoli Road combined cycle facility.

Q. Without rerunning the Applicant's MAPS production modeling analyses, is it possible to determine what impact including the LIPA fast track turbines and Spagnoli Road would have on the environmental benefits produced by the proposed Kings Park Energy facility?

A. No. However, Tables 3(a) and 3(b) in Appendix 1-1 to the Article X Application show the impact that including the 580 MW of combined cycle capacity from the Brookhaven facility would have on the projected environmental benefits on Long Island from the proposed Kings Park Energy facility. Therefore, comparing these tables offers some insight into the relative magnitude of the impact that including

the additional 657 MW from the fast track combustion turbines and Spagnoli Road might have on the claimed environmental benefits of the Kings Park Energy facility:

Table 7 – The Impact of including the Brookhaven Facility on the environmental benefits on Long Island from the proposed Kings Park Energy facility

	Kings Park Impact - Long Island		
	Without Brookhaven	With Brookhaven	Change From Including Brookhaven
NOx Reductions	2,328 Tons	745 Tons	(1,583) Tons
SO2 Reductions	2,356 Tons	1,358 Tons	(998) Tons

Consequently, the Applicant's MAPS production modeling analyses show that including the 580 MW of new capacity from the Brookhaven facility would significantly reduce the projected environmental benefits from Kings Park Energy. Even if the addition of the 657 MW of new capacity from the fast track combustion turbines (407.6 MW) and Spagnoli Road (250 MW) did not have as large an impact as adding the 580 MW of combined cycle capacity from Brookhaven, it is clear that the inclusion of that capacity in the MAPS production modeling analyses would further drastically reduce, if not eliminate, the claimed environmental benefits for Long Island from the proposed Kings Park Energy facility.[20]

Q. Would the same be true for the environmental benefits projected for all of New York State in the Applicant's MAPS production modeling analyses?

A. Yes. Tables 2(a) and 2(b) in Appendix 1-1 to the Article X Application show the impact that including the 580 MW of combined cycle capacity from the

[20] LIPA presented testimony in Case 00-F-0566 last January that reported that including the fast track combustion turbine generators and the KeySpan Spagnoli Road Energy Center in MAPS analyses, in large part, led to the lowering of the projected NOx emission reductions from the proposed Brookhaven Facility by 80 percent, the lowering of projected SO2 emission reductions by 89 percent, and the lowering of projected energy cost savings by 82 percent. Direct Testimony of LIPA Panel in Case 00-F-0566, at page 24, line 16, through page 26, line 13.

Brookhaven facility would have on the projected environmental benefits for all of New York State from Kings Park Energy:

Table 8 – The Impact of including the Brookhaven Facility on the environmental benefits for all of New York State from the proposed Kings Park Energy facility

	Kings Park Impact - New York State		
	Without Brookhaven	With Brookhaven	Change From Including Brookhaven
NOx Reductions	2402 Tons	920 Tons	(1,482) Tons
SO2 Reductions	2511 Tons	1,539 Tons	(972) Tons

Again, even if the addition of the capacity from the LIPA fast track combustion turbines (407.6 MW) and Spagnoli Road (250 MW) could not be expected to have as large an impact as adding the 580 MW of combined cycle capacity from Brookhaven, it is clear that the inclusion of that capacity in the MAPS production modeling analyses would further drastically reduce, if not eliminate, the environmental benefits projected for all of New York State from the proposed Kings Park Energy facility.

Q. Are there any other inaccuracies in the Applicant's MAPS production modeling analyses that also cause them to overstate the environmental benefits from the proposed Kings Park Energy facility?

A. Yes. The Applicant's MAPS production modeling project that the proposed Kings Park Energy facility would displace generation that would otherwise be produced at Northport Unit 3 and that the displacement of this generation would reduce NO_x and SO_2 emissions on Long Island. However, the Applicant's MAPS production modeling analyses model Northport Unit 3 as burning only oil. In fact, KeySpan has recently committed to modifying Northport Unit 3 to enable the facility to burn both oil and natural gas.[21] This modification will reduce the

[21] August 2002 Joint Stipulations in Case 01-F-0761 -- Air Resources Topic Agreement (at page 5): "Northport Unit 3. Irrespective of its receipt of Certificate or Permits for [Spagnoli Road], Applicant or its affiliates will undertake a multi-million dollar pollution reduction project which

NO_x and SO_2 emissions from the unit whether or not the Kings Park Energy facility is licensed and operated. For this reason, the Applicant's MAPS production modeling analyses overstate the environmental benefits from the proposed Kings Park Energy facility.

Q. Earlier you discussed a report by the Long Island University College of Management that identifies significant environmental benefits and additional capacity that could be achieved by the repowering of existing KeySpan facilities including the Northport Station. Is it possible that the construction and operation of the proposed Kings Park Energy facility could make it more expensive to repower any of the units at Northport or even prevent such repowerings?

A. Yes. The proposed Kings Park Energy facility would use up the approximately 300 MW of transmission capacity that is available at the Pilgrim Substation.[22] Creating additional capacity at that substation would require expensive equipment upgrades. Repowering even one of the existing units at the Northport Station would replace the capacity from the existing unit while adding another 300 or more MW of new highly efficient and low emission capacity. If the proposed Kings Park Energy facility is not built, much, if not all, of the new capacity created during the repowering could be transmitted from the site without expensive upgrades at the Pilgrim Substation. However, if the proposed Kings Park Energy facility is built, any economic cost/benefit analysis of repowering a unit at Northport would have to reflect the additional costs of the system upgrades that would be needed in order to be able to transmit the power from the repowered

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will result in significant reductions in emissions in the Town of Huntington, including NOx, SO2, and PM10 and PM2.5. Unit 3 of the Northport Power Station will be converted to dual-fired natural capacity by installing natural gas capability on 16 of the 32 burners. The conversion of Northport 3 will be completed and is scheduled to become gas capable no later than December 2003. The level of emission reductions that will be realized from the natural gas capability at Unit 3 will be far greater than the new emissions generated at the Spagnoli Road facility. The combined effect of the addition of gas capability at Unit 3 in Northport and the installation of the Spagnoli Road Energy Center will result in a substantial new emissions decrease in the Town of Huntington."

[22] Article X Application, at page 8-13.

facility for use on Long Island. The burden of having to pay these added transmission-related costs might lead LIPA or KeySpan (whichever party owns Northport at the time) to decide against repowering. As a result, significant potential environmental benefits both for the neighboring communities and for Long Island as a whole would be lost.

Q. Would the repowering of even one of the Northport units produce more substantial environmental benefits than the Applicant's MAPS production modeling analyses show for the proposed Kings Park Energy facility?

A. Yes. The Applicant claims that the operation of the proposed Kings Park Energy facility would reduce NO_x emissions on Long Island by 745 tons per year and SO_2 emissions by 1,358 tons per year.[23] As I have noted above, I believe that these claims are significantly overstated because the MAPS production modeling analyses do not include the new fast track combustion turbines and the proposed Spagnoli Road facility.

However, even if you accept the Applicant's claims as to the environmental benefits, repowering of even one Northport unit could be expected to produce larger reductions in NO_x and SO_2 emissions than the proposed facility. For example, repowering Northport Unit 1 would reduce its NO_x and SO_2 emissions by approximately 90 percent. This would lower NO_x emissions on Long Island by 639 tons per year and SO_2 emissions by 3,854 tons per year based on the emissions estimated in the base case in the Applicant's MAPS production modeling analyses.

But these figures do not reflect the fact that a repowered Northport Unit 1 could operate at an 80 percent capacity factor, far higher than the 24 percent capacity factor projected for the unit in the Applicant's MAPS analyses. At the same time, in addition to making the unit's existing capacity more efficient (i.e., with a heat rate of approximately 7,000 btu/kwh), repowering would create hundreds of megawatts of additional highly efficient capacity with a similarly low heat rate.

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[23] Table 3(a) on page 14 of Appendix 1-1 of the Article X Application.

Consequently, a larger repowered Northport Unit 1 would generate significantly more energy than the existing unit. This additional energy would be available to displace the generation that would otherwise be produced at older, dirtier power plants on Long Island.

For example, a 700 MW repowered Northport Unit 1 operating at an 80 percent capacity factor would generate 4,905,600 MWH per year. This would be significantly higher than the 738,728 MWH of generation projected for the unit in the Applicant's base case MAPS analyses. The generation from such a repowered unit also would be approximately five times the annual generation projected for the proposed Kings Park Energy facility in the Applicant's MAPS analyses.

Repowering even one of the Northport Units, therefore, would create substantial environmental benefits in terms both of replacing the generation from the existing inefficient and polluting facility and displacing energy that otherwise would be produced at older, polluting facilities. These environmental benefits would be realized in the communities near the facility, on the remainder of Long Island, and elsewhere in New York State. For this reason, it would not be in the public interest for the Siting Board to approve the construction and operation of the proposed Kings Park Energy facility because it could preclude such a beneficial repowering.

ARTICLE X ISSUE NO. 3 – COMBINED CYCLE VERSUS SIMPLE CYCLE GENERATION

Q. What are the benefits of combined cycle technology over simple cycle generation?

A. Quite simply, a combined cycle facility is much more efficient that a simple cycle unit. It therefore uses fuel more efficiently. GE's LM6000 combustion turbines achieve an efficiency of about 9,400 btu/kwh, or approximately 38 percent. GE's combined cycle units achieve efficiencies in the range of 7,000 btu/kwh, or 50 percent or higher. Thus, unless it is clear that peaking capacity is needed and intermediate (i.e., load-following) or baseload capacity is not needed, a combined

cycle unit is preferable from the perspectives of both fossil fuel use and the minimization of air pollution.

Q. Given the ages and efficiencies of the existing generating units on Long Island, is more peaking capacity needed rather than intermediate or baseload capacity?

A. No. There certainly are situations where peaking capacity is the most appropriate choice. However, this is not true for Long Island, especially given LIPA's recent addition of the 407.6 MW of peaking capacity from the fast track combustion turbines and its recently announced intention to add another 200 MW of peaking capacity by the summer of 2003.

The age and heat rates of the existing steam turbine facilities on Long Island also suggest the need for new intermediate or baseload combined cycle capacity. All of KeySpan's steam turbine facilities are 30 years old or older. Moreover, these facilities have heat rates significantly higher than the 7,000 btu/kwh that can be achieved in new combined cycle units.

Q. What are the environmental consequences of the more efficient use of fossil fuels in combined cycle plants?

A. A combined cycle unit produces a given amount of energy using less fossil fuel than a simple cycle plant of the same size. Thus, it avoids environmental problems related to the production of the unused fossil fuels.

At the same time, a combined cycle unit is likely to displace more generation from older, less efficient and polluting plants than a simple cycle unit because it has a significantly lower heat rate. There are environmental benefits from this additional displacement both in terms of reduced cooling water usage at some of the displaced facilities (thereby mitigating the impact of the facilities on their neighboring aquatic environments) and reduced fossil fuel usage at those facilities.

ARTICLE X ISSUE NO. 16 - THE NEED FOR THE CAPABILITY TO BURN A BACKUP FUEL

Q. Is it certain that the Kings Park Energy facility would be shut down during peak and near-peak demand conditions if it did not have a backup fuel capability?

A. No. The Article X Application claims that:

> Without a backup fuel, the capability to switch dynamically from natural gas to that fuel, and provision for onsite storage of that fuel, the Project would not comply with Local Reliability Rule No. 5. The consequences of not complying with that rule would be a prohibition against the Project operating when load levels on Long Island exceed 3,200 megawatts(MW). Such a prohibition would undermine a primary purpose of the Project – providing energy to meet Long Island's peak and near-peak needs.[24]

However, Local Reliability Rule No. 5 has recently been modified by the NYISO to read as follows:

> The New York State bulk power system shall be operated so that the loss of a single gas facility does not result in the loss of electric load within the New York City and Long Island zones.[25]

The Applicant has claimed that the application of this new rule with respect to Kings Park Energy "is the same as the prior rule."[26] However, there is no specific language in the new NYISO rule that requires that Kings Park Energy be shut down when load on Long Island exceeds 3,200 MW. Nor is it reasonable to believe that the proposed new facility would be ordered to be shut down if its capacity were needed to meet expected system demands.

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[24] Article X Application, at pages 7-17 and 7-18.

[25] As approved by NYISO on April 11, 2002.

[26] Response to discovery request TAI-2-30.

Q. Is it possible that the capacity from the Kings Park Energy facility would not be a reliable source of power for periods of peak and near-peak demand even if it did have backup fuel capability?

A. Yes. Even if you accept the Applicant's claim that it needs the capability to burn backup fuel for up to 100 hours per year, it is still quite possible that the capacity from the proposed Kings Park Energy facility would not be available during many peak and near-peak demand hours each year.

For example, Long Island loads were at or above 3200 MW for more than 500 hours during 2000 and 2001. Thus, if the Applicant's reading of the new NYISO reliability rule is correct, having the capability to burn backup fuel for 100 hours will not assure that the facility will be available to serve customer loads during all peak and near-peak demand hours.

Q. In fact, wouldn't some of the 100 hours of backup fuel capability be consumed in the periodic testing the backup fuel equipment?

A. Yes. Consequently, the proposed facility would only have the capability to operate on backup fuel for less than 100 hours per year.

Q. Is it reasonable to expect that loads on Long Island will continue to exceed 3,200 MW for a substantial number of hours in future years?

A. Yes. Loads can be expected to exceed 3,200 MW for a substantial number of hours each year as the result of load growth and an increase in the summer load factor. For example, the Applicant's MAPS production modeling analyses use load forecasts that project that customer demand on Long Island will exceed 3,200 MW for approximately 460 hours each year. In such circumstances, according to the Applicant's interpretation of the new NYISO reliability rule, Kings Park Energy could be shut down for almost 80 percent of peak and near-peak demand hours when loads exceeded 3,200 MW even if it had the capability to burn a backup fuel.

Q. Please summarize your conclusion concerning the need for backup fuel capability.

A. There is no evidence that overriding Suffolk County Article 7 which controls the storage of hazardous materials would significantly improve the reliability of Long Island's electric system. First, as I have explained, if the NYISO were so inclined, Kings Park Energy still could be shut down for 80 percent or more of the peak and near-peak demand hours when loads exceed 3,200 MW even if the facility has the requested backup fuel capability and ability. Second, assuming the NYISO is not inclined to shut down facilities without dual-fuel capabilities when their capacity is needed to serve customer demands, then the proposed facility does not need the capability to burn a backup fuel. As noted above, the revised NYISO rule does not specifically require that the proposed Kings Park Energy facility be shut down when loads on Long Island exceed 3,200 MW if it does not have backup fuel capability.

ARTICLE X ISSUE NO. 1 – WHETHER THE PROPOSED FACILITY WILL CONTRIBUTE TO COMPETITION IN ELECTRICITY MARKETS GENERALLY AND IN THE SPINNING RESERVE, ANCILLARY-SERVICES MARKET SPECIFICALLY?

Q. Has the Applicant provided evidence that any increased competition in the electricity markets resulting from the proposed Kings Park Energy facility would lead to lower prices for ratepayers?

A. No. As I mentioned earlier, the Applicant's MAPS production modeling analyses show that, at best, the addition of the proposed Kings Park Energy facility would not lower the average price of electricity in the New York State wholesale spot market and would only have an extremely minor affect on the wholesale spot energy market price of electricity on Long Island.

Q. Has the Applicant provided any evidence that ancillary-services costs would be reduced as a result of the availability of the proposed Kings Park Energy facility?

A. No.

Q. Would the claim that the proposed Kings Park Energy facility might make the ancillary-services markets a bit more competitive be an important factor that should influence the Siting Board when it determines whether the proposed facility is in the public interest?

A. No. There is no evidence that ratepayers have been harmed by the relative lack of competitiveness in the Long Island ancillary services markets. There also is no evidence that the addition of the proposed Kings Park Energy facility will lead to lower prices for ancillary-services.

Q. Does this complete your testimony?

A. Yes.

EXHIBIT DAS-1

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SUMMARY

I have worked for twenty-eight years as a consultant and attorney on complex management, engineering, and economic issues, primarily in the field of energy. This work has involved conducting technical investigations, preparing economic analyses, presenting expert testimony, providing support during all phases of regulatory proceedings and litigation, and advising clients during settlement negotiations. I received undergraduate and advanced engineering degrees from the Massachusetts Institute of Technology and Stanford University and a law degree from Stanford Law School

PROFESSIONAL EXPERIENCE

Electric Industry Restructuring and Deregulation - Investigated whether generators have been intentionally withholding capacity in order to manipulate prices in the new spot wholesale market in New England. Evaluated the reasonableness of nuclear and fossil plant sales and auctions of power purchase agreements. Analyzed stranded utility costs in Massachusetts and Connecticut. Examined the reasonableness of utility standard offer rates and transition charges.

System Operations and Reliability Analysis - Investigated the causes of distribution system outages and inadequate service reliability. Evaluated the impact of a proposed merger on the reliability of the electric service provided to the ratepayers of the merging companies. Assessed whether new transmission and generation additions were needed to ensure adequate levels of system reliability. Scrutinized utility system reliability expenditures. Reviewed natural gas and telephone utility repair and replacement programs and policies.

Power Plant Operations and Economics - Investigated the causes of more than one hundred power plant and system outages, equipment failures, and component degradation, determined whether these problems could have been anticipated and avoided, and assessed liability for repair and replacement costs. Reviewed power plant operating, maintenance, and capital costs. Evaluated utility plans for and management of the replacement of major power plant components. Assessed the adequacy of power plant quality assurance and maintenance programs. Examined the selection and supervision of contractors and subcontractors. Evaluated the reasonableness of contract provisions and terms in proposed power supply agreements.

Nuclear Power - Examined the impact of industry restructuring and nuclear power plant life extensions on decommissioning costs and collections policies. Evaluated utility decommissioning cost estimates. Assessed the potential impact of electric industry deregulation on nuclear power plant safety. Reviewed nuclear waste storage and disposal costs. Investigated the potential safety consequences of nuclear power plant structure, system, and component failures.

Economic Analysis - Analyzed the costs and benefits of energy supply options. Examined the economic and system reliability consequences of the early retirement of major electric generating facilities. Quantified replacement power costs and the increased capital and operating costs due to identified instances of mismanagement.

Expert Testimony - Presented the results of management, technical and economic analyses as testimony in more than seventy proceedings before regulatory boards and commissions in twenty one states, before two federal regulatory agencies, and in state and federal court proceedings.

Litigation and Regulatory Support - Participated in all aspects of the development and preparation of case presentations on complex management, technical, and economic issues. Assisted in the preparation and conduct of pre-trial discovery and depositions. Helped identify and prepare expert witnesses. Aided the preparation of pre-hearing petitions and motions and post-hearing briefs and appeals. Assisted counsel in preparing for hearings and oral arguments. Advised counsel during settlement negotiations.

TESTIMONY

Arizona Corporation Commission (Docket No. E-01345A-01-0822) – March 2002
The reasonableness of Arizona Public Service Company's proposed long-term power purchase agreement with an affiliated company.

New York State Board on Electric Generation Siting and the Environment (Case No. 99-F-1627) – March 2002
Repowering NYPA's existing Poletti Station in Queens, New York.

Connecticut Siting Council (Docket No. 217) – March 2002
Whether the proposed 345-kV transmission line between Plumtree and Norwalk substations in Southwestern Connecticut is needed and will produce public benefits.

Vermont Public Service Board (Case No. 6545) – January 2002
Whether the proposed sale of the Vermont Yankee Nuclear Plant to Entergy is in the public interest of the State of Vermont and Vermont ratepayers.

Connecticut Department of Public Utility Control (Docket 99-09-12RE02) – December 2001
The reasonableness of adjustments that Connecticut Light and Power Company seeks to make to the proceeds that it received from the sale of Millstone Nuclear Power Station.

Connecticut Siting Council (Docket No. 208) – October 2001
Whether the proposed cross-sound cable between Connecticut and Long Island is needed and will produce public benefits for Connecticut consumers.

New Jersey Board of Public Utilities (Docket No. EM01050308) - September 2001
The market power implications of the proposed merger between Conectiv and Pepco.

Illinois Commerce Commission Docket No. 01-0423 – August, September, and October 2001
Commonwealth Edison Company's management of its distribution and transmission systems.

New York State Board on Electric Generation Siting and the Environment (Case No. 99-F-1627) - August and September 2001
The environmental benefits from the proposed 500 MW NYPA Astoria generating facility.

New York State Board on Electric Generation Siting and the Environment (Case No. 99-F-1191) - June 2001
The environmental benefits from the proposed 1,000 MW Astoria Energy generating facility.

New Jersey Board of Public Utilities (Docket No. EM00110870) - May 2001
The market power implications of the proposed merger between FirstEnergy and GPU Energy.

Connecticut Department of Public Utility Control (Docket 99-09-12RE01) - November 2000
The proposed sale of Millstone Nuclear Station to Dominion Nuclear, Inc.

Illinois Commerce Commission (Docket 00-0361) - August 2000
The impact of nuclear power plant life extensions on Commonwealth Edison Company's decommissioning costs and collections from ratepayers.

Vermont Public Service Board (Docket 6300) - April 2000
Whether the proposed sale of the Vermont Yankee nuclear plant to AmerGen Vermont is in the public interest.

Massachusetts Department of Telecommunications and Energy (Docket 99-107, Phase II) - April and June 2000
The causes of the May 18, 1999, main transformer fire at the Pilgrim generating station.

Connecticut Department of Public Utility Control (Docket 00-01-11) - March and April 2000
The impact of the proposed merger between Northeast Utilities and Con Edison, Inc. on the reliability of the electric service being provided to Connecticut ratepayers.

Connecticut Department of Public Utility Control (Docket 99-09-12) - January 2000
The reasonableness of Northeast Utilities plan for auctioning the Millstone Nuclear Station.

Connecticut Department of Public Utility Control (Docket 99-08-01) - November 1999
Generation, Transmission, and Distribution system reliability.

Illinois Commerce Commission (Docket 99-0115) - September 1999
Commonwealth Edison Company's decommissioning cost estimate for the Zion Nuclear Station.

Connecticut Department of Public Utility Control (Docket 99-03-36) - July 1999
Standard offer rates for Connecticut Light & Power Company.

Connecticut Department of Public Utility Control (Docket 99-03-35) - July 1999
Standard offer rates for United Illuminating Company.

Connecticut Department of Public Utility Control (Docket 99-02-05) - April 1999
Connecticut Light & Power Company stranded costs.

Connecticut Department of Public Utility Control (Docket 99-03-04) - April 1999
United Illuminating Company stranded costs.

Maryland Public Service Commission (Docket 8795) - December 1998
Future operating performance of Delmarva Power Company's nuclear units.

Maryland Public Service Commission (Dockets 8794/8804) - December 1998
Baltimore Gas and Electric Company's proposed replacement of the steam generators at the Calvert Cliffs Nuclear Power Plant. Future performance of nuclear units.

Indiana Utility Regulatory Commission (Docket 38702-FAC-40-S1) - November 1998
Whether the ongoing outages of the two units at the D.C. Cook Nuclear Plant were caused or extended by mismanagement.

Arkansas Public Service Commission (Docket 98-065-U) - October 1998
Entergy's proposed replacement of the steam generators at the ANO Unit 2 Steam Generating Station.

Massachusetts Department of Telecommunications and Energy (Docket 97-120) - October 1998
Western Massachusetts Electric Company's Transition Charge. Whether the extended 1996-1998 outages of the three units at the Millstone Nuclear Station were caused or extended by mismanagement.

Connecticut Department of Public Utility Control (Docket 98-01-02) - September 1998
Nuclear plant operations, operating and capital costs, and system reliability improvement costs.

Illinois Commerce Commission (Docket 97-0015) - May 1998
Whether any of the outages of Commonwealth Edison Company's twelve nuclear units during 1996 were caused or extended by mismanagement. Whether equipment problems, personnel performance weaknesses, and program deficiencies could have been avoided or addressed prior to plant outages. Outage-related fuel and replacement power costs.

Public Service Commission of West Virginia (Case 97-1329-E-CN) - March 1998
The need for a proposed 765 kV transmission line from Wyoming, West Virginia, to Cloverdate, Virginia.

Illinois Commerce Commission (Docket 97-0018) - March 1998
Whether any of the outages of the Clinton Power Station during 1996 were caused or extended by mismanagement.

Connecticut Department of Public Utility Control (Docket 97-05-12) - October 1997
The increased costs resulting from the ongoing outages of the three units at the Millstone Nuclear Station.

New Jersey Board of Public Utilities (Docket ER96030257) - August 1996
Replacement power costs during plant outages.

Illinois Commerce Commission (Docket 95-0119) - February 1996
Whether any of the outages of Commonwealth Edison Company's twelve nuclear units during 1994 were caused or extended by mismanagement. Whether equipment problems, personnel performance weaknesses, and program deficiencies could have been avoided or addressed prior to plant outages. Outage-related fuel and replacement power costs.

Public Utility Commission of Texas (Docket 13170) - December 1994
Whether any of the outages of the River Bend Nuclear Station during the period October 1, 1991, through December 31, 1993, were caused or extended by mismanagement.

Public Utility Commission of Texas (Docket 12820) - October 1994
Operations and maintenance expenses during outages of the South Texas Nuclear Generating Station.

Wisconsin Public Service Commission (Cases 6630-CE-197 and 6630-CE-209) - September and October 1994
The reasonableness of the projected cost and schedule for the replacement of the steam generators at the Point Beach Nuclear Power Plant. The potential impact of plant aging on future operating costs and performance.

Public Utility Commission of Texas (Docket 12700) - June 1994
Whether El Paso Electric Company's share of Palo Verde Unit 3 was needed to ensure adequate levels of system reliability. Whether the Company's investment in Unit 3 could be expected to generate cost savings for ratepayers within a reasonable number of years.

Arizona Corporation Commission (Docket U-1551-93-272) - May and June 1994
Southwest Gas Corporation's plastic and steel pipe repair and replacement programs.

Connecticut Department of Public Utility Control (Docket 92-04-15) - March 1994
Northeast Utilities management of the 1992/1993 replacement of the steam generators at Millstone Unit 2.

Connecticut Department of Public Utility Control (Docket 92-10-03) - August 1993
Whether the 1991 outage of Millstone Unit 3 as a result of the corrosion of safety-related plant piping systems was due to mismanagement.

Public Utility Commission of Texas (Docket 11735) - April and July 1993
Whether any of the outages of the Comanche Peak Unit 1 Nuclear Station during the period August 13, 1990, through June 30, 1992, were caused or extended by mismanagement.

Connecticut Department of Public Utility Control (Docket 91-12-07) - January 1993 and August 1995
Whether the November 6, 1991, pipe rupture at Millstone Unit 2 and the related outages of the Connecticut Yankee and Millstone units were caused or extended by mismanagement. The impact of environmental requirements on power plant design and operation.

Connecticut Department of Public Utility Control (Docket 92-06-05) - September 1992
United Illuminating Company off-system capacity sales.

Public Utility Commission of Texas (Docket 10894) - August 1992
Whether any of the outages of the River Bend Nuclear Station during the period October 1, 1988, through September 30, 1991, were caused or extended by mismanagement.

Connecticut Department of Public Utility Control (Docket 92-01-05) - August 1992
Whether the July 1991 outage of Millstone Unit 3 due tot he fouling of important plant systems by blue mussels was the result of mismanagement.

California Public Utilities Commission (Docket 90-12-018) - November 1991, March 1992, June and July 1993
Whether any of the outages of the three units at the Palo Verde Nuclear Generating Station during 1989 and 1990 were caused or extended by mismanagement. Whether equipment problems, personnel performance weaknesses and program deficiencies could have been avoided or addressed prior to outages. Whether specific plant operating cost and capital expenditures were necessary and prudent.

Public Utility Commission of Texas (Docket 9945) - July 1991
Whether El Paso Electric Company's share of Palo Verde Unit 3 was needed to ensure adequate levels of system reliability. Whether the Company's investment in the unit could be expected to generate cost savings for ratepayers within a reasonable number of years. El Paso Electric Company's management of the planning and licensing of the Arizona Interconnection Project transmission line.

Arizona Corporation Commission (Docket U-1345-90-007) - December 1990 and April 1991
Arizona Public Service Company's management of the planning, construction and operation of the Palo Verde Nuclear Generating Station. The costs resulting from identified instances of mismanagement.

New Jersey Board of Public Utilities (Docket ER89110912J) - July and October 1990
The economic costs and benefits of the early retirement of the Oyster Creek Nuclear Plant. The potential impact of the unit's early retirement on system reliability. The cost and schedule for siting and constructing a replacement natural gas-fired generating plant.

Public Utility Commission of Texas (Docket 9300) - June and July 1990
Texas Utilities management of the design and construction of the Comanche Peak Nuclear Plant. Whether the Company was prudent in repurchasing minority owners' shares of Comanche Peak without examining the costs and benefits of the repurchase for its ratepayers.

Federal Energy Regulatory Commission (Docket EL-88-5-000) - November 1989
Boston Edison's corporate management of the Pilgrim Nuclear Station.

Connecticut Department of Public Utility Control (Docket 89-08-11) - November 1989
United Illuminating Company's off-system capacity sales.

Kansas State Corporation Commission (Case 164,211-U) - April 1989
Whether any of the 127 days of outages of the Wolf Creek generating plant during 1987 and 1988 were the result of mismanagement.

Public Utility Commission of Texas (Docket 8425) - March 1989
Whether Houston Lighting & Power Company's new Limestone Unit 2 generating facility was needed to provide adequate levels of system reliability. Whether the Company's investment in Limestone Unit 2 would provide a net economic benefit for ratepayers.

Illinois Commerce Commission (Dockets 83-0537 and 84-0555) - July 1985 and January 1989
Commonwealth Edison Company's management of quality assurance and quality control activities and the actions of project contractors during construction of the Byron Nuclear Station.

New Mexico Public Service Commission (Case 2146, Part II) - October 1988
The rate consequences of Public Service Company of New Mexico's ownership of Palo Verde Units 1 and 2.

United States District Court for the Eastern District of New York (Case 87-646-JBW) - October 1988
Whether the Long Island Lighting Company withheld important information from the New York State Public Service Commission, the New York State Board on Electric Generating Siting and the Environment, and the U.S. Nuclear Regulatory Commission.

Public Utility Commission of Texas (Docket 6668) - August 1988 and June 1989
Houston Light & Power Company's management of the design and construction of the South Texas Nuclear Project. The impact of safety-related and environmental requirements on plant construction costs and schedule.

Federal Energy Regulatory Commission (Docket ER88-202-000) - June 1988
Whether the turbine generator vibration problems that extended the 1987 outage of the Maine Yankee nuclear plant were caused by mismanagement.

Illinois Commerce Commission (Docket 87-0695) - April 1988
Illinois Power Company's planning for the Clinton Nuclear Station.

North Carolina Utilities Commission (Docket E-2, Sub 537) - February 1988
Carolina Power & Light Company's management of the design and construction of the Harris Nuclear Project. The Company's management of quality assurance and quality control activities. The impact of safety-related and environmental requirements on construction costs and schedule. The cost and schedule consequences of identified instances of mismanagement.

Ohio Public Utilities Commission (Case 87-689-EL-AIR) - October 1987
Whether any of Ohio Edison's share of the Perry Unit 2 generating facility was needed to ensure adequate levels of system reliability. Whether the Company's investment in Perry Unit 1 would produce a net economic benefit for ratepayers.

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Fuel factor calculations.

New York State Public Service Commission (Case 29484) - May 1987
The planned startup and power ascension testing program for the Nine Mile Point Unit 2 generating facility.

Illinois Commerce Commission (Dockets 86-0043 and 86-0096) - April 1987
The reasonableness of certain terms in a proposed Power Supply Agreement.

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The in-service criteria to be used to determine when a new generating facility was capable of providing safe, adequate, reliable and efficient service.

Indiana Public Service Commission (Case 38045) - December 1986
Northern Indiana Public Service Company's planning for the Schaefer Unit 18 generating facility. Whether the capacity from Unit 18 was needed to ensure adequate system reliability. The rate consequences of excess capacity on the Company's system.

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The radiation effects of low power testing on the structures, equipment and components in a new nuclear power plant.

New York State Public Service Commission (Case 28124) - April 1986 and May 1987
The terms and provisions in a utility's contract with an equipment supplier. The prudence of the utility's planning for a new generating facility. Expenditures on a canceled generating facility.

Arizona Corporation Commission (Docket U-1345-85) - February 1986
The construction schedule for Palo Verde Unit No. 1. Regulatory and technical factors that would likely affect future plant operating costs.

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Niagara Mohawk Power Corporation's management of construction of the Nine Mile Point Unit No. 2 nuclear power plant.

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A performance standard for the Shoreham nuclear power plant.

New York State Public Service Commission (Case 29069) - August 1985
A performance standard for the Nine Mile Point Unit No. 2 nuclear power plant.

Missouri Public Service Commission (Cases ER-85-128 and EO-85-185) - July 1985
The impact of safety-related regulatory requirements and plant aging on power plant operating costs and performance. Regulatory factors and plant-specific design features that will likely affect the future operating costs and performance of the Wolf Creek Nuclear Plant.

Massachusetts Department of Public Utilities (Case 84-152) - January 1985
The impact of safety-related regulatory requirements and plant aging on power plant operating costs and performance. Regulatory factors and plant-specific design features that will likely affect the future operating costs and performance of the Seabrook Nuclear Plant.

Maine Public Utilities Commission (Docket 84-113) - September 1984
The impact of safety-related regulatory requirements and plant aging on power plant operating costs and performance. Regulatory factors and plant-specific design features that will likely affect the future operating costs and performance of the Seabrook Nuclear Plant.

South Carolina Public Service Commission (Case 84-122-E) - August 1984
The repair and replacement strategy adopted by Carolina Power & Light Company in response to pipe cracking at the Brunswick Nuclear Station. Quantification of replacement power costs attributable to identified instances of mismanagement.

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The repair and replacement strategy adopted by management in response to pipe cracking at the Vermont Yankee nuclear plant.

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The information that was available to Niagara Mohawk Power Corporation prior to 1982 concerning the potential for cracking in safety-related piping systems at the Nine Mile Point Unit No. 1 nuclear plant.

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Whether the January 25, 1982, steam generator tube rupture at the Ginna Nuclear Plant was caused by mismanagement.

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The economic costs and benefits of the early retirement of the Indian Point nuclear plants.

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Financial Insecurity: The Increasing Use of Limited Liability Companies and Multi-Tiered Holding Companies to Own Nuclear Power Plants, a Synapse report for the STAR Foundation and Riverkeeper, Inc., by David Schlissel, Paul Peterson, and Bruce Biewald, August 7, 2002.

Comments on EPA's Proposed Clean Water Act Section 316(b) for Cooling Water Intake Structures at Phase II Existing Facilities, on behalf of Riverkeeper, Inc., by David Schlissel and Geoffrey Keith, August 2002.

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Report on Indian Point 2 Steam Generator Issues, Schlissel Technical Consulting, Inc., March 10, 2000.

Preliminary Expert Report in Case 96-016613, Cities of Wharton, Pasadena, et al v. Houston Lighting & Power Company, October 28, 1999.

Comments of Schlissel Technical Consulting, Inc. on the Nuclear Regulatory Commission's Draft Policy Statement on Electric Industry Economic Deregulation, February 1997.

Report to the Municipal Electric Utility Association of New York State on the Cost of Decommissioning the Fitzpatrick Nuclear Plant, August 1996.

Report to the Staff of the Arizona Corporation Commission on U.S. West Corporation's telephone cable repair and replacement programs, May, 1996.

Nuclear Power in the Competitive Environment, NRRI Quarterly Bulletin, Vol. 16, No. 3, Fall 1995.

Nuclear Power in the Competitive Environment, presentation at the 18th National Conference of Regulatory Attorneys, Scottsdale, Arizona, May 17, 1995.

The Potential Safety Consequences of Steam Generator Tube Cracking at the Byron and Braidwood Nuclear Stations, a report for the Environmental Law and Policy Center of the Midwest, 1995.

Report to the Public Policy Group Concerning Future Trojan Nuclear Plant Operating Performance and Costs, July 15, 1992.

Report to the New York State Consumer Protection Board on the Costs of the 1991 Refueling Outage of Indian Point 2, December 1991.

Preliminary Report on Excess Capacity Issues to the Public Utility Regulation Board of the City of El Paso, Texas, April 1991.

Nuclear Power Plant Construction Costs, presentation at the November, 1987, Conference of the National Association of State Utility Consumer Advocates.

Comments on the Final Report of the National Electric Reliability Study, a report for the New York State Consumer Protection Board, February 27, 1981.

OTHER SIGNIFICANT INVESTIGATIONS AND LITIGATION SUPPORT WORK

Assisted the Connecticut Office of Consumer Counsel in reviewing the auction of Connecticut Light & Power Company's power purchase agreements. August and September, 2000.

Assisted the New Jersey Division of the Ratepayer Advocate in evaluating the reasonableness of Atlantic City Electric Company's proposed sale of its fossil generating facilities. June and July, 2000.

Investigated whether the 1996-1998 outages of the three Millstone Nuclear Units were caused or extended by mismanagement. 1997 and 1998. Clients were the Connecticut Office of Consumer Counsel and the Office of the Attorney General of the Commonwealth of Massachusetts.

Investigated whether the 1995-1997 outages of the two units at the Salem Nuclear Station were caused or extended by mismanagement. 1996-1997. Client was the New Jersey Division of the Ratepayer Advocate.

Assisted the Associated Industries of Massachusetts in quantifying the stranded costs associated with utility generating plants in the New England states. May through July, 1996

Investigated whether the December 25, 1993, turbine generator failure and fire at the Fermi 2 generating plant was caused by Detroit Edison Company's mismanagement of fabrication, operation or maintenance. 1995. Client was the Attorney General of the State of Michigan.

Investigated whether the outages of the two units at the South Texas Nuclear Generating Station during the years 1990 through 1994 were caused or extended by mismanagement. Client was the Texas Office of Public Utility Counsel.

Assisted the City Public Service Board of San Antonio, Texas in litigation over Houston Lighting & Power Company's management of operations of the South Texas Nuclear Generating Station.

Investigated whether outages of the Millstone nuclear units during the years 1991 through 1994 were caused or extended by mismanagement. Client was the Office of the Attorney General of the Commonwealth of Massachusetts.

Evaluated the 1994 Decommissioning Cost Estimate for the Maine Yankee Nuclear Plant. Client was the Public Advocate of the State of Maine.

Evaluated the 1994 Decommissioning Cost Estimate for the Seabrook Nuclear Plant. Clients were investment firms that were evaluating whether to purchase the Great Bay Power Company, one of Seabrook's minority owners.

Investigated whether a proposed natural-gas fired generating facility was need to ensure adequate levels of system reliability. Examined the potential impacts of environmental regulations on the unit's expected construction cost and schedule. 1992. Client was the New Jersey Rate Counsel.

Investigated whether Public Service Company of New Mexico management had adequately disclosed to potential investors the risk that it would be unable to market its excess generating capacity. Clients were individual shareholders of Public Service Company of New Mexico.

Investigated whether the Seabrook Nuclear Plant was prudently designed and constructed. 1989. Clients were the Connecticut Office of Consumer Counsel and the Attorney General of the State of Connecticut.

Investigated whether Carolina Power & Light Company had prudently managed the design and construction of the Harris nuclear plant. 1988-1989. Clients were the North Carolina Electric Municipal Power Agency and the City of Fayetteville, North Carolina.

Investigated whether the Grand Gulf nuclear plant had been prudently designed and constructed. 1988. Client was the Arkansas Public Service Commission.

Reviewed the financial incentive program proposed by the New York State Public Service Commission to improve nuclear power plant safety. 1987. Client was the New York State Consumer Protection Board.

Reviewed the construction cost and schedule of the Hope Creek Nuclear Generating Station. 1986-1987. Client was the New Jersey Rate Counsel.

Reviewed the operating performance of the Fort St. Vrain Nuclear Plant. 1985. Client was the Colorado Office of Consumer Counsel.

WORK HISTORY

2000 - Present: Senior Consultant, Synapse Energy Economics, Inc.

1994 - 2000: President, Schlissel Technical Consulting, Inc.

1983 - 1994: Director, Schlissel Engineering Associates

1979 - 1983: Private Legal and Consulting Practice

1975 - 1979: Attorney, New York State Consumer Protection Board

1973 - 1975: Staff Attorney, Georgia Power Project

EDUCATION

1983-1985: Massachusetts Institute of Technology
Special Graduate Student in Nuclear Engineering and Project Management,

1973: Stanford Law School,
Juris Doctor

1969: Stanford University
Master of Science in Astronautical Engineering,

1968: Massachusetts Institute of Technology
Bachelor of Science in Astronautical Engineering,

PROFESSIONAL MEMBERSHIPS

- New York State Bar since 1981
- American Nuclear Society
- National Association of Corrosion Engineers
- National Academy of Forensic Engineers (Correspondent Affiliate)

EXHIBIT DAS-2

Kings Park Energy's Responses to Discovery Requests served by Townline Association, Inc.

Question TAI-2-30

Reference page 3-16 of the Article X Application. Provide copies of the analyses, assessments and evaluations of the requirements of NYSRC Local Reliability Rule No. 5 and/or the alternatives for complying with that Rule that have been prepared by or for the Applicant.

Response to TAI-2-30

No formal analyses, assessments or evaluations of the requirements of NYSRC Local Reliability Rule No. 5 or of alternatives for complying with that rule were prepared by or for Kings Park Energy. Please refer to Section 5.F of Appendix 5.11-1 and Section 7.2.3 of the Application for a discussion of the investigation of the requirements of Local Reliability Rule No. 5 undertaken by Kings Park Energy. Please note that as a result of some confusion about the applicability of Local Reliability Rule No. 5 and changes in the industry, the NYSRC modified the two Local Reliability Rules (Nos. 3 and 5) related to loss of gas supply in the NYC and Long Island regions, respectively. The new rule, which was approved by the NYISO on April 11, 2002, states:

> "The NYS bulk power system shall be operated so that the loss of a single gas facility does not result in the loss of electric load within the New York City and Long Island zones."

The rule is intended to apply more generally to accommodate changes in the electric system conditions and other circumstances. Its application with respect to Kings Park Energy is the same as the prior rule. (See Attachment TAI-2-30, NYISO Modification.)

Question TAI-2-69

Please state whether any MAPS analysis was performed for Kings Park Energy which assumed that the proposed Spagnoli Road Energy Center would be in service. If the answer is yes, please provide the workpapers for that analysis and the input and output data files in Excel readable format. Please do not limit the output data to the annual information on the generation and emissions of each unit. Instead, please also provide the data on each unit's daily generation and emissions.

Response to TAI-2-69

No such analyses have been performed by or for Kings Park Energy.

Question TAI-2-70

Please state whether any MAPS analysis was performed for Kings Park Energy which assumed that any of the peaking facilities added by LIPA in 2001 or 2002 would be in service in 2004. If the answer is yes, please provide the workpapers for that analysis and the input and output data files in Excel readable format. Please do not limit the output data to the annual information on the generation and emissions of each unit. Instead, please also provide the data on each unit's daily generation and emissions.

Response to TAI-2-70

No such analyses have been performed by or for Kings Park Energy.

QUESTION TAI-10-148

Reference Section 1.5.2 of the Article X Application and page 13, lines 17-20, and page 18, line 3, of the prefiled direct testimony of Conoscenti, Kettler, Marron, Potter and Tierney. Provide copies of all analyses, assessments, studies and other documentation that support the claim that the proposed facility will increase the competitiveness of the Long Island and/or New York State electricity markets.

Response to TAI-10-148

A tenet of markets is that, all else equal, the entry of new participants tends to enhance the competitiveness of the market. In this instance Kings Park Energy is a new competitor in a region where the number of competitors is relatively small and has been increasing only recently. According to data on existing generating facilities in New York published by the New York Independent System Operator (NYISO), the vast majority of all generation capacity on Long Island is owned/operated/or controlled by the Long Island Power Authority. Kings Park Energy owns no other generating capacity on Long Island. Kings Park Energy's affiliates are constructing and will own two 79.9 MW generating stations on Long Island through PPL Edgewood Energy, LLC, PPL Shoreham Energy, LLC. The power generated by those facilities will, however, be sold to LIPA through bilateral Power Purchase Agreements. These two facilities, and Kings Park Energy, will total approximately 460 MW of nominal generating capacity. Kings Park Energy's affiliate (PPL Freeport Energy, LLC) is also working with the Village of Freeport in the development of facilities in Freeport. Two units are being proposed at the site, one to be owned and operated by the Village, approximately 47 MW and the other by PPL Freeport Energy, approximately 44 MW. In total, the four facilities amount to a nominal generating capacity of approximately 510 MW (i.e., 300 at Kings Park, 80 MW each at Edgewood and Shoreham and 50 MW at Freeport).

Existing and Installed Capacity on Long Island After the Fast Track Projects:

Components	Summer Capacity (MW)
Long Island Zone K Capacity as of Jan. 1, 2001 (Per NYISO's 2001 Load and Capacity Data –Page 52)	4,487
NYPA Brentwood Facility (I/S 2001) (see note below)	44
LIPA Fast Track 2002 (see note below)	407
Subtotal	4,938
Other proposed PPL (Kings Park and Freeport)	350
Total	5,288

Note: NYPA's Brentwood facility is estimated at 44 MW. LIPA Fast Track 2002 capacity consists of units being installed by PPL (160 MW), KeySpan Energy, Calpine and FPL.

These levels of ownership or control represent less than 10 percent of the overall size of the existing and proposed Long Island installed capacity market of 5,288 MW, as shown in the table above, and less than 1.5 percent of the over 36,000 MW of generation administered by the NYISO . (The NYISO total is based on the reported 35,598 MW of capacity as of January 1, 2001 plus the generation additions noted in the table above.) These estimates are also very conservative in that they do not include other proposed facilities, (e.g., KeySpan Energy's 240 MW Spagnoli Road and ANP's 580 MW Brookhaven Energy facilities on Long Island), or the interconnections to the other areas that LIPA relies on for power supplies, (e.g., the roughly 1,000 MW of existing import capability through interconnections such as the 345 kV interconnections Y-50 and Y-49, or the new 300 MW TransEnergie HVDC interconnection).

Additionally, the market rules under which Kings Park Energy will operate and be dispatched by the NYISO are designed to assure that the market is competitive. Further, the relatively efficient heat rate and fuel type of the Kings Park Energy facility will enable it to directly compete with the older, less efficient generating units located in and available to the Long Island market, and will help put competitive pressure on these other existing units. Although the MAPS study performed for this application (Appendix 1-1 to the Article X Application) does not specifically investigate the structure of the marketplace with respect to how "competitive" it may be, the analysis clearly reveals that Kings Park Energy will frequently operate during periods of elevated demand adding a new supply option to the market place.

These subjects were also addressed in the testimony submitted by PPL and LIPA in the Fast Track proceedings (Case 01-E-1634 and 01-E-1635) that is provided in response to TAI-14-157.

EXHIBIT DAS-3

EXHIBIT DAS-4

The Feasibility of Re-Powering KeySpan's Long Island Electric Generating Plants To Meet Future Energy Needs

August 6, 2002

LONG ISLAND
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Center for Management Analysis

College of Management

School of Public Service

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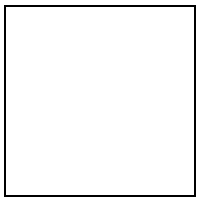


The Center for Management Analysis

The Center for Management Analysis (CMA) is an academically based organization designed to serve the diverse needs of government, business and the community. Its purpose is to provide a climate for research, consultation and problem solving by uniting educators and practitioners in addressing public issues through reasoned dialogue and analysis rather than political rhetoric.

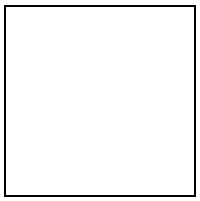
The CMA is a unit of the College of Management at the Long Island University's C.W. Post campus. It has evolved since 1981 through conducting management analyses for many New York State, Nassau and Suffolk County, and town agencies, while attracting funds through wide community support.

As the CMA developed, its scope of services has expanded beyond research to include evaluation, technical assistance, publications and conferences. The present focus of the Center is on issues related to energy, environmental management and economic development.

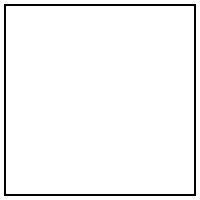
The CMA's efforts to enhance the quality of public service and apply the resources of academia in confronting real world problems and challenges are available to government, business and the community at large.

Matthew C. Cordaro, Ph.D.

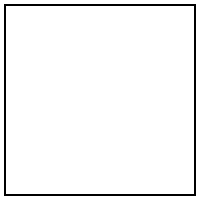
Director, Center for Management Analysis



The Feasibility of Re-Powering KeySpan's Long Island Electric Generating Plants To Meet Future Energy Needs



August 6, 2002



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#1. E. F. BARRETT-PORT JEFFERSON HEAT BALANCE DIAGRAM

#2. E. F. BARRETT CONVERSION PROJECT SITE PLAN

#3. PORT JEFFERSON CONVERSION PROJECT SITE PLAN

#4. FAR ROCKAWAY-GLENWOOD STATION HEAT BALANCE DIAGRAM

#5. FAR ROCKAWAY CONVERSION PROJECT SITE PLAN

#6. GLENWOOD STATION CONVERSION PROJECT SITE PLAN

#7. NORTHPORT STATION HEAT BALANCE DIAGRAM

#8. NORTHPORT STATION CONVERSION PROJECT SITE PLAN

#9. WADING RIVER CT CONVERSION PROJECT SITE PLAN

#10. WADING RIVER CT HEAT BALANCE DIAGRAM

#11. BREAKDOWN OF THE CAPACITIES OF THE CURRENT FACILITIES AND EXPECTED INCREASES IN CAPACITY AFTER CONVERSION

The Feasibility of Re-Powering KeySpan's Long Island Electric Generating Plants To Meet Future Energy Needs

Overview

The availability of an adequate supply of reasonably priced electricity continues to be a major issue that can adversely impact Long Island's future well - being and economic growth. There are a number of new so- called "greenfield projects" in the licensing stage to meet expected near term load growth. These include the 250 MW KeySpan facilities at Spagnoli Road, the 560 MW ANP Brookhaven facility and the 300 MW PPL facility at King's Park. It is expected that these projects will be operational by the end of 2004, providing some relief to the power supply shortage the Island presently faces. However, in the longer term additional capacity from either greenfield sites and/or re-powered existing facilities will be required- re-powering in this context referring to the conversion of the present steam electric plants to combined cycle technology. Whether re-powered or not, the existing KeySpan generating facilities will continue to be a part of Long Island's electric supply mix for the foreseeable future, whether KeySpan continues to own these units or they are purchased by LIPA or other entities.

The existing KeySpan steam electric facilities, although well maintained to ensure life extension, utilize an older technology which provides operating efficiencies around 35% . These plants are excellent candidates for conversion to state of the art combined cycle technology. For each unit converted, the generating capacity would almost triple and the operating efficiency would nearly double. The first conversion could be operational by 2006. At current projected increases in electric demand, this may be before the capacity of the presently proposed greenfield sites is fully required to meet total demand. This

extra capacity could be available to cover the outages required for the initial conversions which have been estimated to take from 12 to 18 months, thereby providing a margin and insurance against unforeseen contingencies during the construction period. This is one more reason for completing the greenfield projects currently in licensing.

Re-powering, in some cases, entails the demolition of the existing oil/gas fired boilers but, in all cases, the installation of combustion turbines and waste heat recovery boilers in their place or in close proximity. Combined cycle conversions achieve higher efficiency by using the exhaust gas from the combustion turbine portion of the system to make steam that powers the conventional turbine generator carried over from the existing unit. The added capacity comes from the combined output of the existing generator and the capacity of the generation from the newly added combustion turbine components. Combined cycle technology is well proven and presently is utilized on Long Island in the New York Power Authority's Flynn Plant in Holtsville and on a smaller scale at Calpine's Plant in Bethpage and Trigen's Plant in Mitchell Field.

Currently major combustion turbine suppliers including General Electric and Siemens build large single units up to the 175 MW range. These units are available in sizes and combinations that complement well the capacity of the KeySpan units, including the largest on the system, the 375 MW Northport Units. For example, the steam turbine units at the Barrett Station in Island Park and the Port Jefferson Station are each rated at 175 MW and are an ideal match for the 175 size combustion turbine units. Typically, for a plant this size, two 175 MW Combustion turbines would be matched to the original steam turbine, resulting in a highly efficient 525 MW combined cycle plant. Similarly, four combustion turbines could be integrated with each Northport unit, resulting in a

combined capacity of 1,050 MW per unit. If all of the existing steam electric plants were converted to combined cycle, Long Island's electric supply could potentially be increased to about 4,700 MW. In addition to the steam electric plants, it may also be possible to convert the simple cycle 240MW combustion turbine plant at the Shoreham Nuclear Plant site to combined cycle as gas becomes available at the site. This would result in 120 MW of increased capacity.

Clearly, an increase in generation of this magnitude could not occur without significant reinforcements of the electric transmission and natural gas transmission systems. The extent and timing of these reinforcements would vary according to the site-specific conversions undertaken. At some sites presently there may be adequate electric transmission and gas service to support at least some level of conversion. Other sites would require reinforcements commensurate with the magnitude of conversions undertaken and possibly have other constraints due to limited space. In any event, reinforcements of the electric transmission and gas supply system for re-powering existing plants would be no greater than and most likely less than required for greenfield sites. A detailed description of the possible conversion scenarios for each KeySpan site is included in the body of this report.

The re-powering option either alone or in concert with the construction of greenfield facilities, compares very favorably with conceivable alternative energy options. LIPA is strongly committed to a program of energy conservation and alternate energy sources. Much attention has recently been given to the development of wind generators off the South Shore of Long Island. A request for proposals for a 100 MW wind farm is in the planning stage for a fall 2002 project decision. LIPA has also initiated a sizeable fuel cell

generation project at its West Babylon Site. Such alternate energy programs must be pursued if for no other reason than to "demonstrate" the longer term viability of these options. However, the maximum realistic capacity of these programs in MW with today's technology is small, perhaps 100-200MW as compared to about 4,700 MW for the ultimate re-powering scenario. Also, the capital costs of alternate energy sources must be evaluated against significantly lower re-powering costs. Best estimates show wind and fuel cell generation to cost more than 2 times and probably up to three times the cost of re-powering. Even if sufficient capacity could be generated by these alternate sources, the high initial development costs for a large block of power would place a significant burden on Long Island's rate payers.

Over the past year there has been a wave of new simple cycle combustion turbine plant construction in New York City and on Long Island by NYPA and private generating Companies. Depending on the tightness of the schedule and other project specific design issues, the installed or estimated cost of all these projects has been in the $1,000/KW range. A combined cycle plant would be expected to cost more than these simple cycle projects, probably in the range of $1,100/KW. Re-powering allows cost savings over a greenfield combined cycle project due to the many components and systems that are already in place and can be utilized at existing sites, such as land, cooling systems, electric and gas transmission systems and, most importantly, the turbine generator. As such, the estimated cost of re-powering an existing site is expected to be in the $700 to $900/KW range. This is a $200 to $400/KW savings over greenfield sites. A possible exception to this is Shoreham when viewed as a greenfield opportunity. This site has

elements of infrastructure present due to its history as a nuclear power plant site and the new gas and electric transmission facilities being developed there.

In addition to providing cost effective generating capacity to carry Long Island at least into the next 20 to 40 years and beyond, the re-powering of existing sites offers compelling environmental benefits. Conversion to combined cycle nearly doubles operating efficiency thereby reducing the amount of natural gas or distillate fuel oil required to produce the same amount of electricity. It also results in reduced air emissions for the same sized plants through the inclusion of selective catalytic recombiners to meet single digit NOX and low CO limits required by the NYSDEC /EPA for new facilities. Re-powering provides new cleaner generation to meet Long Island's base electric load-by replacing the "higher emission" generation from the existing facilities as they are converted to lower emission combined cycle. Re-powering the existing units also allows the continued use of once-through cooling systems avoiding the use of cooling towers and their consumptive use of drinking water supplies.

There may also be an advantage to licensing proposed re-powering projects over greenfield facilities. At present New York State's Article X siting law governs the licensing of all new generation over 80 MW. As is usually the case on Long Island, licensing greenfield sites is very controversial and likely to require considerable time and resources to accomplish. There are indications in the current reauthorization process for the law that Article X licensing would be streamlined as it would apply to the re-powering option, presumably since there are no new siting issues at existing sites. The environmental benefits to re-powering are compelling and the data and operating experience of the existing plant is well known to the NYSDEC and other agencies. This

should allow an expedited review cycle for the environmental analysis prepared by the project's sponsor.

In deciding on the most appropriate way to add new generation to Long Island's supply base, the potential to introduce competition must certainly be a consideration. Because re-powering requires the reuse of existing KeySpan plant sites and facilities, re-powering could fall to KeySpan to carryout, solidifying its hold on major generating plants on Long Island. An alternate program could be carried out by LIPA, which continues to have the option to purchase all or some of the KeySpan plants within the next three years. This purchase option should be considered in conjunction with the possibility of re-powering. An intermediate course of stimulating competition and re-powering could be for LIPA to purchase some of the KeySpan plants and structure a resale to competitive generating companies perhaps through an auction. A condition of the sale could be that the new owner is mandated to carry out a re-powering.

In summary, the re-powering of the existing KeySpan steam electric plants and, as the necessary gas supply becomes available, the conversion of the Shoreham simple cycle combustion turbines to combined cycle are very attractive options for meeting Long Island's ever increasing energy needs. The ability to convert these existing facilities to combined cycle technology adds considerable value to each of the KeySpan sites since it eliminates the need, over the next 20 to 40 years and beyond, for additional greenfield sites. This time frame could even be extended further if the existing sites are also used to construct new stand alone generation. The conversion to combined cycle, state of the art technology vastly improves operating efficiencies of the existing units and is cost effective compared to greenfield sites and other energy alternatives because it utilizes

existing facilities such as gas and electric transmission lines, cooling systems and turbine-generators. The only greenfield site which might be an exception and warrant further consideration is Shoreham because it has elements of infrastructure in place. The greenfield projects currently in licensing should be completed to accommodate load growth and provide back-up for outages that may be necessary at existing plants during the re-powering process. Re-powering also does not necessarily preclude the potential for introducing competition to Long Island. The converted units in a re-powering are environmentally superior to operating the existing facilities, very similar in performance to new combined cycle installations and should be much easier to license than greenfield sites. All of these considerations when taken together point very favorably to the re-powering option over other alternatives for meeting Long Island's future energy needs.

INTRODUCTION

The existing Keyspan steam electric plants can be grouped into three categories by size; 100MW, 175MW and 375 MW. The facilities within these categories are essentially identical, each using turbine-generators manufactured by General Electric. In light of the continued growth in demand for electricity on Long Island and the difficulties in licensing new greenfield facilities and providing transmission interconnections, these older, less efficient plants will continue to remain in service for the foreseeable future. This is the case whether they are re-powered or simply operated in their present configurations. To ensure that these existing plants operate reliably and are available during the periods of highest demand for electricity, KeySpan should continue to provide each of these facilities with the appropriate maintenance and repair for "life extension".

The re-powering of each of these older units entails the abandonment or removal of the boiler and the integration of modern combustion turbines and heat recovery steam generators with the existing turbine generator. This fairly straight forward and well proven "combined cycle" technology uses the exhaust gases from combustion turbines in heat recovery steam generators to operate the turbine generator carried over from the existing plant. The output from the existing generator is combined with the generation from the new combustion turbines. As such the total output of the converted unit is about two and a half to three times the original nameplate capacity, depending on the specifics of the facility converted. The nearly doubling in efficiency of the re-powered unit as compared to the existing unit comes from the fact that the exhaust from the combustion turbines, which normally would be a waste product, is utilized to make the steam used by the existing turbine–generator. In addition to the turbine generator many other components from the existing unit are retained, including the cooling system.

In addition to re-powering the existing steam electric plants, it would also be possible, as natural gas becomes available, to convert the existing 240 MW simple cycle combustion turbines at the Wading River (Shoreham) Site to combined cycle.

The environmental benefits of re-powering are compelling. Improvement in efficiency from about 35% to close to 60% in the conversion of fuel to electricity can be achieved. The resulting reduction in fuel burned for a given amount of generation will be significantly less nitrogen oxides and carbon monoxide emitted. Modern combined cycle units have state of the art emission control systems in contrast to the older steam electric units with no such controls. The re-powered units achieve emission reductions

immediately since they replace higher emitting, older units that would likely continue to operate in an expansion program of new greenfield projects.

To support the contention that the re-powering of the existing KeySpan steam electric facilities and the Wading River Combustion Turbines is a very favorable option to building new generation at greenfield sites, the following site specific conceptual designs were developed to examine the feasibility of re-powering at each existing power station:

CONCEPTUAL DESIGN FOR E. F. BARRETT

The Island Park site for the E. F. Barrett Steam Electric Plant is large enough in size and is configured in a way to make it one of the best candidates for combined cycle re-powering. A conceptual design has been developed in which, initially, one of the two 175 MW units is converted to combined cycle operation. Two new 175 MW combustion turbines would be integrated with the existing steam turbine generator to produce 525MW or 350 MW more than the existing unit. Figure 1 is a heat balance diagram showing the significant operating parameters including heat rate (amount of energy required to produce a KWH of electricity), fuel consumption, steam production, condensate return and the electric output of the new plant configuration.

A site plan for the conversion project is presented in Figure 2. In the area west of the current units, there is ample space, without the removal of the existing boiler, for installation of the two new 175 MW combustion turbines, heat recovery steam generators, control room, step up transformers (for combustion turbines), and auxiliary systems. This new equipment would be designed and sized to integrate with the existing steam turbine generator, step up transformer (existing turbine generator), condenser cooling water system and turbine control room. The major interconnections would be

steam piping from the new heat recovery steam generators to the existing steam turbine unit and condensate return piping. Control systems for the existing steam turbine generator and condenser cooling system would be re-routed to the new control room and upgraded to modern distributed control technology which matched the control design philosophy of the newly added combustion turbines and heat recovery boilers.

A twelve to eighteen month construction period for the installation of the new equipment would be required. During much of this period, the existing plant could operate routinely. At the end of the summer peak in September, the existing unit could be taken out of service and the re-powering tie-in completed before the next summer peak period beginning in June. After the combined cycle facility is operational, the old steam boiler, stack and auxiliary systems could be demolished. The available space at Barrett facilitates this schedule and would allow the operation of the existing unit while the construction is underway.

The new combustion turbines would use natural gas as their primary fuel with low sulfur distillate oil as a back up. The high pressure gas transmission line at the Barrett site is tied to the underwater pipeline that connects to New Jersey and interstate pipelines from the Gulf area. With moderate augmentation, this line may be capable of supplying the incremental amount of gas needed by the larger, but more efficient combined cycle complex. Some of the existing residual oil tanks at the site could be converted to the storage of the distillate oil. In parallel with installation of the combined cycle components on the converted unit, transmission system upgrades could be completed to accommodate the additional 350 MW on the LIPA grid.

While the above focuses on converting one of the two Barrett Units, the site is large enough to easily encompass the re-powering of the second steam electric unit at a later time after the initial conversion. Re-powering the second unit would add a total of 700MW of additional capacity at this site, for a total site capacity of 1,050 MW from both conversions. The ultimate decision and sequence of re-powering the second unit relative to other conversions would depend on the extent of gas supply and electric transmission expansion necessary and the degree to which demolition would be required to accommodate the site's full capacity potential.

CONCEPTUAL DESIGN FOR PORT JEFFERSON

The 175MW Port Jefferson units are virtually identical to their sister units at the E. F. Barrett Station and the same conceptual design would apply. Each unit converted would generate 525 MW, 350 MW more than the present nameplate capacity of each Port Jefferson unit. However, the smaller size of the site would complicate the conversion scenario, particularly since additional space already has been taken by the installation of the two new simple cycle combustion turbines this past year. Therefore, it is very likely that before converting a unit, an existing boiler would have to be demolished to make way for the installation of the combustion turbines and heat recovery steam generators. The loss of this generating capacity over at least one peak season would have to be made up from elsewhere; possibly advancing the conversion of the second Barrett unit. Ultimately, both Port Jefferson Units can be re-powered, adding a total of 700 MW of additional capacity. A site plan for the conversion is presented in Figure 3.

All other factors at Port Jefferson including electric transmission upgrades are similar to Barrett except for natural gas. Gas supply at Port Jefferson is dependent on the additional gas supplies from one of the new lines across Long Island Sound which have been proposed for the Shoreham area.

CONCEPTUAL DESIGN FOR FAR ROCKAWAY

The Far Rockaway Steam Electric Plant site is large enough and configured in such a way that would make it easily accept a re-powering project for the 100 MW steam generator size class. Two new 80 MW combustion turbine generators could be integrated with the existing turbine-generator to produce 240 MW. See Figure 4 for the Heat Balance for this unit. This would result in a new capacity for the re-powered unit of 140MW more than the existing 100MW plant.

As shown in Figure 5, the two new 80 MW combustion turbines, heat recovery steam generators, control room, step up transformers (for combustion turbines), and auxiliary systems would be constructed in the area south of the existing unit. All other design and construction factors would be conceptually similar to the E.F. Barrett scenario, including the fact that the new combined cycle equipment could be installed ahead of taking the plant out of service to demolish the boiler. Although the steam turbine generator at this plant has had some maintenance issues over the years, it still should be able to be economically refurbished to provide the necessary life extension for combined cycle operation.

Due to the Far Rockaway site's location in the extreme southwest corner of the LIPA service territory, electric transmission upgrades likely would be required to accommodate

the added generation from this conversion. On the other hand, gas supply may be adequate based on earlier site usage even with the new peaking plant recently built there by Florida Power Light. Also, a back up distillate oil supply could be put in place by modifying the existing residual oil storage tank.

CONCEPTUAL DESIGN FOR THE GLENWOOD STATION

The Glenwood site has two existing 100 MW steam electric units which are the sister units to Far Rockaway. The site is fairly small and conversion of these units, like those at Port Jefferson, is more challenging. Here again, it is anticipated that the existing boiler would have to be demolished to make room for the conversion of the first unit. A second option would be the demolition of the two old, fairly inefficient 50 MW simple cycle combustion turbines south of the steam units. One re-powered unit would produce 140 MW more than the original; re-powering the second unit would add a total of 280 MW to the site. A site plan for the conversion is presented in Figure 6.

It is not anticipated that significant electric or gas transmission upgrades would be required at this site.

CONCEPTUAL DESIGN FOR THE NORTHPORT STATION

The Northport Steam Electric Station is the newest and largest of the KeySpan units. Its four 375 MW steam turbine generators each present a large nucleus for a combined cycle project. Four combustion turbines of 175 MW each could be integrated with one 375 MW steam turbine generator to produce 1050 MW, an increase of about 700 MW. See Figure 7 for the heat balance. The oldest unit is on the north of the complex and would be the first candidate at the site for re-powering. There is sufficient space north of the

complex to locate the four combustion turbines, heat recovery steam generators, stacks, control room, step up transformers (for the combustion turbines) and auxiliary equipment as shown in Figure 8-Site Plan. Again all other design and construction factors would be similar in concept to the Barrett conversion.

It is conceivable that sufficient gas is available from the Iroquois pipeline that crosses the site for at least the conversion of one unit, however, it may be that additional compression would be required. Electric transmission upgrades would be necessary to accept the additional 700 MW on the LIPA grid from the re-powered first unit. As in the case for Barrett, there is sufficient space to allow parallel construction and tie in between annual summer peak periods.

A second steam generator could be re-powered for an additional 700 mw increase in station output by locating new equipment to the south of the existing plant. Ultimately, the third and fourth steam turbine generators also could be re-powered with combustion turbines located in the area of the existing boilers for those units following their demolition. Like the Port Jefferson and Glenwood cases, the construction schedule and outage times would be extended for the third and fourth units due to the need to first remove the boilers. Also, re-powering all four Northport Units would require significant electric transmission system upgrades to the existing underground cables and other overhead lines. Upgrade of the underwater transmission line to Norwalk, Connecticut that is currently under consideration would provide additional transmission exits for the combined cycle re-powering. Increased gas supply would be needed from the Iroquois system through a new pipeline and/or additional compression.

CONCEPTUAL DESIGN FOR THE WADING RIVER COMBUSTION TURBINE

KeySpan owns and operates a 240 MW simple cycle combustion turbine plant on the Shoreham Nuclear Plant site. The Wading River Station consists of three 80 MW General Electric combustion turbines. The units were constructed with space available so they could ultimately be converted to future combined cycle operation. This would involve the erection of three heat recovery steam generators (one for each combustion turbine) and a steam turbine generator. See Figure 9–Site Plan. The combined cycle output would increase by 120 MW for a total station capacity of 360 MW. Since these combustion turbines are a recent design, the efficiency of the combined cycle plant would nearly double, to about 60% from about 35% for the existing simple cycle facility. See Figure 10 for the heat balance analysis.

An added advantage of this conversion is that the combined cycle facility would also improve the air emissions from the existing units since the best available emission control technology would be required. The converted facility would be retrofitted with selective catalytic converters for nitrogen oxides and carbon monoxide reduction. The present units do not have these controls.

The necessary gas supply would come from one of the new gas pipelines across Long Island Sound being proposed. Distillate fuel oil would be used as a back-up fuel.

Since significant new equipment would be required to re-power this facility as compared to a steam electric conversion, the cost to re-power the Wading River Simple Cycle would be comparable to the costs of converting a plant like E. F. Barrett.

OVERALL RE-POWERING CAPACITY INCREASE

In the maximum case where all of the existing capacity on the KeySpan system were converted to combined cycle, Long Island's electric supply could potentially be increased by about 4,700 MW. This would include the re-powering of all of the existing steam electric plants as well as the conversion of the simple cycle 240 MW combustion turbine at Shoreham to combined cycle. Figure 11 provides a breakdown of the capacities of the current facilities and the expected increase in capacity after conversion.

The numbers clearly show the significant role that re-powering the existing KeySpan facilities can play in meeting Long Island's growing energy needs for the next 20 to 40 years and beyond. LIPA currently estimates that the Long Island peak summer load is increasing each year at a rate of 100 MW. Even at twice this annual increase, re-powering can provide the needed capacity for over the next 20 years.

The timing of installing new generation is generally tied to the expected yearly load growth. As such, a single Barrett or Port Jefferson Unit, for example would provide for about two years of growth at the least. Of course sequencing the projects would take into account site specifics such as available space for construction, demolition needed, electric transmission upgrades required, available gas supply and pipeline reinforcements, and the temporary loss of the unit's capacity during the construction and/or tie in period.

The addition of about 4,700 MW in generating capacity, even over a twenty year or greater period, would require that the electric transmission grid on Long Island be substantially upgraded. In all likelihood, LIPA would develop a timely transmission expansion plan to support new generation regardless of whether re-powering or other

forms of generation expansion are selected. The same would be true for KeySpan and other suppliers when it comes to expanding the gas transmission system.

ALTERNATE ENERGY OPTIONS

LIPA is committed to a long-term program of conservation and alternate energy sources. Much attention has been given recently to the development of wind generators off the South Shore of Long Island. A request for proposals for a 100 MW wind farm is in the planning stage for a Fall 2002 project decision. LIPA has also initiated a sizeable fuel cell generation project at its West Babylon site. Such alternate energy programs must be pursued as a means of demonstrating the future viability of these energy sources. However, with today's technology, the ultimate capacity of these programs in MW is small and probably in the range of 100 to 200 MW as compared to about 4,700 MW for re-powering. Also, the cost of $2,000/KW or more for these alternate forms of generation is extremely high, as compared to about $700-900/KW for re-powering. This high cost becomes a significant ratepayer burden if it applies to a major block of generation and not a smaller scale "demonstration" project.

COST AND SCHEDULE FACTORS

Over the past year New York City and Long Island have experienced a wave of new combustion turbine plant construction to meet near term energy needs in this region. The New York Power Authority's (NYPA) 2001 Construction Program included the installation of eleven LM 6000 General Electric simple cycle units, ten in New York City and the eleventh at Brentwood, Long Island. These units were built on an accelerated schedule and, as a result, their capital cost was high, reported to be in the $1,000/KW. The 2002 class of LM 6000 units being completed for LIPA by private generating

companies including KeySpan, Florida Power and Light, Calpine and PPL are also fast track projects and will likely cost about the same as the NYPA projects. The "as-built" costs for these recent facilities will certainly bear on the costs for greenfield combined cycle units such as Spagnoli Road and the ANP Brookhaven Project. The Spagnoli Road Project has been recently reported to cost $275 million or about $1,100/KW. The larger 560 MW ANP Brookhaven Project has been reported to cost $500 million, or approximately $1,000/KW. A combined cycle plant would be expected to cost more than simple cycle combustion turbine projects such as the NYPA and LIPA contracted plants.

Re-powering allows cost savings for the many features of an established power plant site, such as the land, electric interconnection, freshwater supply, security, oil storage tanks, and the most valuable components-an existing steam turbine generator and salt water condenser cooling system. The savings in capital costs for these facilities in a re-powering project are significant and estimated to be in the range of $200-$400/KW. It is projected that re-powering the 175 MW class units, for example, would cost from $700-900/KW. Similar costs would be expected for the other size classes of the KeySpan plants.

A typical construction schedule for a re-powering project would be twelve to eighteen months. Depending on the available space at the particular site, construction of the combined cycle components could occur while maintaining the existing steam unit in service for a considerable part of the construction period. The interconnection with the new combustion turbine/heat recovery steam generator could be accomplished between two consecutive summer peak periods, as probably would be for the Barrett conversions, Far Rockaway and at least two of the Northport Units.

REGULATORY ISSUES

The State legislature is presently considering the renewal of Article X law which presently governs the licensing of all power plants greater than 80 MW. As can be expected there is some interest in changing the regulations to apply to smaller than 80 MW facilities. This is largely due to the backlash from NYPA and LIPA building 79.9 MW facilities to take advantage of the shorter duration of State Environmental Quality Review Act (SEQRA) environmental licensing process.

There are indications in the current re-authorization process for the law that Article X licensing would be streamlined as it would apply to the re-powering option, presumably since there are few if any new siting issues at an existing plant site as compared to a greenfield site. The benefits are compelling and the data and operating history of the existing plant is well known to the NYSDEC and other federal, state and local agencies. All of this should allow an expedited review cycle for the environmental impact analysis prepared by the sponsor of the project.

CLIMATE FOR COMPETITION WITH RE-POWERING

Long Island's existing steam electric generating plants are all owned by KeySpan. LIPA purchases electricity and capacity from these plants under long-term power purchase agreements. There are only two mature proposals to add new combined cycle generating projects on Long Island: the 250 MW KeySpan Spagnoli Road Project and the 560 MW ANP Brookhaven Project. In addition, along with these projects a third simple cycle combustion turbine project, PPL's 300 MW Kings Park Project, is also progressing through Article X licensing process. It is expected that these projects will be licensed by the end of 2002 and operational by the end of 2004. If this indeed happens, the combined

capacity of these facilities would be available to more than meet load growth during the period before the first re-powering project could be

completed. Any uncommitted capacity from these units would further serve as margin and insurance against unforeseen contingencies during re-powering construction.

Because re-powering requires reuse of existing KeySpan plant sites and facilities, re-powering could generally fall to KeySpan to carry out in the future. This would solidify the KeySpan hold on major generating plants on Long Island in the future. An alternative program could be carried out by LIPA, which continues to have the option to purchase all or some of the KeySpan plants within the next three years. This purchase option must be considered in conjunction with the possibility of re-powering. An intermediate course of stimulating competition and re-powering could be to have LIPA purchase some of the KeySpan plants and structure a resale to competitive generating companies perhaps through an auction. The new owner could be required to carry out re-powering as a condition of purchase.

CONCLUSION

In order to meet Long Island's increasing need for electricity, additional capacity beyond the greenfield sites presently in the licensing stage will be required. The ability to re-power the existing KeySpan generating plants on Long Island by converting them to combined cycle units may eliminate the need over the next 20 to 40 years and beyond for additional greenfield sites. Possibly the only exception to this, when viewed as a greenfield site is Shoreham. This site has elements of infrastructure present due to its history as a nuclear power plant site and the fact that new electric and gas transmission facilities are being developed there.

Re-powering existing plants with combined cycle technology vastly improves operating efficiencies and is cost-effective compared to greenfield sites and other energy alternatives. It also produces environmental benefits because combined cycle units burn about half as much fuel per KWH than existing facilities and are equipped with advanced emission controls. It is also anticipated that re-powering projects could be licensed much more quickly than greenfield sites under a new Article X siting law.

In the transition to providing new capacity through re-powering, it is necessary to complete those greenfield projects currently in the midst of licensing. This capacity is needed to accommodate growth in electric demand between now and when the first re-powering could be brought on-line. It would also serve as back-up for outages that may be necessary or unanticipated at existing plants during the re-powering process.

Finally, re-powering can be accomplished while accommodating a need for competition on Long Island. With LIPA having an option to buy the KeySpan plants in the next three years, it could conceivably purchase some of these facilities and structure a resale to competing generating companies. This could be carried out by an auction where a condition of the purchase would be the re-powering of the facility.

When all these factors are taken into consideration, it makes a compelling case for pursuing re-powering of KeySpan's existing generating plants over other alternatives for meeting Long Island's future energy needs.

NEW YORK STATE BOARD ON ELECTRIC GENERATION SITING AND THE ENVIRONMENT

IN THE MATTER

of the
Application by Kings Park Energy, LLC for a Certificate of Environmental Compatibility and Public Need to Construct and Operate a 300 Megawatt Simple Cycle Generating Facility in the Town of Smithtown, Suffolk County, New York

Case 00-F-1356

Rebuttal Testimony of
David A. Schlissel

On behalf of
Townline Association, Inc.

October 28, 2002

Q. Please state your name, position and business address.

A. My name is David A. Schlissel. I am a Senior Consultant at Synapse Energy Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

Q. Have you previously submitted testimony in this case?

A. Yes. I submitted Direct Testimony on behalf of the Townline Association, Inc. ("TAI") on September 30, 2002.

Q. What is the purpose of this rebuttal testimony.

A. The purpose of this rebuttal testimony is to respond to the prepared testimonies of DPS Staff witnesses Leka P. Gjonaj and Edward C. Schrom that were filed on September 30, 2002.

Q. Turning first to the prepared testimony of Staff witness Schrom. Do you think that Mr. Schrom's assumption that neither the ANP Brookhaven project nor the Spagnoli Road facility will be built is reasonable?

A. No. It is reasonable to assume that at least one of the two projects, ANP Brookhaven or Spagnoli Road, will be built based on LIPA's recent Draft Energy Plan and public statements indicating that LIPA is negotiating with ANP and KeySpan.

For example, LIPA Chairman Kessel has said that LIPA has not decided whether it will back KeySpan's 250 MW Spagnoli Road facility or ANP's 580 MW Brookhaven plant.[1] But LIPA is negotiating with both firms. Chairman Kessel has further said that LIPA will "pick the company the gives us the best price" for power.[2]

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[1] *Newsday*, *Nassau and Suffolk Edition*, October 18, 2002, at page A38.
[2] Ibid.

Mr. Kessel also said indicated that LIPA's projections indicated that Long Island will only need one of these two new projects.[3]

Q. Have you seen any other evidence that LIPA also does not believe that it will need the capacity from the proposed Kings Park project to fulfill its control area needs?

A. Yes. LIPA's recently issued Draft Energy Plan for 2002-2011 lists three different categories of future generating facilities: those "Planned Sources" that are expected to be in service for 2003; "Options under Study," and "Options for Future Study."[4] The facilities that LIPA includes in each of these categories are listed in Tables R1 to R3 below:

Table R1 – LIPA Planned Sources

Facility	Expected In-Service Date	Size (MW)
Freeport Village LM6000	2003	10 MW
PPL Freeport LM6000	2003	44 MW

Table R2 – LIPA Generation Options under Study

Facility	Expected In-Service Date	Size (MW)
FPL Energy CT	2003	50 MW
Additional CT Projects	2003	~100 MW
ANP Brookhaven CC	2005	580 MW
Spagnoli Road CC	2005	250 MW
Repowering of Wading River Units 1-3	2006	116 MW
Repowering of EF Barrett Unit 2	2006	279 MW
Offshore Wind	2007	100-140 MW

[3] Ibid.

[4] The Draft Long Island Energy Plan is available at LIPA's website at http://www.liPOWER.ORG/newscenter/pr/2002/oct17.html.

Table R3 – LIPA Generation Options for Future Study

Facility	Expected In-Service Date	Size (MW)
Greenport	2003	10 MW
Repowering of Glenwood Unit 4	2006	126 MW
Repowering of EF Barrett Unit 1	2006	288 MW
LIPA issued RFP for Combined-Cycle Unit	2007	300 MW
Repowering of Port Jefferson Unit 3	2008	278 MW
Repowering of Northport Unit 4	2008	534 MW
Repowering of Far Rockaway Unit 4	2008	124 MW

It is clear from these Tables that LIPA is not depending upon capacity from the proposed Kings Park Energy facility to meet its projected loads.

Q. Does the LIPA Draft Energy Plan also identify potential new transmission lines through which additional power could be imported into Long Island?

A. Yes. The LIPA Draft Energy Plan identifies three proposed transmission lines between New Jersey and Long Island. These three proposed links have 1,680 MW of new capacity through which additional power could be imported into Long Island from New Jersey.[5] According to LIPA, two of the lines have proposed 2005 in-service dates. The third line has a proposed 2006 in-service date.

[5] Volume 1 – Executive Report of the LIPA Draft Energy Plan, at page 24.

Q. Would your conclusion that it is not reasonable to claim that the 300 MW of capacity from the proposed Kings Park Energy facility will be needed before 2008 or 2009 be different if you used the methodology used by DPS witness Schrom and assumed the largest transmission line and the largest generating unit were both out of service at the time of the system peak?

A. No. Although I used a projected 17.5 percent reserve margin in Tables 1 through 4 of my Direct Testimony, my conclusion would be the same if I instead assumed that the largest transmission line and the largest generating unit were both out of service at the time of the system peak. In fact, I have reexamined the need for the capacity from the proposed Kings Park Energy facility reflecting the unavailability of both the largest transmission line (661 MW) and the largest generating unit (341 MW). The results of these analyses are presented in Tables R4 through R7 below.

Q. What load forecasts are you using in Tables R4 through R7?

A. Tables R4 and R6 use as a base case load forecast the same 2002 NYISO forecasts that DPS Staff witness Schrom used in his prepared testimony. These are very close to the Spring 2002 NYISO peak load forecasts that I used in Tables 3 and 4 of my Direct Testimony. These are weather-normalized estimates that reflects typical summer weather conditions. Tables R5 and R7 then use as a higher peak load forecast the extreme weather peak loads that I used in Tables 1 and 2 in my Direct Testimony.

Both the base case and higher forecasts are conservative (i.e., high) because they do not reflect all of the peak load reductions projected by LIPA.

Q. What new generating facilities are you assuming will be built on Long Island within the next few years?

A. The LIPA Draft Energy Plan lists more than 2,700 MW of new generating projects that are currently planned, that are currently under study or that are options for future study. As shown on Tables R1 through R3, all of these facilities have projected in-service dates of 2003 through 2008. In addition, the LIPA

Draft Energy Plan notes that proposals have been submitted to add another 1,680 MW of transmission import capability into Long Island from New Jersey.

I do not believe it is reasonable to assume that all of this capacity will be built. For this reason, Tables R4 and R5 assume that LIPA adopts a very minimal resource expansion strategy which involves the addition of only 450 MW of new capacity including 200 MW of CT capacity by the summer of 2003 and 250 MW of combined-cycle capacity from either ANP Brookhaven or Spagnoli Road in 2005. Obviously, LIPA would be adding more that 250 MW of new combined cycle capacity if it decides to sign a purchase power agreement with ANP Brookhaven. For this reason, my assumptions in Tables R4 and R5 concerning the new capacity that will be built on Long Island are conservative.

Q. What assumptions have you made concerning the repowering of existing LIPA/KeySpan facilities?

A. Tables R4 and R5 reflect no repowering of any LIPA/KeySpan facilities. For the reasons I explained in my Direct Testimony and the discussions in the LIPA Draft Energy Plan I believe that this is an extremely conservative assumption.

However, it is uncertain at present which of its facilities LIPA may repower. Nevertheless, to show the potential impact of such repowerings on the need for the capacity from the proposed Kings Park Energy facility, I have assumed that the two smallest facilities that LIPA has under consideration for possible repowering, i.e., Wading River Units 1-3 and Glenwood Unit 4, will be repowered. This assumption is conservative because substantially more new capacity will be added on Long Island if larger units, such as EF Barrett Units 1 or 2, Northport Unit 4 or Port Jefferson Unit 3, actually are repowered in addition to or in place of Wading River Units 1-3 and/or Glenwood Unit 4.

Table R 4 - Loads and Resources - Base Case Load Forecast - No Repowering of Existing Facilities

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938
Existing Generating Capacity without Largest Unit	4597	4597	4597	4597	4597	4597	4597	4597	4597	4597
Transmission Import Capability	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430
Transmission Import Capability without Largest Line	769	769	769	769	769	769	769	769	769	769
New Capacity Additions	200		250							
Total Available Capacity	5566	5566	5816	5816	5816	5816	5816	5816	5816	5816
Peak Demand	4905	4981	5057	5138	5213	5289	5365	5451	5547	5648
Capacity Surplus/(Deficiency) (MW)	661	585	759	678	603	527	451	365	269	168
Capacity Surplus/(Deficiency) (%)	13%	12%	15%	13%	12%	10%	8%	7%	5%	3%

Table R 5 - Loads and Resources - Extreme Weather - No Repowering of Existing Facilities

	2003	2004	2005	2006	2007	2008	2009
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938
Existing Generating Capacity without Largest Unit	4597	4597	4597	4597	4597	4597	4597
Transmission Import Capability	1430	1430	1430	1430	1430	1430	1430
Transmission Import Capability without Largest Line	769	769	769	769	769	769	769
New Capacity Additions	200		250				
Total Available Capacity	5566	5566	5816	5816	5816	5816	5816
Peak Demand	5185	5315	5447	5584	5723	5866	6013
Capacity Surplus/(Deficiency)	381	251	369	232	93	-50	-197

Table R6 - Loads and Resources - Base Case Load Forecast - Repowering of Two Smaller LIPA/KeySpan Facilities

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938	4938	4938	4938
Existing Generating Capacity without Largest Unit	4597	4597	4597	4597	4597	4597	4597	4597	4597	4597
Transmission Import Capability	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430
Transmission Import Capability without Largest Line	769	769	769	769	769	769	769	769	769	769
New Capacity Additions	200	0	250	242						
Total Available Capacity	5566	5566	5816	6058	6058	6058	6058	6058	6058	6058
Peak Demand	4905	4981	5057	5138	5213	5289	5365	5451	5547	5648
Capacity Surplus/(Deficiency) (MW)	661	585	759	920	845	769	693	607	511	410
Capacity Surplus/(Deficiency) (%)	13%	12%	15%	18%	16%	15%	13%	11%	9%	7%

Table R7 - Loads and Resources - Extreme Weather - Repowering of Two Smaller LIPA/KeySpan Facilities

	2003	2004	2005	2006	2007	2008	2009	2010
Existing Generating Capacity	4938	4938	4938	4938	4938	4938	4938	4938
Existing Generating Capacity without Largest Unit	4597	4597	4597	4597	4597	4597	4597	4597
Transmission Import Capability	1430	1430	1430	1430	1430	1430	1430	1430
Transmission Import Capability without Largest Line	769	769	769	769	769	769	769	769
New Capacity Additions	200		250	242				
Total Available Capacity	5566	5566	5816	6058	6058	6058	6058	6058
Peak Demand	5185	5315	5447	5584	5723	5866	6013	6163
Capacity Surplus/(Deficiency)	381	251	369	474	335	192	45	-105

These Tables show the following:

1. Under base case forecasts reflecting normal weather conditions, the capacity from the Kings Park Energy facility would not be needed until

2013, at the earliest, even if LIPA only follows through with its stated intention of adding 200 MW of new combustion turbine capacity by the summer of 2003 and signs a contract for power from either the ANP Brookhaven plant or the Spagnoli Road facility. The capacity from the Kings Park Energy facility would not be needed until 2008, at the earliest, **even if** Long Island experiences extreme summer weather.

2. The need for the capacity from the Kings Park Energy facility would be deferred even further into the future if LIPA decides to repower some existing LIPA/KeySpan generating facilities.

3. Thus Long Island would have enough reserve capacity, without Kings Park Energy, to serve projected peak customer demands under both base case and extreme weather conditions in the unlikely event that the largest generating unit and the largest transmission line were out of service at the same time. Projected customer demands would still be met even if some other generating or transmission facilities also were out of service during peak demand periods or were forced to operate at less than full power.

Q. Does the Prepared Testimony of DPS Staff witness Gjonaj provide any support for the Applicant's claim that the proposed Kings Park Energy facility would provide significant environmental and/or economic benefits?

A. No. First, the MAPS analyses performed by Mr. Gjonaj do not include the 407.6 MW of combustion turbine capacity that was recently installed on Long Island. Therefore, they do not reflect all existing generating capacity on Long Island. At the same time, Mr. Gjonaj did not include the proposed Spagnoli Road facility in his MAPS analyses.

As I explained in detail in my Direct Testimony, the addition of the new combustion turbine capacity and the Spagnoli Road combined cycle facility to the production modeling analysis could be expected to substantially reduce, if not eliminate, the environmental benefits claimed for the proposed Kings Park Energy

facility.[6] The inclusion of these facilities also could be expected to reduce the very minor production cost savings from the proposed Kings Park Energy facility.

Q. Do the MAPS analyses prepared by Mr. Gjonaj include the 200 MW of combustion turbine capacity that LIPA has announced it will install by the summer of 2003?

A. No.

Q. Do the MAPS analyses prepared by Mr. Gjonaj include all of the generating facilities that have been licensed by the Siting Board or that are currently undergoing Siting Board review?

A. No. Mr. Gjonaj has not included the any of the following proposed plants that have been undergoing review by Siting Board: Reliant Energy's proposed Astoria Energy Project that ultimately will provide 1,816 MW of new combined cycle capacity in Northwest Queens; the 520 MW Glenville Energy Project, the 505 MW Besicorp Empire State Newsprint Project, and the 540 MW Wawayanda Project. The Wawayanda Project has recently been approved by the Siting Board.

Q. Are the assumptions in Mr. Gjonaj's MAPS analyses concerning new generating capacity on Long Island consistent with other recent DPS Staff MAPS analyses?

A. No. The rebuttal testimony submitted in Case 00-F-0566 last January by a panel of DPS Staff witnesses presented the results of MAPS analyses that the Staff had performed to examine the potential environmental and economic benefits of the proposed ANP Brookhaven facility. The DPS Staff included both the 407.6 MW of combustion turbines that LIPA intended to install during 2002 and the proposed Spagnoli Road combined cycle facility.[7]

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[6] See the Direct Testimony of David A. Schlissel, dated September 30, 2002, at page 18, line 5, through page 27, line 4.

[7] Prepared Rebuttal Testimony of Steven Keller, Edward Schrom, and Thomas Paynter on behalf of the Department of Public Service, Case 00-F-0566, January 23, 2002, at pages 16 and 17.

Q. Did Mr. Gjonaj use normal weather or extreme weather loads in his MAPS analyses?

A. From reviewing his data input files it appears that Mr. Gjonaj used loads based on normal weather conditions.

Q. Do you agree that this was a reasonable assumption?

A. Yes. I believe that a base case MAPS analysis should reflect normal weather loads. It also would not be unreasonable to perform sensitivity studies in addition to such a base case normal weather analysis in order to examine the potential environmental and economic benefits from a proposed facility under the higher or lower loads that would result from more or less extreme weather conditions. After all, it is possible that summer temperatures and humidity on Long Island will be above or below normal temperature conditions. However, Mr. Gjonaj was correct in not using a more or less extreme weather condition case as his only or his base case analysis.

Q. Does this complete your rebuttal testimony?

A. Yes.

NEW YORK STATE BOARD ON ELECTRIC GENERATION SITING AND THE ENVIRONMENT

IN THE MATTER

of the
Application by Kings Park Energy, LLC for a Certificate of Environmental Compatibility and Public Need to Construct and Operate a 300 Megawatt Simple Cycle Generating Facility in the Town of Smithtown, Suffolk County, New York

Case 00-F-1356

Surrebuttal Testimony of
David A. Schlissel

On behalf of
Townline Association, Inc.

January 21, 2003

Q. Please state your name, position and business address.

A. My name is David A. Schlissel. I am a Senior Consultant at Synapse Energy Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

Q. Have you previously submitted testimony in this case?

A. Yes. I submitted Direct Testimony on behalf of the Townline Association, Inc. ("TAI") on September 30, 2002 and Rebuttal Testimony on October …, 2002.

Q. What is the purpose of this surrebuttal testimony.

A. The purpose of this surrebuttal testimony is to respond to the rebuttal testimony of Kings Park Energy witnesses James Potter, Susan Tierney, Stephen T. Marron, William C. Miller, N. Dennis Eryou, and Robert Brown filed on October 23, 2002. ("the Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel" or "the Applicant's MAPS surrebuttal panel")

Q. The Applicant's MAPS surrebuttal panel says that you recommended the preparation of new MAPS runs using updated estimates of demand on Long Island.[1] Is that true?

A. No. I did not include any such recommendation in my September 30, 2002 Testimony in this proceeding.

Q. The Applicant's Surrebuttal MAPS Panel testifies that you claimed in your September 30, 2002 Testimony that there would be capital savings associated with repowering."[2] Is that true?

A. No. My September 30, 2002 Testimony discussed the potentially significant environmental benefits that could be obtained from repowering one or more of the older, inefficient generating units on Long Island.[3] However, I did not discuss the issue of capital costs.

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1 Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel testimony, at page 3, lines 10 through 12.

2 Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel testimony, at page 21, lines 5 and 6.

3 For example, see the September 30, 2002 Testimony of David A. Schlissel, at pages 15 and 16.

Nevertheless, I do believe that the repowering of existing power plants does offer an opportunity to gain construction cost savings over the building of new units on greenfield sites. Such savings, obviously, would be very site-specific and would depend on the age and state of the equipment at the older plant being repowered.

Q. Do you agree with the Applicant's MAPS Surrebuttal Panel that repowering by building an entirely new unit at an existing site can provide cost savings versus using existing equipment?[4]

A. Yes. As I mentioned in my September 30, 2002 repowering a generating facility generally is performed in at least two ways: 1) by actually rebuilding and replacing part or all of an existing power plant or 2) by closing down an existing power plant and building a new unit next to it.[5] Therefore, in some instances it might make economic sense to tear down the existing facilities and build an entirely new unit. Detailed economic and engineering analyses would be performed in order to determine which is the least expensive alternative.

Q. Did you testify in your September 30, 2002 Testimony that the Kings Park Energy Facility is not needed because "Kings Park Energy's modeling understated capacity additions in New York State and, in particular, on Long Island."[6]

A. No. Kings Park Energy's rebuttal witnesses confuse two separate sections of my September 30, 2002 Testimony. In one section of that Testimony, I addressed Article X Issue No. 14 – the Reasonableness of the Claims in the Article X Application Concerning the Need for the Proposed Facility. In that section I did not rely on the Applicant's understatement of capacity additions in its MAPS analyses. I discussed Kings Park Energy's understatement of capacity additions in its MAPS analyses is the section of my September 30, 2002 Testimony that

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[4] Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel testimony, at page 22, lines 9 through 14.

[5] The September 30, 2002 Testimony of David A. Schlissel, at page 15, lines 2 through 6.

[6] Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel testimony, at page 56, lines 19 through 22.

addressed Article X Issue No. 5 – Whether the Construction and Operation of the Proposed Facility would be in the Public Interest.[7]

Q. The Applicant's MAPS Surrebuttal Panel says that you have testified that "because his reserve margin assessment indicates that Kings Park Energy is excess capacity, it is likely that any benefits that Kings Park Energy can provide would be small and inconsequential. This argument is based solely on his reserve margin assessment."[8] Is this true?

A. No. I did not present such an argument in my September 30, 2002.

Q. The Applicant's MAPS Surrebuttal Panel says that your positions concerning the need for the proposed facility "are particularly difficult to accept given the urgency that New York, and particularly Long Island, officials have expressed with respect to the need for new generating resources."[9] Is that a fair criticism?

A. No. I agree that there is a need for new generating capacity on Long Island. However, the State and LIPA have taken significant steps to see that this new capacity will be available.

LIPA is seeking to meet part of that need through the installation of the fast-track units in 2002 and 2003. The ANP Brookhaven facility has been approved by the Siting Board and the Spagnoli Road facility may be approved in the near future. At the same time, LIPA is studying the possible addition of new, efficient capacity through the repowering of its existing generating plants.

In addition, I recognize and support the efforts to expand demand side management and load response programs on Long Island. I believe that such programs can enhance electric system reliability.

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[7] For example, see the September 30, 2002 Testimony of David A. Schlissel, at page 18, lines 18 through 24.

[8] Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel testimony, at page 60, lines 5 through 8.

[9] Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel testimony, at page 58, lines 12 through 14.

In summary, its not that I don't recognize that there is a need for new generating capacity on Long Island. I just don't believe that Kings Park Energy's claims regarding the need for its proposed facility are reasonable given the other capacity that will be added on Long Island in the foreseeable future and the potential for effective conservation and load response programs.

Q. Do the Tables in Exhibit PTMMEB-13 show that there will be a need for the capacity from the proposed Kings Park Energy facility even if the ANP Brookhaven and/or the Spagnoli Road facilities are built?[10]

A. No. The Tables presented in Exhibit PTMMEB-13 are extremely misleading because they do not reflect all of the capacity that can be imported into Long Island through the existing transmission lines. In fact, these Tables list only the 403 MW of capacity from the 9 Mile, the Fitzpatrick and the Gilboa plants and 327 MW of capacity that could be imported through the new line from Connecticut. This ignores approximately 730 MW of existing transmission import capacity. The Applicant's MAPS Surrebuttal Panel witnesses then assumes that after 2003 no additional capacity would be imported to replace the terminated contract for the 159 MW of capacity from the Fitzpatrick nuclear plant.

At the same, the Applicant's MAPS Surrebuttal Panel witnesses then reduce the amount of Generation Reserves by 561 MW to reflect an outage of the largest transmission line.

The net result of this misleading exercise is that the Tables in Exhibit PTMMEB-13 reflect the importing of essentially **zero** MW of capacity after 2003. This is a totally unrealistic assumption. The correct number should be 730 MW which would be the approximate transmission import capability into Long Island without the largest line.

As a result, the Tables in Exhibit PTMMEB-13 significantly overstate the need for the capacity from Kings Park Energy's proposed facility. If either one of the

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[10] Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel testimony, at page 63, lines 1 through 14.

approved Brookhaven or the proposed Spagnoli Road facilities is built, there would be no need for the capacity from the Kings Park Energy plant until after 2011 (assuming Brookaven is built) or 2008 (assuming that Spagnoli Road is built) even under what the Applicant calls the Townline extreme weather forecast.

Q. Do the updated MAPS analyses presented by Kings Park Energy's MAPS Surrebuttal Panel support the claim that the proposed facility would provide significant environmental benefits through the reduction of NO_x and SO_2 emissions both on Long Island and throughout New York State.[11]

A. No. The updated MAPS analyses presented by Kings Park Energy's MAPS Surrebuttal Panel are extremely distorted in favor of the proposed facility. Therefore, the results of these analyses provide no credible evidence concerning the environmental benefits that the proposed facility would produce.

Q. Do you agree with the Applicant's examination of low capacity and high capacity scenarios in its updated MAPS analyses?

A. Yes. I think that examining such low and high capacity scenarios is a reasonable way to reflect the uncertainty concerning which the new generating projects that have been approved by the Siting Board and that are undergoing Siting Board review actually will be built.

However, the low capacity scenarios examined by Kings Park Energy in its updated MAPS analyses are unrealistic because they don't include (1) all of the 200 MW of fast track peaking capacity that LIPA intends to install by this coming summer or (2) either the ANP Brookhaven facility or the Spagnoli Road facility.

As a result, the Applicant's low capacity updated MAPS analyses include upstate plants such as Wawayanda and Bowline Unit 3 which projected in-service dates of 2005 and the second quarter of 2006 while it excludes the Spagnoli Road and

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[11] For example, see the Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel testimony, at pages 76 and 77.

Brookhaven facilities on Long Island which currently have projected 2004 and 2005 in-service dates. This is not reasonable.

Q. Have you seen any evidence that suggests it is more likely that the Brookhaven or Spagnoli Road facilities will be built instead of the proposed Kings Park Energy facility?

A. Yes. LIPA Chairman Kessel has said that "LIPA has absolutely no interest in getting involved with the Kings Park project."[12] He also said that the other two projects proposed for Long Island, i.e., Brookhaven and Spagnoli Road, are cleaner, more efficient, cheaper and further along in the state's approval process. As a result, Chairman Kessel said that "The Kings Park project is frankly not on the radar screen."[13]

According to Chairman Kessel, LIPA is considering which of the other two projects should receive a power purchase agreement.[14] He also has said that "I think in today's post-Enron climate, it would be very difficult for any company [on Long Island] to build a power plant without LIPA purchasing the power from them. That's just the climate right now."[15]

Chairman Kessel also has said that while Long Island needs more on-island generation, "the Kings Park proposal is not economical at this time from LIPA's perspective."[16]

Q. What impact does the exclusion of this capacity have on the results of the low capacity updated MAPS analyses?

A. The exclusion of approximately 100 MW of fast track peaking capacity and both the Brookhaven and Spagnoli Road facilities results in a significant overstatement of both the generation and the environmental benefits attributable to the proposed Kings Park Energy facility.

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12 *Newsday*, November 15, 2002, at page A26.
13 Ibid.
14 Ibid.
15 Ibid.
16 The January 2003 issue of BusinessLI, a publication of the Long Island Association.

Q. Are the high capacity updated MAPS analyses presented by Kings Park Energy in its rebuttal testimony similarly distorted by flawed assumptions?

A. Yes. The Applicant's high capacity updated MAPS analyses similarly ignore approximately 100 MW of the fast track peaking capacity that LIPA intends to install by this coming summer.

At the same time, the Applicant's high capacity updated MAPS analyses ignore the 1,800 MW of new combined cycle capacity that should be available by 2007 from Reliant's proposed repowering of its Astoria project. The Applicant's MAPS Surrebuttal Panel has said that it excluded this project because it is "on-hold."[17]

Q. Is that a reasonable assessment of the current status of the Reliant Astoria repowering project?

A. No. Reliant delayed the repowering project until 2006 (Phase I) and 2007 (Phase II) due to problems raising capital in the current financial environment. However, the proposal is still undergoing Siting Board review with a final decision due sometime this coming summer or fall. Reliant has said on several occasions that it is fully committed to proceeding with this repowering once the situation in the capital markets improves and it is able to raise the needed construction funds. For this reason, it is no more or less speculative to include the Astoria repowering project than any of the other proposals that are currently being reviewed by the Siting Board that Kings Park Energy has included in its high capacity updated MAPS analyses.

Q. Is there another serious flaw in Kings Park Energy's high capacity updated MAPS analyses?

A. Yes. In the high capacity primary case analysis, the Applicant, either intentionally or by mistake, excludes the 330 MW TransEnergie transmission line from Connecticut to Long Island from the scenario with the proposed Kings Park Energy facility. However, the transmission line is included in the scenario

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[17] The Potter/Tierney/Marron/Miller/Eryou/Brown surrebuttal panel testimony, at page 70, line 21.

without the proposed Kings Park Energy facility. This inconsistency leads to a significant overstatement of the generation, and consequently the environmental benefits, that can be expected from the Applicant's proposed facility.

Q. Do you agree with the Applicant's use of only extreme weather peak loads in its updated MAPS analyses?

A. No. . A base case MAPS analysis should reflect normal, longer-term weather patterns and loads. However, I believe that it reasonable to perform sensitivity studies that look at the hotter than normal weather conditions but these should not be the only assessments of the environmental benefits that would be produced by a proposed facility. After all, it is possible that summer temperatures and humidity on Long Island will be above or below historic weather patterns.

I do not believe that it reasonable to only look at scenarios that assume extreme weather loads. That results in a biased analysis that overstates the benefits of a proposed facility.

Q. Have you seen any MAPS analyses in another other Article X proceedings that have relied only upon extreme weather peak loads?

A. No. I have reviewed the MAPS analyses presented for six other proposed Article X projects – Ravenswood Cogeneration, Astoria Energy, NYPA Astoria (Poletti Expansion), Glenville Energy, ANP Brookhaven, and Reliant Astoria Repowering. I am not aware that any of the MAPS analyses presented in any of these proceedings relied solely on extreme weather peak loads.

Q. Is there any evidence that suggests that the output from other new generating facilities could displace the output from older, less efficient that the Applicant claims would be displaced by the proposed Kings Park Energy facility?

A. Yes. As I mentioned earlier, the Applicant's low capacity analyses exclude at least 100 MW of new fast track peaking capacity and both the Brookhaven and

Spagnoli Road combined cycle facilities. It is reasonable to expect that the output from these facilities would displace the same generation from older, less efficient and dirtier units that the Applicant's updated MAPS analyses attributes to the proposed Kings Park Energy facility.

The Applicant's Primary high capacity analysis also excludes at least 100 MW of new fast track peaking capacity as well as the 330 MW of power that could be imported into Long Island over the TransEnergie cable from Connecticut. Moreover, at least three of the new combined cycle plants modeled in the Applicant's high capacity analyses, have relatively low capacity factors in the without Kings Park Energy scenarios, i.e., Ravenswood Cogeneration (58 percent); Glenville Energy (57.5 percent) and Spagnoli Road (66 percent). It is reasonable to expect that additional generation from the excluded fast track capacity, through the cable from Connecticut, and from these facilities should displace the same generation from older, less efficient and dirtier units that the Applicant's updated MAPS analyses attribute to the proposed Kings Park Energy facility.

Q. Do the updated MAPS analyses presented by Kings Park Energy's MAPS Surrebuttal Panel support the claim that the proposed facility would provide meaningful electric cost savings benefits?

A. No. The same biased assumptions in the Applicant's updated MAPS analyses that distort the environment benefits that would be produced by the proposed Kings Park Energy facility also lead to the overstating of the project's claimed electric cost savings.

(p. 70, lines 18-20) "We disagree with Mr. Schlissel's recommendation to assume the addition of hypothetical or speculative power plant additions, such as the possible repowering of Northport Station (700 MW), and certain recently proposed fast-track units, as well as incorporation of projects that are on-hold such as Reliant Astoria re-powering."