

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 03-E-0188 - Proceeding on Motion of the Commission
Regarding a Retail Renewable Portfolio Standard

NOTICE OF SCHEDULE FOR FILING EXCEPTIONS

(Issued June 3, 2004)

Attached is the Recommended Decision of Administrative Law Judge Eleanor Stein. Briefs on exceptions will be due in hand to the undersigned and all active parties by Wednesday, June 23, 2004, and briefs opposing exceptions on Thursday, July 8, 2004. An original and twenty-five copies of each brief shall be filed with the Secretary. Active parties may be served electronically.

JACLYN A. BRILLING
Secretary

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 03-E-0188 - Proceeding on Motion of the Commission Regarding
a Retail Renewable Portfolio Standard.

RECOMMENDED DECISION

BY

ADMINISTRATIVE LAW JUDGE ELEANOR STEIN

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 03-E-0188 - Proceeding on Motion of the Commission Regarding
a Retail Renewable Portfolio Standard.

APPEARANCES: See Appendix A

ELEANOR STEIN, Administrative Law Judge:

I. INTRODUCTION AND BACKGROUND

The earth's warming during the twentieth century is the greatest in the past millennium, and the 1990s were possibly the warmest decade in a thousand years. This extreme climate change is producing catastrophic storms, glacial melt, ocean warming, and species extinctions. Caused by human industrial activity -- the release and concentration of greenhouse gases, predominantly carbon dioxide (CO₂) in the earth's atmosphere -- this trend will not easily be reversed.¹ The generation of electricity from fossil fuel is a major contributor. In addition to the environmental effects, the stability and security of fossil fuel supplies are compromised by steep fluctuations in price and uncertainties of supply for a resource that is overwhelmingly imported.

Growing problems associated with emission of greenhouse gases, other environmental costs, energy security and

¹ Center for Clean Air Policy, In Collaboration with the New York Greenhouse Gas Task Force, *Recommendations to Governor Pataki for Reducing New York State Greenhouse Gas Emissions* (April 2003)(GHG Report), p.4. The New York State Greenhouse Gas Task Force was formed by Governor Pataki in June 2001 to recommend policies to reduce the State's greenhouse gas emissions. The Center for Clean Air Policy analyzed options and, in this final report, recommended strategies for the State Energy Plan to the New York State Energy Planning Board. Pursuant to State Administrative Procedure Act §202, administrative or judicial notice is taken of the general information contained in this and other comparable reports produced under government aegis. In accord with these data is the U.S. Environmental Protection Agency, *Climate Change and New York* (publication EPA 230-F-97-0088ff)(1997)(EPA New York).

independence, and diversity of supply all call for remedial measures.

A. Environmental Costs of Fossil Fuel Dependence

Post-Industrial Revolution fossil fuel and land use has resulted in an escalation of emissions of carbon dioxide (CO₂) to 31 percent higher than previous eras. Government estimates are that in the past century temperatures in Albany, New York, have increased by more than one degree Fahrenheit and precipitation throughout the State has increased as much as 20 percent. Projections for the next one hundred years range from a rise of two to eight degrees in temperature and 10-20 percent increase in precipitation.²

The temperature of the planet has increased one degree in the last century and consensus is a likely five-degree temperature rise by the end of the 21st century. This means that by mid-century the earth's temperature will be the highest in 50 million years; it means the earth's temperature will be rising at a rate ten times faster than at any time since the end of the last ice age. Recent studies also predict anthropogenic climate change could act as a major cause of species extinctions in the near future.³ Reductions in fossil fuel use are essential to at least stabilize at the current level of disruption. Yet, by 2000, the U.S. produced 15 percent more CO₂ than it did in 1990. It is in this context that the schedule and costs of an RPS program are reviewed.

B. Lack of Energy Independence

As the Draft Generic Environmental Impact Statement (DGEIS) notes, dependence on a limited number of energy resources can lead to greater potential for fuel supply interruptions and greater price volatility which, in consequence, can ultimately affect energy and economic security.⁴

² EPA *New York*, p. 1.

³ *Nature*, 427, 107-109, 145-148 (January 8, 2004).

⁴ Draft GEIS, pp. 10-14 (April 8, 2004); at <http://www.dps.state.ny.us/03e0188.htm>.

According to the 2002 New York State Energy Plan, "[a]lmost all of the new generation proposed to be built in New York State is to be fired with natural gas."⁵ As the New York Independent System Operator (NYISO) stated, a phenomenon "within the last 10 years is almost every megawatt we've added has been natural gas and almost every megawatt proposed has been natural gas."⁶ Recent natural gas price surges fuel concern about the State's reliance on this commodity.⁷ Price instability and unpredictability, dependence upon sources outside New York and outside the United States, and resulting concerns about the security of the energy supply, are among the serious concerns about New York's increasing reliance on natural gas generation.

New York State's record in containing fossil fuel use is laudable. New York State's energy related CO₂ emissions decreased in 2001 to 5.3 percent below 1990 levels. Finding that "the generation and use of energy has a significant impact on the environment, contributing to emissions of sulfur dioxide, nitrogen oxides, greenhouse gases and pollutants," in Executive Order 111 Governor George Pataki established energy efficiency goals and practices for State agencies.⁸

However, New York has more to do.⁹ By itself, the market has not created, and is unlikely to create, significant new renewable generation capacity in New York. The proportion of the State's electricity generation from renewables decreased from approximately 29 percent in 1963, to 22 percent in 1979, to approximately 19 percent.¹⁰

⁵ 2002 State Energy Plan 3-104.

⁶ Conference Concerning Reliability, Tr. 74.

⁷ On December 17, 2003, Public Service Commission Chairman William M. Flynn called for an investigation into the recent spike in natural gas prices.

⁸ Executive Order 111 (signed June 10, 2001).

⁹ NYSERDA, *Patterns and Trends, New York State Energy Profiles: 1987-2001* (December 2002), Figure 2.1 (New York State Energy-Related CO₂ Emissions, 1987-2001), p. 13.

¹⁰ U.S. DOE/EIA, *Electric Power Annual, "New York State Total Electric Generation by Type of Fuel, 1960-2001"*.

C. A New York Renewable Portfolio Standard

A renewable portfolio standard (RPS) is an increasingly accepted means of increasing the proportion of non-fossil fuel electricity purchases in a given jurisdiction. An RPS places a requirement upon retail electric suppliers to supply a designated portion of their retail load with eligible sources of renewable energy. Frequently an RPS includes a market-based system of tradable renewable energy credits as a compliance mechanism. To date, 13 states have commenced RPS processes: Maine, Massachusetts, Connecticut, New Jersey, Wisconsin, Pennsylvania, Minnesota, Iowa, Texas, Nevada, California, Arizona, and New Mexico.¹¹ Comparable programs are in place in the United Kingdom, Denmark, Germany, the Netherlands, and Japan.¹²

The additional new renewable electricity generation is expected to result in the displacement of some existing generation supplies. Changes in generation resources in 2013 due to implementation of the RPS are expected to result in the displacement of over six million megawatt hours of electric energy derived from non-renewables. That change, creating greater diversity in the State's electric energy supply portfolio, will likely reduce the exposure to wholesale oil and natural gas price spikes and supply interruptions, thereby increasing the security of the State's electric energy supply.

The creation of an RPS in New York has long been in the making. The development of additional renewable energy sources for commercial generation of electric power is an explicit and mature energy policy objective of New York State. The 2002 State Energy Plan (June 2002) warned of the dangers of New York's fossil fuel dependency: the State's primary sources of energy are imported from abroad, have significant long-term

¹¹ Ryan Wiser, *Design and Implementation Experience with State RPS Policies*, Forum Presentation (April 2003).

¹² Richard Ottinger, Rebecca Williams, *2002 Energy Law Symposium: Renewable Energy Sources for Development*, 32 *Envtl. L.* 331, 350 (Spring 2002).

environmental effects, and ultimately face depletion.¹³ Over 150 parties have labored for over a year with the assistance of consultants experienced in these parallel efforts, to collaborate on some issues and analyze many more.

It is in this context that the Public Service Commission instituted this proceeding.

On February 19, 2003, the Commission commenced this proceeding, establishing the working target that 25 percent of the energy retailed in New York State would be generated from renewable resources.¹⁴ The Commission identified the problems to be addressed as these: the effects on our climate of fossil-fired generation, the security implication of importing much of the fuel needed to supply New York's electricity needs, the danger of price volatility and supply disruption resulting from the finite well of natural gas and other fossil fuels, and the importance of economic development benefits from the encouragement of renewable resource growth. The Commission instituted this proceeding to explore and develop a renewable portfolio standard (RPS), a state program to increase the proportion of renewable generation in a state's energy portfolio through market-based mechanisms, such as placing a value upon the renewability itself - the renewable attribute - separate from the value of the energy, and creating an attributes market.

Basic RPS design issues, including portfolio procurement design, eligible technologies, funding mechanisms, targets and objectives, are ripe for Commission determination. Many other issues of concern to parties will, in any event, await the implementation phase of this proceeding.

E. Procedural History

The Instituting Order established that the proceeding should commence with a collaborative effort to develop and design options for a renewable portfolio standard with the participation

¹³ State Energy Plan, 1-1.

¹⁴ Case 03-E-0188, Retail Renewable Portfolio Standard, Order Instituting Proceeding (issued February 19, 2003) (Instituting Order).

of the market players, consumer advocates, the environmental community, and other affected stakeholders. There are over 135 active parties participating in this proceeding. A collaborative process grouped parties by shared interests, worked intensively and with expert assistance, and identified

and examined major design options.¹⁵

In order to begin with a common vocabulary and to draw upon the experience of the 13 other states that have already instituted RPS programs, the proceeding opened with a two-day Overview Forum, with presentations from experts provided by parties on key issues, including: other states' experiences; credit trading system choices; and characteristics of specific resources that can be considered for RPS eligibility.¹⁶

Parties were informed that this would be a consultative process--that is, a legislative-type process that is open and public. While consensus was sought and encouraged, and on some limited issues achieved, no formal overall settlement was reached.¹⁷

F. The Collaborative Process

On March 4, 2003, a procedural conference was held to develop a framework and method for collaborative work on the substantive and scheduling issues. On March 28, 2003, parties filed preliminary comments on RPS scope, objectives, and design.

On May 29, 2003, a comment cycle was established, providing for a workshop on cost/benefit study methodologies, filing of cost studies, and initial and reply comments,

¹⁵ In the Instituting Order, the Commission identified 14 threshold issues for comment, including eligibility, imports, retail participants and procurement methods and targets, impact on competition, cost recovery, meeting high load area needs, reliability impact, monitoring, attribute trading, impact on and modification of the Environmental Disclosure Label Program, green marketing programs, and the System Benefits Charge (SBC) renewable energy program. These issues, with responses, are attached as Appendix C.

¹⁶ The presentations as well as parties' filings, cost, reliability and environmental impact studies, and Commission documents, are available on the RPS case web site, <http://www.dps.state.ny.us/03e0188.htm>.

¹⁷ This public consultative process is not a formal settlement process under the Commission's regulations, and therefore the rules requiring confidentiality do not apply. See 16 NYCRR 3.9.

concluding on August 26, 2003. It was then contemplated that the Draft Generic Environmental Impact Statement (DGEIS) would be completed in July 2003.¹⁸ On June 25, 2003, following an intensive collaborative effort by parties in five working groups, parties were provided a general summary of the products and discussions of the working groups.¹⁹

The Ruling Establishing Comment Procedures (issued June 19, 2003), following the close of the collaborative process, scheduled a preliminary off-the-record workshop on cost and benefit methodologies; the workshop was held June 27, 2003. At that workshop several parties, including Multiple Intervenors and Joint Utilities, argued for more formal examination of possible costs of an RPS and, in particular, for the retention in New York of Robert Grace and his associates, consultants responsible for a substantial portion of the cost work on the RPS done in the New England states.

E. Studies in Costs, Benefits, and Reliability

Robert Grace and his team were retained by NYSERDA and prepared a supply curve study that served as the basis for a detailed cost study by DPS Staff, analyzing various models and options for an RPS design in New York. On July 28, 2003, that cost study, as well as a cost study, "Report of Initial Analysis of Proposed New York RPS" prepared by ICF Consulting at the behest of the Joint Utilities,²⁰ and a study, "Cleaner Air, Fuel Diversity and High Quality Jobs: Reviewing Selected Potential

¹⁸ Letter to Active Parties (May 29, 2003).

¹⁹ The working groups addressed: 1) eligibility; 2) central procurement; 3) individual compliance; 4) credits and trading; and 5) contract issues.

²⁰ Joint Utilities consists of: Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation.

Benefits of an RPS in New York State, prepared by Synapse Energy Economics for The Renewable Energy Technology and Environmental Coalition (RETEC),²¹ were filed.

On July 21, 2003, a comment schedule was established allowing initial comments on August 20 and reply comments on August 29, 2003; Department of Public Service Staff (Staff), Joint Utilities, Independent Power Producers of New York, Reliant Energy, Multiple Intervenors, and the New York State Consumer Protection Board moved to amend the schedule substantially to fully assess competing cost and benefit analyses, allow for development of a fuller record, and provide opportunities for negotiation. The RETEC Coalition agreed to a modest extension.

In addition, at the request of the parties, an informational technical conference was held on August 13, 2003, to facilitate questions and answers regarding the methods, inputs and conclusions of the cost and benefit studies filed by parties on July 28, 2003. Available for questioning and discussion at that conference were the party proponents of the three sets of cost and benefit studies (Staff, Joint Utilities and RETEC) and the consultants responsible in whole or in part for the preparation of those studies. Discussed, among other themes, were the apparent discrepancies between the outcomes of the Staff and Joint Utilities studies. Following this

²¹ RETEC is a coalition including the American Lung Association of New York State; American Wind Energy Association; Citizens Advisory Panel; Community Energy; Fuel Cell Energy, Inc.; Hudson River Sloop Clearwater; Natural Resources Defense Council; New York Lawyers for the Public Interest; New York League of Conservation Voters; New York Public Interest Research Group; New York Renewable Energy Coalition; New York Solar Energy Industries Association; Pace Energy Project; Plug Power; PowerLight; Public Utility Law Project; Riverkeeper; Safe Alternatives for Energy Long Island; Scenic Hudson; Sierra Club Atlantic Chapter; Solar Energy Industries Association; Sustainable Energy Developments, Inc; and Union of Concerned Scientists.

conference, parties exchanged information requests and responses, and updated and corrected their respective cost studies.

Staff moved to postpone filing of responses to cost and benefit studies, and initial and reply comments by two months; RETEC objected to substantial delay. A comment schedule was established,²² and a deadline of September 15, 2003 was set

²² For the purpose of analysis, parties' comments and positions are grouped; whether or not explicitly cited, all parties' comments have been thoroughly considered. Pursuant to the comment schedule, initial comments (cited as "Comments") were filed on September 26, 2003 by 52 parties: AES-NY, LLC, Airtricity, Inc., Amerada Hess, The Business Council, Central Hudson Gas & Electric, City of New York, ConEdison Solutions, Conservation Services Group, Constellation New Energy, County of Westchester, E-Cubed LLC, Empire State Development, Empire State Forest Products Association, Energy Association of New York State, The New York State Farm Bureau, Green Mountain Energy, Hydro Quebec Energy Services, Independent Power Producers of New York, Inc.(IPPNY), Integrated Waste Services Association, Joint Utilities, KeySpan Corporation, Long Island Power Authority, Low Impact Hydro Institute, Municipal Electric Utilities Association of New York State, Multiple Intervenors (MI), National Energy Marketers Association, New York Attorney General, New York City Council, New York Consumer Protection Board, New York State Department of Environmental Conservation, New York Department of Public Service Staff, New York Independent System Operator (NYISO), Nucor Steel Auburn, New York Municipals (collectively the Village of Bergen, Village of Freeport, City of Jamestown Board of Public Utilities, Town of Massena, Village of Rockville Centre, Salamanca Board of Public Utilities, Village of Sherburne, City of Sherrill Power & Light and the Village of Solvay), New York Power Authority, New York State Energy Research Development Authority, Ontario Independent Electricity Market Operator, Plug Power, Reliant Resources, Inc., RETEC, Rupert Reverence, Ridgewood Renewable Power (Ridgewood), Solar Energy Industries Association, Select Energy New York, Inc., Small Customer Marketer Coalition, Small Hydro Facility Owners, Tannery Island (Hydro Power, Inc. and Energy Enterprises, Inc.), Taylor Recycling, The Sierra Club, Undersigned Companies and Union of Concerned Scientists (Green Mountain Energy Company, American Wind Energy Association, Clean Energy Program, Evolution Markets, SeaWest WindPower, Inc., Atlantic Renewable Energy Corporation, Conservation Services Group, US Energy Biogas Corporation, Global Wind Harvest, Zilkha Renewable Energy), Utility Workers Union of America, AFL-CIO and Locals 83, 97 and 503, International Brotherhood of Electrical Workers. On October 31, 2003, 29 parties filed reply comments: AES-NY, LLC, Amerada Hess,

for motions seeking any additional hearings, process, conferences or procedures.

On September 4, 2003, Tannery Island Power Corporation, Hydro Power, Inc. and Energy Enterprises, Inc. sought postponement of comments; MI, IPPNY and the Joint Utilities concurred; on September 8, 2003, the New York State Reliability Council (NYSRC) sought a conference for presentations by NYSRC and New York Independent System Operator (NYISO), and discussion on any reliability impacts to New York's power system that might result from the addition of substantial amounts of intermittent resources. The on-the-record reliability conference was held October 10, 2003; reply comments were accordingly scheduled for October 31, 2003 so that parties could include information gleaned from that record.

On September 15, 2003, Joint Utilities, MI, Tannery Island and IPPNY moved for reserving completion of the recommended decision until after further cost and reliability studies; MI requested an on-the-record opportunity to test modifications to the Staff cost study, specifically corrections as to two calculations: net present value and Installed Capacity (ICAP). Foreseeing that parties would request further

Antares Group, The Business Council, Central Hudson Gas & Electric, Constellation New Energy, County of Westchester, Energy Management, Inc., The New York Farm Bureau, Hydro-Quebec Energy Services, Independent Power Producers of New York, Inc., Integrated Waste Services Association, Joint Utilities, KeySpan Corporation, Municipal Electric Utilities Association, Multiple Intervenors, New York State Department of Public Service Staff, New York Independent System Operator, Nucor Steel Auburn, New York Municipals (Village of Bergen, Village of Freeport, City of Jamestown Board of Public Utilities, Town of Massena, Village of Rockville Centre, Salamanca Board of Public Utilities, Village of Sherburne, City of Sherrill Power & Light and the Village of Solvay), New York Power Authority, New York State Energy Research Development Authority, RETEC, Ridgewood, Sterling Planet, Strategic Energy LLC, Tannery Island (Hydro Power, Inc. and Energy Enterprises, Inc.), Taylor Recycling, and Utility Workers Union of America, AFL-CIO and Locals 83, 97 and 503, International Brotherhood of Electrical Workers.

opportunity to examine the next cost study iteration, to be contained in the Draft Generic Environmental Impact Statement (DGEIS), an October 21 Further Ruling on Procedure granted the request in part.

On November 3, 2003, Staff moved to amend the schedule so as to hold a technical conference on cost studies in the first two weeks of December, to be followed by the filing of one round of comments, no more than two weeks later, on the issues addressed at the technical conference.

Two motions sought modification of aspects of the October 21, 2003 Further Ruling on Procedure.²³ Movants agreed, although for somewhat different reasons, that parties should have an additional opportunity to examine, at an on-the-record technical conference and in supplemental comments, further iterations of the cost studies, prior to the completion of a Recommended Decision. In addition, some parties asserted the need for consideration of not only the first but the final phase of the NYSERDA/NYISO report of the effects of integrating wind power on transmission system planning, reliability and operations.

On November 5, 2003, IPPNY, Energy Association of New York State, The Business Council, Municipal Electric Utility Association, MI, Utility Workers of America, Local 1-2 and International Brotherhood of Electrical Workers, Locals 83, 97, and 503 (Joint Movants) moved for clarification and reconsideration of the October 21, 2003 Ruling, asserting the ruling erroneously found that the Public Service Commission would have a full record on costs and reliability impacts under the current procedures and proposing that a recommended decision should not issue until after the completion of both phases of the reliability study; revision by Staff of its cost study to

²³ Further Ruling on Procedure (issued October 21, 2003).

recognize any cost consequences of the reliability study; and an opportunity for parties to analyze and comment on those two studies.

On February 2, 2004, following a January 2004 briefing to all parties on a draft study, the report titled "The Effects of Integrating Wind Power on Transmission System Planning, Reliability, and Operations—Report on Phase 1: Preliminary Overall Reliability Assessment" (the Phase 1 Reliability Report) was issued. The report, commissioned by the New York State Energy Research and Development Authority (NYSERDA), was prepared by GE Power Systems Energy Consulting. On March 8, 2004, a technical conference was held with the report's preparers responding to parties' questions. A 258-page transcript was compiled. Parties filed supplemental comments on March 19, 2003 concerning substantive and procedural matters.²⁴ In addition, on February 19, 2004 Staff released Volume A of the New York Renewable Portfolio Standard Cost Study Report II (Cost Study II); a slightly revised version was released February 27, 2004. On March 9, 2004, Volume B was released. An on-the-record technical conference was held March 17-18, 2004, compiling a transcript of 442 pages, and parties then filed supplemental comments concerning Cost Study II on April 8, 2004.

II. SUMMARY OF OPTIONS AND RECOMMENDATIONS

This Recommended Decision explores several options for the design of the RPS. The first option (Option A) is an amalgam of proposals offered in part by the Joint Utilities, in part by MI, and in part by other individual parties. Generally, this option develops an RPS which extends the period to reach 25 percent renewables, includes the widest range of eligibility

²⁴ See Further Ruling Establishing Schedules (issued March 10, 2004), pp. 3-4.

that can be argued is consistent with the program's objectives, and is designed to result in the lowest gross cost to consumers in the short run.

The second option (Option B) generally represents the positions of the RETEC coalition and other environmental parties, including the American Wind Energy Association. Generally, this option starts the earliest, has the most aggressive targets, assigns the largest proportion of resources to development of solar and fuel cell generation, and has the most stringent eligibility criteria.

The third option, Option C, balances the objectives, should provide sufficient incentives to encourage early renewable generation development in New York, strikes a middle ground on eligibility consistent with public expectations of what benefits are worth subsidizing, and is expected to have a cumulative impact on customers' bills of less than three percent over current bills.²⁵

A. Target and Objectives

The baseline, targets, and milestones reflected in the Cost Study II, Prime Case, as modified in Appendix B to this Recommended Decision, are recommended. These recommendations implement the Commission's mandate in the Instituting Order to achieve at least 25 percent renewables. Moreover, based upon forecasts of load growth, fossil fuel prices, and the State's potential to attract developers of renewable generation, this target should be achievable by 2013. However, in recognition of the vicissitudes of project development, site selection, fuel prices, and the economy, the recommendation is that the Commission review the 2013 schedule in 2008 (the 2008 Review). With modifications to reflect parties' comments, the working

²⁵ These three options are detailed in the Recommended Decision Cost Analysis, Appendix B. However, each issue is analyzed on its own merits.

objectives are also recommended for adoption as Commission objectives.²⁶

The recommended targets to be reached from 2006 to 2013 are as follows:

²⁶ The six objectives detailed below cover environmental concerns; generation diversity for energy security; economic benefits; equity, efficiency, and cost constraint; competitive neutrality; and administrative fairness and efficiency.

Table 1
Incremental RPS Targets

RPS	
Year	Percentages
2006	0.94%
2007	1.92%
2008	2.87%
2009	3.81%
2010	4.74%
2011	5.67%
2012	6.58%
2013	7.50%

Table 2
Calculation of RPS Targets (MWh's)

Year	SEP Forecast	Baseline	Executive Order 111	Green Marketing	Increment Target	Total Renewables	Renewables Percentage	Incremental Percentage
2003	160,480,000	31,159,134	0	0	0	31,159,134	19.42%	0
2004	162,844,000	31,405,565	0	0	0	31,405,565	19.29%	0
2005	165,280,000	31,411,462	251,065	274,953	0	31,937,479	19.32%	0
2006	167,490,000	31,417,358	283,192	274,953	1,577,518	33,553,020	20.03%	0.94%
2007	169,977,000	31,411,491	315,338	274,953	3,255,600	35,257,382	20.74%	1.92%
2008	172,404,000	31,405,624	347,505	274,953	4,956,086	36,984,168	21.45%	2.87%
2009	174,658,000	31,399,758	379,691	274,953	6,652,656	38,707,057	22.16%	3.81%
2010	176,910,000	31,393,891	411,897	274,953	8,380,737	40,461,478	22.87%	4.74%
2011	179,031,000	31,388,024	394,132	274,953	10,159,859	42,216,968	23.58%	5.67%
2012	180,907,000	31,382,158	376,366	274,953	11,909,571	43,943,047	24.29%	6.58%
2013	182,866,999	31,376,291	358,601	274,953	13,706,906	45,716,750	25.00%	7.50%

B. Eligibility

Consideration was given to several approaches to eligibility, a critical issue because of the imperative to include sufficient resources to achieve the target, given problems for siting sufficient renewable generation in New York, the importance of encouraging new technologies, and the constraint of rate impacts.

This issue generated far more public concern and opinion than any other, from individuals, town and city governments, environmentalists and industry. One option considered was eligibility for the widest possible range of

resources: accepting, for example, any resource approved for eligibility in another state consistent with New York law. Another was to restrict eligibility to the most environmentally beneficial resources available. On balance, the recommendation is to commence the RPS including specified resources and to develop procedures for inclusion of additional resources as they develop or improve. Eligible resources recommended²⁷ are contained in the following table:

Table 3
RPS Main Tier Eligible Electric Generation Sources
Categorization of Source Generation Type

General Requirements:		
(1) To be eligible, the generation facility must have been developed after January 1, 2003, except for certain existing very small hydroelectric facilities that qualify for inclusion on a maintenance of renewable resource basis; and		
(2) Eligibility is limited to the electricity sold in a retail sale made by a load serving entity to a customer – self-generation is not eligible in the main tier.		
Category	Source	Other Requirements
Biogas	Landfill Gas (Methane) Reciprocating/Internal Combustion Engine; Simple Combustion Turbine; Boiler Steam Turbine Cycle; Microturbine	
	Sewage Gas (Methane) Reciprocating/Internal Combustion Engine; Simple Combustion Turbine; Boiler Steam Turbine Cycle; Microturbine	
	Manure Digestion (Methane) Reciprocating/Internal Combustion Engine; Simple Combustion Turbine; Boiler Steam Turbine Cycle; Microturbine	If required to have a SPDES permit by NYSDEC regulations, a Concentrated Animal Feeding Operation (CAFO) providing the manure must have and be in compliance with its current Agricultural Waste Management Plan (AWMP) developed by a duly qualified Agricultural Environmental Management (AEM) Planner and must be operating in compliance with a SPDES permit. If not required to have a SPDES permit, the CAFO must be

²⁷ The DGEIS includes comprehensive definitions and analyses of these resources. Unless otherwise specified, those definitions (contained in §6.2) are incorporated by reference.

		operating in compliance with the best management practices for a facility of its size set forth in the <i>Principles and Water Quality Protection Standards</i> specified in the <i>Agricultural Environmental Management (AEM) Framework & Resource Guide</i> developed by the NYS Department of Agriculture and Markets and the NYS Soil and Water Conservation Committee.
Biomass (from eligible sources of unadulterated biomass)* *See definition in Table 2.	Biomass Direct Combustion – Boiler Steam Turbine Cycle	
	Biomass Combined Heat & Power Boiler Steam Turbine Cycle	
	Biomass Co-fired with existing Coal Combustion – Boiler Steam Turbine Cycle	Only the electricity generated from the biomass portion of the fuel is eligible.
	Biomass Gasification – Combined Cycle Combustion Turbine	
	Biomass Powered Pumped Storage for Hydropower	
Fuel Cells	Solid Oxide Fuel Cells (SOFC)	
	Molten Carbonate Fuel Cells (MCFC)	
	Proton Exchange Membrane Cells (PEM)	
	Phosphoric Acid Fuel Cells (PAFC)	
Hydroelectric	Hydroelectric Upgrades	No new storage impoundment, eligibility limited to the incremental production associated with the upgrade.
	New Low-Impact Run-of-River Hydro	Facility capacity limited to 30MWs or less with no new storage impoundment.
	Existing Very Small Hydroelectric	On a maintenance of renewable resource basis, limited to in-State facilities with facility capacity limited to 10 MWs or less with expiring above-market energy contracts consistent with the assumptions for such contracts made in the NYRPS Cost Study Report II dated February 27, 2004.
	Pumped Storage Hydro Powered by Eligible Hydro (listed above)	
Solar	Photovoltaics	
Tidal	Tidal Turbine	
	Pneumatic Turbine	
	Ocean Wave Turbine	
	Pumped Storage Hydro Powered by Tidal	
Wind	Wind Turbines	
	Pumped Storage	

	Hydro Powered by Wind	
--	-----------------------	--

Table 4
Definition of Eligible Sources of Unadulterated Biomass

<p>Eligible Sources of Unadulterated Biomass:</p> <p><u>Agricultural Residue (woody or herbaceous)</u> Woody or herbaceous matter remaining after the harvesting of crops or the thinning or pruning of orchard trees on agricultural lands.</p> <p><u>Harvested Wood</u> Wood harvested during commercial harvesting. The supplier must have and be in compliance with a current Forest Management Plan prepared by a professional forester that includes (a) standards and guidelines for sustainable forest management that require adherence to management practices which conserve biological diversity, maintain productive capacity of forest ecosystems, maintain forest ecosystem health and vitality, and conserve and maintain soil and water resources; (b) a harvest plan following production and harvest standards based on best management practices set forth in guides developed, tested and peer reviewed for USDA and USDOE; (c) the monitoring of harvest operations by a professional forester; (d) the reporting of harvest operations by a professional forester; and (e) periodic inspections of harvesting operations by state authorities or approved non-governmental forest certification bodies to assure that harvest operations conform to the standards.</p> <p><u>Mill Residue Wood</u> Hogged bark, trim slabs, planer shavings, sawdust, sander dust and pulverized scraps from sawmills, millworks and secondary wood products industries.</p> <p><u>Pallet Waste</u> Uncontaminated wood collected from portable platforms used for storing or moving cargo or freight.</p> <p><u>Refuse Derived Fuel</u> The source-separated, combustible, untreated and uncontaminated wood portion of municipal solid waste or construction and demolition debris generally prepared by a densification process that results in a uniformly sized, easy to handle fuel pellet, briquette, or fluff material.</p> <p><u>Site Conversion Waste Wood</u> Wood harvested when forestland is cleared for the development of buildings, roads or other improvements.</p> <p><u>Silvicultural Waste Wood</u> Wood harvested during timber stand improvement and other forest management activities conducted to improve the health and productivity of the forest. The supplier must have and be in compliance with a current Forest Management Plan prepared by a professional forester that includes (a) standards and guidelines for sustainable forest management that require adherence to management practices which conserve biological diversity, maintain productive capacity of forest ecosystems, maintain forest ecosystem health and vitality, and conserve and maintain soil and water resources; (b) a harvest plan following production and harvest standards based on best management practices set forth in guides developed, tested and peer reviewed for USDA and USDOE; (c) the monitoring of harvest operations by a professional forester; (d) the reporting of harvest operations by a professional forester; and (e) periodic inspections of harvesting operations by state authorities or approved non-governmental forest certification bodies to assure that harvest operations conform to the standards.</p> <p><u>Sustainable Yield Wood (woody or herbaceous)</u> Woody or herbaceous crops grown specifically for the purpose of being consumed as an energy feedstock.</p> <p><u>Urban Wood Waste</u> The source-separated, combustible, untreated and uncontaminated wood portion of municipal solid waste or construction and demolition debris.</p>
--

This recommendation excludes coal gasification (proposed by New York Power Authority), nuclear power (proposed by Niagara Mohawk Power Corporation), and combined heat and power units to the extent powered by natural gas, as outside any applicable legal or common usage meaning of the word "renewable."

It excludes high-impact hydropower projects (run-of-river greater than 30 MWs per facility or new impoundments). It also excludes municipal solid waste incineration-based generation, except insofar as that resource meets the criteria for biomass, as inconsistent with the public expectation of what a renewables premium should buy and incompatible today with the environmental objectives of the RPS.

Generally, all eligible resources should be in one tier, expected to provide the bulk of the incremental megawatt hours needed to reach 25 percent.

There should be two exceptions: a commercialization or new technologies SBC-like tier, for solar, small wind (up to 300 kW but expected to be generally approximately 10 kW in size), and fuel cells, would receive incentive grants on a capacity, not energy, basis, similar to current NYSERDA programs disbursing the System Benefits Charge but in addition to existing programs. The new technologies tier should be targeted to provide two percent of the incremental renewable load. These resources are typically sited by customers, rather than developers, are "behind the meter," and are not susceptible to administrative tracking as large-scale wholesale transactions are. In addition, the high capital costs of these cutting edge resources make up-front grants a more effective procurement method than per kWh premium payments realized over many years.

The other exception is a maintenance adjustment to the baseline and incremental targets to protect very small hydropower projects. This adjustment would add 22,006 MWh per year to the incremental RPS target to offset the attrition of very small hydropower (no more than 10 MWs per facility) that would likely otherwise be retired due to expiring above-market priced contracts. Because this adjustment is intended to offset attrition of the baseline, it does not add incrementally to the satisfaction of the 25 percent target.

Finally, the recommendation is to continue refining criteria, to provide a mechanism for new technologies to apply, and to consider the complementary role of future demand side management initiatives to reduce overall load, thereby increasing the proportion of renewables.

The adoption of these recommendations will result in an incremental percentage of 7.5 percent renewable resources by the year 2013, representing an addition of 13.7 million MWhs of renewable resource generation.²⁸ The quantity of renewable resources reached through 2013, from each main tier eligible technology and from an SBC-like tier, are illustrated in Tables 3 and 4.²⁹ The cumulative cost of premium payments for renewables, to achieve the recommended RPS design, will reach between \$1.14 and \$1.35 billion by 2013, depending upon the pricing approach chosen. However, these premiums will be offset by reductions in wholesale energy costs, as New York reduces its reliance upon fossil fuels, reaching an annual reduction of \$137 million by 2013.³⁰ The net present value estimate (in 2003 dollars) of the program ranges from \$158 to \$328 million.

Because of the persistently high price of natural gas, in particular, the bill impacts for the RPS are modest if not minimal. For residential customers, for the life of the program, cumulative bill impacts will range from a reduction of 1.2 percent to an increase of 1.8 percent; for commercial customers, the same years will see a range of a one percent reduction to a 2% increase; and for industrial consumers, reductions of two percent to increases of 2.4 percent.³¹

²⁸ See Table 1, Incremental RPS Targets, and Table 2, Calculation of RPS Targets (MWhs), Recommended Decision Cost Analysis, Appendix B.

²⁹ See Tables 3 and 4, Quantity of Renewable Resources Reached Through 2013, and Quantity of SBC-Like Tier Renewable Resources Through 2013, Recommended Decision Cost Analysis, Appendix B.

³⁰ The most recent forecast of the U.S. Department of Energy, Energy Information Administration (DOE-EIA), of average wellhead prices for natural gas shows a long-term upward shift in natural gas prices from prior forecasts through 2025. See Annual Energy Outlook 2004, dated January 2004, at <http://www.eia.doe.gov/oiaf/aeo/>.

³¹ See Tables 5-13, Recommended Decision Cost Analysis, Appendix B. On May 11, 2004, the U.S. Senate passed a renewal of the federal Production Tax Credit incentives for wind developers and others until January 1, 2007 as part of the Jumpstart Our Business Strength Act; passage in the House of Representatives is still required. To ensure the success of the New York RPS before passage of the Production Tax Credit, the recommendation

This RPS will result in substantial changes in New York's fuel use for electric generation. The RPS should reduce, in 2013, New York's generation using coal by 600,000 MWh; using oil by 730,000 MWh, and using natural gas by 6,155,000 MWh. These reductions will have the effect of reducing air emissions statewide by 2013 of NOx (6.9 percent); SO₂ (5.9 percent); and CO₂ (7.7 percent), with greater emission reductions in New York City and Long Island.³²

is to institute the program so as to provide that incentive, until the Production Tax Credit is reauthorized, a recommendation resulting in a minimal cost increase. RPS costs with and without the federal Production Tax Credit were modeled.

³² See Tables 15-16, Recommended Decision Cost Analysis, Appendix B.

C. Timing

The Instituting Order can best be read to assume that today's existing or baseline renewable resources need not, generally, be offered further ratepayer price support to succeed. An RPS is necessary, in fact, to promote the development of *additional* renewable resources for New York's retail energy portfolio. Accordingly, the recommendation is that only new resources developed after January 1, 2003, will be eligible for the RPS. The exceptions to this general rule are for (1)wind: to ensure the viability of the few existing wind projects, wind projects will be RPS-eligible regardless of when operations commenced; and (2)certain very small hydropower facilities, 10 MWs per facility or less, with above-market costs and expiring above-market energy price contracts. RPS eligibility appears necessary to ensure these facilities continue to operate and preserve these renewable resources for New York's use.

As to the start date for the RPS, the recommendation is that the program compliance provisions commence with the calendar year 2006.

D. Overall Structure

The recommendation is that the RPS structure be a hybrid of the proposals; that an optional or voluntary central procurement capability be developed by a State agency to offer renewable procurement via long-term contracts if necessary, but that load-serving entities should also be free to opt to procure the requisite renewable load or certificates individually. A load serving entity failing to acquire target renewables should comply in the alternative by a payment of 150 percent of the past year's certificate cost.

Procurement may be by long-term (eight or more years) contracts for differences acquired in annual incremental slices.

In addition, the recommendation is that while, generally, all New York customers will benefit from the RPS and should anticipate it, an RPS design that exempts NYPA customers and municipals is recommended.

E. Imports and the Delivery Requirement

Imports of all types of otherwise eligible resources should be eligible for renewable credits or certificates as long as an associated amount of energy is delivered to the New York Control Area in the same calendar month. This type of delivery requirement has the advantage of maximizing benefits to New York in the form of reductions in local air emissions, energy diversity and security and wholesale price reductions resulting from increased supply. Moreover, requiring actual delivery of energy into New York appears to be required by the terms of the Instituting Order, which establishes "a renewable portfolio standard for *electric energy retailed in New York State*."³³ Sale of generation attributes certificates should be tied to delivery of the applicable volume of electricity on a monthly or other periodic basis consistent with intermittent generation characteristics.

However, in recognition of the rapidly evolving regional, national, and international regimes concerning trading in renewables certificates or credits,³⁴ the recommendation is that the delivery requirement should be reconsidered as part of the 2008 Review, after two years' experience with the program. Another recommendation is to explore splitting the renewable energy certificate between a greenhouse gas reduction component (CO₂ emissions) and the balance of the renewable attributes, and to provide for trading of CO₂ credits without a delivery requirement in conjunction with the regional greenhouse gas cap and trade program.

III. LEGAL ISSUES

A. PSC Authority to Adopt an RPS Policy

The Commission has authority to encourage a renewable portfolio pursuant to Public Service Law (PSL) §5(2);³⁵ and to

³³ Case 03-E-0188, Instituting Order (issued February 19, 2003), p. 2, emphasis supplied.

³⁴ These regions include New England, Pennsylvania, New Jersey, and Maryland (PJM), Ontario and Quebec.

³⁵ PSL §5(2) provides: "The commission shall encourage all persons and corporations subject to its jurisdiction to

ensure the reliability of the electric transmission system under §5. Public Service Law §66(2) also authorizes the Commission to direct a specific portfolio.³⁶ Nothing in these RPS recommendations impacts particular purchases of energy for resale by utilities, or otherwise constrains wholesale sales. Nor does the RPS, as recommended here, compel utilities to enter into specific wholesale contracts or otherwise directly or indirectly regulate wholesale sales of electricity. The affected energy companies have the option of satisfying the RPS requirement by acquisition of the capacity to generate renewable energy; buying renewable energy certificates in that marketplace; availing themselves of the good offices of State agency central procurement, or entering into bilateral contracts with renewable generators.

B. The Sufficiency of the Record

Controversy as to the completeness of this record has been heated. Numerous motions and proposals of IPPNY, MI and others sought to hold in abeyance submission of a recommended decision to the Commission until after the completion of the Phase 2 Reliability Report, scheduled for end of 2004, and additional cost studies, technical conferences, and comments, delaying consideration of an RPS Policy Statement at least another year. Opposing parties, including the RETEC Coalition, the Attorney General, and Department of Public Service Staff asserted that most or all conceivable reliability concerns could be alleviated in Renewable Portfolio Standard implementation, as

formulate and carry out long-range programs, individually or cooperatively, for the performance of their public service responsibilities with economy, efficiency, and care for the public safety, the preservation of environmental values and the conservation of natural resources." (emphasis supplied).

³⁶ See, Energy Association of New York v. Public Serv. Commn., 169 Misc. 2d 924 (Sup. Ct., Albany Cty 1996).

it would be years before any network effects of substantial additional intermittent generation were felt.³⁷

Decision was reserved as to this motion until the outcome of the Phase 1 Report, to ensure that no unforeseen impacts were ignored.³⁸ On February 2, 2004, the report on Phase 1 was released. Parties had reviewed and submitted written comments on the draft results of this report and on January 14, 2004, participated in a formal presentation and discussion of these initial findings by the preparers of the report, prior to the report's completion.

On March 19, 2004, eleven parties filed comments concerning the Phase 1 Report.³⁹ Issues raised included further argument on the procedural motion to delay a recommended decision and Commission consideration of its policy statement in this proceeding until after the completion of the Phase 2 Report, a further revision of the Staff Cost Study to reflect modeling of the Phase 2 Report, and an opportunity for parties to analyze and comment upon both the Phase 2 Report and the ensuing further Revised Cost Study.

In instituting this proceeding, the Commission expressed its intention to expedite it.⁴⁰ To fully air preliminary reliability concerns, a conference of parties was held on October 10, 2003, at the request of the New York State Reliability Council. A substantially similar group of parties requested delay of the comment filing schedule to await a conference outcome; others opposed on the ground that the record

³⁷ At a preliminary technical conference held October 10, 2003, the New York State Reliability Council discussed reliability concerns with parties, including the NYISO.

³⁸ Ruling on Procedural Motions (issued November 26, 2003). The other concern expressed by parties, that they have an opportunity to review and comment upon the most recent cost studies practicable prior to the completion of a recommended decision, was compelling and the motion seeking this opportunity was granted.

³⁹ Parties filing comments were AES-NY, Sithe and Reliant (the AES group), the Attorney General, the Business Council, Central Hudson, Joint Utilities, IPPNY, MI, the NYISO and NYPA.

⁴⁰ Order Instituting Proceeding (issued February 19, 2003), p. 2.

could be developed on other issues. Because parties had three weeks between that conference and reply comments, had already had an opportunity to shape the scope of the comprehensive NYSERDA-sponsored evaluation of the effects of integrating wind power, and were expected to review preliminary and final Phase 1 results prior to a Commission policy statement, delay motions were denied.⁴¹

Arguing for further delay, the AES Group and the Business Council assert that the Phase 1 Report did not approach the level of reliability an impact study needed for the Commission to act, as it was designed as a snapshot of data rather than an operational analysis over a year's time; that the findings were preliminary and premature; and that certain important concerns would not be evaluated until Phase 2, including re-dispatch implications, interface capability, and operational concerns such as quick start capability and forecast accuracy. In addition, parties note the study proponents describe it as "a very, very high level look" at and "a screening level analysis only"⁴² of the impact of additional wind on the bulk power system, and that specific sites and points of interconnection have yet to be studied. Movants note that while the Phase 1 Report identified 101 potential wind sites, site-specific operational or cost examination is still to be done.

IPPNY also asserts that this record is insufficient to support a recommended decision or Commission policy statement, adding that the fatal flaw power flow analysis inadequately reflected reliability and cost considerations in estimating the impact of the addition of wind. MI added that further study is needed prior to the issuance of a recommended decision as to specifics of, for example, degradation of operating capacity,

⁴¹ Further Ruling Concerning Schedule and Procedure (issued September 19, 2003). Several previous motions for additional time had been granted. See Ruling Granting, in Part, Motions to Amend the Comment Schedule (issued August 18, 2003), Ruling on Motion to Amend Comment Schedule and Convene Reliability Impacts Meeting (issued June 13, 2003).

⁴² Tr. 155, 169

accounting for reserves, and ancillary services and restoration practices.⁴³

In opposition to these parties' motions for delay, the NYISO found nothing in the Phase 1 Report that would require delay, and recommended the Commission move forward on basic RPS design, including the funding mechanism, eligibility, and development of a generation attributes trading system. The NYISO undertook to examine, in greater detail, specific operational requirements for adding significant amounts of wind and other intermittent resources concurrently. The NYISO urged that certain specific decisions affecting reliability should await the outcome of Phase 2.⁴⁴ Specifically, the NYISO proposes the Commission impose a Statewide interim limit on wind eligibility, as well as locational limits where physical transmission limitations may be implicated.⁴⁵

Other parties agreed that the Phase 1 Reliability Report findings revealed no such unforeseen impacts.⁴⁶ Indeed, in the view of RETEC, the Attorney General, and others, the Phase 1 Report supports the position that the preparation of a recommended decision and Commission policy statement should proceed expeditiously after 13 months to study and brief the most basic RPS design questions, such as resource eligibility, procurement structure, and renewables credit trading.

The Commission has an ample record to decide fundamental RPS design policies. Indeed, further delay prejudices the attainment of 25 percent renewables. Parties have, to date, submitted six full sets of comments, attended numerous collaborative sessions and technical conferences, off-

⁴³ MI Reliability Comments, p. 19.

⁴⁴ Phase 2 will assess methods for quantifying the effective capacity of installed wind generation and for modeling wind generation; variations in actual delivery from forecast production and improvements in forecast accuracy; changes in NYISO planning and in reliability standards, rules, operating practices, variability measurements; and associated costs. NYISO Reliability Comments, p. 5.

⁴⁵ NYISO Reliability Comments, pp. 2-3.

⁴⁶ RETEC Reliability Comments, p. 3.

and on-the-record, and submitted and reviewed three March 2003 cost studies, a voluminous February/March 2004 cost study, a draft and final reliability report, as well as the related Request for Proposal and accompanying documents and, in parallel, a Draft GEIS. In addition, parties will be afforded briefs and reply briefs on exceptions before the Commission issues a policy statement. Moreover, many issues raised by parties will be reserved for the implementation phase of this proceeding, which should take into consideration the Phast 2 Reliability Report.

At issue is whether the record in this proceeding, as it now stands, is sufficient for the preparation of this recommended decision and will, following additional briefs on and opposing exceptions and comments on the Draft Generic Environmental Impact Statement be sufficient for Commission consideration of a policy statement on the RPS.

This extensive record is a sufficient evidentiary basis for a policy statement concerning fundamental RPS program initiation and design. Indeed, without Commission guidance on these issues, further studies in the abstract will be of academic value only. The record before the Commission will be complete as to the fundamental objective of the RPS: to encourage the construction of new renewable generation, to determine what facilities should comprise RPS eligible resources, to choose an appropriate procurement structure; and to establish targets, timing and objectives of a New York RPS.

The record is also sufficient to develop a generation attribute accounting/tracking system to register generation attributes and track their sale into various markets. The use of renewable energy credits, or certificates, as a means of meeting RPS obligations is not dependent on a resolution of the specific reliability requirements.

The NYISO recommended the Commission move forward on basic infrastructure issues such as portfolio design, funding mechanisms, eligible technologies, and other policy issues that would allow a generation attributes trading program to develop. As to those issues, the record in this proceeding is voluminous and complete. Three studies of costs and benefits associated with adoption of an RPS were prepared and subject to party review

at a technical conference in July 2003. Fifty-two parties and coalitions filed comprehensive initial and twenty-nine filed reply comments in September and October 2003. Department of Public Service Staff completed a further cost study, completed in February and March 2004 (Cost Study II), consisting of two volumes, Volume A consisting of approximately 300 pages, and Volume B consisting of 34 pages of text and separate tabulations of results for 19 scenarios, analyzing cost, rate, and bill impacts of a broad range of options for RPS design through the year 2013. Parties submitted numerous data requests and interrogatories, and an on-the-record technical conference was held on March 17-18, 2004. Following additional exchanges of information, parties filed supplemental comments on the Cost Study II on April 8, 2004.

On March 18, 2003, the Commission issued a Notice pursuant to the State Environmental Quality Review Act (SEQRA) that its Staff would prepare a Draft Generic Environmental Impact Statement (Draft GEIS) in connection with the Commission action to formulate an RPS policy statement. On April 8, 2004, the Commission deemed the Draft GEIS complete and issued it for comment. Comments were filed May 14, 2004. The Commission is expected to consider those comments and adopt a Final GEIS prior to acting on these recommendations. The Draft GEIS was prepared to inform the Commission's decision; some of its analysis is drawn on and referenced in this Recommended Decision, in particular the extensive discussion of candidate eligible resources.

The record in this proceeding represents a comprehensive examination of policy, cost, benefit, environmental impact, and reliability considerations. Some uncertainties are endemic to such an examination that necessarily relies on forecasts and projections balancing numerous economic, governmental, and environmental factors. However, not only is this record quantitatively weighty, the three major studies and reports build on, amplify, and refine each others' approaches, models, assumptions and findings as appropriate. The Phase 2 Reliability Report should further inform the implementation phase of this proceeding.

Moreover, each of these studies has been subjected to rigorous comment by all parties, including on-the-record technical conferences, and to public scrutiny, with the posting of all data on the proceeding Web site. There is more than a sufficient record for these recommendations and, with the addition of the comments on the Draft GEIS and on exceptions, for the Commission adoption of an RPS Policy Statement.

C. State Administrative Procedure Act (SAPA) Compliance

Some parties, including Multiple Intervenors and Joint Utilities, raise questions concerning SAPA compliance, asserting the DPS was required to file numerous impact statements. The Joint Utilities view the Cost Study II examination as incomplete. They rely upon the State Administrative Procedure Act.⁴⁷ This statute requires regulatory impact statements detailing projected costs of proposed regulations. In the view of the Joint Utilities, the Cost Study II does not comply with these requirements.

This Commission action is a rulemaking under SAPA 102(2)(a)(ii), defined as: "the amendment, suspension, repeal, approval, or prescription for the future of rates, wages, security, authorizations, corporate or financial structures or reorganization thereof, prices, facilities, appliances, services or allowances therefore or of valuations, costs or accounting, or practices bearing on any of the foregoing whether of general or particular applicability."

The Commission approval of the future of rates and practices concerning services of general applicability is specifically exempt from the requirement of filing impact statements. The exemptions are set out in SAPA §§202-a(5)(b)(Regulatory Impact Statement), 202-b(3)(a)(Regulatory Impact Statement for Small Businesses and Local Governments), and 202-bb(4)(a)(Rural Impact Statement).

IV. ELEMENTS OF RPS DESIGN

⁴⁷ SAPA §202-a(3)(C)(i)-(iv).

To arrive at a proposed policy statement to offer several options for the design of an RPS, a number of steps were necessary. These steps included: arriving at objectives for New York's RPS; defining the baseline of present renewable resources; establishing targets and milestones for renewables levels; delineation of eligible incremental resources; examining the overall structure of an RPS; investigation of credits trading systems and contract standards. All of these steps included consideration of costs, benefits, reliability, and other factors. In addition, any final Commission determination on an RPS will be informed by the Generic Environmental Impact Statement process, comments of parties, public participation, and the consideration of the interplay between the RPS and related Commission and State programs and policies.

Analysis of the principal policy and design issues begins with a high-level summary of the respective working groups' conclusions; the parties' positions, expressed in their preliminary comments filed March 28, 2003, September 26, 2003 initial, and October 31, 2003 reply comments; and comments on the cost and reliability studies filed in March and April 2004. Analysis of options with recommendations follows.

A. Establishing Objectives

The process of designing options for an RPS for New York began with drawing up a set of Working Objectives, following parties' comments and discussion. Defining objectives reflects that an RPS can be crafted any number of ways depending upon what the State is trying to achieve. A set of objectives, based upon parties' comments and with parties' contributions, created a yardstick to measure the policy choices. For example, a state could define its RPS as a greenhouse gas initiative. If that were our only objective in New York, it would be irrelevant where the non-fossil fuel fired generation was located. But because one of the environmental objectives is to improve New York's own environment, the location of generation could be very important.

Based on the Instituting Order, parties' comments filed March 28, 2003, and discussion of a draft with all parties on April 8, 2003, a set of Working Objectives was drawn up. The Working Objectives presented to the parties for comment were⁴⁸:

Working Target -- By the year 2013, at least 25 percent of the electricity retailed in New York State will be derived from renewable resources.

1. New York's Environment

Improve New York's environment, by reducing air emissions, including greenhouse gas emissions, and other adverse environmental impacts on New York State of electricity generation.

2. Generation Diversity

Diversify New York State's electricity generation mix and improve energy security and reliability.

⁴⁸ Ruling Establishing Comment Procedures (issued June 19, 2003).

3. Economic Benefits
Develop renewable resources and advance renewable resource technologies in, and attract renewable resource generators, manufacturers, and installers to New York State.
4. Equity and Economic Efficiency
Develop an economically efficient RPS requirement that minimizes adverse impact on energy costs, allocates costs equitably among ratepayers, and affords opportunities for recovery of utility investment.
5. Competitive Neutrality
Develop an RPS compatible with competition in energy markets in New York State.
6. Administrative Fairness and Efficiency
Develop an RPS that is administratively transparent, efficient, and verifiable.

Controversies about the Working Objectives include the role of reliability, treatment of environmental and economic costs and benefits, and rate recovery. Perhaps most controversial was the working target.

Of the parties commenting on the objectives, some, including the NYISO, MI, and Central Hudson, request the separation of reliability goals from objective number 2, and seek the addition of a separate objective of grid reliability, characterizing it as "paramount".⁴⁹ Other parties, including Empire State Development, see the cost constraint objective (number 4) as central. In addition, Central Hudson argues for a prioritization of objectives: after reliability, job creation, competitive market compatibility, and cost minimization, while Joint Utilities also stress cost recovery. CPB would prioritize costs and reliability. ConEdison Solutions stresses the importance of continuing to build voluntary programs; DEC suggests including a construct to favor renewables that emit less air pollution per unity of energy than the average fossil fuel

⁴⁹ Central Hudson Comments, p. 10.

combustion source; and adding expected benefits, including alleviation of environmental impacts from electric generation on environmental justice communities.

Other parties commented on broader economic impacts, MI urging addition of retaining business and other economic development goals, including reducing the price of electricity and the cost of doing business in New York.

Most parties support the adoption of the Working Objectives; these include the Attorney General, KeySpan (which would also prefer to prioritize the objectives), RETEC (seeking revision of objectives 1 and 2), County of Westchester (prefers emphasis on cost control) and Staff.

Generally, parties supported the adoption by the Commission of RPS objectives, and the Commission should adopt the Working Objectives, as modified. The principal modification is to strengthen objective 2, Generation Diversity, to stress security and ensure reliability, as requested by the NYISO.

Strengthening the reliability language, rather than crafting a seventh objective, is recommended. In addition, the proposal to make environmental justice concerns explicit in objective 1 (New York's Environment) is recommended, for consistency with recent State Department of Environmental Conservation (DEC) environmental justice policy initiatives. These proposed modified objectives would read:

1. New York's Environment

Improve New York's environment by reducing air emissions, including greenhouse gas emissions, and other adverse environmental impacts on New York State, including upon underserved communities, of electricity generation.

2. Generation Diversity for Security and Independence

Diversify the generation resource mix of energy retailed in New York State to improve energy security and independence,⁵⁰ while ensuring protection of system reliability.

B. Establishment of the Target

The Commission, in instituting this proceeding, stated that the current level of renewable-based electricity currently used in New York State reflects a disturbing decline; it found that achievement of 25 percent renewables would be in the public interest.⁵¹ The Commission did not, however, specify a timetable.

A working target of 25 percent renewables retailed in New York State in 2013 was established at the commencement of the proceeding, in the context of the State's pattern of declining proportion of renewables to load. Points of reference included the Staff May 6, 2003 RPS Premium Input Table, other parties' proposals, and additional target data in the cost and benefit studies.⁵² The original Staff table was based upon State Energy Plan forecasts of overall load growth.

In discussion, parties weighed establishing a target level megawatt hour adjustment mechanism; adjusting the target periodically to match actual load growth; modifying the target when actual load growth deviated from the forecast by a predetermined significant amount; or modifying for unforeseen implementation obstacles.

⁵⁰ RETEC urges inclusion of reducing exposure to volatile fossil fuel prices; the recommendation is that references to independence and security capture that concern.

⁵¹ Instituting Order (issued February 19, 2003), p. 2.

⁵² In establishing annual ramp-up targets from the first target year to 2013, Staff originally projected increases in renewables to reach 19 percent by 2004; 19.6 by 2005; 20.2 percent by 2006; 20.8 percent by 2007, 21.4 percent by 2008; 22 percent by 2009; 22.6 percent by 2010; 23.2 percent by 2011; 23.8 percent by 2012;; and 25 percent by 2013.

Parties reached no consensus on target levels up to or beyond 2013.

1. The Parties' Positions

Nucor Steel urges the Commission to take to heart the Center for Clean Air Policy report emphasizing economic competitiveness and reliability, to continually evaluate assumptions, and to promote the most efficient renewables without an administratively fixed target. Central Hudson argues that the Commission established the 25 percent target without an independent basis for its findings, and that parties incorrectly assumed that target was immutable.⁵³ In its view, the Commission failed in its legal duty to consider alternatives, including alternative, voluntary or market-based methods to increase renewable resources for New York State's retail electric market. Seeking to reduce costs and impact on traditional generation resources, Central Hudson proposes to limit eligibility to in-state generation, and to concomitantly reduce the 25 percent target by 44 percent to reflect the exclusion of imports.⁵⁴

The RETEC Coalition argues for a 2005 start date and proposes binding interim annual requirements⁵⁵ to provide certainty of expectations for the renewables industry and to ensure procuring entities make early purchases. In addition RETEC proposes an upward target adjustment mechanism to account for dramatic load growth changes or shifts in available hydropower resources. These proposals are intended to assure certainty for renewable providers. Finally, RETEC proposes the RPS requirements extend beyond 2013, pointing to 20-year capital

⁵³ Central Hudson Comments, p. 4, n. 2.

⁵⁴ Central Hudson proposed a regional credit trading program, however, only for voluntary green power purchasers, including a seamless expansion of New York's current conversion transaction system.

⁵⁵ The RETEC interim requirements are for .25 percent increase in 2005; and successive increases of .75 percent, 1.50 percent, 2.50 percent, 3.50 percent, 5.0 percent, 6.5 percent, 8 percent, and 9.2 percent in the final year (RETEC Initial Comments, p. 11).

recovery assumptions of both the Joint Utility and Staff cost studies.

Parties diverged as to the practicability of attaining a 25 percent renewable generation by 2013. RETEC views this goal as readily achievable, while MI fears the cost consequences may be dire.

2. Discussion and Recommendation

Whether this target is achievable or not depends only in part on the design of a New York RPS. Other factors include several largely or entirely outside the reach of this Commission or, for that matter, government: the price of fossil fuels; the rate of growth of the State and the region's economy; the pace of siting of renewable generation plant; and the investment climate. In order to allow for these unpredictable variations, the RPS policy should comprise both a target - 25 percent retail renewable resources by 2013 - and a mechanism to review the target and the incremental steps necessary to achieve it. With that flexibility mechanism built into the policy, the Commission can review the target and adjust it if necessary, based on availability and price of renewable resources.

Another option is to adopt the proposals of some parties to extend the target year for the achievement of 25 percent renewable resources, for example to the years 2014 or 2015. This option is suggested in order to lessen cost and siting burdens that could be associated with the 2013 target year and to introduce the program more gradually, giving the industry more time to comply. Adopting a year 2014 target year modestly reduces the milestone for RPS year one, in comparison to the 2013 target year, from approximately 1.56 million MWhs to 1.43 million MWhs; a 2015 target year reduces year one further to 1.32 million MWhs. However, what is lost in extending the target year may be the important encouragement to early entrants.⁵⁶

⁵⁶ See Table 1, Comparison of Target Year Effect on RPS Incremental Steps, RD Cost Analysis, Appendix B.

C. Definition of the Baseline

To begin the design of the RPS, the first steps included defining a baseline. It was recognized that existing projects could be considered renewable for the purpose of establishing a baseline but not necessarily eligible for RPS premiums for incremental construction of plants. Because the issue of what resources should be eligible to be included in an RPS was controversial, there were efforts to achieve consensus or compromise on how to calculate the baseline of existing resources, using the definitions and descriptions of resources developed by NYSERDA and DPS Staff in the environmental disclosure program. The environmental disclosure project created a common vocabulary of resources and their environmental effects.

On March 17, 2003, DPS Staff presented a working baseline estimate of what percentage of the electric energy purchased in New York derives from renewable resources, using the categories defined by the Environmental Disclosure program. On April 25, 2003, many parties filed comments on a DPS Staff compromise proposal to establish a baseline at 28,896,189 MWh.⁵⁷ Although there was no consensus on that proposal, it serves as a reference point for discussion on the baseline.

Staff's original working baseline proposal was based upon the proportion of renewable resources from April 2001 through March 2002. Noting the volatility⁵⁸ of hydropower

⁵⁷ Staff's proposed language was: "For the purposes of setting an incremental target to reach the 25 percent goal, it will be assumed that the incremental target is 25 percent of projected statewide electricity usage in New York State in 2013, minus a baseline of 28,896,189 MWh." This proposal assumes there will be no attribution as to "the specific sources that make up the baseline. Any future adjustments to targets will be made in the context of designated 'eligible' resources without attribution back to the effect, if any, on the makeup of the baseline."

⁵⁸ NYSERDA advised Staff that the published 2001 figure of 24,981 gigawatt hours of hydro power was revised to 21,831 gigawatt hours (Staff Comment, p. 6, n. 12). In the Cost Study II,

generation, 90 percent of the State's total renewables, Staff, among other parties, urges flexibility in assigning a baseline.

In the Cost Study II, Staff updated the baseline; these updates were criticized by NYPA, and other parties. In light of the parties' concerns, the baseline was recalculated (see Appendix B). In particular, upon consideration of the parties' comments regarding the assumptions used in the MAPs model accompanying Cost Study II, certain changes in the assumptions were warranted. For the Recommended Decision Cost Analysis (Appendix B), the following changes were made in the assumptions used in the MAPS model: for New York City Generation Capacity, (1) East River 6 & 7 (EAST RI6 & EAST RI7) retirement was moved beyond 2013; Poletti 6 (POLETTI6) was retired on February 1, 2008 since the reserve margin is sufficient for 2008 without it, as set forth in the Article X approval for the Poletti repowering project; and the proxy plants NUGEN006 and NUGEN008 were removed from service since the NYC reserve margin in 2013 is slightly greater than 80% without them. As to Canadian Imports, the Canadian transmission capability was kept the same as the SEP database, that is 2,250 MW total from Canada to New York, for all renewable scenarios; and Canadian imports are allowed to come into New York around-the-clock April through October; as to NYPA Hydropower Upgrades/Output, the NYPA Niagara and St. Lawrence hydropower levels were reduced to match the lower values used in the baseline as a result of NYPA's comments regarding the baseline. As to fuel prices, prices in MAPs were modified to reflect current trends in the market price of Oil and Gas.⁵⁹

Staff updated the baseline figure based upon consideration of the actual proportion of renewable resources according to current reliable figures. Adjusted for recent actuals, the baseline comprises 31,159,134 MWhs, or approximately 19.4 percent of total State electric generation.

⁵⁹ Table A4 of The EIA Short-Term Energy Outlook report for November 2003 was used as the source of the price increase from 2002 to 2003 of 21 percent for oil and 45 percent for natural gas (see "Electric Utility Fuels"). The inflation patterns used in MAPs to inflate the various oil and gas fuel types defined in MAPs were modified to reflect these increases from 2002 to 2003. The seasonal inflation patterns remain unchanged as well as the intra-state and inter-region relationships. On

Further, upon consideration of the parties' comments regarding the calculation of the baseline estimate of electric energy purchases in New York State derived from renewable resources, two modifications are warranted. For the Recommended Decision Cost Analysis the following changes were made in the baseline estimate: for NYPA Hydropower Upgrades/Output, the NYPA

Niagara and St. Lawrence hydropower levels were reduced to eliminate the credit for the one unit per plant that is out of service each year until the upgrades are completed, and a minor adjustment to the upgrade levels to match assumptions provided by NYPA. The Green Marketing forecast was reduced by approximately 20 percent to put the forecast on a weighted average per customer class basis instead of the original straight average per customer basis. The result of these changes is to reduce the year 2005 baseline from 33,620,339 MWhs or 20.34 percent to 31,937,479 MWhs or 19.29 percent.⁶⁰

1. Forecast

The updated forecast of fuel prices is used.

2. Start Date

Staff proposed January 1, 2006 as the program start date: the date by which LSEs would be accountable for meeting RPS targets. Staff assumed adoption of an RPS in early 2004, leading

average, the price of oil increased 15 percent to 25 percent and the price of natural gas increased 29 percent to 41 percent. The most recent forecast of the U.S. Department of Energy, Energy Information Administration (DOE-EIA), of average wellhead prices for natural gas shows a long-term upward shift in natural gas prices from prior forecasts through 2025 [See Annual Energy Outlook 2004, dated January 2004 (at <http://www.eia.doe.gov/oiaf/aeo/>)].

⁶⁰ Reducing the amount of baseline resources to account for corrections to Cost Study II, results in an increase in the incremental amount of renewable resources that must be obtained to reach the 25 percent target. While this causes an increase in the cost to obtain the necessary renewable resources, as it happens it does not result in an overall increase in the net cost of the program. Each additional unit of renewable resources added to New York's portfolio has a beneficial side-effect of increasing generation supplies thereby putting downward pressure on wholesale generation prices. In this particular instance, the downward effect on wholesale prices exceeds the increase in costs, thus resulting in a net reduction in overall costs of the program.

to increased renewable generation by 2006, with an approximately one percent increase for each of the succeeding seven years. Staff proposes flexibility to adjust interim targets annually to match actual load growth (beyond de minimis changes below one percent). Staff suggests flexibility if unforeseen circumstances result in a deficiency of 10 percent or more of the interim target. Staff proposes a start date of 2006 for the requirement that LSEs add renewable generation; if the Commission adopts an RPS policy with implementation plans in early 2004, by early 2006 there should be a measurable increase in renewable generation. Central Hudson agrees Staff's 2006 start date is reasonable.⁶¹

3. Targets

In the Instituting Order, the Commission found that a target of 25 percent renewables was reasonable, but established no timetable to achieve that goal. In drafting a set of working objectives to focus the inquiry, a working target of 25 percent by 2013 was used.

The Staff cost studies assumed an RPS designed to achieve 25 percent renewables in 2013; the Draft Generic Environmental Impact Statement issued April 8, 2004 was based upon the same assumption. This assumption was built in to these studies in part reflecting the working target adopted early in the proceeding for the purpose of defining the objectives of an RPS. However, the assumption also was founded on the estimation that forecasts beyond ten years of load growth, fossil fuel prices, and numerous other economic factors were subject to too much uncertainty for planning purposes.

The 25 percent target level mandated by the Commission in the Instituting Order, if met in 2013, establishes the target of the RPS: 7.50 percent of total load, or 13,707 gigawatt hours.⁶²

⁶¹ Central Hudson Comments, p. 5.

⁶² This figure represents the difference in 2013 between renewables present in 2005 and 2013.

That said, the 2013 target date is strongly opposed by some parties on this record and, of course, the Commission has yet to adopt a timeframe or target of its own.

a. The Parties' Positions

Several parties urge a strictly voluntary RPS, a slower RPS, or a lower target. Although Joint Utilities seek a voluntary program, they also propose implementation of an RPS pilot program as an interim measure to inform the record on reliability and cost issues, based on a centralized auction solicitation, assuming cost recovery and assurances for their current supply portfolios.⁶³ The Joint Utilities consider the assumption that 2006 will be a full RPS delivery year to be unrealistic in light of the additional work to be done by this Commission, NYSERDA, the NYISO, and generation owners and developers.

MI urges that the start date for the RPS should be 2009 and the resources not acquired in equal percentage increments, but gradually, with lower incremental targets early, increasing in the later years. MI's proposal, which it asserts would reach the incremental target of 4.66 percent in 2013, is based upon the expectation that the cost of renewable resources will decrease. The Business Council comments that no RPS adversely impact ratepayers or repeat the mandatory Six-Cent Law problems, advocating for a voluntary or graduated approach avoiding significant rate impacts on commercial and industrial customers. In addition, the Business Council reiterates its view that 2013 should not be a target year, but the RPS should be given the necessary time to mature, "whether 2013, 2023 or some other year."⁶⁴

Central Hudson urges lowering the incremental annual target and, with Nucor, sees no factual basis for a 25 percent target.

Other parties suggest a more ambitious approach. A start date of 2006 and a target of attaining 25 percent

⁶³ Joint Utilities Cost Comments, p. 36.

⁶⁴ Business Council Cost Comments, p.2.

renewables by 2013 are advocated by the Attorney General, Staff, and Ridgewood. The RETEC Coalition advocates a 2005 start date,⁶⁵ a first year target of 0.25 percent, binding annual requirements, and a target of 25 percent by 2013, with a commitment to continue raising the target beyond that date.

The RETEC Coalition asserts earlier requirements will reduce bill impacts and costs to allow more orderly market development; MI asserts the opposite. RETEC also urges periodic adjustment of annual targets—but only upwards—for baseline changes or plant closures. In RETEC's view, the 2013 requirement should extend indefinitely and new incremental post-2013 requirements should be established. In its view, the RPS sunsets when the cost of renewable resources falls to, or below, the cost of fossil fuel generation.

Parties, including Central Hudson and Multiple Intervenors, assert the RPS program generally will have the result of transferring more than one billion dollars to renewable developers, will mean virtually all load growth until 2013 will be effectively assigned to these generators; and that the reliability, economic, market, competitive and other consequences of such a far-reaching program are unknown. These parties warn of a return to centralized planning and a regulatory—rather than a competitive market-based regime.

Parties diverged as to the practicability of attaining what was initially estimated as an additional 9% renewable generation by 2013. RETEC viewed this goal as readily achievable while MI disagrees. As to requirements beyond 2013, RETEC proposes the Commission should establish that the 2013 requirements extend indefinitely, pointing to the 20-year capital recovery assumptions of both the Joint Utility and Staff cost studies.

Whether this target is achievable depends only in part on the design of a New York RPS. Other factors include several largely or entirely outside the reach of this Commission or, for

⁶⁵ RETEC also proposes a credit banking approach, which would make eligible those renewable resources procured from June 2004 through June 2006.

that matter, government: the price of fossil fuels; the rate of growth of the state and the region's economy; the pace of siting of renewable generation plant; the investment climate. In order to allow for these unpredictable variations, the RPS policy should comprise both a target--25% retail renewables by 2013--and a mechanism to review that target. With that flexibility mechanism built into the policy, the Commission can review the target and adjust it if necessary, based on availability and price of renewable resources.

There is consensus among parties, however, that whatever target the Commission establishes, there should be a process for fine-tuning, modification, evaluation and resetting interim targets, based upon actual load growth and other factors.

b. Discussion and Recommendations

In considering the target date to reach 25 percent renewables, there are two related inquiries: the first, is this target advisable?, the second, is this target attainable?

On balance, the recommendation is that a 2013 target date is advisable because to establish such a target appears most likely to engender success for the program. The program will succeed only if renewable generation facilities are developed, built, and run. At the outset, an aggressive target and a clear state commitment to the program appear necessary preconditions.

There is little disagreement, on this record, that this target will be challenging, in light of New York's geography and climate, siting obstacles, and distribution of load in relation to resources. Therefore the recommendation also is to establish milestones, the first to be in 2008 to evaluate the costs and benefits, invite more generation resources to participate, adjust incentives for incremental renewable acquisition, or otherwise modify the RPS.⁶⁶

Another option for the Commission is to adopt a more gradual increase in the amount of renewables, as advocated by MI and others, and as illustrated in the appended Cost Analysis. This option is also supported by the record.

⁶⁶ In addition, annual monitoring reports to the Commission are recommended.

Taking into consideration parties' comments on Cost Study II, at my request DPS technical Staff completed a partially updated and modified version of certain specific aspects or results (the RD Cost Analysis), appended as Appendix B. In this analysis, Cost Study II is modified in two ways: first, to accommodate changes and corrections identified by the parties; and second, to reflect the RPS design options for the purposes of this discussion.

In correcting the results in Cost Study II, Staff revised the method of accounting for Canadian hydropower imports and amended its estimate of the future output expected from the NYPA hydroelectric plants at St. Lawrence-FDR and Niagara to be utilized in the baseline calculations.⁶⁷

D. Eligibility

Law, policy, science, and advocacy present countless definitions of what is a "renewable" resource. In different legal contexts, "renewable" may be given any one of a myriad of definitions. Rather than attempt to resolve the definition in the abstract, efforts in the proceeding were focused on what resources should be eligible for RPS incentives. For some resources, however, the question of renewability was unavoidable. As a threshold issue, some parties argue for inclusion of substantial existing resources in the RPS. Staff recommends generally limiting eligibility to new facilities constructed after 2001, with the addition of certain small hydropower and wind facilities, urging exclusion of other existing facilities on the grounds they need no additional financial incentive to operate. The Staff cost studies indicated that absent RPS support, approximately seven megawatts of small hydroelectric resources would be lost each year, suggesting additional expenditure to retain these small hydropower facilities.

Generally, parties diverge as to how broadly eligibility should be defined, in essence weighting different objectives differently. Parties emphasizing the environmental objectives argue for stricter eligibility, while parties

⁶⁷ See May 3, 2004 letter to Judge Stein from NYPA confirming the accuracy of these revisions.

primarily concerned with economic development or seeking to have their own resources included, seek a broad eligibility definition. Some parties, including the Business Council and MI, argued for the most inclusive eligibility criteria, on the ground that the broadest category would result in the lowest cost to consumers. Multiple Intervenors urges that lowest cost

should be the selection criterion.⁶⁸ In others' view, including the Attorney General and RETEC, only resources accurately defined as "renewable", and those that do not add to the state's emissions burden, should be eligible to participate.

RETEC limits eligibility to incremental generation only, using a cutoff date of January 1, 2000, and urges inclusion of eligible technologies connected to the grid behind the customer's meter.

Other parties argued for broader inclusion of existing renewables. Ridgewood argues the renewables market as a whole needs support and suggesting a sliding scale of premiums with older, more established facilities collecting lower premiums.

A Working Group of parties met to discuss the eligibility of various resources including, among others, biomass, fuel cells, hydropower, solar, solid waste, tidal, and wind. In addition to ongoing discussions of the properties of each of these resources, and sub-types of each, sub-groups developed more specific proposals. One sub-group developed proposals for the inclusion or exclusion of imports, including examining specific criteria for imports from other states and from Canada. A second sub-group developed approaches to creating tiers of resources, for the purpose of establishing targets for acquisition of a certain percentage of solar power, for example, within the total RPS portfolio. Other proposals for tiers included encouragement of developing new technologies, and maintenance of existing renewables at risk because of expiring contracts.

⁶⁸ The State Energy Plan refers to hydropower, solar, wind, biomass, ocean energy, landfill gas and fuel cells as renewable (3-40); Executive Order No. 111 (issued June 10, 2001) includes wind, solar thermal, photovoltaics, sustainably managed biomass, tidal, geothermal, methane waste and fuel cells.

For purposes of analysis, parties' eligibility⁶⁹ proposals can be seen as embodying one of several overall approaches to RPS design. However, this generalization breaks down upon closer examination and eligibility will be analyzed resource by resource.

Working Group One (Eligibility) established consensus that RPS targets should be measured as energy, rather than capacity; that eligible imports should be included in the RPS; and that the program's targets should be updated annually based on the system's actual load. While the group did not reach consensus on criteria, there are several proposals for criteria and for tiers. Parties distinguished various criteria on the tier proposals; and on which resources (analyzing both fuel source and generation process was relevant) should be eligible.⁷⁰

1. Hydropower

A Hydropower Subgroup convened to establish criteria for hydropower eligibility. No consensus was reached as to the appropriate criteria, although these were advanced: include all hydropower; include only low-impact, as defined by the Low Impact Hydro Institute; include only new or incremental hydropower, or hydropower licensed or relicensed after a certain date; include only hydropower projects below a certain size or projects exempted from federal licensing requirements.

Some parties advocate strict standards. In RETEC's view, size of facility is a rough, but inadequate, proxy for

⁶⁹ After early discussion about dividing resources into those that are literally renewable or nonrenewable, by fuel or process type, it was concluded that a more enlightening distinction is between those resources that should be eligible for inclusion in the RPS because their use best comports with the mandate of the Instituting Order and the working objectives, and those that should not. The renewable nature of a resource is relevant but not dispositive.

⁷⁰ Delta Pressure Generation Systems, LLC (Delta) generates electricity using existing reductions in natural gas pressure. Delta seeks to have its technology considered eligible. More generally, Delta urges that there be a dynamic procedure to permit additional appropriate resource technologies to qualify (Delta cost comments, generally.)

measuring environmental impacts of hydropower facilities; nor is the possession of a license sufficient as criteria vary and change. Based upon a report prepared for this purpose by the Canada-based Helios Centre and the U.S.-based Low Impact Hydropower Institute and proffered with its comments, RETEC proposed interim eligibility criteria for the New York RPS, with permanent rules to be established in the implementation phase, along the lines of the negotiations leading to the joint proposal of the Biomass Working Group. RETEC criteria require "new" hydropower resources,⁷¹ and would apply to FERC-licensed projects; U.S. projects not requiring FERC licenses; and Canadian projects. Enumerating requirements, RETEC suggests certification by the PSC, another agency or third party, of each project based upon an owner's affidavit of compliance.⁷²

Other parties, such as NYPA, argued for broad eligibility, including existing resources. The NYPA proposal to consider all existing, as well as incremental hydropower, RPS-eligible would lead to significant increase in the rate and bill impacts upon consumers of the RPS. Further, this record does not indicate that such additional rate support is required for the bulk of existing hydropower. Instead, the recommendation is that the monitoring process continue to oversee the status of renewable resources currently counted in the baseline, to ensure that they will remain available as the program progresses.

The RETEC proposals to establish a protocol for stringent criteria for hydropower eligibility also seems inadvisable. With the restrictions listed in Table 3, incremental hydropower meeting those standards should be eligible.

2. Solid Waste

⁷¹ New hydropower is defined as new dams, adding turbines to existing dams that do not now generate electricity, or expansion or re-powering existing facilities, where only the increase in output would be considered RPS-eligible.

⁷² RETEC Comments, p. 15.

A Waste-to-Energy Subgroup convened to explore and clarify parties' positions and the possibility of reaching consensus. Parties concluded consensus was not likely, and several parties have submitted their views on the legal status and environmental effects of various municipal solid waste (MSW) technologies.⁷³

a. Legal Issues

i. The Parties' Arguments

The first issue is whether either a New York State or a Federal legal framework requires either the inclusion or the exclusion of Waste-to-Energy Municipal Solid Waste (WTE/MSW) in the RPS. Proponents of eligibility, including the Integrated Waste Services Association (Integrated Waste), Multiple Intervenors, Con Edison, Ridgewood, and Taylor Recycling offer several arguments.

Two broad arguments are raised in its support. Integrated Waste argues that existing MSW facilities have always been considered renewable; further, Integrated Waste argues that New York should take into account other states' laws including MSW as a renewable for RPS purposes. Ridgewood argues that although MSW is not considered a renewable energy resource, it should nonetheless be eligible.

Others argue that New York law does not include MSW in the list of renewable resources and that it should be excluded. These parties include the Council of the City of New York, New York State Attorney General, New York State DEC, and RETEC. These parties note, first, that Governor Pataki's Executive Order 111⁷⁴ omits MSW as an eligible renewable resource. Second, they argue that DEC regulations exclude incineration as a renewable resource: DEC's part 204, 237, and 238 definitions of renewables

⁷³ Several of the generation technologies at issue in this proceeding could be broadly included in the definition of waste-to-energy, including biomass and landfill gas as well as municipal solid waste incineration. This section analyzes the eligibility of municipal solid waste incineration, as defined in the Draft GEIS.

⁷⁴ Executive Order 111 (issued June 10, 2001) available at http://www.gorr.state.ny.us/gorr/E0111_fulltext.htm.

do not include MSW and DEC's NOx budget program excludes MSW from the definition of renewables.⁷⁵ Third, opponents of MSW eligibility note that the State Energy Law includes in the definition of renewables "wastes" but assert this does not mandate inclusion of MSW in the RPS.⁷⁶ In the view of the Attorney General and others, "wastes" in that section may be interpreted to include biomass, but not necessarily municipal solid waste. The DEC also argues for the exclusion of MSW from the RPS, stating first that Energy Law 1-103(12) should be disregarded because the definition is not clear and cannot be used as a clear argument for or against inclusion into the RPS. RETEC adds that the New York State Energy Law was enacted in 1976, is ambiguous, and is not tied to or applicable to a renewable set aside, incentive or premium pricing program resembling an RPS, and Public Service Law only addresses alternate energy and not renewable energy.

The Attorney General argues that the NYS Solid Waste Management Policy says that "in the interest of public health, safety and welfare and in order to conserve energy and natural resources," waste prevention and recycling are to be pursued before burning and burying waste.⁷⁷

ii. Discussion

To determine whether MSW should be considered renewable, it is first necessary to determine whether New York State requires its inclusion in the definition of renewable, if at all, within the laws and regulations of the State. The State Energy Law mandates the use within the State of renewable energy

⁷⁵ Part 204.1(b)(67) of DEC regulations provides the following definition: "Renewable energy project: a power federation technology that produces electricity from wind energy, solar thermal energy, photovoltaic, methane waste, or sustainably managed biomass; but not the combustion or pyrolysis of solid waste."

⁷⁶ Energy Law §1-103(12) defines "renewable energy resources" as including "sources which are capable of being continuously restored by natural or other means or are so large as to be useable for centuries, without significant depletion and include but are not limited to solar, wind, plant and forest products, wastes, tidal, hydro, geothermal, deuterium, and hydrogen."

⁷⁷ Environmental Conservation Law §27-0106.

sources.⁷⁸ The Energy Law defines "renewable energy resources," to include "wastes."⁷⁹ In general, the term "waste" could apply to a range of resources, including solid waste, biomass, landfill gas, or a combination of the three. Parties supporting the inclusion of MSW in the RPS argue that "wastes" includes solid waste while parties opposing the inclusion argue that the term "wastes" is too ambiguous to control or even provide guidance.

The closest to a state statutory authority is New York's Energy Law §1-103(12) (Definitions), providing that "Renewable energy resources' shall include sources which are capable of being continuously restored by natural or other means or are so large as to be useable for centuries, without significant depletion and include but are not limited to solar, wind, plant and forest products, wastes, tidal, hydropower, geothermal, deuterium, and hydrogen." The inclusion of the general term "wastes" could be read as requiring inclusion of WTE/MSW. However, "waste" is a sweeping and generic term that includes biomass and landfill gas. Without a more specific mandate, the general language of §1-103(12) cannot be read to direct inclusion. Moreover, by determining what resources are *eligible* rather than what are literally capable of being *renewable*, the definition of "waste" as renewable is not dispositive.⁸⁰ Indeed, more recent authority is found in Executive Order 111 which, while binding only upon state agencies, represents a standard for determining which resources should participate in programs similar to this.

The executive order was issued by Governor Pataki on June 10, 2001 requiring all executive agencies and departments to increased use of renewable energy resources. The executive order

⁷⁸ Energy Law §3-101(1).

⁷⁹ Energy Law §1-103(12).

⁸⁰ Also not dispositive is Public Service Law §2(2-b), defining "alternate energy production facility," includes "any solar, wind turbine, waste management resources recovery, refuse-derived fuel or wood burning facility". However, this definition is in the context of alternate, not renewable resources.

defines what is to be included as renewable but does not include MSW.

The State Energy Plan, promulgated in 2002 by four State agencies, the Department of Transportation, the Department of Public Service, NYSERDA, and the Office of Public Safety, promoted renewable energy in New York State. Renewable energy was defined as "hydropower, solar, wind, biomass, ocean, and landfill gas."

Three DEC regulations exclude MSW from the definition of renewable energy. The first establishes the SO₂ Budget Trading Program designed to reduce the acid deposition in New York State by limited emissions of SO₂. The second establishes the NOx Budget Trading Program, designed to mitigate the interstate transport of ozone and nitrogen oxides. The third establishes the NOx Budget Trading Program, which is designed to reduce acid deposition in New York State by limited emissions of NOx. The definition of a "renewable energy project" specifically excludes MSW from the definition of renewable when they state that a "renewable energy project" is defined as "[i]mplementation of a power generation technology that produces electricity from wind energy, solar thermal energy, photovoltaics, methane waste, or sustainably managed biomass; but not the combustion or pyrolysis of solid waste."

The second inquiry concerns applicability of Federal law.⁸¹ Opponents of MSW eligibility cite the Federal Power Act⁸² regulating the development of water power and resources, which defines a "small power production facility" as a "facility which is an eligible solar, wind, waste, or geothermal facility". This Act does not specifically define "renewable" and therefore does

⁸¹ Some parties, including DEC, adduce EPA statements describing MSW as a mixed source of renewables and non-renewables, and argue that EPA's Clean Power Partnership program does not include MSW in its definition of renewables, citing federal Executive Order 12123, promulgated June 3, 1999, "Greening the Government Through Efficient Energy Management," which defines "Renewable energy" as "energy produced by solar, wind, geothermal, and biomass power."

⁸² 16 U.S.C. §796.

not list MSW as a "renewable" resource. This act, however, does allow MSW facilities to be considered "small power production facilities" under certain conditions.

The Biomass Research and Development Act⁸³ includes the biomass portion of MSW in the resources that help improve the environment.

Further, EPA's Clean Energy website defines renewable energy as "Non-hydroelectric renewable energy refers to electricity supplied from the following renewable sources of power: solar, geothermal, biomass, landfill gas, and wind." Regarding MSW, it states "[b]ecause no new fuel sources are used other than the waste that would otherwise be sent to landfills, MSW is often considered a renewable power source. Although MSW consists mainly of renewable resources such as food, paper, and wood products, it also includes nonrenewable materials derived from fossil fuels, such as tires and plastics."

b. Environmental and Policy Issues

i. The Parties Positions

Integrated Waste, the Washington D.C.-based trade group for the waste-to-energy industry, notes its member power plants are dual purpose, disposing of household trash and generating electricity. Ten facilities generate electricity in New York State, disposing of 15.1 percent of waste managed in the State. Four municipal solid waste (MSW) facilities manage 80 percent of Long Island's waste. Other parties, including Multiple Intervenors, Independent Electricity Market Operators, Joint Utilities, Business Council, and KeySpan, assert that the RPS should include all arguably renewable resources to reduce the cost of the plan.

RETEC opposed eligibility for MSW principally on environmental grounds, asserting that while MSW contains biomass, roughly 25 percent of MSW is non-biomass; that even the biomass component of MSW is not sustainably harvested and is often processed and treated; and that New York's waste-to-energy plants, on average, emit a higher level of mercury and NOx than

⁸³ 7 U.S.C. §7624.

coal plants.⁸⁴ Further, RETEC asserts that new WTE facilities are likely to be built in New York City or other densely populated areas, and in low-income communities or communities of color, and that therefore inclusion of MSW is precluded by New York State's environmental justice policy recently recommended to DEC.⁸⁵

Concerning the environmental impacts of MSW, DEC notes that notwithstanding compliance with State and Federal environmental standards, including Federal Maximum Achievable Control Technology Standards, all pollutant sources must comply with these standards regardless of whether or not they are included in the RPS. In the year 2000, MSW was responsible for 26 percent of mercury emissions in New York, according to a comprehensive mercury inventory conducted by DEC to evaluate mercury emissions for every air pollution source in the State, including municipal waste incinerators.⁸⁶

c. The Public Response

The municipal solid waste issue generated far more public response than any other, from local and state officials and many hundreds of New Yorkers.

The issue of inclusion of municipal solid waste in the RPS generated far more public controversy than any other. Letters supporting eligibility for MSW were received from State Senators Wright (Chairman, Energy and Telecommunications Committee), Trunzo (Deputy Majority Whip and former Senate Chairman of the Special Legislative Commission on Water Resource Needs of Long Island), Saland, Johnson, Maziarz, Brown, and Hannon; Assembly members DelMonte, Brown, Magnarelli, Tocci, Kolb, and Barclay; the Mayors of Williamsville, Lockport, Hempstead, and Peekskill; Town Supervisors from Lancaster and Alden; the New York State AFL-CIO; the Hudson Valley Gateway Chamber of Commerce, and the Dutchess, Oswego, and Onondaga County Resource Recovery Agencies. Also writing in support were

⁸⁴ RETEC Comments, p 21.

⁸⁵ This policy can be found at:
<http://www.dec.state.ny.us/website/ej/ejfinalreport.pdf>.

⁸⁶ DEC notes that since 2000, the State has seen a decline in mercury emissions, including for MSW.

the Director of the Earth Engineering Center, Columbia University, and the Solid Waste Association of North America, New York State Chapter.

Letters in opposition to eligibility were received from Congresswoman Velazquez; State Senator Parker (Ranking Member, Energy and Telecommunications Committee), Assembly member Colton (Chair, Legislative Commission on Solid Waste Management), Environmental Defense, American Lung Association plus 39 other environmental organizations, many of them urban or environmental justice organizations and coalitions, and the Consumer Policy Institute of Consumers Union. In addition, 938 citizen letters were received opposing eligibility for MSW.

d. Discussion and Recommendation

As to the dispute over the environmental effects of municipal solid waste-to-energy, it is undisputed on this record that the municipal solid waste-to-energy technology in use in the state today represents a substantial improvement over earlier technologies; and there is no assertion on this record that these plants are in violation of applicable environmental standards and regulations. There is also no dispute that to the extent a waste-to-energy facility complies with the criteria for eligible biomass, it may participate in the RPS on that basis for the biomass portion of its fuel. However, there is also no dispute that these plants and others employing comparable technologies are responsible for mercury and dioxin emissions, and a higher level of other emissions than coal generation.⁸⁷

New York has ten waste-to-energy (MSW) facilities, generating approximately 300 MW; Integrated Waste notes their efficiency and, in many cases, their location in or near urban areas. Integrated Waste points out these plants provide baseload

⁸⁷ Parties dispute whether or not communities with waste-to-energy plants disposing of municipal solid waste have a better, or a worse, record of recycling and reuse. The record is inconclusive on this issue and it does not appear necessary to decide it here.

power and ease transmission constraints⁸⁸ and that, generally, MSW facilities exceed Clean Air Act standards, and reduce carbon equivalent release into the atmosphere in significant volumes.⁸⁹ Proponents of MSW eligibility expect that inclusion of a broader range of resources will reduce the price of renewables, and warn of the difficulty in reaching the 25% target without MSW. They note that waste-to-energy fulfills many of the working objectives, providing baseload power near urban areas, fuel diversity, and employment.⁹⁰ They also point out that their plants are in conformance with a wide range of federal, state, and local permitting, are subject to complex siting procedures and strict regulation for emissions pursuant to the implementation of the EPA's Maximum Achievable Control Technology standards. Moreover, waste-to-energy use of MSW reduces landfilling, and may bring other economic benefits to a host community.

Parties opposing MSW eligibility, including RETEC, DEC, and the Attorney General, marshal environmental and policy arguments. First, they explain that while MSW contains biomass, it also contains non-biomass matter: plastics, glass, and metal. Moreover, the biomass-based elements of the MSW wastestream may not be sustainably harvested. Integrated Waste also estimates that 25% of the MSW wastestream on a Btu basis is nonrenewable inorganic or organic material; by weight, RETEC asserts, submitting EPA data from the year 2000, roughly 65% of MSW is biomass and some 31% plastics, metals, glass, rubber, and leather.

⁸⁸ A full discussion of the technology, standards, and environmental impacts of MSW is contained in the DGEIS, pages 94-105.

⁸⁹ Nationally, Integrated Waste notes, MSW plants reduce carbon equivalent release into the atmosphere by 11 million tons. Comments, p.4.

⁹⁰ See New York State AFL-CIO letter (dated May 21, 2003), in support, attachment to Integrated Waste Comments.

Second, opponents of MSW eligibility assert that New York's MSW plants have higher-than-average emission rates for mercury and NO_x.⁹¹

Third, proponents of MSW eligibility note that the location of MSW fuel and plants in major urban centers makes them all the more valuable, as they are in or near heavy load areas and can ease transmission constraints. However, opposing parties suggest that New York City is the likely location for siting of additional MSW facilities, and cite concerns about adverse environmental impact on inner-city communities, poor communities and communities of color.

The recommendation is that MSW generation not be considered an eligible resource in the New York RPS at this time because it is not sufficiently consistent with the proposed RPS environmental objectives. While there is no dispute that the MSW plants have greatly improved their emission control technology and that they are in compliance with applicable standards and limits, there is also no dispute that their remaining emissions of mercury and NO_x exceed those of the dirtiest fossil fuel generation—coal.

Further, alone among candidate resources, MSW has a source of funding in addition to electric sales: municipalities' tipping fees for waste.⁹² With this in mind, on this record the MSW proponents have not made a strong claim that their industry needs the financial support from ratepayers in an RPS.

Finally, the opposition voices on this issue illustrate that MSW technology is not one New Yorkers are likely to want to subsidize with additions to their monthly electric bills. The credibility of the RPS hinges in large part on public acceptance that this program will deliver benefits.

An option, however, is to engage in a process with other affected State agencies, to define specific emission and other criteria under which MSW technology would be considered

⁹¹ RETEC Comments, Appdx. D, Hershkowitz, Logan, and Swanston Affidavits.

⁹² Integrated Waste Comments, p. 2.

eligible in the future. Today, of course, MSW generators may participate in the RPS to the extent their facilities comply with the requirements for renewable biomass.

Some parties, including Taylor Recycling, note that new waste-to-energy technologies are under development and should have the opportunity to participate in the RPS. The Commission should establish a mechanism, in the implementation phase of this proceeding, to add resources to the eligibility list. Another option for the Commission is, in addition, to establish in conjunction with other affected state agencies, a set of specific goals or criteria for waste-to-energy facilities at a later date to quality for eligibility.

3. Biomass

The Biomass Eligibility Working Group reached general consensus as to some issues, identified areas of divergence, and proposes to continue its work effort to report specific recommendations. Generally, the group agreed that biomass resources could be eligible under proper conditions. Specifically, as to wood biomass resources, the group agreed sustainability standards, harvest oversight, and a verification regime were needed and could be designed to ensure wood resource sustainability. As to processed and treated biomass resources, the group agreed to define environmentally beneficial conditions under which certain categories of processed and treated biomass materials should be eligible. It agreed to review net air emissions of biomass facilities and recommend standards (as well as standards for landfill gas and co-firing facilities). The group also agreed to assess size and other standards for eligible livestock operations.

The efforts of the Biomass Subgroup of Working Group one produced an agreement on a definition of eligibility for biomass. Some parties raised additional concerns. For example, Sierra Club opposes inclusion of biogas from digesters at concentrated animal feeding operations, charging that the verification of compliance with permits lacks accountability. Other aspects of the Biomass Agreement also raise concerns. Among these is that the Agreement's terms would appear to exclude smaller concentrated animal feeding operations entirely; that the

alternative fuel provision of the agreement would allow up to 30% of a biomass facility's fuel to derive from non-hazardous waste alternative fuels, without restriction, which could include treated woods and coal tar soils; the requirement regarding biomass co-firing with coal that a minimum 25% of the fuel input must be from energy crop biomass appears technologically infeasible and unnecessarily exclusive. Considering these and other concerns expressed, the recommendation is to adopt the eligible biomass definition contained in the Draft GEIS.

4. Customer-Sited

Proposals included classifying as eligible customer-sited facilities only if interconnected to the grid; including all customer-sited facilities.

Some parties preferred an RPS eligibility standard simply delineating eligible from ineligible resources, rather than using a tier structure to define levels of technologies' participation in or benefit from the RPS. MI opposes the creation of an SBC-like tier, and argues that should it be included, it should not be front-end loaded to reduce costs. In MI views, acquisition of solar, fuel cells, or small wind should be postponed until at least 2011, contrary to the Staff assertion that front-end loading was expected to encourage technological improvement and eventually lower costs.

Other parties propose additional premium or direct SBC incentives to stimulate developing technologies. Similarly, some parties suggest a location premium.

The recommendation is to include these resources as detailed in the Draft GEIS.

5. Tiers

On June 9, 2003, a Clean Technologies Coalition⁹³ circulated a formal version of a tier proposal offered during Working Group One meetings. The proposal, titled Technology Attributes Measurement, would be used to award credits based on how well any technology met RPS goals. No technology would be per se excluded; each technology would be assigned a score based upon a weighted set of RPS objectives. Technologies achieving some minimum score would be eligible to earn a premium. Criteria offered include: greenhouse gas life cycle emission; pollutant life cycle emissions, including waste recovery; fossil fuel reduction; increased generation diversity and improved energy security and reliability; economic activity; cost effectiveness; and efficient conversion of fuel to energy. Once quantifiable criteria were specifically defined, each technology would be assigned a score.

IPPNY proposes that all renewable resources be included in the RPS, whether existing or incremental, arguing there is no basis to distinguish between old and new and that it cannot be assumed that existing renewable sources will continue to operate indefinitely (IPPNY, 4). IPPNY, with AES-NY and others, opposes tiers, arguing a competitive renewables market depends upon ensuring no single renewable technology is artificially favored over another⁹⁴. Once resources are defined as eligible, IPPNY argues, competition will ensure the most cost efficient and beneficial technologies and locations prevail. Many parties, such as RETEC, assert the RPS should include incremental resources only, defining "incremental" as those resources in production January 1, 2000 or later.

⁹³ Supporters include Brooklyn Union Gas Company d/b/a/ KeySpan Energy Delivery New York, City of Jamestown Board of Public Utilities, City of New York, Consumer Power Advocates, Coast Intelligen, Inc., The E Cubed Company, LLC, Hess Microgen, Invensys, KeySpan Business Solutions, LLC, KeySpan Gas East Corporation d/b/a/ KeySpan Energy Delivery Long Island, KeySpan Technologies, Inc., Niagara Mohawk Power Corporation, NiSource Inc., Nuvera Fuel Cells, RealEnergy, Turbosteam, Encorp, Gas Technology Institute, OfficePower, and Entree, LLC.

⁹⁴ IPPNY Comments, p. 4.

Several parties proposed some form of maintenance tier, to offer some level of premium to protect generators, such as some existing hydropower or waste-to-energy that have environmental benefits but could be at risk from contract expiration, league or regulatory changes, or market pressures.

Other tier proposals included assigning a sliding scale to categories of resources based on their environmental attributes, attaching different alternative compliance prices to each category and requiring load serving entities to satisfy their RPS obligations from more than one category. Some proposed a two-tier approach with higher premiums for technologies requiring additional incentives.

Discussion and Recommendation

For simplicity of implementation and verification, it appears most appropriate to consider the bulk of eligible resources in one main tier. The proposals to weight or grade resources by their consistency with the RPS objectives, their environmental benefits, or their costs, appear to inject both a level of complexity and a level of quantifiability that are not justified on this record.

However, the creation of an SBC-like tier to ensure continued and accelerated development of emerging technologies such as solar and fuel cells, is essential. In direct price competition with other renewable resources, those technologies will not soon be reached on the supply curve. Yet their potential value in, among other things, locating renewable generation near heavy load areas, environmental benefits, and fuel costs, argues for a serious effort to support their development. Other options, including reducing, increasing, or elimination of the SBC-like tier, are also supported by this record.

6. Nuclear Power

Some parties, including Niagara Mohawk, urge inclusion of nuclear energy, on the ground that it avoids greenhouse gas emissions and other environmental burdens, and otherwise comports with the RPS working objectives. Other parties, including RETEC, respond that nuclear power cannot be classified as renewable

because it utilizes uranium, a fuel which is nonrenewable and has its own adverse environmental impacts.⁹⁵

E. Overall Structure of an RPS

Another central choice in the design of an RPS concerns the overall structure: should the procurement of renewables be through some centralized mechanism, or by individual load serving entity? To tackle this complex issue, parties divided into two Working Groups. One thoroughly examined various approaches to central procurement, with the task of reporting on the best practices to use that method. Groups of parties in that Working Group proposed several different central procurement models, following reports from NYSERDA, NYPA and Long Island Power Authority (LIPA) about their legal authority to participate in these models.

Another Working Group, similarly, tested various approaches to procurement by individual load serving entities, including LIPA, NYPA, municipal providers, cooperatives, energy service companies, and delivery companies. They examined among other things, incentive mechanisms, which entities will participate, and how to establish percentage or megawatt hour targets. This group also developed several options for that procurement method.

Working Groups Two and Three were charged with exploring, in detail, their respective structural models. A joint meeting of the two produced no strong preference. In comments, parties expressed preferences, with their rationales.

1. Individual Compliance

Working Group Two examined an individual compliance model, listed certain consensus elements, and created a straw proposal detailing certain additional elements. With respect to the conclusions and proposals of Working Groups Two and Three,

⁹⁵ RETEC cites the Environmental Protection Agency (EPA) for the conclusion that "[u]ranium is a nonrenewable resource that cannot be replenished on a human time scale." RETEC Comments, p. 30. www.epa.gov/clearenergy/nuc.htm.

each grappling with overall RPS structure, parties commented on the groups' consensus and straw proposals, and suggested alternatives.

a. Determination of Participating Entities

Working Group Two reached consensus that all load serving entities should be included, encompassing LIPA, NYPA, municipals, cooperatives, and delivery companies, subject to the right of NYPA and LIPA to elect not to take part. The group suggests, as a straw proposal, that all Energy Service Companies (ESCOs) should be included to ensure all customers contribute to achieving the targets. The straw proposal also provides that self-generation load should not be included, as it does not entail retail sales and the administrative burden could outweigh the benefits. Parties agreed that if LIPA elects not to take part, its load should be removed from target calculations. The straw proposal suggests that if NYPA should elect not to take part, NYPA's full service load requirements also should be removed from the target calculations.

Some parties argue for the exclusion of NYPA customers from the base to be assessed the cost of the RPS premiums, on the grounds that NYPA customers receive reduced rates as part of a state program to provide industry with attractive electric rates, critical to the state's economic development strategy; that NYPA customers have fixed long term contracts and will not reap the benefits of reduced wholesale energy prices available to other customers; and that NYPA's energy portfolio is already overwhelmingly renewable, and as a load-serving entity it has more than met its 25 percent obligation. MI argues that, in particular, for NYPA customers, there will be no suppression effect, nor will there be such an effect for customers covered by long-term contracts.⁹⁶ Should NYPA participate in the RPS, according to MI, all NYPA customer prices would increase.

Against, parties assert fairness requires spreading the cost of the RPS among all electric customers; NYPA's customer base has enjoyed an ample share of reduced electric rates; and

⁹⁶ Tr. 546, MI Cost Comments, p. 6.

commercial customers can pass increased electric costs on to their own customers, an option not available to residential customers.

Since this Commission does not regulate NYPA, the recommendation is advisory only, not binding; and the two justifications for including NYPA customers bear scrutiny. The first is the added cost to the balance of ratepayers. An analysis of the cost burden to the rest of ratepayers from excluding NYPA customers demonstrates that it is insignificant. With NYPA customers included, worst case bill impacts show a 2.24 percent increase; excluding NYPA customers shows a 2.38 percent bill increase.

The second justification for recommending NYPA customer participation is fairness. Yet advocates are persuasive that adding costs to a priority program for economic development may have adverse consequences disproportionate to the benefits.

A secondary consideration is that NYPA's portfolio today has the highest percentage renewable resources (hydropower) in the State.⁹⁷ NYPA renewable resources account for more than 50 percent of the baseline renewable energy retailed in New York.⁹⁸ Including NYPA ratepayers in the RPS would require them to pay an additional charge although their utility is already at more than twice the RPS target standard. These considerations also support excluding the NYPA customer base.

The recommendation is to design the RPS such that NYPA customers do not contribute to the premiums.

b. Municipals

As to the participation of municipals in the RPS, while the objective of equitable distribution of the cost burdens of the RPS militates for their inclusion, their arguments that their portfolio already consists of approximately 87 percent hydropower, that they practice aggressive energy efficiency and

⁹⁷ According to the Environmental Disclosure database, for NYPA's direct customers alone it provides more than 42% hydropower; including its municipal customers drives the percentage far higher.

⁹⁸ NYPA Comments, p. 2.

conservation; and that their incremental load is so slight as to have no material impact on either the statewide resource mix or the cost burdens to be borne by the balance of the ratepayers are persuasive. Accordingly, the recommendation is to exempt municipal public power entities.

c. Determination of Individual Entity Target Levels

Working Group Two reached consensus that the targets should track actual loads by entity. It agreed that credit trading was an important components of individual compliance, and that a true-up period should be provided to match tradable credits with load. The consensus was that targets should be a fixed percentage applied to the actual load served, ramped up annually beginning in either 2005 or 2006. The straw proposal is that, to ensure all customers fairly contribute to achieving the target; there should be no adjustment for long-term power purchase agreements or full service requirement service from utilities. The straw proposal is that credit trading and an alternative compliance mechanism, rather than target adjustment, should be used to account for weather.

d. Alternative Compliance Mechanism

An alternative compliance mechanism is a default payment frequently to a dedicated fund, by a load serving entity that has not procured its target percentage of renewable generation in a given year. Since RPS programs have established a specific sum; another approach is to set the alternative compliance mechanisms at some percent of the certificate price for the prior year.

No consensus was reached on this issue. Working Group Two's straw proposal suggests an alternative compliance mechanism to ensure flexibility for participants while assuring program targets are met when sufficient renewable energy is unavailable. Participants could meet targets through bilateral contracts, trading RPS credits, or \$/MWh payments into an alternative

compliance mechanism fund for future renewable energy projects or, if none can be identified, demand side management.⁹⁹

e. Enforcement Mechanism

At issue was whether the RPS required further methods to penalize those who failed to reach their targets. No consensus was reached on this issue. Working Group Two's straw proposal suggests that with an alternative compliance mechanism, no additional enforcement or penalty mechanism, beyond the provisions of the Public Service Law, is necessary.

f. Recovery for Compliance By Delivery Utilities

Working Group Two reached consensus on the presumption that participants would weigh the economics of various qualifying options and choose the economically favorable option; and that utility cost recovery is presumed, subject to Public Service Commission prudence review.

2. Central Procurement

a. Preferred Central Procurement Entity,
with Rationale

Working Group Three created two central procurement models, detailed in its documentation: a NYISO Procurement Model and a State Agency Procurement model.

b. The NYISO Procurement Model

The NYISO Procurement Model entails formation of a new group, a New York State Renewable Portfolio Board, to implement the RPS by forecasting incremental eligible production needed to meet RPS requirements, and facilitating a centralized Request-for-Bid market process for renewable attributes associated with physical energy production.

Working Group Three identified the following as advantages of a NYISO Procurement Model as: (1) including all New York State load, hence reducing the per-unit cost of an RPS; (2) payment and collection mechanisms already exist in the NYISO

⁹⁹ The Working Group Two straw proposal suggests these payments would be the lesser of \$50/MWh or 150 percent of the market value of renewables.

Open Access Transmission Tariff (OATT) for defined suppliers and transmission customers; (3) the NYISO already operates other markets such as energy, ICAP, ancillary services, and Transmission Congestion Rents; and (4) NYISO has a well-developed market monitoring unit.

It identified these as disadvantages of the NYISO Procurement Model: (1) Some parties opposed using a NYISO R.S. 1 charge as the means for the collection of funds; (2) uncertainty of obtaining a favorable vote from the NYISO governance; (3) possible limitations on the NYISO mandate; and (4) possible disruptive effects on existing energy market marginal pricing and retail access.

c. The State Agency Procurement Model

This approach entails the State agency issuing a competitive solicitation for eligible renewable attributes and choosing the winners. This solicitation would resemble current SBC grants, awarded competitively and paid out over five years based upon kWh output. Implementation of this model needs to be compatible with conversion transaction and the State agency would need to enter into long-term contracts for at least a significant portion of the attributes.

3. The Parties' Positions

Staff asserts the advantages of both the individual procurement model (consistent with competitive market structure) and central procurement (efficient procurement and less pressure to enter long-term contracts), concluding that load serving entities (LSEs) should have several options to meet RPS obligations. The Staff proposal resembles the RETEC July 23, 2003 Hybrid Procurement Model, and is supported by Westchester, Green Mountain (by these two parties in the form of a central procurement regime with individual opt-outs), and CPB. A central procurement structure is favored by the utility parties generally, being urged by Amerada Hess, CHG&E, City of New York, Con Edison Solutions, Joint Utilities, Energy Association, Keyspan, LIPA (as long as LIPA may opt out), NEMA, Attorney General, NYSERDA, Ontario ISO (supporting a "common trading

platform"), Ridgewood, Select Energy, the Small Customer Marketer Coalition, and UWUA-IBEW.

RETEC points out that the individual procurement method is the only one with a track record from other states to draw upon; nonetheless it supports a NYSERDA-run program, with a long-term strategy to shift renewable acquisition responsibility to energy service companies.

This approach entails the State agency issuing a competitive solicitation for eligible renewable attributes and choosing the winners, similar to the current SBC grant program. The State agency would need to enter into long-term contracts for some significant portion of the attributes.

The current and projected cost of electricity from renewable resources will remain at costs above the market cost of conventional generation resources through the time period studied. The record in this proceeding demonstrates that potential developers of such resources will need long-term contracts if they are to obtain financing. In addition, the experts who created the supply curve model used in Cost Study II opined that the unit cost of renewable resources is considerably lower when a long-term contract is offered. In establishing an RPS, the Commission should establish that if utilities enter into prudent and competitively obtained long-term contracts, particularly contracts-for-differences, for renewable resources to comply with the RPS, they will have the opportunity for cost recovery. While some parties argue that the recent history of severe cost consequences of long-term contracts should warn the Commission off this course, in this context the Commission retains the flexibility to review and modify the RPS based upon annual monitoring and the Year 2008 review.

4. Recommendation

Because the hybrid central procurement model proposed by Staff maximizes early ventures and ease of procurement, while laying the basis for a certificates market, it is recommended.

F. Credit Trading

The Credit Trading Working Group investigated and recommended various systems for trading renewable energy credits,

including an evaluation of characteristics of trading systems in neighboring regions; possible impacts of various options on compliance cost and supply; and the relationship to New York's existing conversion transactions market and environmental disclosure program.

1. Consensus Issues

The charge of Working Group Four was to devise a New York trading system to enable trading of renewable energy credits separately from energy contracts or transactions.

a. Establishment of New York-Based Credit Trading System

A consensus was reached that there was no need to wait for the establishment of a regional system to establish a credit or certificate trading program in New York. Therefore New York should move ahead and design a New York trading system compatible with neighboring systems. Near-consensus was also reached that Working Group Four's task should be spun off into a separate track to continue to design the details a New York trading system over the next months, without delaying the adoption of a general RPS policy favoring a trading system of some kind.

b. Establishment of an Implementation Track

Working Group Four concluded that implementation specifics will be dependent on policy choices as to eligibility made as a result of the Eligibility Working Group (One). Working Group Four is satisfied that as long as the RPS Policy Statement includes a commitment to creating some New York trading system, criteria for the creation of such a system, establishment of a process to finalize the New York trading system, and the continuation of conversion transactions for environmental disclosure, remaining implementation details could follow.

Second, they agreed that imports into New York should be allowed to be traded. As New York appears likely to be a net importer of renewables, there was consensus that eligible imports should be allowed to be traded here. The definition of "region" was left open, with the understanding that a deliverability requirement, if adopted, would impose its own ineluctable geographical limitations.

Third, parties reached consensus in supporting a separate procedural track for implementation of the design specifics should the Commission decide to implement a New York certificate or credit trading system.

c. The Deliverability Requirement

A critical issue that was not agreed upon concerns deliverability—the requirement that the actual energy itself be delivered into the New York electric grid for the attributes associated with that energy to be traded in the New York Trading System. Parties agreed deliverability is a key criterion to be decided by the Commission in its policy statement. Parties discussed the likelihood that issues of reciprocity, environmental benefit, economic benefit, and trade restrictions would be resolved by the imposition of an energy deliverability requirement. Parties opposing deliverability asserted the value of eliminating barriers to attribute trading.

i. The Parties' Positions

The Joint Utilities, Union of Concerned Scientists, and others share the view that the RPS should include a certificates trading system, accommodating imports and exports, and compatible with similar systems in neighboring regions. In addition, Joint Utilities argue existing New York State renewable initiatives (including the Environmental Disclosure Compliance Program) should be incorporated into or made compatible with the proposed certificate program; and that Working Group Four should reconvene to design a certificates trading system.¹⁰⁰ The National Association of Regulatory Utility Commissioners (NARUC) also supports the use of certificates in an RPS program.¹⁰¹ These

¹⁰⁰ Joint Utilities provided the outline and workplan for the PJM certificates trading program as Appendix D to their Initial Comments.

¹⁰¹ NARUC Guide, Chapter Six, at 55-71. NARUC views regional coordination as necessary because: the market for electric generation is regional, generators and retailers operate in more than one state, certificates must be tracked among multi-state market participants. Additionally, according to NARUC, the RPS will be vulnerable to double-counting, both intentional and unintentional, and regional coordination is necessary to verify retailers' claims regarding the attributes of their power products.

parties agree tradable certificates reduce the costs and promote a competitive renewables market;¹⁰² Union of Concerned Scientists' agrees that a market-based approach to price certificates is designed to provide the greatest amount of clean power for the lowest price.¹⁰³

Some parties, such as Joint Utilities adduce proposed federal legislation¹⁰⁴ which includes a national RPS, as well as cost considerations, to support a compatible regional, if not national, certificates system. Further, they argue, cost efficiency dictates that a certificates trading system be regionally if not nationally compatible.

Inclusion of imports in the RPS was viewed as fundamental to developing this regional plan. Some parties such as Joint Utilities concluded that deliverability is not necessary, if the exporting region has reciprocity with New York.

Some parties, including Joint Utilities, support continuation of the voluntary green market but express concerns that new procedures and practices must be put into place in New York which will allow both the voluntary green market and the RPS to function effectively side by side without double-counting attributes, with appropriate product labeling and environmental disclosure, and without placing a discouraging administrative burden on market participants.

Currently in New York State the transfer of attributes is tracked as part of the Commission's Environmental Disclosure Compliance Program¹⁰⁵ and its associated conversion transactions. All energy generated and sold in New York State energy markets is reported to the Department of Public Service (DPS) for purposes of environmental disclosure reporting. Generators report

¹⁰² Id. at 56; Scientist Report p. 7.

¹⁰³ Scientist Report p. 7.

¹⁰⁴ *S.14 and H.R.6, Energy Policy Act of 2003.*

¹⁰⁵ Case 94-E-0952 - In the Matter of Competitive Opportunities Regarding Electric Service, Opinion No. 98-19, Opinion and Order Adopting Environmental Disclosure Requirements and Establishing a Tracking Mechanism (issued and effective December 15, 1998).

bilateral transactions to the NYISO. The NYISO reports both bilateral transactions and spot market transactions to the DPS, while load serving entities report load modifiers. It is assumed that each transaction has involved the sale and purchase of both the energy and its associated attributes from a particular generator.

After historical spot market sales are reported by the NYISO to the DPS, the DPS reports to each generator those attributes which may be used for conversion transactions. Load serving entities may negotiate an exchange (conversion) of attributes with interested generators. Here attributes may be separated from their energy source.

Currently conversions may only be based on spot market transactions. Finally, in the case of imports, deliverability of energy is a requirement: attributes alone cannot be imported.

Some parties charge that, as presently designed, the New York Environmental Disclosure Program is not compatible with other regional market designs. RETEC agrees, arguing that certificate trading allows for future regional integration, prevents double-counting of renewable attributes, and can support environmental disclosure and labeling. In its view, New York will advance a regional approach to environmental and energy issues by adopting a certificate tracking and trading system similar to that used in New England. RETEC rejects maintaining conversion transaction while seeking compatibility with other regions, arguing for dialogue among jurisdictions.¹⁰⁶ In addition, RETEC urges swift adoption of an attribute trading system to unbundle renewable energy certificates and energy, such that they are treated independently in spot market transactions and bilateral contracts.

As to a strict delivery requirement, RETEC proposes certificates from otherwise eligible new renewable generation in adjoining ISOs that both provide environmental benefits to New

York, and offer reciprocity should be available to comply with the New York RPS.¹⁰⁷

Should the Commission impose a strict delivery requirement upon out-of-state generators, RETEC suggests a relaxed wholesale matching regime should be adopted, arguing strict hourly matching and scheduling unnecessarily burden intermittent renewable resources.

Parties including IPPNY, Reliant, and RETEC, urge the New York RPS not create new seams among markets, urging unbundling of energy and attributes to sell separately, and the adoption of a New England-style Generator Information System to ensure regional compatibility.

Others, including Staff, and Ridgewood, urge adoption of a strict delivery requirement: that is, qualifying renewable certificates must be associated with energy that is produced and is scheduled into the NYISO from a renewable energy generator and then to a load serving entity within the State, to ensure New York reaps the benefits of a New York RPS, in particular the reduction of emissions (other than CO₂)¹⁰⁸, energy security, independence and portfolio diversity, and economic benefits expected from stimulation of the renewable generation industry in the state. Without displacement of fossil fuel-generated energy, far fewer of these benefits will accrue in New York.

Some parties including Staff, and Ridgewood, also support a strict delivery requirement. Under Staff's plan, imports would be eligible for the RPS if and only if the energy

¹⁰⁷ However, RETEC would support a strict delivery requirement for regions not meeting these two criteria.

¹⁰⁸ Carbon dioxide (CO₂) is a principal greenhouse gas; CO₂ emissions contribute significantly to global climate change. Because these effects are global, rather than local, reductions of CO₂ mitigate the global warming effect, regardless of location. In contrast, the emission of other substances, such as sulfur dioxide and nitrogen oxide, from fossil fuel generation has local effects. The regional greenhouse gas task force project, recognizing this distinction, envisions a regional cap-and-trade program for CO₂ and other contributors to the greenhouse effect.

is scheduled by the NYISO and physically generated by the participating generator.¹⁰⁹ The rationale for the strict delivery requirement is to maximize public support for the program, which may otherwise be perceived as requiring New York residents to finance out-of-state projects delivering less benefit at home.¹¹⁰

ii. Discussion and Recommendations

Several interwoven decisions are necessary to resolve the issues concerning trading renewable credits. The fundamental concept is that for each unit of renewable generation—for example, for each megawatt hour of wind power—two products result: a megawatt hour of electricity, and a megawatt hour's worth of the renewable attribute. Traditionally the purchaser of the megawatt hour of electricity from a renewable source has also purchased the renewable attribute; that is, these two commodities were bundled and sold as one. Unbundling the renewable attribute from the electric energy and establishing an attributes market is a fundamental aspect of RPS design; the Commission identified the "appropriateness of a 'renewable attributes trading' system, and the components of any such system that might be developed," as Threshold Issue Number 10 in the Instituting Order, and this question is addressed here.

At issue is whether New York's current conversion transaction system, developed in order to support the environmental disclosure program, should be replaced by a certificate approach. Some parties, notably participants in the

¹⁰⁹ Without running afoul of the Commerce Clause, (U.S. Constitution, Art. I, §8) the Commission may consider eligible imports of otherwise eligible resources, as long as those imports are at least "deliverable" - that is, the energy is capable of being scheduled into the NYISO. This proviso draws a rational limiting line around New York State.

¹¹⁰ Ridgewood cites a now-defunct Los Angeles Department of Water and Power program offering customers "green tickets" for renewable energy; with no requirement that the energy be sold in concert with the tickets, no energy produced in Los Angeles by fossil fuel was displaced by the use of green tickets (Ridgewood Initial Comments, Exhibit B).

renewable energy markets in New York and elsewhere,¹¹¹ argue a certificate-based system is more flexible and less costly than the current conversion transaction regime. In their view, conversion transaction erects market barriers and raises costs because the only opportunity to purchase attributes without the associated energy is through the spot market, eliminating bidding strategies to maximize return. Perhaps most important, parties express concerns that only a fully unbundled certificate-based system is compatible with neighboring systems, and is adaptable to meet future FERC requirements. Parties point to NARUC's adoption of certificate trading as a "best practice." The Green Mountain Group views a certificate-based system as consistent with any outcome as to a delivery requirement.

In the Massachusetts RPS,¹¹² energy must be settled (used) in the ISO-New England Market Settlement System, must be generated within the month for which the attribute is claimed, and must be delivered with a North American Electricity Reliability Council (NERC) Tag confirming transmission from the originating Control Area to the ISO-New England Control Area. The New Renewable Generation Attributes have not been, and will not be, otherwise sold, retired, claimed or represented as part of electrical energy output or sales, or used to satisfy obligations in jurisdictions other than Massachusetts.

Because New York's energy market draws upon regions other than New England, the New England model need not be adopted in its entirety. Other approaches are being explored in PJM, Quebec, and Ontario.

1. Monthly Matching

Currently in New York, the environmental disclosure program and the NYISO financial system are based upon monthly settlements of financial transactions. Any settlement between

¹¹¹ Among these are a group comprising Green Mountain, American Wind Energy Association, Union of Concerned Scientists, and Evolution Markets. SeaWest WindPower, Atlantic Renewable Energy, Conservation Services Group, US Energy Biogas, Global Wind Harvest, and Zilkha Renewable Energy (collective by, the Green Mountain Group).

¹¹² §225 CMR 14.00.

financial and energy transactions is done on a monthly basis. Accordingly, as the data is received from the NYISO on a monthly basis, administration of an RPS on any other basis would conflict with the NYISO and needlessly introduce inconsistencies and complexities into the marketplace for transactions occurring within New York, because of the current ability to do conversion transactions in the spot market. However, interstate trades requiring NERC tags from, for example, the New England spot market would defeat the feasibility of conversion transactions for intermittents unless imports can be given the same flexibility under some comparable system. Should an out-of-state renewable generator choose to, for environmental disclosure purposes, these transactions are aggregated.

Conversion transactions are available for any generator selling power directly into the New York State spot market. A Maine wind generator cannot, without risk of penalty, presently take advantage of this because to deliver energy into NYISO requires a NERC tag, and scheduling based upon an hourly matching system, under NYISO rules. This system disadvantages intermittent generation.

Another option is to allow intermittent generators in adjoining control areas to sell their power into their local spot market and then to schedule an energy transaction for an equivalent amount of energy from their spot market into the New York spot market, with a NERC tag.

As long as the transaction into the ISO-New England and the NYISO occur within the same calendar month and the generator surrenders its New England REC, it would be assigned a New York REC. This approach puts intermittent renewables in New England and in New York on the same footing.

The recommendation is that the conversion transaction system should be revised to look more like a certificate trading system. Instead of one report at the end of the settlement period, this market will need a dynamic electronic settlement system where parties can buy and sell certificates online in real time.

The delivery requirement will result in lower wholesale prices both on- and off-peak. Given that some intermittent

renewable generation is more available off-peak, hourly matching would minimize beneficial wholesale price reduction effects from these renewables, which may not contribute significantly to peak price reductions. However, a monthly matching requirement would allow flexibility to enable some power under this program to be available to reduce wholesale prices on peak.

The Commission began this process "to develop and implement a renewable portfolio standard *for electric energy retailed in New York State*". Instituting this proceeding, the Commission sought development of an RPS to increase the "17% of the *electricity currently used in New York State*" to 25 percent.¹¹³ The benefits the Commission saw in establishing an RPS included improving energy security, and diversifying the State's electricity generation mix.¹¹⁴ Without detail, the Commission envisioned a program in which New York State would reap directly the benefits of a local renewables industry; some of these benefits, including local air emission reductions, energy supply diversity and security, and protection from natural gas price spikes or possible supply disruptions, only accrue if the energy is actually delivered into New York State. In addition, only with a delivery requirement will New Yorkers enjoy the offset to RPS costs in lower wholesale energy prices.

Of the other states mandating strict delivery of renewable energy by out-of-state renewable energy generators, ISO-New England operating rules require delivery of renewable energy into ISO-New England (although not into specific member states); statutes in California, Nevada and Texas require strict delivery.

In the alternative, the Commission could decide on a program geared toward meeting these goals on a regional, rather than state-specific, basis.

¹¹³ Instituting Order, p. 2 (emphasis supplied).

¹¹⁴ Other goals, including greater economic development opportunities in the renewables industry, and attraction of renewable technology manufacturers and installers, could arguably be met without a delivery requirement, as a vibrant renewable industry in New York State could be exporting its energy and still benefit New York.

G. Contract Standards

The Contracting Standards Working Group explored when or whether standards for the duration of contracts, or other contract standards, are necessary. This Working Group did not reach consensus as to whether or not contracting standards were necessary, but debated whether the PSC should establish a uniform contract or establish parameters.

1. The Role of Long-Term Contracts

Parties agreed this was the central contracting issue, although no consensus was reached. Some, although not all, developer parties, particularly wind developers, asserted the necessity of long-term contracts to obtain financing; discussion of NYSERDA contracts referenced four- to five- year terms.

Parties discussed covenants protecting delivery of generation, including a pre-construction bond, to be refunded upon completion of construction milestones; escrow accounts; reconsideration of credit policies. Parties discussed but did not agree to proposals for pilots or interim templates for contracts to ensure early renewable development.

2. Establishment of Contracts

There was no consensus as to the wisdom of developing standard contract templates. Disputes were unresolved as to the appropriate length of contracts and whether contracts should be for both attributes and energy, or attributes-only.

3. Administration of the RPS and Cost Recovery

Staff proposes bidding on renewable certificates, based upon a contract for differences approach, reflected in its cost studies. In Staff's view, this approach resembles both MI's and Con Ed Solution's, and caps payments to generators by capping MWhs purchased under each contract. Staff suggests a functional revenue cap could be achieved with symmetrical contracts for differences.

MI argues the RPS is a regulatory subsidy program and should be administered as such, not as a market-based program. In its view, no renewable generator should receive more than necessary for incremental projects to be built, rejecting proposals to pay all renewable resources on a market-clearing basis. In MI's view, a Staff audit should determine the least cost renewable projects and those should be built. In MI's view, RPS payments plus energy, capacity and ancillary services revenues should equal the cost of a given renewable generation unit. If RPS payments exceed cost, on an annual basis, consumers should receive a credit—otherwise the developer reaps a windfall

and the RPS cost to consumers is inflated. Staff replies its pay-as-bid auction proposal resembles MI's.

MI asserts that RPS costs should be collected as an explicit demand or customer charge, rather than a volumetric surcharge. Staff prefers a volumetric charge since subsidies will be paid by MWh: the benefits of an RPS are tied to the volume of overall load.

H. The Reliability Impacts

In February 2004 the Phase 1 Report was issued, titled "The Effects of Integrating Wind Power on Transmission System Planning, Reliability, and Operations (Phase 1 Reliability Report)". The report was prepared for NYSERDA by GE Power Systems Energy Consulting, and was commissioned by NYSERDA and the NYISO to evaluate the impact of wind generation development in New York State on the planning and operation of the State bulk power system, and to investigate the adequacy of the New York system to reliably incorporate and deliver substantial wind generation in years 2006 through 2013. The Phase 1 Report is a preliminary overall screening assessment to provide the foundation for a more detailed system performance evaluation.¹¹⁵

Briefly, the Phase 1 Report indicates that the existing transmission system can accommodate levels of wind generation significantly in excess of those forecast in this case¹¹⁶ and that the addition of wind generation in and of itself will not degrade system reliability.¹¹⁷ The Phase 1 Report concludes that the

¹¹⁵ A draft of Phase 1 was circulated to market participants and active parties on January 8, 2004. A subsequent informational meeting and comment period gave parties the opportunity to clarify and challenge the report's findings. The final Phase 1 Report, released in February 2004, was the subject of an on-the-record technical conference and supplemental comments filed by parties.

¹¹⁶ Assuming future construction of 10,000 MW of wind, the transmission system can accommodate about 5,800 MW under shoulder load system conditions and 6,125 MW under light load conditions. Phase 1 Report p. 2.2.

¹¹⁷ The Phase 1 Report indicates, however, that reliability will be negatively impacted if existing, marginally operating

addition of wind generation to 3300 MW (10 percent of peak load and the rough equivalent to the forecasted RPS goals for wind) will increase net New York State load variability by about six percent, an increase not expected to create significant operating problems. Under the Recommended Decision Case, wind should increase by 2013 to below 3,000 MW. The Phase 1 Report also indicates, however, that the intermittent nature of wind power reduces the reliability value of wind sites to about seven percent, in particular because of two factors: first, the bulk (85 percent) of additional wind will be sited west of Central East; second, seasonal and time-of-day characteristics of wind match New York's peak poorly. New York has greatest need for capacity in summer late afternoons and early evenings, whereas wind generation in this area tends to peak in the morning and summer wind levels are lower than in other seasons.

Evaluating other regions integrating substantial wind resources, the Phase 1 Report recommends New York adopt certain interconnection requirements, proven technology implemented in the world's wind farms. In addition, in response to system needs, newly developing features are also recommended: ability to set power ramps; governor functions; reserve functions; and zero-power voltage regulation.¹¹⁸

The Phase 1 Reliability Report urges New York immediately commence documentation of operational experience with wind power; and development of centralized forecasting for wind power production, through establishment of a wind forecast center to provide data to system operators and wind farms; key is availability of forecasts with a consistent format from all individual wind farms. It also concludes that the New York ISO rules, as written, need not be modified to account for significant wind generation, while planning criteria and procedures should be examined.

thermal generation is retired or prospective thermal generation is deferred or cancelled.

¹¹⁸ The Phase 1 Report also suggests New York consider a threshold wind farm size, 5 to 10 MW, below which it may selectively waive these requirements.

1. The Parties' Positions

AES-NY, LLC, Sithe Energies, Inc., and Reliant Energy jointly express concern that the Phase 1 Report establishes that 85 percent of potential wind sites are located west of the central east interface. Any new megawatt west of central east provides little reliability benefit for the State's load centers: New York City, Long Island and the New York control area. In addition, these parties note that wind resources provide little capacity benefit during the crucial on-peak periods (June, July, and August). In the view of these parties, the Phase 1 Report results are premature, in its conclusion that a ten percent wind penetration is supportable.

According to these parties, only with Phase 2 will critical necessary questions be resolved: forecast accuracy, effective capacity, operating practices, and NYISO market changes. In addition, these parties address the need for a complete operating analysis, re-dispatch implications of additional wind resources, including backing down of hydropower facilities and fossil units, among other things. The parties conclude that a full understanding of the operational and reliability issues must be developed before further commitments for wind projects are a long-term basis, in light of the fact the NYSERDA has already contracted a total number of wind megawatts approaching the current NYISO operating standard on intermittent generation.

In the comments of the Attorney General, the Commission is assured that, based on the Phase 1 Report's preliminary assessment, as much as ten percent of New York's load can be met from wind without causing significant reliability problems, therefore, with the addition of substantial amounts of wind generation resources would be compatible with a safe and reliable transmission system. The Attorney General also points out that additional costs which may result from ancillary service requirements, installed capacity and reserve levels, to be detailed in Phase 2, will be relatively small compared to the overall costs and benefits of the RPS. The Attorney General finally notes that the addition of wind resources will be

gradual, allowing the NYISO to adapt with necessary rules and procedures to maintain a high level of reliability.

The Business Council, in its comments, reiterates that no final decision should be made until specific sites and points of interconnection are studied, and until costs of additional wind generation are thoroughly analyzed. In addition, the Business Council points out that possible alterations of rules and practices established by NYISO need to be addressed following Phase 2.

Comments by IPPNY challenge the Phase 1 Report Fatal Flaw Power Flow Analysis, which did not consider whether generating units re-dispatched to accommodate wind could or would be able to be re-dispatched in the real world.¹¹⁹ At the technical conference, the GE witness agreed that the consultants did not analyze whether thermal units backed down in the report analysis might not be able to be backed down actually, because those units might be needed to reliably operate the system.¹²⁰ In addition, witness Clark also admitted that the Fatal Flaw Power Flow Analysis backed down "hundreds of megawatts" from the New York Power Authority, Niagara and St. Lawrence Hydro Electro facilities.¹²¹ The GE witnesses made clear that they were not examining the operational or cost realities of re-dispatch, but that they would examine those issues in Phase 2.

IPPNY critiques the Phase 1 analysis in its view that 2,781 MW of wind added to Zone A/Area 1, would displace almost 1,200 MW of Niagara hydropower generation, since the total non-hydropower resource capacity of Zone A is less than 1,600 MW. Similarly, IPPNY notes, significant hydropower generation from St. Lawrence would be displaced by wind; only one non-hydropower in Zone D is assumed to be operating during light-load conditions. In other words, IPPNY claims the result of adding wind generation in that region would be, according to the Phase 1 report, displacing significant hydropower generation. GE agreed,

¹¹⁹ IPPNY Reliability Comments, p. 3.

¹²⁰ TR. 171.

¹²¹ TR. 168-169.

during the technical conference that the Phase 1 report does not detail an evaluation of system performance or costs.

The Joint Utilities assert that the Phase 1 Report provides no definitive conclusion regarding the reliability impacts of integrating new wind generation, pointing to operational and procedural updates needed before significant wind penetration is achieved.¹²² The Joint Utilities point to numerous examples in the Phase 1 Report referring to the preliminary nature of its findings.

2. Discussion and Recommendation

The Phase 1 Report provides sufficient certainty to proceed with RPS design. The recommendations to adopt measures to protect reliability should be adopted. Finally, the Commission will have the benefit of the Phase 2 Report in time for any implementation.

I. The Costs and Benefits

In February 2004, the study prepared by DPS Staff with the participation of Robert Grace of Sustainable Energy Associates was issued, incorporating comments of parties concerning the earlier study - this was Cost Study II. The Recommended Decision Cost Analysis was prepared to take the comments on Cost Study II into consideration, correct for errors, update assumptions, and reflect the cost implications of the recommendations.

1. Cost Study II and Parties' Comments

On April 8, 2004, 12 parties or groups of parties¹²³ filed comments on the Cost Study titled "New York Renewable Portfolio Standard Cost Study Report II" (Cost Study II), prepared by the Department of Public Service, NYSERDA,

¹²² Joint Utilities Comments, p. 2.

¹²³ Comments were filed by: AES-NY, Sithe Energies, Inc., Reliant Energy, Business Council, Energy Enterprises, Inc., IPPNY, Joint Utilities, Multiple Intervenors, NUCOR Steel, New York Power Authority, RETEC, Ridgewood Renewable Power, Community Energy, and Delta Pressure Generation.

Sustainable Energy Advantage, LLC and La Capra Associations, and released on February 19, 27 and March 9, 2004.¹²⁴

Parties proffered various criticisms of Cost Study II. Some common issues raised are in the nature of identifying errors in study assumptions. Generally, a group of parties considers that Cost Study II understates the cost of the RPS program, although its preparers' view is that they attempted to choose conservative assumptions to examine worst case cost outcomes. There is concern that the Cost Study II understates RPS implementation costs, particularly the large impact on those who consume the most: business and industry. IPPNY, for example, asserts the MAPS modeling understates RPS costs as follows: overstating predicted savings by treating wind as able to be scheduled on a day-ahead basis with perfect predictability, ignoring the need for other generation if wind does not meet its schedule; omitting the impact of long-term contracts on existing merchant generation. If merchant generators are forced to retire, additional costs may be sustained. Generally, in some parties' view, the flawed MAPS modeling overstates wholesale price savings thereby significantly understating net RPS costs. However, parties, including IPPNY, did not quantify this objection; therefore, it is difficult to determine what the cost effect is of this objection.

2. Canadian Hydropower Imports Modeling

Some parties charge that the Cost Study II improperly modeled incremental RPS energy from hydropower projects in Quebec and Ontario. AES-NY, LLC, Sithe Energies, Inc. and Reliant Energy (the AES-NY parties), and IPPNY claim the study assumes capacity levels that greatly exceed the interface tie capabilities, significantly overstating imports. In IPPNY's view these flaws overstate ratepayer benefits of the RPS by 2013. MAPS results overstate the Hydro-Quebec and Ontario hydropower imports, estimating them at more than 30 percent of the 2013 RPS resource; or disregarding current interface limits. The MAPS analysis shows the largest increase in wholesale price savings

¹²⁴ Cost Study II can be read in full at:
<http://www.dps.state.ny.us/03e0188.htm>

between 2009 and 2013, when the Canadian imports are assumed to increase significantly. Incorporating their comments on the Cost Study I released by Staff in July 2003, the Joint Utilities assert Cost Study II assumes no additional costs for any incremental transmission or market costs in connection with hydro-electric facilities including the imported 4,182,600 MWh of Canadian hydropower, representing approximately 32 percent of total RPS megawatt hours. Joint Utilities asserts the supply curve recognize that transmission constraints limit Canadian imports to 1,250 MWh from Ontario and 1,500 MWh from Quebec.¹²⁵

The Joint Utilities fault the Cost Study II for assigning no costs to either transmission upgrades necessary to carry this volume of Canadian imports, (32 percent as opposed to 20 percent of the total RPS megawatt hours under current constraints), or the costs of reaching the more expensive resources required as a result of the current transmission constraints.¹²⁶

3. Post-2013 Costs

Parties, including the Joint Utilities, AES-NY group, IPPNY, and MI, criticize the Cost Study II for ignoring end-of-costs beyond 2013 when resources will be contracted for 15 years, 20 years, or longer, and the associated costs will be borne by consumers for the life of those contracts, beyond 2013, the last year studied. In the view of Joint Utilities, the decisions in the MAPS and bill impact portions of the Cost Study II only analyze main tier costs through the year 2013, even though costs will be incurred beyond that year, is first, an undervaluing of the total costs of the program, inasmuch as contracts entered into toward the end of that period will have cost consequences

¹²⁵ Cost Study II, Volume A, Appendix A, p. 18, Table 8, cited in Joint Utility Cost Comments, p. 9.

¹²⁶ The Joint Utilities also fault the study for assuming either that the Hydro-Quebec hydro capacity would be available at all times, or that Quebec could import renewable energy credits, if not the renewable energy itself, in contradiction to the study's prime case assumption of a deliverability requirement.

well into the future and because the post-2013 costs for the SBC-like tier were taken into account.¹²⁷

4. The In-City Generation Assumptions

The AES Group challenges the Cost Study II assumption of the addition of 1,000 MW or more in New York City in excess of the in-city minimum requirement by 2013. IPPNY also faults the Cost Study II for the treatment of New York City capacity expansion, by ignoring approximately 1,000 MW of existing New York City resources expected to continue operating through the study period. These include Linden Cogen (645 MW), Brooklyn Navy Yard Cogeneration Partners (236 MW), and KAIC Energy (90 MW summer capacity).¹²⁸ This oversight understates the RPS cost impact because 1,000 MW of lower-priced capacity will not be added in New York City.¹²⁹

5. The Green Marketing Assumptions

¹²⁷ Results Overview -- An incremental RPS requirement of eight percent in 2013 would require approximately 4,000 MW of renewable capacity to be installed by that date. The renewable premium required to support that renewable capacity ranges from \$2.24 Billion in Scenario 1 to \$1.24 Billion in Scenario 2 on an NPV basis for the period 2006 -2013.* IPM® calculates the cost of the renewable premium based upon an assumed 20-year capital recovery period for projects and a projected stream of renewable energy credit (REC) payments. The \$2.24 and \$1.24 billion premiums above reflect only the payments to be made in the years 2006 through 2013, inclusive, and do not include any subsequent REC payments after 2013. If the final RPS program design provides for payments to projects after 2013, the additional costs would be additive to those shown. When considered on a total production cost basis - the cost of capital, fuel and O&M to generate power in NY - the program cost varies from \$2.14 billion in Scenario 1 to \$1.08 billion in Scenario 2, also on an NPV basis for the period 2006 -2013. The eight percent RPS standard leads to a decrease in gas consumption of about four-five percent in 2013 in both scenarios relative to the Reference Case. As natural gas prices are indexed off of a national price point, the decline in gas consumption by NY generators does not impact the national price.

¹²⁸ Tr. 553-555.

¹²⁹ IPPNY Cost Comments, p.4.

Community Energy (also a signatory to the RETEC comments), responds to the baseline resource calculation. Community Energy comments on the relationship between the existing voluntary market for green power in New York, and considers Staff's projection of approximately 130 wind MW from green marketed efforts in the baseline to be overly conservative. Community believes this level could be reached in three years and exceeded in the next five years. As a policy matter, Community urges that the green marketing projection be removed from the baseline and added to the overall target for the RPS, to encourage the most vigorous growing market for renewable energy. It asserts a fixed long-term RPS obligation assures the returns necessary to encourage construction of new capacity now. As an accounting matter, Community fears the mandatory RPS and a voluntary market program could cancel each other out. While the RPS establishes the minimum level of green power required of all electric supply, with costs included in the supply cost individual customers continue to have the choice to pay an additional premium to bring green power online more quickly, accelerating the development of renewable supply. Community fears that if sales of renewable energy for premium to green customers under the green marketing program counts toward the mandatory RPS percentage, there is no incentive for a green market purchase. For customers, Community Energy fears, there will be no incentive to make voluntary payments for environmental benefit; as a policy matter, the long-term ceiling for retail renewable energy would be established at the mandatory RPS level, preventing innovation from a healthy voluntary market. Community's solution is to separate the RPS from green market premium products.

Joint Utilities criticized the study for inflating the amount of green marketing power likely to be added to the baseline.¹³⁰

6. Other Critiques of Cost Study II

¹³⁰ The Joint Utilities assert that the Cost Study II overstates Niagara Mohawk green marketing percentages and applies them unrealistically to other utilities.

The AES Group argues that the contract for difference structure will result in significant negative price impacts, especially off-peak, not evaluated by Cost Study II. They criticize the Cost Study II for not evaluating the impact of this pricing on existing resources, while it recognized that generation retirement will drive up RPS costs. In addition, the Cost Study II is criticized for understating actual marginal transmission losses; costs of higher operating reserve, regulation, and other reliability adjustments. In the view of the AES-NY parties, the \$100/kW adder is unverifiable.

Finally, the Business Council joins AES-NY in urging additional cost analysis following the Phase 2 reliability study prior to final PSC action, arguing the potential to increase electricity bills is unnecessarily risky, the analysis is speculative, and the factors guiding cost are open to fluctuation. In addition, the Business Council expresses concern that the displacement of nine percent of the electric energy derived from oil and gas resources projected by Cost Study II (Vol. A, p.2), could hinder the State's ability to attract non-renewable generation business.

Energy Enterprises, Inc. (EEI), generally is concerned that the Commission will rely on the Cost Study II assumptions as gospel, pointing to Staff's role as a party to the proceeding whose position should be given neither more nor less weight than other parties; and Staff's function as advisor to the Commission and preparer of the Cost Study II. EEI is concerned that the Cost Study II baseline not be viewed as the product of consensus of all parties. Substantively, EEI criticizes the Cost Study II for overemphasizing wind resources at the expense of energy resource diversity. IPPNY also asserts wind resources are modeled inaccurately in MAPS, assumed to comprise close to 50 percent of RPS energy. Because wind cannot be forecast reliably, IPPNY asserts, the NYISO will need to hold other units in reserve, adding to the cost. In IPPNY's view, the MAPS modeling incorrectly assumes wind predictability, overstating potential cost savings by exaggerating the elimination of non-renewable resources. It also asserts the air emission benefits are overstated, because units running at minimal levels emit a higher

rate of pollution per MWh. According to IPPNY the Cost Study II estimate of wholesale price savings is a forecast of \$270 million. IPPNY argues because of cumulative MAPS errors, this estimate is sufficiently flawed as to not warrant consideration, as are the estimates of emission reductions.

The NYISO advises its independent market advisor will study impacts of renewables on existing merchant generation; IPPNY argues absent this study, cost estimates are speculative; underestimation of transmission losses as renewable resources will be located in the far western part of the State; costs and

restrictions on wind development from voltage control equipment, among other operational improvements.¹³¹

Joint Utilities conclude that Cost Study II cannot be relied upon as an estimate of RPS program costs.¹³²

Joint Utilities fault the Cost Study II for assuming the \$100/kWh installed placeholder to represent costs not yet calculated which are the subject of the Phase 2 Reliability Report. Joint Utilities contest the \$100/kWh placeholder as based on systems other than New York, questioning the \$518 million annual figure noted in the Phase 1 Reliability Report. In addition, Joint Utilities criticized the report for not including costs of transmission congestion, resulting from the zone location of renewable generation.

Generally, the Joint Utilities assert that Cost Study II modeled a transmission system other than New York State's, and therefore, in their view, the findings cannot be relied upon. With respect to displaced or retired generation, the Joint Utilities note that market decision-making is not modeled. Faulting the Cost Study II for not mimicking the real-market economic decisions of investors, the Joint Utilities criticized the Cost Study II for not assuming the retirement of facilities except for those already suggested in the State Energy Plan, even though there are indications that some existing resource revenues would drop by 100 percent. Concomitantly, Joint Utilities charges the Cost Study II did not analyze whether these displaced facilities would need additional revenues to ensure they would provide reserves for reliability purposes; failed to take into consideration employment and other economic losses resulting from bankruptcy of non-renewable generators; and finally, failed to analyze markets in adjoining control areas, all resulting in understated RPS program costs.

¹³¹ FERC recently exempted wind generators from installation of voltage control requirements. *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003 A,106 FERC, 61,220 at ¶ 278-279 (2004), cited in IPPNY Cost Comments, p. 8.

¹³² Joint Utilities Cost Comments, p. 7.

In addition, the Joint Utilities fault the prime case for not including the cost effects of an alternative compliance mechanism, except for a sensitivity analysis for two test years. Joint Utilities critique Cost Study II for assuming zero availability of RPS increments in those test years, no cumulative decrease in RPS resources from prior years, no continuing slippage of resources in subsequent years and that the dollars/MWh premium costs would not go up as a result of tight renewable resources. Joint Utilities challenge the Cost Study II assumption that suppliers would not bid to the \$50 alternative compliance mechanism cap if resources were scarce because of the minimum of 150 percent of market price which would be administratively determined. Joint Utilities fear in an environment of scarcity, suppliers will emerge gradually which means prices will rise toward the \$50. Assuming that the alternative compliance mechanism would have to account for 25 percent of each year's RPS increment, the Joint Utilities calculate the cost at approximately \$371 million (2003 dollars).

The authors of Cost Study II view it as conservative; that is, tending to, if anything, overstate the cost of the program. Some parties, by contrast, find it cost-suppressive. However, the specifics listed by the Joint Utilities to support this view are some of the assumptions in the prime case with which Joint Utilities disagreed, including level of imports, overall program structure, deliverability, and resource eligibility criteria. Among these is the Joint Utilities' view that a conservative cost study would assume no Ontario imports; that the wind resources were overstated; that the Cost Study II did not match specific projects to the supply curve; and finally, the Joint Utilities view the Cost Study II approach to the supply curve as purely theoretical.

The Joint Utilities and MI, also fault the Cost Study II approach to wholesale price reductions, based on its reliance on a steep fossil fuel prices and the use of megazones; reject the Cost Study II use of a contract for differences approach, and assumptions concerning the production tax credit, fuel costs, and possible UCAP requirement changes.

For the first time, the Joint Utilities propose the implementation of an RPS pilot program.¹³³ In their view, a small-scale pilot program would allow gradual addition of renewable resources, with testing of the transmission, market, and reliability assumptions in the proceeding. In addition, in their view, a modest pilot program would inform the cost record. They also reiterate their preference for a centralized auction model.

Multiple Intervenors' comments on the Cost Study II generally reassert its view that the Commission should not, at this time, implement an RPS. Generally, MI views the Cost Study II as so flawed as to be unreliable. Like Joint Utilities, MI views the assumptions as faulty and the cost estimates as understated. In addition to the challenges raised by the Joint Utilities, MI faults Cost Study II for using 2003 dollars throughout, noting Staff's experts acknowledge the cost estimates would rise with inflation.¹³⁴ MI adds that no administrative costs of operating an RPS have been included. MI also reiterates its argument that before issuing a policy decision requiring RPS implementation, further cost studies should include all the costs of RPS consistent with the reliability study, including studying the wind generation currently under development. In the alternative, MI proposes the Commission may adopt basic RPS design, without incremental targets. These design elements include the baseline-eligible technologies, whether premiums will be based on a cost-of-service for market-clearing approach, and tier structure. Generally, MI urges that an RPS mandate should be implemented at least cost to consumers. Industrial consumers, with special utility, NYPA replacement power, expansion power, economic development power, or Power for Jobs, should not be required to pay RPS surcharges, as these programs were intended to enhance economic development by providing lower cost electricity.

¹³³ Joint Utilities Cost Comments, p. 36.

¹³⁴ Tr. 428-430, MI Cost Comments, p.2.

In MI's view, the Cost Study II understates RPS costs to consumers, among other reasons, because MI asserts there will be no price suppression effect for customers covered by long-term or special contracts.¹³⁵ MI points out that there are other consumers that will not benefit from wholesale price reductions. These include flex-rate contracts for new business customers, targeted at promoting economic development and retaining and attracting business.

MI also takes issue with the Cost Study II finding that the displacement of existing fuel generation will increase the security of New York's energy supply and increase diversity. MI notes that Staff did not model which units could be forced to re-dispatch or retire; nor was it demonstrated that the intermittent energy provided by wind will in fact increase reliability. In fact, MI quotes the Reliability Phase 1 Report conclusion that marginally operating existing, or expected new, fossil fuel generation may be retired or deferred in favor of wind, at the cost of some system reliability. MI adds that the concentration of renewable resources in Megazones One and Two, and the minor contribution of resources to be added in Megazone Three (NYC and Long Island) - only 18.18 MW would be located in Megazone Three - shows that the contribution of the main tier RPS to Megazone Three reliability will be very limited.

MI criticizes the use of megazones to forecast market prices, asserting that this approach distorts the analysis, when information is available to quantify market price based on the specific node at which output enters the bulk transmission system.¹³⁶ Similarly, MI asserts that the disparity between seasonal and time-of-day categories are not appropriately modeled on a megazone basis. MI also notes that while Staff stated that the displacement of fossil fuel generation may put downward pressure on regional market prices for these fuels, it conducted

¹³⁵ Tr. 546, MI Cost Comments, p. 6.

¹³⁶ MI Cost Comments, p. 15.

no analysis to support this statement and it should be disregarded.¹³⁷

MI also comments that since the Production Tax Credit is not currently available, main tier RPS premiums rise by approximately 17.5 percent.¹³⁸ MI also charges that Cost Study II understates the cost of the RPS by using 2003 dollars, offering cost estimates based upon inflation projections through 2013,¹³⁹ bringing the total program costs through 2013 to \$1,057,725,440.

Concerning the impact on electricity market prices, some parties charge the Cost Study II is inaccurate. Ridgewood argues the assumptions are overstated regarding exports from New York to New England, estimating New England has sufficient indigenous biomass supply under development to satisfy New England states' RPS requirements. Ridgewood predicts New York will be a net importer of renewables from New England. In addition, Ridgewood argues Cost Study II inappropriately includes in baseline small hydropower facilities with expiring above-market contracts, when a better approach is to maintain those facilities' viability by including them in the RPS.

Nucor reiterates its concerns regarding RPS structure and costs, faulting the Staff approach for locking in required increments based upon a snapshot assessment of a dynamic system, urging instead annual reassessment of RPS increments; inclusion of load demand reduction; elimination of import eligibility; and rejection of tiers as leading to an unrealistic program with unmanageable costs. Nucor urges the Commission not to favor technologies, but to include all cost-effective resources reducing emissions and providing environmental benefits, in particular, enhanced demand response.¹⁴⁰ Rather than include

¹³⁷ Tr. 574, cited in MI Cost Comments, p. 19. This record contains contradictory and somewhat speculative information on this point; therefore, it was not relied upon.

¹³⁸ MI Cost Comments, p. 23.

¹³⁹ MI Cost Comments, p. 27.

¹⁴⁰ Nucor cites the Cost Study II conclusion in its demand side management (DSM) sensitivity, that DSM appears less expensive than more renewable resources, and its inclusion could substantially reduce program cost, while critiquing the

imports, Nucor argues, the RPS should be open to demonstrated non-greenhouse gas emitting resources located in New York.

Discussion and Recommendations

Many of the parties' comments have been taken into account in revisions for this Recommended Decision. As to other critiques and corrections on this record, these cost estimates are sufficient to advise the Commission on policy choices given the long-term uncertainties inherent in such forecasting

VII. THE BALANCE OF THE RPS INQUIRY

Parallel to the RPS design work undertaken by the parties in working groups, were several other inquiries. These concerned the evaluations of methodologies to determine the economic, environmental, and other costs and benefits associated with RPS targets and design choices.

A. The Generic Environmental Impact Statement Process

As required by law, a Positive Declaration has been issued and published in DEC's Environmental Notice Bulletin. The Commission issued for comment a Draft Generic Environmental Impact Statement; this effort included a Market Assessment and Portfolio Strategies ("MAPS") production simulation model.

B. Public Input

A great deal of public interest was expressed in this case, in particular with respect to the eligibility of municipal solid waste. Over 900 letters opposing the inclusion of municipal solid waste were received from individuals and legislators. The record of this proceeding also includes numerous letters supporting the eligibility of MSW from state legislators, mayors, town supervisors, and others.

The Office of Consumer Education and Advocacy will conduct public outreach forums to get information to communities about the RPS, and to facilitate and seek public input. Public input was also sought and received on the Commission's toll-free

study's rejection of peak management programs as effective in reducing total energy usage.

Opinion Line and consumer website. The results of the public outreach process will be added to the record of this proceeding for the Commission's consideration.

C. Interaction with Other PSC Programs and Policies

In the course of the collaborative process, parties raised concerns about possible interaction between an RPS and existing PSC and other State programs and policies. An analysis will be needed concerning these interactions and interdependencies before a final RPS plan is implemented. These related policies include: barriers to interconnection in parts of the grid; uses of the Systems Benefit Charge; and the use of DSM.

D. Implementation and Next Steps

Some implementation priorities were identified by parties. Generally, states' RPS programs require detailed rules to specify the criteria for participation, trading contracts, and monitoring, among other concerns. The recommendation is that the Commission institute an implementation proceeding to bring its Policy Statement to life.

Several parties have submitted constructive and thoughtful approaches to reconvening Working Group Four to review existing trading and certificate programs in other jurisdictions, and to develop specific recommendations for business rules, accounting, and verification. The recommendation is that DPS Staff should draft rules with other state agencies as appropriate and that Working Group Four be reconvened for consultation, with a charge to present an implementation plan to the Commission no later than December 2004. If the Commission adopts the recommendation to commence the RPS in January 2006, the expeditious establishment of these rules is an immediate priority.

VI. CONCLUSION

The recommendation is that the Commission should adopt a policy statement commencing a renewable portfolio standard for New York State, to attain a target of 25 percent renewable energy

retailed in the State on an expeditious timetable, and with a fair distribution of the burdens and benefits of this program for New Yorkers. In order to ensure flexibility to adapt the program to changing market conditions and new technologies, the Commission should monitor the results and review its rules in the year 2008.

APPEARANCES:

FOR AEGIS ENERGY SERVICES, INC.:

Sara Davie
2097 Riverdale Street
West Springfield, MA 01089

FOR AES-NY, LLC:

Christopher Wentent
720 Riverside Drive
Johnson City, NY 13790

FOR AIRTRICITY, INC.:

Declan P. Flanagan
One Burlington Business Center
67 South Bedford Street, Suite 400W
Burlington, MA 01803

FOR AMERADA HESS CORPORATION:

Alyssa Weinberger
One Hess Plaza
Woodbridge, NJ 07095

FOR AMERICAN LUNG ASSOCIATION

Craig Wilson
432 Park Avenue, S. 8th Floor
New York, NY 10016

FOR AMERICAN REF-FUEL COMPANY

Susan King
155 Chestnut Ridge Road
Montvale, NJ 07645

FOR AMERICAN WIND ENERGY ASSOCIATION:

Valerie B. Strauss
Douglas H. Ward
David R. Wooley
Young, Sommer LLC
5 Palisades Drive
Albany, NY 12205

Jim Caldwell
122 C Street, NW Suite 380
Washington, DC 20001

FOR ANTARES GROUP, INC.:
Chris Lindsey
4351 Garden City Drive #301
Landover, MD 20785

FOR APX, INC.:
Ashley Houston
30 Parkman Street #3
Brookline, MA 02446

FOR ARNOLD & PORTER
Andrew Ratzkin
399 Park Avenue
New York, NY 10222

FOR ATLANTIC RENEWABLE ENERGY CORP.:
William Moore, Jr.
7612 State Street
Lowville, NY 13367

FOR AUDOBON NEW YORK
Carole Nemore
Michael Burger
200 Trillium Lane
Albany, NY 12203

FOR AZURE MOUNTAIN POWER COMPANY
Matthew Foley
220 Lewis Road
Wadhams, NY 12993

FOR BAKER BOTTS, LLP
Aaron Bielenberg
30 Rockefeller Road
New York, NY 10112-4498

FOR BRICKFIELD, BURCHETTE, RITTS & STONE
James W. Brew
1025 Thomas Jefferson St., NW
Washington, D.C. 20007

FOR BURLINGTON ELECTRIC DEPARTMENT
John Irving
585 Pine Street
Burlington, VT 05401

FOR BQ ENERGY, LLC:

Paul F. Curran
PO Box 338
Pawling, NY 12564

FOR CAPITAL CONSULTANTS

Chris McGrath
120 Washington Avenue
Albany, NY 12210-2289

FOR CENTER FOR ENERGY & ECONOMIC DEVELOPMENT

John Paul
PO Box 178
Ocean City, NJ 08226

FOR CENTRAL HUDSON GAS & ELECTRIC CORPORATION:

Bruce J. Sieving
John W. Watzka
284 South Avenue
Poughkeepsie, NY 12601

Thompson Hine LLP
Robert J. Glasser, Esq., of Counsel
One Chase Manhattan Plaza, 58th Floor
New York, NY 10005-1401

FOR CITIZENS ADVISORY PANEL

Gordian Raacke
2316 Main Street
PO Box 789
Bridghampton, NY 11932

FOR CITY OF NEW YORK:

Michael J. Delaney, Esq.
110 William Street, 4th Floor
New York, NY 10038

FOR COMMUNITY ENERGY:

Brent Alderfer
Amy McGinty
150 Strafford Avenue, Suite 110
Wayne, PA 19087

FOR COMMUNITY POWER NETWORK OF NYS

Sue Montgomery Corey
PO Box 36
1714 Route 28N, Suite 1
Minerva, NY 12851

FOR CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. AND
ORANGE AND ROCKLAND UTILITIES, INC.:

Stephen R. Pincus, Esq.
Consolidated Edison Company of New York, Inc.
4 Irving Place - Room 1815-S
New York, NY 10003

FOR CONSERVATION SERVICES GROUP:

Mark Dyen
Patricia D. Stanton
40 Washington Street
Westborough, MA 01581

Philip Tullgren
126 State Street, 3rd Floor
Albany, NY 12207

FOR CON EDISON SOLUTIONS:

Stephen Wemple
Peter Blom
701 Westchester Avenue
White Plains, NY 10604

FOR CONSTELLATION NEWENERGY:

Jeffrey B. Durocher, Esq.
Read & Laniado, LLP
25 Eagle Street
Albany, NY 12207

Sara O'Neill
551 Fifth Avenue, Suite 400
New York, NY 10176

FOR COUNTY OF WESTCHESTER:

Stewart M. Glass, Esq.
600 Michaelian Office Building
148 Martine Avenue
White Plains, NY 10601

FOR COVANTA ENERGY GROUP

Paula Soos
40 Lane Road
Fairfield, NJ 07004

FOR DMJM+HARRIS, INC.

Thomas K. McCarthy
605 Third Avenue
New York, NY 10158

JOHN DOWLING

4812 Foxwood Drive South
Clifton Park, NY 12065

FOR EAST RIVER ENVIRONMENTAL COALITION

Lois Sturm
628 East 14th St. #6
New York, NY 10009-3346

FOR ECOGEN, LLC

Thomas L. Hagner
950-A Union Road, Suite 20
West Seneca, NY 14224-3454

FOR ECOLOGY & ENVIRONMENT, INC.

Francis J. Murray, Jr.
147 Westchester Drive
Delmar, NY 12054

FOR ECOSYSTEM PROJECTS LLC:

Stephan Henriquez
126 South Swan Street
Albany, NY 12210

FOR E-CUBED COMPANY, LLC

Ruben S. Brown
215 East 79th St.
New York, NY 10021

FOR EMPIRE STATE DEVELOPMENT

Michael Santarcangelo
30 South Pearl Street
Albany, NY 12245

FOR EMPIRE STATE FOREST PRODUCT ASSOCIATION

Kevin S. King
828 Washington Avenue
Albany, NY 12203

FOR EMPIRE STATE PETROLEUM ASSOCIATION, INC.

Roland, Fogel, Koblenz & Petroccione LLC
Emilio Petroccione, Esq.
1 Columbia Place
Albany, NY 12207

FOR ENCORP

Josh Meyer
30 N. LaSalle, Suite 2250
Chicago, IL 60602

FOR ENERGETIX, INC.:

Barney Farnsworth, Jr.
Robert J. Hobday
755 Brooks Avenue
Rochester, NY 14619

FOR ENERGY COOPERATIVE OF NY, INC.:

Joseph Mascaro
Suite 411, 403 Main St.
Buffalo, NY 14205-0017

FOR ENERGY ENTERPRISES, INC.

William R. Green
3401 Rochester Road
PO Box 687
Lakeville, NY 14480

FOR ENERGY MANAGEMENT, INC.:

Dennis J. Duffy
75 Arlington St., Suite 704
Boston, MA 02116

FOR ENERGY VENTURES ANALYSIS, INC.

Tom Hewson
1901 N Moore St., Suite 1200
Arlington, VA 22209

FOR EVOLUTION MARKETS LLC:

Carl Ferrentino
1 Columbia Place
Albany, NY 12207

Anne Giovinetto
10 Bank Street, 4th Floor
White Plains, NY 10606

FOR EXETER ASSOCIATES, INC.

Kevin Porter
12510 Prosperity Dr., Suite 350
Silver Springs, MD 20904

FOR FLAT ROCK WIND POWER, LLC

William Moore, Jr.
7612 State Street, Suite 7
Lowville, NY 11367

FOR FUEL CELL ENERGY, INC.

Len Singer
540 Broadway
Albany, NY 12201

Richard Shaw
3 Great Pasture Road
Danbury, CT 06813

FOR GE WIND ENERGY

Robert T. Boyd
6130 Stoneridge Mall Road, Suite 275
Pleasanton, CA 94588

FOR GLOBAL WIND HARVEST:

Erich Bachmeyer
424 Saratoga Road
Scotia, NY 12302

FOR GREEN MOUNTAIN ENERGY COMPANY:

Thomas H. Rawls
123 Bloomingdale Ave., Suite 202
Wayne, PA

FOR CAROL A. HAMILTON

Marsh & Associates, PC
111 Washington Ave., Suite 405
Albany, NY 12210

FOR HARBEC PLASTICS, INC.

Gerald F. Wahl
369 Route 104
Ontario, NY 14519

FOR HYDRO-QUEBEC:

Gilles Favreau
75 Boul. Rene-Levesque, West
19th Floor
Montreal, Quebec H2Z 1A4

FOR INDEPENDENT ELECTRICITY MARKET OPERATOR:

Carl A. Burrell
655 Bay Street, Suite 410
PO Box 1
Toronto, Ontario M5G 2K4

FOR INDEPENDENT POWER PRODUCERS OF NEW YORK:

David B. Johnson, Esq.
Read & Laniado, LLP
25 Eagle Street
Albany, NY

Cindy L. Reed
Corporate Drive
Kirkwood Industrial Park
PO Box 5224
Binghamton, NY 13902-5224

FOR INTEGRATED WASTE SERVICES ASSOCIATION:

Maria Zannes, President
1401 H Street NW, Suite 220
Washington, D.C. 20005

FOR NEW YORK INDEPENDENT SYSTEM OPERATOR:

Gerald R. Deaver, Esq.
Garry Brown
Aaron Bridenbaum
William LaManna
290 Washington Avenue Extension
Albany, NY 12203

FOR JAMESTOWN BOARD OF PUBLIC UTILITIES:

Jeffrey Genzer
Tom L. Rudebusch
Tanja Shonkwiler
Duncan, Weinberg, Genzer & Pembroke, PC
1615 M Street, NW, Suite 800
Washington, D.C. 20036

FOR JOINT UTILITIES

Lisa Gayle Bradley, Esq.
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, NY 13202

Thompson Hine LLP
Robert J. Glasser, Esq., of Counsel
Central Hudson Gas & Electric
One Chase Manhattan Plaza, 58th Floor
New York, NY 10005-1401

FOR KEYSpan ENERGY:

Cynthia R. Clark, Esq.
Anna S. Chacko, Esq.
Curt J. Dahl, P.E.
175 East Old Country Road
Hicksville, NY 11801-4280

FOR LEBOEUF, LAMB, GREENE & MACRAE, LLP

Brian T. Fitzgerald, Esq.
Noelle M. Kinsch, Esq.
99 Washington Avenue, Suite 2020
Albany, NY 12210

H. Liza Moses
125 W. 55th Street
New York, NY 10019-5389

FOR LEVERAGED ENERGY PURCHASING CORPORATION:

David W. Koplas
403 Main Street, Suite 630
Buffalo, NY 14203

FOR LONG ISLAND POWER AUTHORITY:

Daniel Zaweski
Suite 403, 333 Earle Ovington Blvd.
Uniondale, NY 11553

FOR LOW IMPACT HYDROPOWER INSTITUTE:

Fred Ayer
34 Providence Street
Portland, ME 04103

FOR LUTHIN ASSOCIATES, INC.

Catherine Luthin
15 Walling Place
Avon-by-the-Sea, NJ 07717

FOR MASSACHUSETTS TECHNOLOGY COLLABORATIVE

Gary R. Rotenberg
Redmond Advisors, Inc.
5 Huguenot Drive
Larchmont, NY 10538

DOUGLAS R. MCCUEN

138 Main Street, PO Box 161
New Baltimore, NY 12124

FOR MEYER, SUOZZI, ENGLISH, AND KLEIN

Judith Heller
One Commerce Plaza, Suite 1102
Albany, NY 12260

FOR MIRANT CORPORATION

Doreen Saia
540 Broadway
Albany, NY 12201

FOR MITSUBISHI POWER SYSTEMS:

Robert I. Wright
100 Bayview Circle, Suite 4000
Newport Beach, CA 92660

SUE MONTGOMERY COREY

1714 Route 28N, Suite 1
Minerva, NY 12851

FOR MULTIPLE INTERVENORS:

Barbara S. Brenner, Esq.
Michael B. Mager, Esq.
Couch White, LLP
540 Broadway
PO Box 22222
Albany, NY 12201-2222

FOR MUNICIPAL ELECTRIC UTILITIES ASSOCIATION:

Mollie Lampi, Esq.
Gerald Deaver, Esq.
290 Washington Avenue Extension
Albany, NY 12203

Kevin Brocks, Esq.
Read and Laniado
25 Eagle Street
Albany, NY 12207-1901

FOR NATIONAL BIODIESEL BOARD:

Charles Hatcher
PO Box 104898
Jefferson City, MO 65110

FOR NATIONAL ENERGY MARKETERS ASSOCIATION

Heather Master, Craig Goodman, Stacey Rantala
3333 K Street, NW, Suite 110
Washington, D.C. 20007

FOR NATSOURCE LLC:

Matthew C. Williamson
140 Broadway
New York, NY 10005

FOR NATURAL RESOURCES DEFENSE COUNCIL, INC.

Katherine Kennedy, Esq.
Nathanael Greene
40 W. 20th Street
New York, NY 10011

FOR NAVIGANT CONSULTING, INC.

Kevin B. Jones
20 Madison Avenue, Ext.
Albany, NY 12203-5326

FOR NEW YORK CITY COUNCIL:

Donna De Costanzo
250 Broadway, 14th Floor
New York, NY 10007

FOR NEW YORK CITY ECONOMIC DEVELOPMENT CORPORATION:

Michael Delaney
110 William Street, 4th Floor
New York, NY 10038

FOR NEW YORK ENERGY SERVICE PROVIDERS ASSOCIATION
ADIRONDACK HYDRO DEVELOPMENT CORP.:

Read and Laniado, LLP
Jeffrey B. Durocher, Esq., of Counsel
25 Eagle Street
Albany, NY 12207

John Conley
39 Hudson Falls Road
South Glens Falls, NY 12803

FOR NEW YORK MUNICIPALS:

Jeffrey Genzer, Esq.
Tom L. Rudebusch, Esq.
Tanja Shonkwiler, Esq.
Duncan, Weinberg, Genzer & Pembroke, PC
1615 M Street, NW, Suite 800
Washington, D.C. 20036

FOR NEW YORK POWER AUTHORITY:

Timothy P. Sheehan, Esq.
John Osinski
30 South Pearl Street
Albany, NY 12207

Terryl Moreland
123 Main Street
White Plains, NY 10601-3170

FOR NEW YORK PUBLIC INTEREST RESEARCH GROUP:

Jason K. Babbie
9 Murray Street
New York, NY 10007

Noelle M. Kinsch, Esq.
LeBoeuf, Lam, Greene, MacRae LLP
One Commerce Plaza
99 Washington Ave., Suite 2020
Albany, NY 12210

FOR NEW YORK RENEWABLE ENERGY COALITION:

Wilson Rickerson
Tria Case
126 State Street
Albany, NY 12207

FOR NEW YORK STATE ASSEMBLY PROGRAM DEVELOPMENT GROUP

John G. Williams
Tanya Tarr
Agency 4, 12th Floor
Albany, NY 12248

FOR NEW YORK STATE ATTORNEY GENERAL:

Judith Enck
Loretta Simon, Esq.
State Capitol
Albany, NY 12224-0341

Thomas Congdon
Keith Gordon, Esq.
120 Broadway, 26-125
New York, NY 10271

FOR NEW YORK STATE CONSUMER PROTECTION BOARD:

Seth R. Lamont
Suite 2101, 5 Empire State Plaza
Albany, NY 12223

FOR NEW YORK STATE DEPARTMENT OF ECONOMIC DEVELOPMENT

Keith Corneau
George M. Kazanjian
30 South Pearl Street
Albany, NY 12245

FOR NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL
CONSERVATION:

James H. Ferreira, Esq.
General Counsel
(Meghan Purvee, Esq., Assistant Counsel, of Counsel)
Division of Legal Affairs
625 Broadway 14th Floor
Albany, NY 12237-1500

FOR NEW YORK STATE DEPARTMENT OF PUBLIC SERVICE STAFF:

Paul Agresta, Esq.
Saul Rigberg, Esq.
Wayne Brindley
John D'Aloia
Christina Palmero
Doug May
Joseph Parella
3 Empire State Plaza
Albany, NY 12223

FOR NEW YORK STATE DORMITORY AUTHORITY

Thomas Piwinski
515 Broadway
Albany, NY 12207-2964

FOR NEW YORK STATE ELECTRIC & GAS AND ROCHESTER GAS &
ELECTRIC CORPORATION:

Amy Davis, Esq.
Huber, Lawrence & Abell
605 Third Avenue, 27th Floor
New York, NY 10158

Cindy Reed
Eric J. Wilen
Kirkwood Industrial Park
PO Box 5224
Binghamton, NY 13902

Linda Saalman
89 East Avenue
Rochester, NY 14649

FOR NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT
AUTHORITY:

John Saintcross
Peter R. Keane, Esq.
17 Columbia Circle
Albany, NY 12203-6399

FOR NEW YORK STATE RELIABILITY COUNCIL

Joseph C. Fleury
P.O. Box 3607
Binghamton, NY 13902-3607

FOR NIAGARA MOHAWK POWER CORPORATION:

Jeffrey R. Barbaro
Lisa Gayle Bradley, Esq.
300 Erie Boulevard West
Syracuse, NY 13202

FOR NISOURCE, INC.

Bruce M. Diamond
10 G St. NE, Suite 580
Washington, D.C. 20002

FOR NIXON PEABODY LLP

Richard M. Cogen, Esq.
Jessica A. Graf, Esq.
Omni Plaza, Suite 900
30 South Pearl Street
Albany, NY 12207

FOR NUCOR STEEL AUBURN, INC.:

James W. Brew, Esq.
Brickfield, Burchette, Ritts & Stone, P.C.
1025 Thomas Jefferson St., N.W.
Washington, D.C. 20007

FOR ONONDAGA COUNTY RESOURCE RECOVERY AGENCY

A.T. Rhoads
100 Elwood Davis Road
North Syracuse, NY 13212-4312

FOR ONTARIO POWER GENERATION

Barry A. Green
700 University Avenue (H18-G3)
Toronto, Ontario Canada M5G 1X6

FOR PACE ENERGY PROJECT:

Laurence DeWitt
13 Tamarack Drive
Delmar, NY 12054

FOR PEPSCO ENERGY SERVICES

James Savage
1300 North 17th St.
Suite 1600
Arlington, VA 22209

Morris A. Pierce
University of Rochester
364 Rush Rhees Library
Rochester, NY 14627

FOR PLUG POWER, INC.:

Rudy Stegemoeller, Esq.
PO Box 359
Poestenkill, NY 12140

Gerald L. Conway, Jr.
968 Albany Shaker Road
Latham, NY 12110

FOR PRIMARY POWER

Doug Balleine
168 E. Center Street
Ithaca, MI 48847

FOR PUBLIC UTILITY LAW PROJECT:

Gerald A. Norlander, Esq.
90 State Street, Suite 601
Albany, NY 12207

FOR READ & LANIADO, LLP

Jeffrey B. Durocher, Esq.
David B. Johnson, Esq.
25 Eagle Street
Albany, NY 12207

FOR RELIANT RESOURCES INC.:

John Paul Reese
49 Linda Court
Delmar, NY 12054

FOR RUPERT REVERENCE:

Eric Gagnon
1442 Chemin Haut de la Riviere
Nord
Saint-Pie (Quebec)
Canada JOH 1W0

FOR REGULATORY WATCH, INC.

Sarah Miller
PO Box 815
Albany, NY 12201

FOR RIDGEWOOD RENEWABLE POWER, LLC:

Julie L. Friedberg
Thelen, Reid & Priest LLP
65 Madison Ave., Suite 100
Morristown, NJ 07960-7307

FOR RIDGEWOOD POWER MANAGEMENT:

William P. Short III
Daniel V. Gulino
947 Linwood Avenue
Ridgewood, NJ 07450

FOR SEAWEST WINDPOWER, INC.:

Darin Huseby
5015 NE Cleveland Avenue
Portland, OR 92711

FOR SELECT ENERGY NEW YORK, INC.:

Angelo Chambrone
507 Plum Street
Syracuse, NY 13204

FOR SHELL TRADING GAS AND POWER COMPANY

Matthew Picardi
27 Winthrop Road
Hingham, MA 02043

James J. Cifaratta
Two Clinton Square, Suite 305
Syracuse, NY 13202

FOR SIERRA CLUB:

John Stouffer
353 Hamilton Street
Albany, NY 12210

FOR SIERRA CLUB ATLANTIC CHAPTER:

Susan Lawrence
PO Box 7194
Capital Station
Albany, NY 12224

FOR SLATER CONSULTING:

Mark Younger
69 Werking Road
East Greenbush, NY 12061

FOR SMALL CUSTOMER MARKET COALITION:

Usher Fogel, Esq.
557 Central Avenue, Suite 4A
Cedarhurst, NY 11516

FOR SOLAR ENERGY INDUSTRIES ASSOCIATION:

Greg Andeck
424 Dryden Road
Ithaca, NY 14850

FOR STERLING PLANET:

Robert A. Maddox, Jr.
PO Box 186
Litchfield, CT 06759

Mel Jones
3775 Mansell Road
Alpharetta, GA 30022

KING & SPALDING, LLC
Bernarys T Barclay, Esq., of Counsel
Adam Sheinkin
1185 Avenue of the Americas
New York, NY 10036

FOR STRATEGIC ENERGY:

Francis E. Pullaro
45 Main Street, Suite 608
Brooklyn, NY 11201

FOR STRATEGIC POWER MANAGEMENT, INC.: (By Telephone)

Daniel P. Duthie
51 Greenwich Avenue
Goshen, NY

FOR SUNY CENTER FOR SUSTAINABLE AND RENEWABLE ENERGY:

Cornelius B. Murphy, PhD.
One Forestry Drive
Syracuse, NY 13210-2778

FOR SUSTAINABLE ENERGY ADVANTAGE, LLC:

Robert C. Grace
4 Lodge Lane
Natick, MA 01760

FOR SUSTAINABLE ENERGY DEVELOPMENT, INC.:

Kevin M. Schulte
885 Thousand Acre Road
Delanson, NY 12053

FOR TANNERY ISLAND POWER COMPANY HYDRO POWER, INC. AND
ENERGY ENTERPRISES, INC.:

Paul V. Nolan
5515 N. 17th Street
Arlington, VA 22205

FOR TAYLOR RECYCLING FACILITY LLC:

Tom Kacandes
350 Neelytown Road
Montgomery, NY 12549

FOR THE ADIRONDACK COUNCIL

Radmila Miletich
342 Hamilton Street
Albany, NY 12210

Jamie A. Ethier
PO Box D-2
Elizabethtown, NY 12932

FOR THE BUSINESS COUNCIL OF NEW YORK STATE:

Johnny Evers
152 Washington Avenue
Albany, NY 12210

FOR THE ENERGY ASSOCIATION OF NEW YORK STATE:

Patrick J. Curran, Esq.
Michael J. Rynasko
Howard Shapiro, Esq.
Stuart Silbergleit
Suite 601
111 Washington Avenue
Albany, NY 12210

FOR THE NEW YORK FARM BUREAU:

Jeff Williams
Rt. 9W, Box 992
Glenmont, NY 12077

FOR THE PUBLIC UTILITY LAW PROJECT:

Ben Wiles, Esq.
90 State Street, Suite 601
Albany, NY 12207

FOR THE RENEWABLE ENERGY TECHNOLOGY AND ENVIRONMENTAL
COALITION:

Katherine Kennedy, Esq.
Nathanael Greene
40 W. 20th St.
New York, NY 10011

FOR THE SARATOGA ASSOCIATES:

Richard Benas
443 Broadway
Saratoga Springs, NY 12866

FOR THOMPSON HINE LLP:

Robert J. Glasser, Esq.
One Chase Manhattan Bank
New York, NY 10005

FOR TRANSMISSION OWNERS COMMITTEE ON THE ENERGY ASSOCIATION
OF NEW YORK STATE:

Paul Gioia, Esq.
LeBoeuf, Lamb, Green & Macrae, LLP
99 Washington Avenue, Suite 2020
Albany, NY 12210-2820

GENE TRISKO, Esq.

PO Box 596
Berkley Springs, WV 25411

FOR UNION OF CONCERNED SCIENTISTS:

Jeff Deyette
2 Brattle Square
Cambridge, MA 02238

FOR UTC POWER:

Heather Hunt
W.H. Robert and H.F. Hunt, LLC
242 Whhipoorwill Lane
Stratford, CT 06614

FOR UTILITY WORKERS UNION AND IBEW:

Richard J. Koda
Koda Consulting, Inc.
409 Main Street
Ridgefield, CT 06877

FOR US ENERGY BIOGAS CORPORATION:

Dominic Antignano
1420 D Church Street
Bohemia, NY 11716

FOR WEBGEN SYSTEMS, INC.:

Mark Noyes
41 William Linskey Way
Cambridge, MA 02142

FOR WHEELABRATOR TECHNOLOGIES, INC.:

Frank Ferraro
4 Liberty Lane
West Hampton, NH 03842

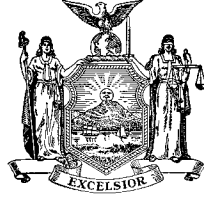
FOR WIND TURBINE & ENERGY CABLES CORP.:

Eugene J. Tonkovich
Douglas W. Schmidt
Suite 415, Polygon Plaza
2050 Center Avenue
Fort Lee, NJ 07024-4909

FOR ZILKHA RENEWABLE ENERGY:

Patrick Doyle
1001 McKinney Suite 1740
Houston, TX 77002

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**



**NEW YORK RENEWABLE PORTFOLIO STANDARD
RECOMMENDED DECISION COST ANALYSIS**

List of Tables

Table 1	<u>Incremental RPS Targets</u>	1
Table 2	<u>Calculation of RPS Targets</u>	1
Table 3	<u>Quantity of Renewable Resources Reached Through 2013</u>	2
Table 4	<u>Quantity of SBC-Like Tier Renewable Resources Through 2013</u>	3
Table 5	<u>Annual Cost Premiums to Achieve the RPS – Cost Based Approach</u>	3
Table 6	<u>Annual Cost Premiums to Achieve the RPS – Market Clearing Approach</u>	3
Table 7	<u>Cumulative Cost Premiums to Achieve the RPS – Cost Based Approach</u>	3
Table 8	<u>Cumulative Cost Premiums to Achieve the RPS – Market Clearing Approach</u>	4
Table 9	<u>Annual Wholesale Energy Cost Reductions Due to RPS – Statewide Totals</u>	4
Table 10	<u>UCAP Payments to Renewable Generators</u>	4
Table 11	<u>Annual Capacity Cost Changes Due to RPS – Statewide Totals</u>	4
Table 12	<u>Comparison of Net Present Value in Year 2003</u>	4
Table 13	<u>Range of Bill Impact – Current Bills to Lowest and Highest of Years 2006, 2009 & 2013</u>	5
Table 14	<u>Range of Bill Impact by Utility – Current Bills to Years 2006, 2009 & 2013</u>	6
Table 15	<u>Fuel Usage Changes – Year 2013</u>	7
Table 16	<u>Air Emissions Reductions with RPS</u>	7
Table 17	<u>Displacement of Generation Resources</u>	8
Table 18	<u>Reduction in Fuel Price & Supply Risk</u>	8
Table 19	<u>Comparison of Year 2003 Present Value of 2006-2013 Bill Impacts</u>	8
Table 20	<u>Comparison of Absolute Worst Case Bill Impact, NYPA-IN – NYPA-OUT</u>	8
Table 21	<u>Comparison of Target Year Effect on RPS Incremental Steps</u>	9
Table 22	<u>Incremental RPS Regulatory Targets for LSEs other than NYPA & MUNIs</u>	9
Table 23	<u>List of RD Cost Analysis Spreadsheet Files to be Posted on DPS Website</u>	10

Table 1
Incremental RPS Targets

Year	RPS Percentages
2006	0.94%
2007	1.92%
2008	2.87%
2009	3.81%
2010	4.74%
2011	5.67%
2012	6.58%
2013	7.50%

Table 2
Calculation of RPS Targets (MWh's)

Year	SEP Forecast	Baseline	EO 111	Green Marketing	Increment Target	Total Renewables	Renewables Percentage	Incremental Percentage
2003	160,480,000	31,159,134	0	0	0	31,159,134	19.42%	0
2004	162,844,000	31,405,565	0	0	0	31,405,565	19.29%	0
2005	165,280,000	31,411,462	251,065	274,953	0	31,937,479	19.32%	0
2006	167,490,000	31,417,358	283,192	274,953	1,577,518	33,553,020	20.03%	0.94%
2007	169,977,000	31,411,491	315,338	274,953	3,255,600	35,257,382	20.74%	1.92%
2008	172,404,000	31,405,624	347,505	274,953	4,956,086	36,984,168	21.45%	2.87%
2009	174,658,000	31,399,758	379,691	274,953	6,652,656	38,707,057	22.16%	3.81%
2010	176,910,000	31,393,891	411,897	274,953	8,380,737	40,461,478	22.87%	4.74%
2011	179,031,000	31,388,024	394,132	274,953	10,159,859	42,216,968	23.58%	5.67%
2012	180,907,000	31,382,158	376,366	274,953	11,909,571	43,943,047	24.29%	6.58%
2013	182,866,999	31,376,291	358,601	274,953	13,706,906	45,716,750	25.00%	7.50%

Table 3
Quantity of Renewable Resources Reached Through 2013

ENERGY SOURCE BLOCK	Location	Market Index	MWs Reached	MWHs Reached
Landfill Gas Microturbines NY z2	NY Zone 2	NY Zone 2	1.06	8,841
Wind Clusters NY-z3b3	NY Zone 3	NY Zone 3	15.00	38,106
Off-Shore Wind LI NY-z3	NY Zone 3	NY Zone 3	499.68	1,488,241
Biomass Co-firing w/Coal NY-z1 b3	NY Zone 1	NY Zone 1	137.00	660,066
Hydro Upgrades Ontario	Ontario	NY Zone 1	800.00	3,000,000
Hydro Upgrades Quebec	Quebec	NY Zone 1	300.00	1,182,600
Wind Clusters NY-z1b2	NY Zone 1	NY Zone 1	150.00	433,620
Wind Farms PJM b1	PJM	NY Zone 1	250.00	722,700
Biomass Co-firing w/Coal NY-z1 b2	NY Zone 1	NY Zone 1	63.00	386,316
Wind Clusters NY-z3b2	NY Zone 3	NY Zone 3	15.00	43,362
Wind Farms NY-z1b3	NY Zone 1	NY Zone 1	1400.00	3,556,560
Landfill Gas IC Engines NY z3	NY Zone 3	NY Zone 3	3.18	26,505
Wind Clusters NY-z1b1	NY Zone 1	NY Zone 1	20.00	64,824
Wind Farms NY-z2b3	NY Zone 2	NY Zone 2	50.00	127,020
Wind Farms NY-z1b2	NY Zone 1	NY Zone 1	450.00	1,300,860
Biomass Co-firing w/Coal NY-z2	NY Zone 2	NY Zone 2	56.00	294,336
Wind Farms NY-z2b2	NY Zone 2	NY Zone 2	50.00	144,540
Wind Farms NY-z1b1	NY Zone 1	NY Zone 1	50.00	162,060
Biomass Co-firing w/Coal NY-z1 b1	NY Zone 1	NY Zone 1	38.00	233,016
Landfill Gas IC Engines NY z1	NY Zone 1	NY Zone 1	88.15	733,577
Landfill Gas IC Engines NY z2	NY Zone 2	NY Zone 2	25.73	214,117
Eligible Hydro Maintenance NY z1	NY Zone 1	NY Zone 1	41.53	127,333
		TOTALS	4,503.33	14,948,600
		NY RPS	4,129.26	13,706,906

Table 4
Quantity of SBC-Like Tier Renewable Resources Through 2013

	<u>MWh's</u>	<u>MW's</u>
Solar PV	24,519	18.66
Wind Small	1,361	0.78
<u>Fuel Cells</u>	<u>248,258</u>	<u>31.49</u>
Totals	274,138	50.93

Table 5
Annual Cost Premiums to Achieve the RPS – Cost Based Approach (2003\$)

	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
RPS Main Tier	\$15,901,306	\$41,883,864	\$73,578,940	\$108,460,885
RPS SBC-Like Tier	<u>\$24,741,325</u>	<u>\$24,741,325</u>	<u>\$24,741,325</u>	<u>\$17,743,804</u>
Total Cost to Achieve RPS	\$40,642,631	\$66,625,189	\$98,320,265	\$126,204,689
	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
RPS Main Tier	\$139,601,134	\$172,932,249	\$201,711,887	\$236,443,268
RPS SBC-Like Tier	<u>\$17,743,804</u>	<u>\$17,743,804</u>	<u>\$10,746,282</u>	<u>\$10,746,282</u>
Total Cost to Achieve RPS	\$157,344,937	\$190,676,053	\$212,458,169	\$247,189,551

Table 6
Annual Cost Premiums to Achieve the RPS – Market Clearing Approach (2003\$)

	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
RPS Main Tier	\$24,302,252	\$59,903,103	\$94,583,228	\$132,449,400
RPS SBC-Like Tier	<u>\$24,741,325</u>	<u>\$24,741,325</u>	<u>\$24,741,325</u>	<u>\$17,743,804</u>
Total Cost to Achieve RPS	\$49,043,577	\$84,644,429	\$119,324,554	\$150,193,204
	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
RPS Main Tier	\$166,206,145	\$203,897,066	\$239,978,395	\$280,323,981
RPS SBC-Like Tier	<u>\$17,743,804</u>	<u>\$17,743,804</u>	<u>\$10,746,282</u>	<u>\$10,746,282</u>
Total Cost to Achieve RPS	\$183,949,949	\$221,640,870	\$250,724,677	\$291,070,264

Table 7
Cumulative Cost Premiums to Achieve the RPS – Cost Based Approach (2003\$)

	<u>2006-2013</u>
RPS Main Tier	\$990,513,532
RPS SBC-Like Tier	<u>\$148,947,952</u>
Total Cost to Achieve RPS	\$1,139,461,484

Table 8
Cumulative Cost Premiums to Achieve the RPS – Market Clearing Approach (2003\$)

	<u>2006-2013</u>
RPS Main Tier	\$1,201,643,572
RPS SBC-Like Tier	\$148,947,952
Total Cost to Achieve RPS	\$1,350,591,524

Table 9
Annual Wholesale Energy Cost Reductions Due to RPS – Statewide Totals (2003\$)

Year	Reductions
2006	-\$18,546,150
2009	-\$37,852,103
2013	-\$137,480,320

Table 10
UCAP Payments to Renewable Generators (2003\$)

<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
\$450,099	\$2,871,035	\$5,291,972	\$7,712,908	\$11,299,626	\$14,886,343	\$18,473,060	\$22,059,778

Table 11
Annual Capacity Cost Changes Due to RPS – Statewide Totals (2003\$)

Year	Changes
2006	-\$15,612,921
2009	+\$22,972,581
2013	-\$784,459

Table 12
Comparison of Net Present Value in Year 2003 (2003\$)

	RD Case Cost Based Approach	RD Case Market Clearing Approach
Net Present Value	\$158,019,463	\$327,981,553

Table 13

Range of Bill Impact – Current Bills to Lowest and Highest of Years 2006, 2009 & 2013 (2003\$)

	RD Case Both Approaches
Residential	-1.16% to +1.83%
Commercial	-1.00% to +1.95%
Industrial	-1.98% to +2.38%

Table 14
Range of Bill Impact by Utility – Current Bills to Years 2006, 2009 & 2013

PRIME CASE Cost Based Approach	2006	2009	2013
CENTRAL HUDSON			
Residential Bill Impact Range	-0.13% to 0.00%	0.00% to +1.35%	0.00% to +1.25%
Commercial Bill Impact Range	-0.15% to -0.04%	+1.07% to +1.61%	+0.83% to +1.49%
Industrial Bill Impact Range	-0.22% to -0.06%	+1.45% to +2.26%	+1.12% to +2.08%
CON EDISON			
Residential Bill Impact Range	0.00% to +0.07%	0.00% to +0.68%	0.00% to +0.83%
Commercial Bill Impact Range	+0.01% to +0.05%	+0.32% to +0.54%	+0.34% to +0.66%
Industrial Bill Impact Range	+0.01% to +0.06%	+0.42% to +0.67%	+0.46% to +0.82%
NYSEG			
Residential Bill Impact Range	-0.07% to 0.00%	0.00% to +0.27%	-0.83% to 0.00%
Commercial Bill Impact Range	-0.07% to -0.01%	+0.09% to +0.26%	-0.82% to -0.42%
Industrial Bill Impact Range	-0.11% to -0.03%	+0.15% to +0.41%	-1.28% to -0.74%
NIAGARA MOHAWK			
Residential Bill Impact Range	-0.17% to 0.00%	0.00% to +0.21%	-1.16% to 0.00%
Commercial Bill Impact Range	-0.15% to 0.00%	0.00% to +0.18%	-1.00% to 0.00%
Industrial Bill Impact Range	-0.29% to -0.09%	+0.04% to +0.35%	-1.98% to -0.75%
O&R			
Residential Bill Impact Range	-0.38% to 0.00%	0.00% to +1.83%	0.00% to +1.55%
Commercial Bill Impact Range	-0.41% to -0.19%	+1.01% to +1.95%	+0.75% to +1.65%
Industrial Bill Impact Range	-0.50% to -0.32%	+1.65% to +2.38%	+1.23% to +2.01%
RG&E			
Residential Bill Impact Range	0.00% to +0.09%	0.00% to +0.55%	-0.32% to +0.02%
Commercial Bill Impact Range	+0.01% to +0.08%	+0.19% to +0.48%	-0.28% to +0.02%
Industrial Bill Impact Range	+0.02% to +0.12%	+0.31% to +0.72%	-0.41% to +0.03%

Table 15
Fuel Usage Changes – Year 2013

FUEL TYPE	UNITS	VOLUME	GENERATION (MWh)
Coal	TONS	(247,193)	(599,595)
Oil	BBL	(1,289,856)	(730,472)
Gas	MCF	(47,207,817)	(6,154,568)
Nuclear	MBTU	(6)	(1)
Wood	TONS	(176)	(162)
Refuse	TONS	(434)	(215)
Landfill Gas	MBTU	13,300,569	980,991
TOTAL GENERATION:			(6,504,022)

Table 16
Air Emissions Reductions with RPS (x 1,000 tons)

2006					
	Emission	Base Case	RPS Case	Net Change	Percentage Change
Total Statewide Emissions	NO _x	59	58	(1)	-1.02%
	SO ₂	165	163	(2)	-1.47%
	CO ₂	50,009	49,232	(777)	-1.55%
Total NYC/Long Island Emissions	NO _x	22	22	(1)	-2.28%
	SO ₂	22	21	(1)	-3.84%
	CO ₂	25,750	25,315	(435)	-1.69%
2009					
	Emission	Base Case	RPS Case	Net Change	Percentage Change
Total Statewide Emissions	NO _x	51	51	(1)	-1.39%
	SO ₂	161	157	(3)	-2.07%
	CO ₂	51,041	48,964	(2,077)	-4.07%
Total NYC/Long Island Emissions	NO _x	17	17	(0)	-2.13%
	SO ₂	19	18	(1)	-3.57%
	CO ₂	27,690	26,308	(1,382)	-4.99%
2013					
	Emission	Base Case	RPS Case	Net Change	Percentage Change
Total Statewide Emissions	NO _x	55	52	(4)	-6.80%
	SO ₂	168	158	(10)	-5.89%
	CO ₂	53,927	49,798	(4,129)	-7.66%
Total NYC/Long Island Emissions	NO _x	19	17	(2)	-9.26%
	SO ₂	22	20	(2)	-9.81%
	CO ₂	29,642	26,998	(2,645)	-8.92%

Table 17
Displacement of Generation Resources (GWh's)

	Base Case	Renewables Case	Difference
Oil	4,948	4,218	730
Gas	60,350	54,195	6,155
All Other	62,127	62,506	(379)
Totals	127,425	120,919	6,506

Table 18
Reduction in Fuel Price & Supply Risk (GWh's)

	Base Case	Renewables Case	Difference
Oil & Gas	65,298	58,413	6,885
Percent	100%	89%	11%

Table 19
Comparison of Year 2003 Present Value of 2006-2013 Bill Impacts (2003\$)

Present Value:	Cost-Based Approach	Market Clearing Approach
RD Case:	\$158,019,463	\$327,981,553
No Production Tax Credit Sensitivity:	\$388,520,444	\$627,464,659
Strawman "A" Scenario:	\$147,113,376	\$194,377,841
Strawman "B" Scenario:	\$442,135,650	\$455,163,373

Table 20
Comparison of Absolute Worst Case Bill Impact, NYPA-IN – NYPA-OUT

NYPA-IN	NYPA-OUT
+2.24%	+2.38%

Table 21
Comparison of Target Year Effect on RPS Incremental Steps

25% Target Year:	RPS Increment (MWhs)		
	<u>2013</u>	<u>2014</u>	<u>2015</u>
2006	1,559,713	1,427,658	1,322,014
2007	3,220,009	2,951,977	2,737,551
2008	4,902,730	4,494,941	4,168,710
2009	6,594,897	6,044,070	5,603,408
2010	8,318,580	7,621,168	7,063,239
2011	10,093,272	9,246,344	8,568,802
2012	11,838,553	10,840,117	10,041,369
2013	13,631,458	12,478,026	11,555,280
2014	13,921,931	13,921,931	12,877,787
2015	14,212,061	14,212,061	14,212,061

Table 22
Incremental RPS Regulatory Targets for LSEs other than NYPA & MUNIs

Year	RPS Increment
2006	1.11%
2007	2.25%
2008	3.38%
2009	4.48%
2010	5.58%
2011	6.68%
2012	7.75%
2013	8.82%

Table 23
List of RD Cost Analysis Spreadsheet Files to be Posted on DPS Website

RDCase-Results-6-03-04.xls
RDCase-No-PTC-Results-6-03-04.xls
RD-Strawman-A-Results-6-03-04.xls
RD-Strawman-B-Results-6-03-04.xls
Bill-Impacts-RDCase-NYPA-IN-NewFuel-CB-5-26-04.xls
Bill-Impacts-RDCase-NYPA-IN-NewFuel-MCA-5-26-04.xls
Bill-Impacts-RDCase-NYPA-IN-SEP-Fuel-CB-5-26-04.xls
Bill-Impacts-RDCase-NYPA-IN-SEP-Fuel-MCA-5-26-04.xls
Bill-Impacts-RDCase-NYPA-OUT-NewFuel-CB-5-26-04.xls
Bill-Impacts-RDCase-NYPA-OUT-NewFuel-MCA-5-26-04.xls
Bill-Impacts-RDCase-NYPA-OUT-SEP-Fuel-CB-5-26-04.xls
Bill-Impacts-RDCase-NYPA-OUT-SEP-Fuel-MCA-5-26-04.xls
Bill-Impacts-RD-NO-PTC-NYPA-OUT-NewFuel-CB-5-27-04.xls
Bill-Impacts-RD-NO-PTC-NYPA-OUT-NewFuel-MCA-5-27-04.xls
Company Load and Price RD STUDY 5-19.xls
RPS emissions RD STUDY 5-19-04.xls
RPS Fuel Use RD BASE RD PRIME SEP fuel prices 2006 2013 5-19-04.xls
RD-UCAP INPUTS-6-03-04.xls

INSTITUTING ORDER THRESHOLD ISSUES

In the Instituting Order, the Commission flagged 14 issues for party comment and analysis. This appendix cross-references those threshold issues with the work of the collaborative process, party comments, the Draft Generic Environmental Impact Statement, Cost Study II, and the Phase 1 Reliability Report.

1. The types of resources that should be considered as "renewable" for the purposes of a renewable portfolio standard.
2. The appropriateness of including renewable resource energy procured from outside the State, such as hydropower from Canada or wind energy from New England.

These issues were debated by the parties in Working Group One (Eligibility). As a preliminary matter, parties agreed to consider what resources were "eligible" instead of what resources were "renewable," consistent with other states' practice, and the fact that different definitions of "renewable" are found in law and policy, dependent upon context. Parties commented extensively on eligibility; the cost studies analyzed the cost implications of adding each resource, and the reliability study evaluated the effect of adding significant wind power. The Draft Generic Environmental Impact Statement provided a comprehensive examination of each resource; and the Recommended Decision suggests an initial eligibility list and the establishment of an implementation process to, among other things, provide for addition of new resources.

The import issue was treated in the eligibility analysis; in addition, parties commented upon, and the Recommended Decision discusses, these issues in

connection with the legal issues concerned in attempting to exclude imports or limit exports; and in the discussion of renewable energy credits or certificates.

3. The retail suppliers that should be required to sell energy from renewable resources.
4. The impact, if any, on the ability of energy services companies' (ESCOs) abilities to compete with utilities if they are required to procure renewable resources beyond what their customers request, given the relative size of the loads supplied by utilities and ESCOs currently, and how such impacts might be overcome.

Parties, including ESCO parties, commented on these issues; the Recommended Decision suggests that all retail suppliers under the Commission's authority should be required to sell renewable energy under the RPS; in implementation, a mechanism to exempt very small ESCOs should be developed. The balance of the recommendation is that the RPS design should include LIPA, but should exempt NYPA and municipals.

5. The best methods for retail suppliers to procure renewable resources (e.g., construction and ownership versus purchases).

Parties commented on, and the Draft Generic Environmental Impact Statement analyzed, the potential conflict between Commission pro-competitive and unbundling policies and the requirement that retail suppliers obtain a certain percentage of renewables, with the option of various methods of procurement, including construction and ownership. The Recommended Decision suggests load serving entities have options as to how to meet their targets for procurement of renewables; these options, including procurement through a central State agency broker, neither require

nor preclude utility construction or ownership of renewable generation.

6. Methodologies for the recovery of costs by regulated utilities.

The Working Objectives provide for an opportunity for regulated utilities to recover RPS costs; parties commented on several methods to do so, generally preferring a wires charge, which is recommended.

7. Individual retail suppliers' targets, if appropriate.

The issue of targets generally, was addressed in all cost studies and analyzed in the Recommended Decision. The application of the targets to individual utilities is found in Cost Study II and, as modified, in the attached Recommended Decision Cost Analysis.

8. The potential impact on reliability and system operations due to the addition of renewable resources, especially those resources that operate only intermittently (e.g., windmills and photovoltaics), and what, if anything, must be done to ensure that reliability is maintained.

A preliminary study of the system effects of the addition of substantial intermittent generation resources was completed in February 2004; parties commented on this study following two formal opportunities to question its preparers. Among these parties was the NYISO, which made clear its commitment to ensuring reliability would not be compromised. The Recommended Decision discusses the Phase 1 Reliability Report findings, and Phase 2, providing site- and plan-specific analysis, is expected by year end.

9. The appropriate means to monitor progress toward meeting the goal and to ensure results, including possible rewards and disincentives.

Milestones toward attaining the Commission's goal of 25% renewables retailed in the State are illustrated in the Recommended Decision Cost Analysis. Means to ensure results include an alternative compliance payment of 150% of renewable certificate cost. The recommendation is that the Commission undertake a year 2008 review of progress toward the 25% goal, with the objective of modifying the RPS should the costs, benefits, or interplay with other State and Commission programs vary significantly from those forecast. In addition, the recommendation is that Staff, in conjunction with other involved State agencies as appropriate, monitor the RPS and report to the Commission annually, commencing one year from the Commission adoption of an RPS Policy Statement.

10. The appropriateness of a "renewable attributes trading" system, and the components of any such system that might be developed.

Working Group Four analyzed the issues and choices entailed in establishing an attributes trading system; parties briefs these issues extensively, and they are discussed in the Recommended Decision, which suggests - as the parties generally agreed - that a New York State attributes trading system should be established immediately and a trading system without borders should be developed as soon as possible.

11. The impact, if any, on the Commission's Environmental Disclosure Label Program, and any modifications that might be needed and appropriate for that program.

Based upon the parties' extensive comments on this issue, and considering the design of RPS programs in other states in the region, in order to create an attributes trading program, the recommendation is to employ a certificates-based approach for the RPS. Under this approach, out-of-state spot market transactions should be treated the same as in-state spot market transactions for environmental disclosure purposes. These will require some modifications if CO₂ is eventually broken out of the certificate. The question of whether other modification of Environmental Disclosure labeling is necessary or desirable is left for the implementation process, which will include crafting of rules governing certificate trading.

12. The practicality of installing new renewable facilities in the high load areas of the State. If the targeted renewables are building upstate, the impact, if any, such construction might have on the addition of new resources in the load centers where they are most needed, and the appropriate means to ensure that additional generation and transmission resources will be built where they are most needed.

Discussion among parties and comments treated the importance of installing new renewables facilities in high load areas. Some parties' proposals included adding a location premium to create an additional incentive for renewables developers to locate in those areas. As recommended, the two percent SBC-like tier should encourage photovoltaic and fuel cell developers, which are or can be based in the load centers. Proposals for additional locational premiums were rejected, because through the locational based

marginal pricing approach of the NYISO, those developers already may take advantage of location incentives through their energy sales. Adding more costs to the RPS budget did not appear necessary.

The Phase 1 Reliability Report studied the effect on New York's transmission system of the addition of varying levels of wind generation. At the levels forecast by the Recommended Decision Cost Analysis, no transmission problems are expected.

13. The impact, if any, the renewable portfolio standard would have on existing green marketing programs in the State, and what the State might do to support developers and green power marketers during the process of developing rules to implement the standard.
14. Changes needed, if any, by the Public Service Commission and NYSERDA in the SBC-funded renewable energy program to coordinate with the new target.

Parties commented on the treatment to be accorded the green marketing and SBC programs. In the Cost Study II, the renewables attained through these programs were treated as baseline resources, contributing to the goal of 25 percent renewables, but because they each have their own funding streams, not eligible to participate in the RPS.

IMPLEMENTATION

For implementation of the Commission's RPS Policy Statement determinations, the following represent initial tasks arising over the course of the last 15 months of this proceeding:

Monitoring the RPS

The recommendation is, first, to initiate a new proceeding for the implementation process. Second, the Commission should delegate to the DPS, in conjunction with the NYISO and other involved State agencies, as appropriate, the task of monitoring the RPS and reporting as to its progress and status to the Commission annually, commencing one year from the Commission adoption of an RPS Policy Statement.

Eligibility

Regulations drafted for consultation with parties and regulatory approval should detail the eligibility standards suggested here. Establish mechanisms for new or improved technologies to seek eligibility.¹

Reliability

Analysis of Phase 2 Report, and adoption, as appropriate, of Phase 1 Report recommendations, including interconnection requirements, other responses to system needs. Immediate commencement of documentation of operational experience with wind; establishment of a wind forecast center for centralized and uniform forecasting for wind power production; consider selective waiver of requirements for wind farms below 10 MW.

¹ An additional option is to establish a process to develop criteria for municipal solid waste.

Attributes Trading

Should the Commission adopt the recommendation to employ a certificates-based approach for the RPS rather than apply the conversion transaction system used for the Environmental Disclosure Label Program, modification of Environmental Disclosure labeling may be necessary or desirable. The implementation process, which will include crafting of rules governing certificate trading, should address this issue.