STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

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

ORDER REGARDING RETAIL RENEWABLE PORTFOLIO STANDARD

Issued and Effective: September 24, 2004

TABLE OF CONTENTS

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

At a session of the Public Service Commission held in the City of Syracuse on September 22, 2004

COMMISSIONERS PRESENT:

William M. Flynn, Chairman
Thomas J. Dunleavy
Leonard A. Weiss
Neal N. Galvin

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

ORDER REGARDING RETAIL RENEWABLE PORTFOLIO STANDARD

(Issued and Effective September 24, 2004)

BY THE COMMISSION:

I. INTRODUCTION

This proceeding was instituted on February 19, 2003, to explore the development of a renewable portfolio standard (RPS), which is a program to increase the proportion of renewable energy that is consumed by retail customers in New York State.

The development of additional renewable energy resources is a long-standing energy policy objective of the State. The 2002 State Energy Plan (June 2002) warned of the possible consequences of New York's fossil fuel dependency, noting that the State's primary sources of energy are imported,

to a large degree, from abroad, have significant long-term environmental effects, and ultimately face depletion.[1]

Since the institution of this proceeding, over 150 parties, Department of Public Service (DPS) Staff, other governmental agencies, and thousands of members of the public have participated to address the issues identified in the Instituting Order and to craft an RPS program for New York State. Based upon the voluminous record before us, we endorse a policy of encouraging the increased use of renewable resources and institute a program, including the adoption of a renewable portfolio standard (RPS), consistent with such a policy.

An RPS is a recognized means of increasing the proportion of non-fossil fuel electricity purchases in a given jurisdiction. Many states have commenced RPS program initiatives and comparable RPS programs are in place in the United Kingdom, Denmark, Germany, the Netherlands, and Japan. It is worth noting that the specifics of individual RPS programs vary from one jurisdiction to the next in terms of targets to be achieved, eligibility of resources, implementation mechanisms, and time frames for achieving goals based on the individual circumstances of those jurisdictions.

We believe the policy we are adopting herein addresses the energy, economic, and environmental objectives of New York State by creating the potential to build new industries in the State based on clean, environmentally responsible energy technologies that meet the needs of New York energy consumers as well as the growing global market for these kinds of technologies.

RPS programs generally require that renewable resources deemed eligible for participation are awarded a certain level of financial incentives to support their development. Currently, renewable resources are generally more expensive than non-renewable resources, such as fossil fuels. Therefore, without access to financial incentives to cover all

[1] State Energy Plan, 1-1.

or some of these above-market costs, renewable resources struggle to compete with resources using fossil fuels. However, as noted in the Final Generic Environmental Impact Statement (GEIS) related to this proceeding and issued by this Commission in August, 2004, renewable resources provide ancillary benefits such as increased fuel diversity and energy security, the potential for economic development as a result of growing industries that typically tap into indigenous resources and invest in local and regional economies, and reduced environmental impacts. Accordingly, they warrant a certain level of support to facilitate their growth. The program we are adopting will provide sufficient financial incentives for the development of renewable resources so that they may more readily compete with facilities that use natural gas, coal, and oil to generate electricity. Ultimately, this effort may result in reducing costs associated with renewable resources as technologies continue to advance.

In adopting this program, we affirm that system reliability is of paramount importance and concern. Thus, while we are proceeding with the RPS, we also acknowledge that the implementation phase should be sufficiently flexible to accommodate a process for review and analysis of the potential impacts of renewable generation on the electric grid, as well as the ability to reflect modifications, if any, that are necessary to protect the reliability of the electric system.

Currently, about 19.3 percent of the electricity retailed in New York State is derived from renewable resources, the vast majority coming from large-scale hydroelectric facilities in Western New York, upstate New York, and Canada. We seek to increase the proportion of electricity attributable to renewable resources to at least 25 percent of electric energy used in New York State by the end of 2013. We intend to accomplish this by implementing an RPS that will utilize revenues derived from delivery charges on electric utility customers. These revenues will be administered by the New York State Energy Research and Development Authority (NYSERDA). On a regular basis, NYSERDA will award financial incentives that are

the minimum necessary to stimulate development of generating facilities that meet the eligibility requirements described herein.

We believe an important objective of the RPS program is to stimulate and complement voluntary/competitive renewable energy sales and purchases (or "green markets") so that these competitive markets, not government mandates, sustain renewable activity after the RPS program ends. "Green power" is an industry term for electricity that is derived solely from renewable resources. Green marketing is the practice employed by energy service companies (ESCOs) or other marketers that promote the environmental and economic benefits of renewable resources to customers in the hopes that customers will, voluntarily, pay added costs associated with green power based on the value they place on these added benefits. The design and goals of this program demonstrate our support for fostering these competitive retail markets for green power to deliver greater choice and value to customers.

The policy and program adopted herein are designed to achieve the goal of at least 25 percent of the electricity used in New York State being provided by renewable resources. Specifically, the RPS delineated herein will mandate the collection of revenues, to be administered by NYSERDA, for the purpose of providing incentives to increase the percentage of electricity used by retail customers in the state that is derived from renewable resources from the current level of 19.3 percent to 24 percent. Hereafter, we will refer to this as the "mandatory" component of this renewable policy. We anticipate that at least an additional one percent of renewable energy sales will result from voluntary green market programs for a total goal of at least 25 percent. Hereafter, we will refer to this additional voluntary effort as the "voluntary" component of this renewable policy.

The additional new renewable electricity generation fostered by both of these components is expected to result in the displacement of some existing fossil fuel-based generation supply. Changes in generation resources due to implementation

of these initiatives are expected to create greater diversity in the State's electric energy supply portfolio, and 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.

We, therefore, adopt a policy of encouraging the retail use of renewables through implementation of a retail renewable portfolio standard pursuant to our authority to preserve environmental values and conserve natural resources (Public Service Law (PSL) §5(2));[2] and a policy of encouraging and supporting green marketing efforts.

II. SUMMARY

A. Target and Objectives

The RPS program described herein provides sufficient incentives to encourage development of a renewable generation industry in New York, is designed to coexist with, and even grow, the competitive retail energy market for renewables in New York, encourages voluntary green marketing programs, and is expected to have a modest impact on customers' bills.

Unlike RPS programs implemented in other states that impose mandates on individual utilities and ESCOs to comply with targets for procurement of renewable resources, and require them to make penalty payments into "alternative compliance funds" if they are unable to meet those targets, the program established here will be coordinated with NYSERDA to implement a centrally administered, incentive-based procurement mechanism that NYSERDA will manage. Annual MWh targets and a corresponding schedule of customer collections and payments to NYSERDA will define

---

[2] PSL §5(2) provides: "The Commission shall encourage all persons and corporations subject to its jurisdiction to 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).

milestones, with collections from customers to begin in the fourth quarter of 2005.

The effective renewable energy targets[3] to be reached and timetables for reaching them are as follows:

Incremental RPS Targets (MWh)

Year	Target
2006	1,360,424
2007	2,821,830
2008	4,306,437
2009	5,787,968
2010	7,301,693
2011	8,867,181
2012	10,403,939
2013	11,988,888

The objective in instituting the RPS proceeding was to develop a plan to ensure that a substantially greater proportion of energy retailed in New York State comes from renewable resources within ten years. The Instituting Order noted that four decades ago, 25 percent of New York's electricity was derived from renewable resources and observed that a return to that level was in the public interest. Based on a more complete understanding of how a mandatory RPS program could potentially negatively impact the voluntary market for green power, we are adopting an effective RPS target of 24 percent renewable sales. We anticipate that voluntary markets for renewable energy will provide at least an additional one percent, maintaining a minimum goal of 25 percent for renewable resources in New York State. Establishing an RPS target of 24 percent with a complementary role for green marketing to achieve at least an additional one percent creates a need for proactive

[3] As noted, *infra*, the MWh targets described herein are subject to adjustments. Revenues required to procure the resources needed to achieve these targets are similarly subject to adjustment.

participation from all energy stakeholders, including consumers, to achieve 25 percent or higher levels of renewable penetration. Ultimately, this will better facilitate a self-sustaining market for renewable energy.

While sales from green marketing programs will not be counted toward the 24 percent RPS target, development of green marketing efforts will nevertheless continue to be a critical component of the Commission's overall renewable energy objectives and are essential to achieving the 25 percent goal.

In recognition of the need for certainty as well as flexibility, we will review certain aspects of the program in 2009 (the 2009 Review). This will include, but not be limited to, costs and benefits associated with the program, modifications to the list of eligible resources, and modifications to the delivery requirement described below. It should be noted that any facility awarded financial incentives from NYSERDA as part of this program will not lose those incentives based on any changes made as a result of this review process. Lastly, as noted above, this Commission desires that, ultimately, competitive markets will sustain renewable resource development, and we expect that as part of the 2009 Review NYSERDA will submit a proposed plan for transitioning this effort to a more market-based approach over time.

B. Eligibility

For purposes of participation in the RPS program, we envision the establishment of two tiers of eligible resources. The first or "Main Tier" shall consist primarily of medium to large scale electric generation facilities that we expect to compete against each other on a kWh price premium basis for RPS funding. The second or "Customer-Sited Tier" shall consist of "behind-the-meter" facilities that are not generally economically competitive with the Main Tier technologies.

As to vintage of eligible facilities, the general rule shall be that to be considered eligible, a facility must have first commenced commercial operation on or after January 1, 2003. Customer-sited resources have to be installed on or after

January 1, 2003. A limited vintage exception shall be provided for certain hydroelectric, wind and biomass resources ("maintenance resources") that demonstrate the need to receive RPS financial support to continue operations.

Eligible resources in the Main Tier shall include biogas, biomass, liquid biofuel, fuel cells, hydroelectric, photovoltaics, ocean or tidal power, and wind. Electricity generated from waste-to-energy facilities shall only be considered eligible if derived from fuels identified as eligible biomass, which must be source-separated and separately converted to energy (a practice referred to as "refuse-derived fuel") and only that associated portion of the waste-to-energy facility's generation will be eligible. The practice of mass incineration of municipal solid waste (MSW) that typifies New York's existing waste-to-energy facilities results in emissions of mercury and other heavy metals at levels that the Commission finds troubling. For this reason and others, we anticipate that substantial operational changes in the way the industry converts municipal solid waste-to-energy would need to be made in order to mitigate concerns expressed by parties to the proceeding as well as the general public, and which this Commission shares, in order for such facilities to participate in the program. The Commission recognizes municipal waste as a potentially important energy resource and encourages the industry to implement processes such as source separation, gasification, or other practices that would advance the state-of-the-art for waste-to-energy technology to mitigate concerns expressed on the record and make access to RPS incentives more appropriate.

A detailed table entitled "RPS Main Tier Eligible Electric Generation Sources," providing more specific information on eligibility, is hereby adopted and provided in the Appendix.

Eligibility in the Customer-Sited Tier shall include fuel cells, photovoltaics, and wind resources. A detailed table entitled "RPS Customer-Sited Tier Eligible Electric Generation Sources," providing more specific information on eligibility, is hereby adopted and provided in the Appendix.

Generation resources shall be eligible only to the degree that the electricity generated is consumed in the New York Control Area. Imports into the New York Control Area will also be eligible subject to a calendar-month matching requirement between generation and delivery. Due to the evolving nature of regional, national and international markets for renewable resources, the import delivery requirement will be evaluated as part of the 2009 Review of the RPS program.

C. Implementation

We charge the Department's Staff with responsibility to develop for our approval: (1) a mechanism for new resources to apply for eligibility and (2) a review mechanism for existing facilities to demonstrate a financial need for RPS incentives. We also intend to further consider the complementary role of future demand side management and energy efficiency initiatives to reduce overall load, thereby increasing the proportion of renewables.

This RPS is expected to add almost 12 million MWh of renewable resource generation by the end of the year 2013. The cumulative cost of premium payments for renewables, to achieve the recommended RPS design, is projected to reach between $582 million and $762 million. However, these premiums are expected to be offset by reductions in wholesale energy costs, as New York reduces its reliance upon fossil fuels, cumulatively offsetting the cost through year 2013 by $362 million. The estimated cost on a net present value basis (in 2003 dollars) of the program is projected to range from $179 million to $323 million.

Bill impacts for the RPS are expected to be modest. For residential customers, for the life of the program, cumulative bill impacts are forecast to range from a reduction of 0.9 percent to an increase of 1.68 percent; for commercial customers, the range is a 0.78 percent reduction to a 1.79 percent increase; and for industrial consumers, the range is a 1.54 percent reduction to a 2.20 percent increase.

Implementation of the RPS is also expected to create greater regional benefits in New York State through economic development. Manufacturing of renewable energy equipment, procurement of fuels such as biomass, and construction and operation of generating facilities will create direct and indirect jobs, purchases of local products, which add revenues to local economies, and additional tax payments.

This RPS will result in substantial changes in New York's fuel use for electric generation. These anticipated changes will have the effect of reducing air emissions statewide of NOx (6.8 percent); SO_2 (5.9 percent); and CO_2 (7.7 percent), with greater emission reductions in New York City and Long Island.

D. Overall Structure

The RPS procurement structure will be administered by NYSERDA. Because of our adoption of a central procurement model, it is not necessary to create an alternative compliance mechanism to ensure individual load serving entities' compliance with RPS targets. The Commission views central procurement as preferable to the individual procurement models used elsewhere and discussed by the parties. Central procurement will expedite the start of the program and provide more immediate feedback and control of the initial procurements. These early procurements should provide valuable market information about the extent of supply-side competition as this market develops. As we note elsewhere in this Order, NYSERDA should, as part of the 2009 Review, file a plan, for our review and consideration, to transition from the RPS program to a more market-based system. This should include consideration of partial or full transition to a procurement approach that relies upon competitive energy providers, such as ESCOs, and any related enforcement mechanisms.

In addition, while all New York customers will benefit from the RPS program, we exempt from contribution those customers currently exempt from System Benefits Charge (SBC) contributions. Such customers are generally provided

electricity at reduced prices to achieve economic development objectives such as sustaining or creating jobs. The Commission recognizes that requiring such customers to pay for the objectives of the RPS would be counterproductive to these economic development goals. We note that this exemption will also apply to numerous municipal entities, including several New York City agencies, and customers of municipal-owned utilities. New York City municipal customers in particular represent roughly 900 megawatts of electric demand, and strategies to procure a portion of that demand from renewable resources would substantially aid the State's overall effort. We strongly encourage those entities to aggressively pursue strategies on their own to procure renewable resources. Furthermore, the Long Island Power Authority (LIPA) and the New York Power Authority (NYPA) are not subject to this Commission's regulatory purview and are therefore not obligated to adhere to the orders contained herein. We strongly encourage NYPA to implement comparable programs to increase the percentage of renewable resources it uses to generate electricity. We invite LIPA to participate in the RPS program and NYSERDA's administration of RPS funds.

The central procurement approach provides for all regulated electric utility delivery customers (except those noted above as exempt) to fund the RPS program while also relieving ESCOs from any obligation to procure renewable resources, thus eliminating a potential deterrent for ESCOs to enter the New York market. ESCOs choosing to market renewable resources may opt to sell those resources directly to customers via the green market. ESCO sales in the voluntary green market would not contribute toward the goal of the mandatory component of achieving 24 percent of retail sales.

Revenue necessary to support this program will be raised through a non-bypassable volumetric wires charge on the delivery customers of each of the State's investor-owned utilities.

E. Conclusion

We are committed to achieving the goals set forth in the 2002 State Energy Plan and realizing the fuel diversity, energy security, economic development, environmental and other benefits associated with increased renewable use. Furthermore, we are continuing our efforts to promote competitive retail markets to maximize customer choice and value. Accordingly, we believe that the manner in which we attempt to reach the goal is critical and should complement efforts to foster greater retail competition for renewable resources in order to sustain the market for renewables. Achieving the goal without also supporting the growth of a sustainable competitive market for renewables could result in an industry that is perpetually dependent upon government-mandated subsidies. An approach that incorporates and supports the growth of competitive retail markets and customer choice for renewables will have a greater chance of producing a self-sustaining renewables industry that can build upon any success in developing renewable resources through the RPS. Therefore, it is in keeping with our mission to be responsive to the concerns expressed by several parties to design the program in a manner that enhances voluntary green markets. In doing so, we choose to take an approach that will rely, in part, upon a successful and thriving voluntary market to achieve the goal of increasing the effective level of renewable energy to at least 25 percent. It is important to note that the mandatory component and the voluntary component will essentially operate on separate, parallel tracks. Therefore, it is imperative that this Commission will need to continue to foster the development of a successful green market in addition to a successful mandatory program.

It is also important to note the interaction of New York's SBC program with the RPS program. While the Commission has elected to not consider demand-side management (DSM) or energy efficiency measures as eligible for meeting the RPS goals at this time, the creation of an RPS necessitates that DPS Staff work with NYSERDA to examine the state of the SBC program and propose strategies to reprogram funding as necessary to ensure the SBC and RPS programs are not duplicating efforts. This may

require that SBC resources currently targeted to support renewable initiatives be reprogrammed to support efficiency efforts. It must also be noted that DSM and energy efficiency, regardless of their current exclusion as an eligible RPS resource, will have an impact on the RPS targets. Analysis will be needed, on an ongoing basis, to determine whether, and to what extent, DSM measures may lower the megawatt hour targets and therefore funding requirements for the RPS program.

III. PROCEDURAL HISTORY

The Instituting Order established that the proceeding should commence with a collaborative effort to develop and design options for an RPS with the participation of the market players, consumer advocates, the environmental community, and other affected stakeholders. More than 150 active parties participated in this process. Administrative Law Judge (ALJ) Eleanor Stein presided. Following two days of public forums on the principal issues and parties' preliminary comments on RPS scope, objectives, and design, a schedule was established, providing for a workshop on cost/benefit study methodologies, filing of cost studies, and initial and reply comments.

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.[4] A preliminary off-the-record workshop on cost methodologies was held June 27, 2003. At that workshop, several parties, including Multiple Intervenors (MI) and Joint Utilities,[5] argued for more formal examination of possible costs

---

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

[5] 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.

of an RPS and, in particular, for the retention in New York of Robert Grace and his associates (Sustainable Energy Advantage (SEA)), consultants responsible for a substantial portion of the cost work on the RPS done in the New England states.

SEA was retained by NYSERDA and prepared a supply curve study that analyzed various models and options for an RPS design in New York. That study served as the basis for a detailed cost study by Staff. On July 28, 2003, that cost study, as well as another cost study, "Report of Initial Analysis of Proposed New York RPS" prepared by ICF Consulting at the behest of the Joint Utilities, and a study, "Cleaner Air, Fuel Diversity and High Quality Jobs: Reviewing Selected Potential Benefits of an RPS in New York State," prepared by

Synapse Energy Economics for The Renewable Energy Technology and Environmental Coalition (RETEC), [6] were filed.

On July 21, 2003, a schedule was established allowing initial comments on August 20 and reply comments on August 29, 2003. In addition, Staff, Joint Utilities, Independent Power Producers of New York (IPPNY), Reliant Energy, MI, and the New York State Consumer Protection Board moved to amend the schedule to fully assess competing cost analyses, allow for development of a fuller record, and provide opportunities for negotiation. RETEC agreed to a modest extension.

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 studies filed by parties on July 28, 2003. Party proponents of the three sets of cost studies (Staff, Joint Utilities and RETEC) and the consultants responsible in whole or in part for the preparation of those studies were available for questioning and discussion at that conference. Discussed, among other themes, were the apparent discrepancies between the outcomes of the studies of Staff and Joint Utilities. Following this conference, parties exchanged information requests and responses, and updated and corrected their respective cost studies.

Staff moved to postpone filing of responses to cost studies and initial and reply comments by two months; RETEC

---

[6] 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.

objected to substantial delay. A deadline of September 15, 2003 was set for motions seeking any additional hearings, process, conferences or procedures, and a comment schedule was set.

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 the 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.[7]

On September 15, 2003, Joint Utilities, MI, Tannery Island and IPPNY moved for reserving completion of the Recommended Decision (RD) until after further cost and reliability studies. MI requested an on-the-record opportunity to test modifications to the Staff cost study, specifically corrections to two calculations: net present value and Installed Capacity (ICAP). Foreseeing that parties would request further opportunity to examine the next cost study iteration, to be contained in the Draft GEIS, a Further Ruling on Procedure granted the request in part.[8]

Two motions sought modification of aspects of this ruling. Movants agreed, although for somewhat different

---

[7] A list of parties that filed initial comments and/or reply comments, along with copies of such comments, is available on our website at "dps.state.ny.us" - "Current Issues" - "Retail Renewable Portfolio Standard." Due to the large number of parties and the similarity of many of the arguments submitted, we will not attempt to attribute each position to every party that raised it, nor attempt to repeat every argument raised, but all arguments and all briefs submitted by every party have been carefully considered in rendering this Order.

[8] Further Ruling on Procedure (issued October 21, 2003).

reasons, that parties should have an additional opportunity for further iterations of the cost studies at an on-the-record technical conference and in supplemental comments, prior to the completion of a RD. In addition, some parties asserted the need for consideration of not only the February 2004 Phase 1 NYSERDA/NYISO report, but also the final phase of the NYSERDA/NYISO report of the effects of integrating wind power on transmission system planning, reliability and operations.

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, followed by the filing of one round of comments, no more than two weeks later, on the issues addressed at the technical conference.

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. These parties asserted that the ruling erroneously found that the Commission would have a full record on costs and reliability impacts under the current procedures and proposed that an RD not be issued until after the completion of both phases of the NYSERDA/NYISO reliability study; revision by Staff of its cost study to recognize any cost consequences of the NYSERDA/NYISO 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, a 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 was commissioned by NYSERDA and 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 concerning substantive and procedural matters.[9] 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.

The RD was issued June 3, 2004. Briefs on exceptions were filed by 36 parties on June 23, 2004; briefs opposing exceptions were filed by 19 parties on July 8, 2004.[10] One party, Ridgewood Renewable Power, LLC., also filed a motion requesting a surreply concerning certain issues of fact; several parties, including Niagara Mohawk, opposed the motion.[11]

At our session on August 25, 2004, we adopted the Final GEIS, following analysis and consideration of comments received from the parties and the general public.

IV. SUFFICIENCY OF THE RECORD

A. The Completeness of the Record

The ALJ concluded that this record provides sufficient evidentiary basis for the initiation and design of an RPS. On exceptions, IPPNY, MI and others seek to delay action concerning an RPS until after the completion of the Phase 2 Reliability Report, and additional cost studies, technical conferences, and

---

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

[10] A list of parties that filed briefs on and opposing exceptions is attached as Appendix A and is available electronically at "dps.state.ny.us" - "Current Issues" - "Retail Renewable Portfolio Standard."

[11] The motion and replies thereto are considered in Section V.E.1 *infra*.

comments. These parties would delay consideration of an RPS for at least another year.

Opposing parties, including RETEC and the New York Office of Attorney General (NYOAG), assert that most or all conceivable reliability concerns could be alleviated in RPS implementation. They observe that it would be years before any network effects of substantial additional intermittent generation were felt.

The NYISO, which is responsible for system reliability, finds nothing in the Phase 1 Report that would require delay, and recommends we move forward on basic RPS design, including the funding mechanism, eligibility, and development of a generation attributes trading system. The NYISO, however, did urge that certain specific decisions affecting reliability await the outcome of Phase 2.[12] Specifically, the NYISO proposes we impose a statewide interim limit on wind eligibility, as well as locational limits where physical transmission limitations may be implicated.[13]

Other parties agree with the ALJ's conclusion that the Phase 1 Reliability Report findings revealed no such unforeseen impacts. Indeed, in the view of RETEC, the NYOAG, and others, the Phase 1 Report supports the position that, after 13 months of studying and briefing the most basic RPS design questions, such as resource eligibility, procurement structure, and renewables credit trading, we should proceed with an RPS policy expeditiously.

The ALJ properly concluded that we have an ample record to decide fundamental RPS design policies. Indeed, further delay prejudices the attainment of our target for

---

[12] 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.

[13] Id., pp. 2-3.

incremental renewable resources. Parties have, to date, submitted six full sets of comments, attended numerous collaborative sessions and technical conferences (off- and on-the-record), and submitted and reviewed three July 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, and briefs on and opposing exceptions. Moreover, remaining issues raised by parties will be reserved for the implementation phase of this proceeding, which will take into consideration effectuating the findings and recommendations of the Phase 2 Reliability Report.

As shown by our discussion of the issues herein, this extensive record is a sufficient evidentiary basis for adopting a policy of encouraging increased use of renewable energy in the State and an RPS program that is consistent with such a policy. The record before us is complete as to the reasons for, and the fundamental objectives of the RPS (encouraging the construction of new renewable generation; determining what facilities should comprise RPS eligible resources; choosing an appropriate procurement structure; and establishing targets, timing and objectives of a New York RPS) and provides sufficient basis to proceed.

B. SEQRA Compliance

On March 18, 2003, we issued a Notice pursuant to the State Environmental Quality Review Act (SEQRA) that Staff would prepare a Draft GEIS in connection with the action to implement an RPS. On April 8, 2004, we deemed the Draft GEIS complete and issued it for comment. Comments were filed May 14, 2004. We adopted a Final GEIS in August 2004.[14]

[14] Case 03-E-0188, Retail Renewable Portfolio Standard, Order Adopting and Approving Issuance of Final Generic Environmental Impact Statement (issued August 26, 2004).

C. State Administrative Procedure Act (SAPA) Compliance

Some parties, including MI and Joint Utilities, raised questions concerning SAPA compliance, asserting the DPS was required to file numerous impact statements. Joint Utilities viewed the Cost Study II examination as incomplete, relying upon SAPA,[15] which 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), and is 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."

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).

[15] SAPA §202-a(3)(C)(i)-(iv).

V. ELEMENTS OF RPS DESIGN

The process of generating several options for the design of an RPS involved numerous party discussions and brief submissions, and culminated in the ALJ formulating working objectives for New York's RPS; defining the baseline of present renewable resources; establishing targets and milestones for renewables levels; delineating eligible incremental resources; examining the overall structure of an RPS; and investigating credit trading systems and contract standards. All of these steps included consideration of costs, benefits, reliability, and other factors. Our adoption of the policy and program described herein is informed by the above and also by the GEIS process, public participation, and the consideration of the interplay between the RPS and related Commission and State programs and policies.

A. Establishing Objectives

The ALJ proposed a set of objectives. They were:

(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, while ensuring protection of system reliability;

(3) Economic Benefits: develop renewable resources and advance renewable resource technologies, 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; and

(6) Administrative Fairness and Efficiency: develop an RPS that is administratively transparent, efficient, and verifiable.

The Parties' Exceptions

In the briefs on and opposing exceptions, no party contested the above-mentioned objectives.

Discussion

In pre-RD filings, parties agreed that a statement of RPS objectives provides useful guidance on the development of the program and serves as a reference point for implementation decisions and future review of the program's accomplishments. On balance, however, the RD working objectives inadequately account for the importance of encouraging the voluntary market in renewable energy and moving from a government mandated program to a self-reliant competitive market for renewable resources. In addition, we are reordering the objectives to reflect an increased priority on energy security. Accordingly, the RD working objectives are modified in part, and we adopt the following objectives:

a. Renewable Resources: institute an RPS to increase New York State's supply of renewable resources with the ultimate aim of establishing a viable, self-sustaining competitive renewable generation market.

b. Generation Diversity for Security and Independence: diversify the generation resource mix of energy retailed in New York State to improve energy security and independence, while ensuring protection of system reliability;

c. Economic Benefits: develop renewable resources and advance renewable resource technologies in, and attract renewable resource generators, manufacturers, and installers to New York State;

d. 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;

e. 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; and

f. Administrative Fairness and Efficiency: develop an RPS that is administratively transparent, efficient, and verifiable.

g. Competitive Neutrality: develop an RPS compatible with competition in energy markets in New York State.

B. Establishment of the Target

In instituting this proceeding, we stated that the current level of renewable-based electricity used in New York State reflects a disturbing decline; we observed that a return to our previous 25 percent level of renewable use would be in the public interest.[16] We did not, however, specify a timetable.

A target of 25 percent renewable resources used by retail customers in New York State in 2013 was proposed by the ALJ. The RD noted that whether this target is achievable depends only in part on the design of a New York RPS. Other factors include 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. The ALJ proposed a target (25 percent of retail sales from renewable resources by 2013), the incremental kWh milestones to achieve it, and a mechanism to review actual progress toward that target in 2008. She noted that, with the flexibility built into the policy, we could review the target and adjust it, if necessary, based on availability and price of renewable resources.

Another option offered in the RD was to adopt the proposals of some parties to extend the target year for the

[16] Instituting Order (issued February 19, 2003), p. 2.

achievement of 25 percent renewable resources to the years 2014 or 2015. The RD observed that this option could lessen cost and siting burdens that could be associated with the 2013 target year and introduce the program more gradually, giving the industry more time to comply.

The RD established a timetable that would commence in 2006 and end in 2013 for achieving the 25 percent target. Another option was to adopt a more gradual increase in the amount of renewables, as advocated by MI and others, and as illustrated in the RD Cost Analysis.

The Parties' Exception

Parties commented on the suggestion that voluntary green marketing results should be considered toward attaining 25 percent renewable resources for the RPS. Some, including Evolution, Community Energy, and ConEdison Solutions support the creation of an RPS to increase renewable supply for all markets, but strongly urge that the inclusion of green marketing sends the wrong signal to the voluntary market which does best existing alongside — but separate from — a compliance market. In these parties' views, counting green marketing kWhs sold toward compliance with RPS targets will undercut the voluntary efforts, mitigating consumer desire to make a difference by supporting additional clean supply. To these parties, a separate, parallel, and transparent compliance tracking process for green marketing is essential to ensure customer participation.

Community Energy recommends a product-based rather than portfolio-based standard to ensure green marketing sales are counted over and above the RPS. In a comment letter, the U.S. Environmental Protection Agency notes its national voluntary program to foster voluntary demand for green power requires these purchases be incremental to mandated renewable energy, in recognition that green power purchasers are motivated by the belief that their purchase leads to development of new renewables yielding additional environmental benefits.

MI, the Business Council, and the Manufacturers Association urge us not to implement an RPS at this time, to

first attempt to reach RPS goals through an entirely voluntary program, with incentives for participation, to be established in an implementation order. The Business Council also suggests, in the alternative, extending the RD schedule for achieving the 25 percent target on a mandatory basis, with a ramping up period to provide experience for transition to a more aggressive schedule. MI suggests program redesign on a strict least-cost basis.

In opposition, RETEC urges full and immediate RPS implementation to stimulate development of renewable resources, and opposes postponement of the program or reliance on a pilot program, asserting these measures will drive investment dollars and business to other states, and prevent New Yorkers from reaping the benefits of the RPS, specifically, the downward pressure on costs induced by investment in renewable resource technologies.

Discussion

The objective in instituting the RPS proceeding was to develop a plan to ensure that a substantially greater proportion of energy consumed in New York State comes from renewable resources. The Instituting Order observed that returning to a 25 percent renewables level was in the public interest. However, as noted by several parties to the proceeding, RPS programs can potentially have a negative impact on the competitive and voluntary markets for renewables. In light of this potential, we adopt a goal of 25 percent to be achieved through our adoption of an RPS program and through verifiable voluntary efforts.

RPS programs can be useful in stimulating development of renewable resources, which the markets have not yet done sufficiently on their own. Increased development of renewable resources promotes greater energy diversity (which can reduce volatility in electric prices currently caused by an over-reliance on fossil fuel generation) and benefits the environment by reducing corresponding emissions. The goal of the RPS program, however, should be to stimulate and complement voluntary renewable purchases so that competitive markets, not government mandates, sustain renewable activity beyond the term of the RPS program.

Reliance on both the contribution of voluntary efforts and the RPS program to increase the use of renewables in New York State reflects our support for encouraging competitive retail markets for renewable resources to deliver choice and value to customers. Establishing an RPS target of 24 percent with a complementary role for green marketing to achieve at least an additional one percent creates a need for proactive participation from all energy stakeholders, including consumers. It is anticipated, in light of the expected increase in the supply of renewable resources and greater public awareness and opportunities for voluntary purchases, that voluntary programs will meet or perhaps exceed the overall 25 percent renewables target. Accordingly, the baseline, targets, and milestones reflected in Appendix B to the RD are modified, as reflected in the attached Appendix D, and as so modified, are adopted along with the Appendix.

The ALJ suggested that the first program review will occur in 2008. However, the first program review will occur in 2009. Holding the first program review in 2009 will provide us with an additional year of known data and experience. This additional data and experience will better inform our decisions with respect to whether or not the program should be revised, if necessary, to achieve our overall target of 25 percent. Holding the first comprehensive program review in 2009 should also provide greater certainty to potential RPS program participants, particularly those who plan to construct new renewable generation facilities or who might need to secure financing for purposes of expanding or constructing renewable generation facilities.

C. Definition of the Baseline

The RD proposed a baseline of current renewable generation for the year 2005 of 31,937,479 megawatt hours or 19.29 percent renewables.

The Parties' Exceptions

On exceptions, AES urges us to create a historical baseline as of January 2003 for each renewable resource built prior to that date, stating that the baseline must be driven by

actual historical performance over a range of years and that "any incremental improvement from the historical baseline be eligible to receive RPS benefits."

MI states that the Commission should adjust the baseline upwards to reflect the additional hydroelectric power that will be sold into the State by NYPA.

RETEC, joined by the NYOAG, urges the exclusion of green market demand from the baseline. RETEC asserts that including green market demand could create confusion and undermine customer confidence. RETEC and the NYOAG fear that inclusion of green market demand in the baseline could jeopardize the green market's ability to increase renewable demand and capacity beyond that achieved by the RPS program. They assert that excluding green marketing from the baseline could also lower the cost of the RPS by enabling larger and cheaper projects to be constructed earlier. RETEC also asserts that the baseline should be fixed after green market demand is excluded; while the NYOAG adds that green marketing efforts, if excluded, could supplement the air quality benefits of the RPS.

Joint Utilities agreed that green marketing and RPS programs should be separate and parallel and, to ensure such separation, there should be no double-counting or cross-subsidization (*i.e.*, any RPS eligible resource that sells its renewable energy credits (RECs) to green markets cannot offer those same RECs to the RPS program and vice-versa). Joint Utilities, however, disagrees with removing green market demand from the baseline, stating that there is no basis for presuming that the renewables target must only be achieved through the RPS.

Discussion

Corrections to the baseline have been identified as a result of our consideration of the eligibility requirements and other matters. Accordingly, several adjustments are indicated.

First, in response to concerns regarding the green marketing programs and their independence from the RPS targets, the portion of the baseline adopted in the RD representing projections of green marketing demand up to January 1, 2006 is

deleted from the baseline. Removal of green marketing from the baseline demonstrates our support for fostering this competitive activity and reflects our desire to ensure that the design of our mandatory component can co-exist with, encourage, and be supplemented by the competitive retail market, in general, and the green market, in particular.

Other modifications to the baseline include the addition of 40,000 MWh of NYPA power[17] and the modification of the previously-held assumption that some small hydro facilities might be lost due to attrition. Instead, existing small hydro facilities of five megawatts or less, existing biomass facilities and existing wind facilities will remain in the baseline but are allowed to demonstrate that they require RPS benefits in order to remain financially viable. The details of such a showing will be developed in the implementation stage of this proceeding, but should consider, among other things:

(1) an examination of the financial books of the facility owner/operator - and possibly affiliates;
(2) the reasonableness of operating and capital costs;
(3) what other sources of income are available to the facility;
(4) whether discriminatory market rules are increasing the costs of the facility;
(5) whether discriminatory real property taxes could be reduced;
(6) whether the facility was purchased or financed as part of an asset package that as a whole remains financially viable or requires continued operation of the facility even if it is not individually profitable;
(7) the degree to which the facility generates revenues sufficient to cover its operating costs;

[17] 40,000 MWh is equivalent to the 4.8 MW that FERC determined NYPA no longer has to provide to Massachusetts from the St. Lawrence Hydro facility. Project No. 2000-046, *Power Authority of the State of New York*, "Order on Rehearing" (issued June 4, 2004) at ¶¶ 12, 17.

(8) the degree to which the facility generates revenues sufficient to make necessary capital improvements.

D. Start Date

Staff proposed a January 1, 2006 start date, in which some other parties concurred. That date assumed adoption by us of an RPS policy statement in 2004 and an approximately one percent increase for each of the succeeding seven years, with flexibility to account for unforeseen difficulties in reaching interim targets. The RD similarly suggests a 2006 start date for the RPS program.

The Parties' Exceptions

MI argues for a start date no sooner than 2009, claiming the delay would minimize the costs of an RPS and that, with adjustments to the annual incremental targets, the 25 percent goal could still be met by 2013. It further claims that delay will ensure that the results of the Phase 2 Reliability Report are incorporated and experience associated with developmental renewable resources could be gained. Some parties including Natsource and ConEdison Solutions, urge that the RPS take effect 24 months after our implementation order establishing RPS requirements, in order to minimize risks for existing contracts and the emerging competitive retail markets. ConEdison Solutions states a target of 25 percent by 2013 could still be attained.

NRG Energy, among others, suggests certain resources commencing operations after January 1, 2003 should be eligible; RETEC and KeySpan also request clarification that the requirement that any resources be "developed" after January 1, 2003 means commercial operations commenced after January 1, 2003. Joint Utilities urges that the RD be clarified to mean facilities enjoying commercial success prior to January 1, 2003 should be barred from eligibility. Another group of parties, including the NYOAG and RETEC, argue that the RPS include projects that began production on or after January 1, 2001. Community Energy also argues that all existing wind farms be eligible on the grounds that renewable energy pioneers should

not be penalized for early adoption. Antares comments that the definition of "developed" should be clarified to ensure that projects that were in the R&D or pre-commercial developmental status but go into commercial service before January 1, 2003 will be recognized as part of the "incremental renewable resource that an RPS is designed to encourage."

Discussion

Tracking of incremental renewable resources for purposes of the program will commence January 1, 2006 with collections from customers to begin in the fourth quarter of 2005. Collections initially will be set at the projected market price for renewables and will be subject to later true-up to actual costs. Commencing the tracking program in calendar year 2006 reflects our desire to allow the expected benefits to begin to accrue sooner rather than later, yet still allow a reasonable amount of time to accomplish the tasks to be completed in the implementation stage of this proceeding.

We believe the reasons advocated for delaying the start date have been addressed by our overall design of the RPS program; for example, we have, among other things, affirmed our commitment to ensure sufficient flexibility to address reliability concerns. Moreover, one of the reasons advocated for delaying the program's commencement was the desire to decrease expected program costs, a concern that we have already addressed, to some extent, by our design of the overall program structure. The RPS program described herein provides sufficient incentives to encourage development of a renewable generation industry in New York, is designed to coexist with and even grow the competitive retail energy market for renewables in New York, encourages voluntary green market programs, and is expected to have a modest impact on customers' bills. Accordingly, we will not delay its commencement.

Except as otherwise indicated in this Order, we will not modify, and we hereby impose, the condition that renewable generation facilities that commenced commercial operation prior to January 1, 2003 are not eligible for RPS incentives. Adherence to this requirement is consistent with and in

furtherance of our stated objective that the RPS should "increase New York State's supply of renewable resources with the ultimate aim of establishing a viable, self-sustaining renewable generation market." Accordingly, those entities that have demonstrated the ability to compete in the market prior to January 1, 2003, except as otherwise indicated in this Order, are not eligible for RPS incentives.

E. Eligibility

The RD states that 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. A discussion of eligibility criteria for specific resources follows.

1. Hydropower

The ALJ recommended eligibility criteria for hydropower, as detailed in the Draft GEIS. Eligibility was proposed for: hydroelectric upgrades with no new storage impoundments, with eligibility limited to the incremental production associated with the upgrade; new low-impact run-of-river hydroelectric facilities limited to 30 MW or less, with no new storage impoundment; and existing very small hydroelectric facilities, on a maintenance of renewable resource basis, limited to in-State facilities with facility capacity limited to 10MWs or less, with expiring above-market energy contracts, consistent with the assumptions contained in Cost Study II.[18]

The Parties' Exceptions

[18] The RD also included pumped storage hydropower powered by eligible hydropower, consistent with the categories established for reporting for environmental disclosure purposes. This category is redundant. The reference to pumped storage is irrelevant, therefore this criterion is unnecessary.

While accepting hydropower as a renewable resource in principle, RETEC advocates that hydropower facilities be approved for RPS eligibility on a case-by-case basis depending on the individual facility's level of environmental impact to determine whether specific projects could be certified as “low impact.” According to RETEC, there is not adequate justification for the presumption that all run-of-river projects under 30 MW are environmentally benign. In addition, there is no environmental justification for the inclusion of existing hydro projects when their contracts expire. RETEC also expressed concern about increasing a hydroelectric facility’s annual generation by diverting additional waterways into its reservoir system. Finally, RETEC recommends that the varying degrees of environmental control and licensing requirements between different provinces in Canada and in the United States support the need for an RPS reciprocity requirement.

Regarding the maintenance of existing small hydropower resources, Ridgewood Renewable Power, LLC (Ridgewood) would expand eligibility to include all small hydropower plants with expired contracts at or below market prices in addition to those plants with expired contracts above the market price recommended for eligibility in the RD. According to Ridgewood, the small hydroelectric facilities with existing contracts at or below market price are far more vulnerable because such facilities have no financial incentives or ability to increase their production or make project improvements or repairs that would allow these facilities to remain in operation over the long term.

In a surreply, Ridgewood argues that the "packaging" of small hydroelectric facilities into multi-facility contracts should not exclude individual facilities within a contract package that are not profitable from eligibility as maintenance resources. Ridgewood states that such individual facilities would ultimately cease operation without additional financial support. In a response, Niagara Mohawk argues that such incremental payment is unwarranted as Ridgewood is requesting additional financial consideration beyond that to which they

were entitled to receive under "front loaded" power purchase agreements entered into between small hydroelectric facilities and utilities. The Small Hydro Group also submitted a response that addressed issues regarding the ownership of renewable energy credits in a power purchase agreement context.

Discussion

The existing numerous laws that govern the development of hydroelectric projects, the rigorous permitting processes described in Section 6.2.2 of the Final GEIS and the eligibility requirements for hydroelectric generation are designed to help ensure the minimization of environmental impacts associated with the development of hydroelectric facilities eligible for inclusion in the RPS program. Water diversion of the type described by RETEC would clearly be part of the required site-specific review of proposed projects. As the Final GEIS demonstrates, eligibility does not guarantee that any particular resource can be developed without environmental impacts. It is not realistic for the Commission to attempt to control project environmental review processes in other states or countries, as RETEC proposes. The 30 MW size limit on run-of-river hydroelectric facilities provides a reasonable cut-off for such facilities to prevent unacceptable environmental impacts and will go a long way towards minimizing environmental impacts.

We believe there is a potential risk of losing existing electric generation from established small hydroelectric facilities that under certain financial circumstances might cease operation or be abandoned altogether. We believe the most serious risk is to very small facilities of five megawatts or less, not the up to 10 MW facilities described in the RD, therefore, we adopt five megawatts or less as the limit. Because it is difficult to pre-establish the specific financial conditions under which such facilities would be at risk, we are providing for a case-by-case process for facilities of five megawatts or less to seek financial assistance under the

RPS program.[19] The financial issues raised by Ridgewood, Niagara Mohawk and the Small Hydro Group would be addressed in the case-by-case process.

2. Solid Waste

The issue of solid waste attracted by far the greatest volume of public comment, in writing and at the nine public forums held in various cities around the State. Thousands of letters were received opposing the inclusion of municipal solid waste (MSW) in the RPS; dozens, including State and local legislators and executives, supported its inclusion.

The RD proposes that MSW should be considered eligible only insofar as it complies with the eligibility criteria for biomass. The ALJ considered, first, whether New York State or Federal law mandated either the inclusion or the exclusion of MSW in the RPS. The ALJ concluded that the State Energy Law mandates the use within the State of renewable energy sources[20] and defines “renewable energy resources” to include “wastes.”[21] In general, the term “waste” could apply to a range of resources, including solid waste, biomass, landfill gas, or a combination of the three. The ALJ concluded that the closest 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 photovolatic, wind, plant and forest products, wastes, tidal, hydropower, geothermal, deuterium, and

---

[19] We are equally concerned about the existing biomass direct combustion (wood-fired) facilities that are an important component in the upstate regional economy, as noted in the brief by the owners of the Lyonsdale Biomass Facility, and the fledging wind projects recently constructed in New York. We will add these resources to the eligibility list, subject to showing financial need.

[20] Energy Law §3-101(1).

[21] Energy Law §1-103(12).

hydrogen." 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, the ALJ concluded, among other things, by determining what resources are *eligible* rather than what are literally capable of being *renewable,* the definition of "waste" as renewable is not dispositive.[22] In addition, the ALJ reasoned, the State Energy Plan, promulgated in 2002, promoted renewable energy in New York State. Renewable energy was defined as “hydropower, solar, wind, biomass, ocean, and landfill gas.” The ALJ also relied upon DEC regulations

[22] 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.

excluding MSW from the definition of renewable energy[23] and found no controlling Federal law.

New York has ten waste-to-energy (WTE) facilities, with a generating capacity of approximately 300 MW. As to environmental and policy issues, the RD states that it was 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 WTE facility complies with the criteria for eligible biomass, it may participate in the RPS on that basis for the biomass portion of its fuel, separately converted into energy. However, there is also no dispute that these plants and others employing comparable technologies are responsible for significant mercury and dioxin emissions, and a higher emission rate than coal generation, for certain pollutants.[24]

---

[23] 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. 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."

[24] 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.

The Parties' Exceptions

Several parties seek to have WTE facilities included in the RPS. Arguments used to support this position centered upon the environmental benefits of WTE: displacement of fossil fuels in power generation, reduction in amount of waste disposed of in landfills and the reduction in the production of greenhouse gases (methane) in landfills. It is also pointed out that while there are undesirable consequences of WTE (air pollution), all forms of alternative power generation have unwanted environmental impacts. Also, the Integrated Waste Services Association (IWSA) argues that excluding WTE from the RPS could result in WTE facilities sending their power to other states that do recognize WTE, which would result in an energy deficit in New York State that would have to be made up from other sources.

RETEC and the NYOAG support the exclusion of WTE from the RPS, agreeing with the ALJ's recommendation that MSW incineration is not sufficiently consistent with the proposed RPS environmental objectives.

Discussion

The criteria for eligibility for inclusion in the RPS take several factors into consideration. These include, the origin and composition of the generation fuel, the nature of the process transforming that fuel into electricity, and the totality of the environmental and other impacts of the generation process, such as air emissions and waste products.

As to the origin and composition of the generation fuel, MSW includes a considerable percentage of combustible organic material; however, it also includes non-combustible material such as lead, mercury, cadmium, plastics and synthetics present in the waste stream. Mercury emissions are of primary concern, as noted in the Final GEIS. Mercury is a persistent and toxic pollutant that has accumulated in New York's environment, especially in aquatic ecosystems. Exposure to mercury at high levels poses significant health risks. Due to high levels of mercury in fish, the NYS Department of Environmental Conservation (DEC) and the Department of Health

have maintained advisories that children and pregnant women should not eat freshwater fish caught in many lakes and rivers in the State. WTE facilities have the highest mercury emission rates of any electric generation technology in New York State. In 2000, the average mercury emission rate from New York's WTE facilities was six times higher than the average emission rate from coal plants. Although WTE facilities account for only one percent of electricity generation in the State, WTE facilities emit the second largest overall amount of mercury pollution. Only coal-fired power plants emit a larger overall amount because coal accounts for 17 times more electricity generation than WTE facilities.

The current practice of mass incineration of MSW, that typifies New York's existing WTE facilities, results in air emission levels of mercury and other heavy metals that the Commission finds troubling. We concur with the ALJ that WTE facilities employing mass burn technology should not be considered an eligible resource in the New York RPS at this time. While there is no dispute that the WTE plants have 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 coal-type fossil fuel generation facilities. At this time, WTE facilities will not serve an RPS that, among other things, aims to improve air quality, public health and the environmental performance of the electricity supply system serving New York State. We further note the ALJ's observation that, "... WTE has a source of funding in addition to electric sales: municipalities' tipping fees for waste"[25] and her conclusion that "on this record the MSW proponents have not made a strong claim that their industry needs the financial support from ratepayers in an RPS."

We also note the concern the ALJ reported from the opposition voices on this issue, namely that WTE technology is

[25] Citing to Integrated Waste Services Association's Comments, p. 2.

not one New Yorkers are likely to want to subsidize with additions to their monthly electric bills, along with the more generalized concern that the credibility of the RPS hinges in large part on public acceptance that this program will deliver environmental benefits.

WTE generators may participate in the RPS to the extent their facilities comply with the requirements for renewable biomass. For example, source-separated refuse-derived fuel (RDF) is an eligible biomass resource feedstock.

Some parties note that new WTE technologies are under development and should have the opportunity to participate in the RPS. We, therefore, will establish a mechanism to consider and add appropriate resources to the eligibility list.

3. Biomass

The Parties' Exceptions

Several parties sought to expand the definition of biomass to include biomass co-firing with fuels other than coal. Others sought to expand the definition to include other forms of agricultural and animal waste.

Taylor Recycling Facility, LLC (Taylor) requests an exception to the definition of "biomass" because defining "biomass" as wood, in Taylor's view, is contrary to all other common definitions of biomass which include non-wood renewable matter such as food, leather, offal, grass, leaves, natural textiles (cotton, wool, etc.), paper and paperboard (*i.e.*, boxes). According to Taylor, certain biomass technologies can also produce power with fewer emissions than existing biomass generation using adulterated forms of wood, such as plywood and particle board. Additionally, Taylor argues that the mechanism for adding RPS-eligible biomass sources should be altered so that any biomass source that meets the State's air pollution standards is eligible.

Certain parties, including Empire State Forest Products Association, express concern that a prescriptive list of eligible sources may inadvertently preclude sources that otherwise would be appropriate. Other exceptions challenged the

"biomass" definition as too broad and argued it should include more of the recommended restrictions from the Biomass Working Group. Specifically, RETEC and the NYOAG assert that the RD does not take into account the air pollution emission standards and other environmental safeguards the working group had incorporated into its "biomass" definition.

Changing World Technologies (CWT), seeks to have its biomass-related technologies included in the list of eligible resources. CWT argues that its unique process of converting organic waste material into liquid fuel should be included in the RPS because it claims that it is comparable to landfill gas.

Discussion

Biomass is a sustainable feedstock for energy products that can assist New York in achieving the RPS targets. Biomass feedstocks primarily consist of forest, mill and agricultural residues, urban wood wastes, and dedicated energy crops. Animal wastes such as manures can also be considered as biomass resources. The greatest potential quantity of biomass feedstock in New York is our abundant supply of wood (lignocellulosic biomass), hence the focus on wood in the RPS definition of biomass. Biomass can be burned directly (combustion) or can be converted into energy products (*i.e.,* solid, liquid and gaseous fuels) through sugar, chemical, or thermochemical platforms. A discussion of biomass fuels and conversion technologies is contained in the Final GEIS.[26]

Biomass as a sustainable energy feedstock has notable environmental and economic development benefits. For example, the Final GEIS notes that in New York State there are wood energy plantations (predominately fast-growing willow trees) that are managed as agricultural crops. These crops are grown exclusively to produce biomass fuel and have been used in co-firing applications at coal-fired power plants. Willow trees grown in energy plantations are ten times more efficient at sequestering CO_2 than trees grown in native forests, and

[26] *See* Final GEIS, Appendix C – Response to Comments, p.69-70.

production per acre exceeds that of traditional crops. When properly sited and managed, these crops can increase wildlife diversity and protect riparian habitats, and improve landscape aesthetics and soil nutrient levels. Co-firing woody biomass in a coal unit can reduce SO_2, NO_x and mercury emissions and reduce the need to purchase coal, thus helping to keep revenues from flowing out of New York State for energy production. Energy facilities using agricultural and forest resources as a fuel stock can provide economic development benefits to state and local economies, as discussed in the Final GEIS.

Regarding a prescriptive list versus a broad definition of biomass, we believe that it is important to provide a specific list so as to promote certainty in the marketplace for potential renewable resource developers.

In response to the exceptions, we clarify in the RPS eligibility tables, provided in the Appendix, the biomass resources that will be considered eligible for the RPS program. With respect to co-firing, the table has been expanded to make it clear that biomass co-firing with all fossil fuels is permitted. Technologies such as those proposed by CWT are also incorporated.

With respect to Taylor Recycling's exceptions, the definition of biomass includes the digestion of "food, leather and offal" converted into fuel using either thermochemical gasification, thermochemical pyrolysis or hydrothermal liquefaction. The use of any of these thermochemical processes would be expected to burn more efficiently than if such feedstock were permitted to be used in direct combustion and thus is consistent with our stated objectives of diversifying the generation resource mix of electricity retailed in the State, developing advance renewable resource technologies, and improving the State's environment.

The use of fast-growing grasses farmed as energy crops and leaves co-mingled with eligible forestry waste wood or agricultural reside is generally an eligible biomass feedstock. However, grass clippings and leaves collected by landscapers and municipalities are generally used to create compost in keeping

with State solid waste policy that encourages reuse and recycling over energy uses or disposal. Similarly, natural textiles, paper and paperboard are generally recycled into new products in keeping with State solid waste policy. Therefore, we will not expand the definition of biomass to include such resources that could be re-used or recycled.

The use of adulterated forms of wood, such as plywood and particle board, as a feedstock for any one of the thermochemical platforms discussed above would be expected to be an environmentally beneficial alternative to the disposal of waste plywood and particle board, assuming it could not otherwise be practicably recycled, in landfills. Therefore, plywood and particleboard may not be used as feedstock for direct combustion under the RPS program due to our concerns about emissions, but may possibly be converted into biogas or liquid biofuel.

As to establishing RPS pollution emission standards, it is unclear whether the limits proposed are desirable or even attainable. Staff advises that emission limits in general are in a state of flux. At this time, we will not adopt such limits.

Regarding other environmental safeguards, the eligibility standards we are adopting contain appropriate requirements that ensure the eligibility of a biomass feedstock consisting of harvested wood or silvicultural waste wood is conditioned on that use not adversely affecting long-term forest health or compromising the sustainability of the biomass resource. Also, any tree harvesting operations must be performed in a manner that protects or improves forest productivity and conserves and protects biological diversity, soil and water resources and rare and endangered species. Harvesting operations would also be subject to monitoring, reporting and periodic inspections.

4. Wind

The RD lists wind generated via wind turbines as RPS Main Tier Eligible renewable resources, provided, *inter alia*, the generation facility was developed after January 1, 2003.

The Parties' Exceptions

Community Energy, Inc (CEI), Enel North America, Inc. (ENA), and RETEC argue that all wind projects should be included in the RPS, claiming that the argument used in the RD to include existing small hydro projects with expiring contracts applies with equal force to wind projects. They assert that the exclusion of such projects endangers their ongoing viability and penalizes early developers. ENA adds that exclusion is counter to the spirit of the RPS.

MI asserts that the exceptions to the ineligibility of existing wind projects, if granted, would lead to higher RPS costs for consumers and would disregard the purpose of the RPS payments, which is to encourage the development of additional renewable resources. MI also argues that the assertion that existing wind projects will not be financially viable absent RPS funds lacks factual support.

Discussion

We determined, *supra*, that there is a potential risk of losing existing electric generation from established small hydroelectric facilities that under certain financial circumstances might cease operation or be abandoned altogether. To the extent this risk may exist for established wind projects, we also will permit established wind projects to demonstrate that they require RPS benefits in order to remain financially viable. Providing for a case-by-case process for such facilities to seek financial assistance under the RPS program balances the parties' competing concerns and our policy objectives by establishing a process enabling us to tailor any relief that might be provided so as to ensure that (1) the largest possible proportion of RPS funds are reserved for encouraging the development of additional renewable resources and (2) that achievement of the overall target is not made more

challenging due to the loss of existing resources from the baseline.[27]

5. Customer-Sited Resources

The ALJ found that ensuring continued and accelerated development of the emerging technologies of photovoltaics, fuel cells and Customer-Sited wind facilities was essential, but that such technologies could not compete in direct price competition with other renewable resources. The ALJ noted the high value of these resources in their potential to be located near urban/heavy load areas and their particular environmental benefits. She recommended that two percent of the total RPS MWh increment be set aside into a Customer-Sited Tier.

The Parties' Exceptions

RETEC, Plug Power, and Solar Energy Industries Association argue for increasing the size of the Customer-Sited Tier, asserting the RD exaggerates the associated cost. These parties also reiterate the RETEC proposal that 20 percent of this incentive be targeted toward installations for non demand-billed customers (residential and small business). In their view, a five percent set-aside would be more appropriate, with provision for small distributed generation technologies to be integrated into the Main Tier in later RPS years. They further opine that an aggressive RPS and customer-sited program would accelerate investment in New York by renewable energy companies.

LIPA, Sterling Planet, and Solar Energy Ind. Assoc. (SEIA) suggest that customer-sited projects should also be eligible in the Main Tier. The NYOAG disagrees, supporting up-

[27] The reasons for allowing existing wind facilities to demonstrate financial need for RPS benefits may also apply to existing hydroelectric facilities of five megawatts or less and to existing biomass direct combustion facilities. Accordingly, as we noted *supra*, existing hydroelectric facilities of five megawatts or less and existing direct combustion biomass facilities also will be permitted to demonstrate that they require RPS benefits to remain financially viable.

front funding for development of emerging technologies, seeing no need for additional subsidy.

Empire State Forest Products Association urges inclusion of emerging biomass technologies in the Customer-Sited Tier. Antares asserts that sustainable yield wood and herbaceous crops merit similar treatment through an incentive grant based on capacity.

MI, Small Hydro Group, and Constellation New Energy urge rejection of the Customer-Sited Tier altogether. MI asserts that the Customer-Sited Tier approach should be rejected based on its disproportionate cost. In the alternative, MI suggests the payments for the Customer-Sited Tier not be front-end loaded, but paid over time as in the Main Tier, based upon predictions of falling costs of renewable resources; and argues against adding to the list of customer-sited eligibility. Joint Utilities also suggested rejection of a second tier or, at least, limiting it strictly. Nucor agrees, suggesting only limited, cost-justified projects for wind and fuel cell development.

Discussion

We agree that ensuring continued and accelerated development in New York State of the emerging technologies of photovoltaics, fuel cells and Customer-Sited wind facilities is beneficial to the future of New York State. These resources are among the most environmentally benign of all potential generation technologies and have the added benefit of being easily deployed in urban/heavy load areas where they have a particularly high value as an alternative to conventional resources.

The MWh set-aside for the Customer-Sited Tier is hereby set at two percent of the total RPS MWh incremental level. This maintains flexibility in assisting operational efficiency and strikes the most appropriate balance between the need for these resources and the cost. To improve the efficiency of program management and reduce potential administrative costs, we will not preclude front-end loading of the costs of this tier. We see no reason to preclude these

resources from Main Tier eligibility if they produce net energy above the amount used by the customer, so long as such net energy is not sold to the distribution utility under a mandatory net-metering regime. While eligibility in the Main Tier will be permitted, given their higher cost, it is unlikely such resources will be effective at competing in the Main Tier until such time as there is a significant improvement in unit development costs for these technologies.

Biomass projects for the creation of new feedstocks, as advocated by some parties, do not appear to be a "good fit" for customer siting. Those resources have been adequately addressed in the Main Tier and will not be added to the Customer-Sited Tier at this time. Eligibility in the Customer-Sited Tier at this time shall include only fuel cells, photovoltaics, and certain wind resources. A detailed table entitled "RPS Customer-Sited Tier Eligible Electric Generation Sources" providing more specific information on eligibility is provided in Appendix B, and is hereby adopted.

Creation of a "Customer-Sited Tier" ensures that photovoltaics, small wind systems, fuel cells, and any similar technologies that may become eligible for RPS support in the future play a role in diversifying the state's energy mix and stimulating economic development opportunities in the State. Funding in this category is to be allocated to projects based on a comprehensive review of the relative costs and benefits, including the potential for specific projects to create or sustain jobs in New York State, the ability of the resources to support load pockets throughout the state by reducing demand from the grid during peak demand periods, support for greater fuel diversity, opportunity for residential and small business customers to participate, and environmental benefits.

At this time, we are not including in the Customer-Sited Tier any technologies, such as geothermal, solar thermal, and wood heating systems, that do not produce electricity to offset electricity purchases. These and other technologies will however be considered, where appropriate, through a mechanism to be developed by Staff. Both the review mechanism and the

technologies considered therein, shall be submitted for our approval.

6. Nuclear Power

Some parties urged inclusion of nuclear energy as an RPS eligible resource on the grounds that it avoids greenhouse gas emissions and other environmental burdens, and otherwise comports with the RPS working objectives. Other parties, including RETEC, responded that nuclear power cannot be classified as renewable because it utilizes uranium, a fuel which is nonrenewable and has its own adverse environmental impacts. The RD concluded that, for those reasons, and absent authority to the contrary from other jurisdictions, nuclear power should not be classified as renewable.

The Parties' Exceptions

In the briefs on and opposing exceptions, no party contested the ALJ's conclusion that nuclear power should not be classified as renewable.

Discussion

The conclusion that nuclear power should not be classified as an eligible resource is accepted for the reasons stated in the RD.

F. Overall Structure of an RPS

Central choices in the design of an RPS concern the overall structure, namely, whether procurement of renewables should be done through a centralized mechanism or by individual Load Serving Entities (LSEs), and which entities or groups of consumers should bear the program's costs.

To tackle these complex issues, parties divided into two Working Groups, one thoroughly examining various approaches to central procurement, with the other doing the same for individual compliance. Each group generated and analyzed several proposals for structure within its model, reporting on the best practices to use that method, following reports from NYSERDA, NYPA, and LIPA about their legal authority to participate in these models.

1. Structure of the RPS Program

Working Group Three created two central procurement models: a NYISO Procurement Model and a State Agency Procurement Model. The NYISO Procurement Model entailed 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. Another modeled approach was the State Agency Model, entailing a State agency issuing a competitive solicitation for eligible renewable attributes and choosing the winners. Staff asserted 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 LSEs should have several options to meet RPS obligations and proposing a hybrid model.

The ALJ adopted the Staff proposal, and endorsed a hybrid central procurement model, as one which maximizes early ventures and ease of procurement, while laying the basis for a certificates market. She also suggested that in establishing an RPS, we should provide that if utilities enter into prudent and competitively obtained long-term contracts, particularly contracts-for-differences, for renewable resources to comply with the RPS, then they will have the opportunity for cost recovery. The ALJ continued that the Commission would retain the flexibility to review and modify the RPS based upon annual monitoring and the 2008 review.

The Parties' Exceptions

Parties trading in the renewable energy markets, including IPPNY, Evolution, and Constellation,[28] oppose central

[28] Though it objects to the hybrid approach, Constellation suggests that should we adopt it, no more than 10 percent of the RPS requirement should be purchased by a central state agency, urging that individual compliance is a proven market mechanism maximizing flexibility.

procurement structures of any kind, viewing the individual compliance model as the most competitive, cost-efficient means to develop new renewable capacity. In these parties' views, central procurement with a single buyer will reduce liquidity and competition, while an individual compliance approach shifts price risk from consumers to utilities and is more consistent with our competitive energy market policies.

Others, including ConEdison Solutions, continue to believe central procurement is preferable, and warn of risks to competitive suppliers as the market value of attributes varies relative to any fixed price long term utility contract. Joint Utilities advocated central procurement arguing that it treats all LSEs equally and disadvantages no LSEs.

IPPNY fears the Joint Utilities' central procurement preference will discourage the creation of a robust competitive market for renewable energy procurement. It cites our preference for many buyers and sellers and no single provider of service dominating the energy market as a whole.[29] In contrast, supporters of central procurement, including, for example, Joint Utilities[30] and ConEdison Solutions, argue individual ESCOs would be hard pressed to compete with larger utilities in obtaining resources to meet renewable energy requirements.

DPS Staff argues that central procurement is no different from the existing markets in New York State, which are competitive. In addition, DPS Staff contends that central procurement has several advantages, including that it allows small LSEs to benefit from economies of scale that might only be enjoyed by larger LSEs in an individual compliance model and provides a countervailing force to the market power of generators in supply-constrained situations.

Discussion

---

[29] IPPNY relies upon the Commission's order in Case 94-E-0952, *Competitive Opportunities Regarding Electric Service* (issued May 20, 1996).

[30] The Energy Association of New York adopts the briefs of the Joint Utilities and Keyspan.

We adopt a central procurement model, administered by NYSERDA. With NYSERDA as administrator, the funds will be administered in a competitively neutral manner. Moreover, administrative costs should be reduced because the central procurement model provides economies of scale and entails a competitive selection process with which NYSERDA is already acquainted as administrator of the SBC program. Central procurement will expedite the start of the program and provide control of the initial procurements. These early procurements should provide information about the extent of supply-side competition as this market develops.

The current and projected cost of electricity from renewable resources is expected to remain at costs above the market cost of conventional generation resources through the time period studied. The record in this proceeding demonstrates that, at this time, potential developers of such resources likely 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. By adopting a central procurement model, we will maximize the ease with which such contracts can be secured. By adopting a model to be administered by a state agency for a definite duration, we will also lay the basis for transitioning from the RPS program to a more market-based system. In addition, should the use of long-term contracts prove ineffective, we will retain the flexibility to review and modify the RPS based upon annual monitoring and the 2009 Review. NYSERDA should file a proposed plan, prior to our 2009 Review, for a transition from the RPS program to a more market-based system.[31]

[31] This should include consideration of partial or full transition to a procurement approach that relies upon competitive energy providers, such as ESCOs, and any necessary verification or enforcement mechanisms.

The details of NYSERDA's role as procurement administrator will need to be addressed in the implementation phase. We envision the drafting and execution of a Memorandum of Understanding, similar to the process undertaken with respect to the SBC.

With adoption of the central procurement model, we have established individual contribution assessments, by utility, for each year of the RPS program (See Appendix E). Each of the utilities is directed to enter such contracts or agreements with NYSERDA as are necessary to implement our choice of NYSERDA as procurement administrator. The terms of such contracts or agreements shall provide that RPS monies collected by the utility through its rates will be transferred to NYSERDA to fund the RPS program we approve in this Order.

The proposal to create an alternative compliance mechanism for enforcement of the RPS is not accepted; a fully central procurement structure obviates the necessity of creating an alternative compliance mechanism[32] as the program will be administered by a state entity.

2. Determination of Participating Entities

The ALJ concludes that the RPS should be designed such that neither NYPA customers nor municipals contribute to the RPS premiums. As to the participation of municipals in the RPS, the ALJ found the arguments supporting exclusion (*e.g.*, their portfolio already consists of approximately 87 percent hydropower) to be persuasive.

As to NYPA customers, the ALJ also concluded that the projected cost burden to the rest of ratepayers from excluding NYPA customers was 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. In addition,

[32] An example of an alternative compliance mechanism, which is not being accepted, is a default payment to a dedicated fund by a load serving entity that has not procured its target percentage of renewable generation in a given year.

the ALJ was persuaded that adding costs to a priority program for economic development may have adverse consequences disproportionate to the benefits; and was persuaded by NYPA's current portfolio having the highest percentage renewable resources (hydropower) in the State[33] and its renewable resources accounting for more than 50 percent of the baseline renewable energy retailed in New York.

The Parties' Exceptions

The Business Council supports the exemption of NYPA customers, and urges us to also exempt businesses receiving economic development rates, at least from Phase 1, until the rate impacts of the program are fully understood. MI also supports the recommendation to exempt NYPA's economic development customers and requests that we extend it to flex-rate contract customers as well, noting the ALJ's conclusion that the addition of costs to economic development customers may have adverse consequences that are disproportionate to the benefits. MI notes that because NYPA economic development customers have fixed long-term contracts, they would not benefit from any price suppression that may occur, but they will experience price increases. It asserts it is essential that NYPA economic development customers be exempted; otherwise, the goals of other state programs - designed to ensure the availability of low-cost electricity for the retention and expansion of jobs – will be impeded. Moreover, MI argues that we must clarify that the exception applies to all categories of NYPA industrial power. MI further asserts that the reasons for exempting NYPA economic development customers also apply to flex-rate customers; and that given the Commission's recognition of flex-rate contracts as a valuable tool for promoting economic development through the retention and attraction of business

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

customers, it would be antithetical to raise their rates by imposing an RPS surcharge.

Nucor states that we must reconcile the RPS with economic development goals and can do so by exempting flex-rate contract, economic development zone incentive and similarly at-risk loads.

Constellation, on the other hand, excepts to excluding NYPA. It claims the competitive market would be harmed because a customer that might otherwise benefit from the competitive environment would be discouraged from leaving NYPA's below market service. Constellation continues that NYPA's exclusion is inconsistent with our policies and that NYPA should be placed on even competitive footing with other LSEs. Constellation also asserts that the decision whether to exempt flex-rate customers should be addressed in our Proceeding on Motion of the Commission to Reexamine Policies and Tariffs for Flexible Rate Contract Service to Economic Development Customers, and not in this proceeding.[34]

Joint Utilities also excepts to the recommendation, stating that it lacks rational basis. Joint Utilities posits that everyone should pay since everyone is going to benefit.

RETEC excepts to the recommendations to exclude NYPA and municipal customers. RETEC states that inclusion of NYPA and municipals is consistent with the RPS' emphasis on incremental renewable energy development and that NYPA, in particular, is uniquely situated to leverage its buying power to support such a goal. RETEC also asserts that any increase experienced by such customers must be judged relative to the years they have been the beneficiaries of "extremely-low-cost hydropower at subsidized rates;" and that they should be

---

[34] Constellation states its disagreement with exempting small ESCOs from the RPS, claiming such an exemption violates the Commission's policies for a fair and competitive energy market, is in error and has no record support. Constellation's arguments are misplaced; the issue of proposed exemptions is focused on the end-use retail customers, not the LSEs.

required to contribute to creating the societal benefits associated with diversification because they will benefit therefrom. RETEC finally states that the ALJ's assertion that municipal power utilities practice aggressive energy efficiency conservation is unsupported and insufficient reason for exempting municipals.

Discussion

We are adopting an RPS program that will exempt from contribution those customers currently exempt from SBC contribution. Such customers are generally provided electricity at reduced prices to achieve economic development objectives such as sustaining or creating jobs. We recognize that requiring such customers to pay for the objectives of the RPS would be counterproductive to economic development goals. As to the manner of collecting the RPS program funds, we will require the funds to be collected as a non-bypassable wires charge. This manner of collection is easier to apply administratively and it satisfies our previously stated objective of developing an RPS that is administratively transparent, efficient and verifiable. Accordingly, we establish an RPS surcharge to be collected as a charge on the delivery customers of the State's investor-owned electric utilities as indicated in Appendix E. As part of this surcharge, we will require the development of a mechanism ensuring the allocation and disclosure of renewable power related to the RPS surcharge to the retail customers paying the RPS surcharge.

We note that the exemption we are setting forth above will also apply to numerous municipal entities including several New York City agencies and customers of municipal-owned utilities. We also note that New York City municipal customers in particular represent roughly 900 megawatts of electric demand, and strategies to procure a portion of that demand from renewable resources would substantially aid the overall State effort. Therefore, we strongly encourage New York City municipal customers, along with the Long Island Power Authority and New York Power Authority, to voluntarily participate in and adopt comparable efforts to increase the percentage of renewable

resources these entities use to generate electricity. To the extent that program coordination and administrative efficiency can be enhanced by broader participation, the programs can provide greater benefits to all New Yorkers. Their partnership would be welcomed.

With respect to LIPA, the tables in Appendices D and E reflect participation in the RPS program by LIPA and its customers. This is consistent with the approach taken in the Staff cost studies and the RD cost analysis. Therefore, we invite LIPA to participate fully in the RPS program and the administration of RPS funds by NYSERDA. To the extent that LIPA chooses an alternative approach, its share of the targets and costs would be administered by LIPA instead of NYSERDA.

G. 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 environmental disclosure program. Consensus was reached only to the extent parties agreed New York should establish a system to enable trading of renewable energy credits separately from energy contracts or transactions; and 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 compatible with neighboring systems. Near-consensus was reached that Working Group Four's task should be spun off into a separate track to continue to design the details of a New York Trading system over the next several months, so that adoption of a general RPS policy favoring a trading system of some kind could proceed without delay.

The ALJ recommended that our current environmental disclosure program should be revised to look more like a certificate trading system. In the context of recommending a hybrid procurement model, the RD noted the need for a dynamic

electronic settlement system where parties can buy and sell certificates online in real time.

The Parties' Exceptions

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 seeks compatibility with other regions, arguing for dialogue among jurisdictions. 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.

ConEdison Solutions states that a region-wide certificates-based accounting and verification system should be established to facilitate cross-border sales.

Discussion

It is not necessary to establish a certificate tracking and trading system for purposes of the central procurement model we are adopting. However, it is our vision that the mechanism used to track the success of the RPS program should be designed in such a way that it can co-exist with and eventually be replaced by a more market-based approach.

Given the value of a well-designed and flexible certificate trading system, NYSERDA should evaluate options for developing regionally compatible certificate tracking and trading system. The evaluation of such options should be included in the proposed plan NYSERDA will submit for our consideration in the 2009 Review.

H. Delivery Requirement

The parties agreed that a resolution of issues regarding the “delivery” of energy into the New York Control Area is a key factor to be decided by the Commission in establishing an RPS program. The ALJ endorsed the adoption of a requirement that for energy generated outside of New York State to be eligible under the New York RPS program, it must be delivered into the New York Control Area. After examining the cost studies prepared in this proceeding, the ALJ concluded that such a delivery requirement would result in lower wholesale electricity prices in New York, both on- and off-peak, providing a significant offset to RPS costs. It was noted in the RD that when the Commission began the process "to develop and implement a renewable portfolio standard for electric energy retailed in New York State" it envisioned results such as improving energy security, diversifying the State's electricity generation mix, and directly reaping the benefits of a local renewable resources industry.[35] The RD stated that some of these benefits, namely local air emission reductions, energy supply diversity and security, and protection from oil and natural gas price spikes or possible supply disruptions, only accrue if the energy is actually delivered into New York State. In addition, the ALJ observed that under the neighboring Massachusetts RPS program there is a requirement for the delivery of renewable energy into the ISO-New England Control Area and that statutes in California, Nevada and Texas require “strict” delivery.

“Strict delivery” is a requirement that the energy be scheduled and transmitted between control areas at the same time that it is generated. Such a requirement may present a significant barrier to intermittent renewable generation that by

[35] RD at 85-86. The RD stated that other goals, including greater economic development opportunities in the renewable resources 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. RD at 86, n. 114.

its nature is difficult to schedule with certainty. In the RD, the ALJ proposed that the Commission temper the New York delivery requirement by the allowance of "monthly matching" to accommodate intermittent renewable generation. Under monthly matching, intermittent renewable generation that is difficult to schedule may be sold into the spot market of the control area it is located in as it is generated without simultaneous transmission into the New York Control Area, so long as an equal quantity of energy is eventually transmitted out of the affected spot market into the New York Control Area during the same calendar month. In addition, if the control area of origin has an attributes accounting and tracking system, or an environmental disclosure program, such system and/or program must be compatible with the recognition of the monthly matched transactions without double counting.

The Parties' Exceptions

Several parties, including the NYOAG, EMI, MI and Ridgewood, support a delivery requirement. They assert that the lack of a delivery requirement would be inconsistent with the Commission's stated goals of increasing the use of renewable resources within the State, improving New York's environment, promoting generation diversity in New York and attracting renewable resources, generators, manufactures and suppliers to the State. They contend that it would result in a situation where New York State ratepayers will incur premium costs, yet be denied the benefit thereof. Moreover, they argue that a delivery requirement is consistent with neighboring states' RPS programs, namely Massachusetts. Some opine that such a requirement is an essential cost of doing business and not a barrier to free commerce. They assert a delivery requirement lowers ratepayer's compliance costs, avoids consumer confusion, and decreases the potential for market manipulation and deceptive practices.

Some parties, including ConEdison Solutions, Constellation, IPPNY, Joint Utilities, and RETEC, disagree with requiring the delivery of renewable power into the New York Control Area. ConEdison Solutions argues the requirement will

lead to a risk premium for intermittent, renewable power supplies. Some claim it could isolate New York's renewable resources market and limit the unbundling and liquidity of the renewable attributes.

RETEC states that the Commission should relax the delivery requirement and instead establish reciprocal arrangements for the trading of renewable energy and associated attributes. RETEC proposes a "*quid pro quo* reciprocity" proposal, under which "New York would have free, seamless trading of renewable attributes with every state in our air shed that adopts an RPS policy similar to New York's." Where no reciprocity exists, RETEC proposes a relaxed delivery option.

Some of the parties, including Constellation and RCB Wind Advocates, ask for clarification that the requirement be applied only to imports. Constellation, however, argues that, even with this limit, the delivery requirement will unnecessarily burden interstate commerce, raise the cost of compliance, invite retaliatory discrimination (and potentially violate the Commerce Clause), reduce the availability of imports, and be "impractical" given the inability to track electrons. IPPNY and Joint Utilities ask that, if the requirement is adopted, it be imposed on a regional basis.

If a delivery requirement is adopted, Constellation, along with IPPNY and Joint Utilities, ask that eligible resources qualify as long as the associated energy is generated in the same year the obligation accrued. RETEC seeks quarterly matching. Ridgewood supports a strict delivery requirement with hourly matching. EMI also supports hourly matching as it asks that delivery be confirmed pursuant to the Northeast Reliability Council (NERC) electronic tagging system, which is an hourly tracking and recording system.

Constellation asks that the delivery definition be clarified to include both electricity scheduled with the ISO and bilateral contracts.

Discussion

As long as the cost of new electric generation from renewable resources continues to be higher than the cost of

generation from other resources, our adoption of the RPS will necessarily increase the direct cost of electricity supplied to New York consumers. Since we are likely mandating an increase in costs, it is important that we structure the RPS in a manner that maximizes the benefits that can accrue to New York from an RPS, consistent with all applicable laws and treaties. The structure of the delivery requirement affects the contractual flow of electricity, the location of pollution reduction and economic development activities, and the levels of wholesale energy and capacity prices, resource diversity and energy security.

We adopt the recommendation to impose a delivery requirement with a monthly matching component. As stated in the RD and as argued by many of the parties, imposition of such a requirement is consistent with and in furtherance of our stated goals of increasing the amount of renewable energy retailed in the State, improving energy security, diversifying the State's electricity generation mix, reducing local air emissions and protecting against oil and natural gas price spikes or possible supply disruptions. Moreover, as noted by several parties, the requirement will also help ensure that New York State ratepayers enjoy the benefits from the costs they will incur to support the RPS program and its objectives. The costs to New York State ratepayers will be minimized by the adoption of a delivery requirement. As shown by the cost studies, foregoing a delivery requirement would significantly raise the expected cost of an RPS for ratepayers because of the reduction in the offsetting impacts on wholesale electric prices. In light of all of the foregoing, we will adopt a delivery requirement.

Our delivery requirement will require “monthly matching” as described above. The ALJ’s recommendation is innovative and strikes a good balance between the need to provide flexibility to accommodate the difficulties of scheduling intermittent renewable generation with the need to rely on imports to meet our goals and to preserve our ability to verify delivery of renewable electricity from renewable resources. We expect monthly matching will limit the potential

for gaming or manipulation because it matches the energy transaction settlement period in use by the NYISO in the New York Control Area and that of other neighboring jurisdictions while providing sufficient flexibility to accommodate intermittent power sources and their potential to reduce wholesale prices. Those parties that argued that a delivery requirement would lead to a risk premium for intermittent renewable power supplies that might not be able to fulfill scheduling commitments did not acknowledge the mitigation effect of the allowance of monthly matching or the offsetting benefits of wholesale price impacts.

RETEC seeks a quarterly matching period and others sought an annual matching period. The matching period relates to the accounting settlement period similar to the NYISO's monthly settlement period. RPS compliance will be measured on an annual calendar basis against annual calendar targets. The longer periods sought by these parties appear to be based on a desire to accommodate resources that are seasonal in nature, and the calendar year compliance period provides such an accommodation.

Most if not all jurisdictions that have adopted an RPS have adopted a delivery requirement. There appears to be no basis to the claims that a delivery requirement could isolate New York's market or invite retaliatory discrimination; it would merely establish parity with other jurisdictions. However, RETEC's proposed reciprocity requirement would create a cumbersome barrier against imports, particularly from Canada, which would diminish New York's ability to acquire resources sufficient to meet our goals at least cost.

Similarly, we see no unnecessary burden on interstate commerce or potential violation of the Commerce Clause. The RPS concerns requirements for the retail sale of electricity in New York State. For commerce to occur, the product, electricity generated from renewable resources, must be in the State to be sold to retail customers. The RPS promotes interstate commerce by allowing imports on the same terms as electricity generated within the State. The delivery requirement applies to domestic

generation as well as imports. Therefore, it is equivalently applied to in-State and out-of-State renewable generation sources and imposes only a minimal, if any, burden on commerce. In addition, the delivery requirement serves important State interests including supply security and diversity, and environmental benefits.

We have reviewed the request by some that, if the delivery requirement is adopted, it be imposed on a regional basis. Necessary compatible attribute accounting and tracking systems are not in place throughout the region from which New York draws its electricity. Adoption of an RPS in the New York market will position us to work with other jurisdictions to achieve regional compatibility in the future.

Constellation's argument that a delivery requirement is "impractical" given the inability to track electrons is of no consequence. No tracking system claims to track electrons. The entire financial system supporting electricity generation, transmission, distribution and delivery is based on the path of contracts, not the physical properties of electrons. What is important is that monies paid by retail customers to obtain electricity from renewable resources are used for that purpose in a system that provides verification.

Constellation's request that the delivery definition be clarified to include not only electricity scheduled in the spot market with the NYISO, but to also include bilateral contracts, presents a problem. Allowing physical bilateral contracts to be eligible for RPS incentives is incompatible with the way we currently verify transactions for environmental disclosure purposes. RPS participation will be available to all generators scheduling into the NYISO markets except those using certain bilateral energy contracts (commonly called a "physical" bilateral) wherein the right to the energy is directly transferred to a particular load serving entity. The type of bilateral energy contracts excluded from eligibility does not include purely financial "hedge" contracts where the right to the energy is not directly transferred to a particular load serving entity but instead is determined in a market

administered by the NYISO. The full details of the delivery requirement for out-of-state generators and related requirements for all generators are set forth in an Appendix to this Order, which we are also adopting. We note that the full details include safeguards against double counting and paying.

I. 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; and 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. Contract Issues

There was no consensus among parties as to the wisdom of developing standard contract templates, the appropriate length of contracts, or whether contracts should be for both attributes and energy, or attributes-only. Staff proposed bidding on renewable certificates. MI argued 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 is necessary for incremental projects to be built; a Staff audit should determine the least cost renewable projects and those should be built; RPS payments plus energy, capacity and ancillary services revenues should

equal the cost of a given renewable generation unit; and, if RPS payments exceed cost, on an annual basis, consumers should receive a credit. MI also asserted that RPS costs should be collected as an explicit demand or customer charge, rather than a volumetric surcharge. Staff advocated a volumetric charge since payments will be per MWh and the benefits of an RPS are tied to the volume of overall load.

The ALJ took no position on whether the surcharge should be collected volumetrically.

The Parties' Exceptions

MI asserts that a volumetric charge is not the appropriate method for recovering RPS program costs because they consist largely of capital or demand-related costs, not supply costs. Strategic Energy, on the other hand, opposes the recovery of RPS costs through a wires charges, claiming it will result in ESCO customers subsidizing utility customers' commodity supply thereby placing the ESCO at a competitive disadvantage. RETEC supports volumetric recovery of costs as most sensible given that RPS targets are set based on energy use and renewable attributes used to demonstrate compliance are tied to energy production. RETEC claims that MI's position should be rejected as it would merely shift costs from high volume customers onto other customers.

Discussion

RPS program costs will be incurred primarily in pursuit of environmental energy-related benefits, not peak capacity benefits. The revenue necessary to support this program, including an appropriate administrative fee, will be raised through a non-bypassable volumetric wires charge on the delivery customers of each of the State's investor-owned utilities. Annual funding levels will correspond to projected MWh targets, as illustrated in the appended Cost Analysis. This approach provides for delivery customers of the State's investor-owned utilities (except those noted above as exempt) to fund the RPS program and relieves ESCOs from any obligation to procure renewable resources. In addition, even though the RPS standard applies to retail sales, collection of RPS program

costs as a non-bypassable wires charge is easier to apply administratively. This approach therefore satisfies two of our previously stated objectives, that is, developing (1) an economically efficient RPS requirement that minimizes adverse cost impacts, allocates costs equitably among ratepayers, and affords opportunities for recovery of utility investment, and (2) an RPS that is administratively transparent, efficient, and verifiable. Investor-owned electric utilities will be directed to collect and then remit the RPS surcharge funds and any appropriate administrative fees to the central procurement administrator which, as determined above, will be NYSERDA.

We will not decide any of the other outstanding contracting issues as our adoption of a central procurement model obviates the need to do so. Instead, we direct Staff to work with NYSERDA to develop procurement methodologies and contract provisions that assure attainment of the RPS goal while minimizing program costs.

J. The Reliability Impacts

The February 2004 Phase 1 Report evaluated the impact of wind generation development in New York State on the planning and operation of the State bulk power system and investigated the adequacy of the New York system to reliably incorporate and deliver substantial wind generation in years 2006 through 2013.

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 case[36] and that the addition of wind generation in and of itself will not degrade system reliability.[37] The Phase 1 Report

[36] 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.

[37] The Phase 1 Report indicates, however, that reliability will be negatively impacted if existing, marginally operating thermal generation is retired or prospective thermal generation is deferred or cancelled.

concludes that the addition of wind generation up 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 RD, wind generation 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 dependable value of wind sites between 3 and 12 percent (depending on location). The report also noted that the bulk (85 percent) of additional wind is projected to be sited west of Central East; and seasonal and time-of-day characteristics of wind poorly match New York's peak demand periods.[38]

Evaluating other regions' integration of 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.[39]

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.

---

[38] 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.

[39] 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.

The ALJ found that the Phase 1 Report provides sufficient certainty to proceed with RPS design; urged acceptance of its recommendations to adopt measures to protect reliability; and observed that we will have the benefit of the Phase 2 Report in time for any implementation.

The Parties' Exceptions

Several parties urge us to incorporate the Phase 2 NYISO Reliability Report. AES asserts that Phase 2's conclusions are necessary to determine the amount of wind generation that can be safely and reliably integrated. AES, the Business Council and IPPNY assert that we should await results and analysis of the Phase 2 Report prior to establishing the RPS targets and before issuing any final directives.

KeySpan, joined by EA, urge that we allow sufficient flexibility in the design of the RPS to allow for the full integration of the Phase 2 Report. NYISO supports the RD recommendation to proceed with implementation and issue a policy statement on basic RPS issues, but it asks that we affirmatively commit to address in the implementation phase operational, reliability and market implications that are the subject of the pending Phase 2 Report; Joint Utilities, joined by EA, concurs with NYISO, while Nucor supports the adoption of NYISO's request but disagrees that the Phase 1 Report provides a sufficient basis for proceeding, particularly if there are significant additions of wind power.

NYSRC echoes the concern that we commit to protecting reliability, specifically by implementing any modifications to the RPS that may be necessary to protect the reliability of the bulk power system prior to implementation of the RPS, committing to monitor the RPS throughout its life, and to revise it as necessary in order to protect reliability. DPS staff does not object to NYSRC's recommendations.

RETEC concurs with the ALJ's finding that the Phase 1 Report on wind integration provides a sufficient certainty to proceed with the RPS design and thinks the RD should have stated that the Phase 1 Report is sufficient to allow implementation of the RPS.

Discussion

We affirm that system reliability is of paramount importance and concern. Thus, while we accept the ALJ's recommendation to proceed with RPS design, we also acknowledge that the implementation phase should be sufficiently flexible to accommodate a process for review and analysis of the Phase 2 Report, as well as the ability to reflect modifications, if any, that are necessary to protect the reliability of the electric system. We therefore direct Staff to review, analyze and, after consultation with NYISO and NYSRC, report, within 60 days of the issuance of the final Phase 2 Report, its recommendations concerning any modifications to the RPS program that may be necessary to preserve and protect system reliability. In addition, we will closely monitor the implementation of the RPS throughout its life for reliability impacts. The RPS program will have the flexibility to be revised in the future as necessary to protect reliability of the system.

K. Costs and Benefits

The RD offers a cost analysis that considered the comments on Cost Study II, corrected for errors, updated assumptions, and reflected the cost implications of the recommendations.

The RD reports that, on April 8, 2004, 12 parties or groups of parties filed comments on the Cost Study titled "New York Renewable Portfolio Standard Cost Study Report II" (Cost Study II), prepared by the DPS Staff, NYSERDA, Sustainable Energy Advantage, LLC and La Capra Associations, and released on February 19, 27 and March 9, 2004.[40] The RD recounts that parties proffered various criticisms of Cost Study II, including errors in study assumptions, claims of understated program and implementation costs, and unquantified assertions that Multi-Area Production Simulation (MAPS) modeling overstates wholesale price savings thereby significantly understating net RPS costs.

[40] Cost Study II can be read in full at: http://www.dps.state.ny.us/03e0188.htm

The RD further states that some parties charged the Cost Study II improperly modeled incremental RPS energy from hydropower projects in Quebec and Ontario. It details comments by AES-NY, LLC, Sithe Energies, Inc. and Reliant Energy (the AES-NY parties), and IPPNY that claimed the study assumes capacity levels that greatly exceed the interface tie capabilities, significantly overstating imports; as well as those by Joint Utilities, faulting 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.[41]

The RD discussed the criticism of parties, including the Joint Utilities, AES-NY group, IPPNY, and MI, that Cost Study II ignored 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. It detailed the challenges to the Study's assumptions regarding In-City Generation and Green Marketing. Finally, the RD outlined various other Cost Study criticisms including, among other things, arguments regarding contract structures, pricing impacts, and the weight that might be accorded to the Cost Study's assumptions.

The RD concluded by indicating that many of the parties' comments had been taken into account in revisions for the RD. It rejected other critiques and corrections on the record and found that the cost estimates are sufficient to advise us on policy choices given the long-term uncertainties inherent in such forecasting.

The Parties' Exceptions

Joint Utilities and KeySpan except to the RD's treatment of the cost studies adopted therein. Joint Utilities faults the RD for failing to analyze the myriad comments that were submitted. Joint Utilities asserts that the RD failed to support its conclusion that the costs studies were a sufficient basis for the Commission's further consideration. It further faults the RD for inexplicably and uncritically relying on cost studies it claims were unreliable and for failing to consider other alternatives to the prime case. KeySpan charges that the RD is based on incomplete cost data, noting in particular, the

[41] The Joint Utilities also faulted 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.

RD's reliance upon the Phase 1 Report to determine the costs and benefits of wind production. MI charges that the RD cost analysis is skewed by numerous faulty assumptions, including the use of 2003 dollars, ignoring the continuation of costs after 2013 and the increased NYISO costs that will result from the RPS, and assuming the availability of a federal production tax credit, all of which result in understating the RPS cost substantially.

Several other parties, including Plug Power, RETEC, and Solar Energy, assert that the RD overstated certain costs, namely, the costs of an SBC-like tier.

RETEC strongly agrees with the RD's general conclusion that the RPS is good public policy for New York. It contends that the various DPS cost studies have not attempted to quantify the important benefits associated with an RPS, including natural gas price suppression, increased price stability, and emission reductions. RETEC posits that the economic value of these benefits, which it conservatively estimates at $524 million, clearly outweigh the cost of the RPS program.

The NYOAG counters that the criticisms of MI and Joint Utilities are unpersuasive and should be rejected. It notes that the core criticism of the RD is that the future forecasts it relied upon are subject to error. The NYOAG observes that this is true of any prediction of future events, and the mere lack of certainty is not a sufficient reason to turn away from the RPS. The NYOAG further observes the critics' failure to credit the counter-balancing benefits of an RPS that are difficult to measure in dollars. These include, among other things, improvements to air quality as a result of a reduction in certain harmful emissions, decreased reliance on fossil fuels and thus less vulnerability to the price volatility of any one fuel, and creation of new jobs and other economic development benefits that will accrue as a result of increased in-state development and building of renewable resources.

In its reply to exceptions, RETEC argues that the RD provides a well reasoned determination of the facts upon which the Commission can base its statement and implementation plans.

It advocates the rejection of Joint Utilities' criticisms, noting that the logical result of adopting their position would be a never-ending cycle of revised cost studies. RETEC also argues that MI's arguments should be dismissed as incorrect because they are premised on ignoring the effect of inflation and other fundamental principles of economic forecasting.

Discussion

In this Order, we are adopting a policy and program designed to encourage the increased use of renewables in the State. The record provides a sufficient basis for concluding that the expected benefits of our policy and RPS program justify our decision to proceed. Specifically we anticipate numerous off-setting benefits such as: decreased reliance on fossil fuels and thus less vulnerability to the price volatility of any one fuel, creation of new jobs and other economic development benefits that will accrue as a result of increased in-state development and building of renewable resources, and improvements to air and water quality as a result of a reduction in certain harmful emissions. These benefits are detailed in our Final GEIS. The parties have offered a spirited debate on the costs of the program, and while we are inclined to agree with RPS proponents, we note that even if we were to credit higher estimates of program costs, including the potential that the Federal Production Tax Credit[42] will not be reinstated, that would not, on balance, overcome the benefits.

Based on our observation that the competitive market has yet to achieve the desired level of retail use of renewable resources in this State, we conclude that it is in the public interest that we adopt a policy of encouraging the increased use of renewable resources. We further find that adoption of the RPS program, as we have set forth in this Order, is a reasonable

[42] Appendices D and E assume re-enactment of Federal Production Tax Credit (PTC). If it is not re-enacted, the RPS program costs would be higher and collections for the RPS program would be adjusted.

means of achieving the objective of increasing the use of renewable resources in the State.

VI. STATE ENVIRONMENTAL QUALITY REVIEW ACT (SEQRA)

A. The Generic Environmental Impact Statement Process

On March 18, 2003, we considered an environmental assessment prepared by Staff pursuant to the requirements of SEQRA and concluded that the adoption and implementation of an RPS policy may have a significant effect on the environment and that a Draft GEIS would be prepared. The proposed action involved changes in policy, practices, and economic arrangements affecting the choice and development of new sources of electric generation. We determined that preparation of a broad-based GEIS would be more appropriate than a site-specific Environmental Impact Statement (EIS) because the proposed action by itself would not involve any activities that will cause a direct impact on the environment at any specific location. Instead, the proposed action would likely create circumstances that subsequently induce activities that may adversely impact the environment.

Notice of our Declaration of Lead Agency Determination to prepare a GEIS was issued on March 18, 2003, and published in the New York State Environmental Notice Bulletin (ENB) on April 2, 3003. By Order issued April 8, 2004, we determined that the Draft GEIS comported with the requirements of the SEQRA and accepted it as complete. A Notice of Completion of Draft GEIS was published in the ENB on April 14, 2004 and comments were accepted until the close of business on May 14, 2004.

Comments were accepted in writing and by electronic mail. Several dozen comments were received from interested parties and other entities; also, an estimated 1,600 comments were received by e-mail, mostly in a standardized comment letter form. All of the substantive comments submitted were summarized and addressed in the Final GEIS, and where appropriate, and as noted in the responses to the comments, revisions were made to the Draft GEIS. The Final GEIS identifies and analytically

addresses the environmental impacts related to the potential RPS policy and responds to all of the substantive comments provided on the Draft GEIS. Based on the comments submitted, the following substantive changes were made to the Draft GEIS:

1. The Final GEIS incorporates the result of the RD's Cost Analysis (RD Cost 2 Analysis). This analysis refined the modeled baseline assumptions regarding the amount of energy currently retailed in New York and revises the RPS Prime Case originally evaluated in the Draft GEIS. The baseline was refined in response to comments received not only on the Draft GEIS but also in the collaborative process throughout the proceeding. Consequently, Sections 5.0, Alternative Actions Considered; Section 6.0, Environmental Impacts of Proposed Action; Section 10.0, Growth Inducing Aspects and Socio-Economic Impacts of the Proposed Action; and Section 11, Effects on Energy Consumption, were revised to reflect the addition and results of the RD Cost Analysis;

2. Changes were made to Section 2.0, Description of the Proposed Action, in which RPS eligibility requirements were more clearly defined, public need and benefits were elaborated upon, and additional programs and policies relating to the RPS policy were cited;

3. Revisions were made to Section 4.0, Environmental Setting of New York, to provide clarification and include updated information; and

4. Revisions were made to the discussion of renewable technologies in Section 6.2, and to the discussion of Environmental Justice in Section 7.2.

B. SEQRA Findings

We determined that the Final GEIS was a complete and comprehensive assessment of the potentially significant adverse impacts, as well as the benefits, associated with the development and implementation of an RPS policy, that was in conformance with the requirements of SEQRA, and that properly responds to all comments provided on the Draft GEIS. Therefore, on August 25, 2004, we accepted it as the Final GEIS for the

proposed action of adoption and implementation of an RPS policy; declared the FGEIS complete and accepted it as the Final GEIS for the proposed action of adoption and implementation of a RPS policy; and directed that the notice of the completion of the FGEIS shall be published in the Environmental Notice Bulletin in accordance with 6 NYCRR Part 617.

The Final GEIS disclosed certain environmental impacts, facts, and conclusions that are considered here. The likely environmental effects of a shift to increased retail use of renewable generation are not fully predictable due to: (1) the complexity of the electric industry in New York; (2) the interaction of New York's regulatory activities with those of other states and the federal government; and (3) the level and types of market responses. In general, the proposed action will have numerous potential benefits, including reduced air emissions for nitrogen oxide (NO_x), sulfur dioxide (SO_2), greenhouse gases and particulates; increased energy diversity and security and economic development; opportunities for more distributed generation; and greater customer choice by virtue of expanding the mix of available options to include energy alternatives that promote a cleaner, healthier environment. It may also have potential adverse effects on land use, aquatic and terrestrial resources, community character, culturally- and visually-sensitive resources and air emissions. Overall, the analysis of the various scenarios show that increasing the use of renewable energy will be beneficial (*i.e.*, emissions are reduced statewide) though to varying degrees. The Final GEIS did not identify reasonably likely significant adverse impacts.

With respect to air quality impacts related to oxides of nitrogen and sulfur, it appears likely that a retail RPS would have greater favorable impacts than the no action alternative. From an overall New York State perspective, it is likely that a shift to increased renewable energy use, if successful, will diversify generation supply and spur the siting and construction of renewable generation plants, yielding net benefits of an environmental, economic and social nature. New plants may be built to meet growing demand for renewable energy,

and ancillary businesses such as ESCOs providing green market power and providers of biofuel sources should grow. These businesses will have jobs and property taxes associated with them, though their locations are not yet known.

Statewide emissions reductions resulting from increased renewable electric generation do not pose a significant adverse impact. Mitigation of impacts is not applicable to an action that results in benefits. Second, though the adoption of an RPS should provide incentives for the construction of new renewable projects in New York, the details of such projects are not yet known. As a result, site-specific impacts and benefits cannot be identified and appropriate mitigation cannot be determined at this time. However, we note that such new projects will be subject to licensing and permitting and the appropriate mitigation can be determined when the project details are available. In addition, the full impact analysis can be evaluated by the reviewing and permitting agencies.

Given the likely positive benefits of the shift to increased use of renewable energy, we conclude that implementing the proposed action is desirable. Our chief consideration is to stimulate the increased use and supply of renewable resources and to set the stage for sustained renewable activity beyond the term of an RPS program. Other essential considerations include greater energy diversity; improving energy security; preserving system reliability; attracting renewable generators, manufacturers and installers to the State; improving New York's environment by reducing air emissions and other adverse environmental impacts; and developing an economically efficient RPS requirement that is administratively transparent, efficient and verifiable.

On the basis of the foregoing discussion and the discussion set forth in our Final GEIS, we make the findings stated above regarding the environmental impacts of the proposed action and certify that:

(1) the requirements of the State Environmental Quality Review Act, as implemented by 6 NYCRR Part 617, have been met;

(2) consistent with social, economic, and other essential considerations, from among the reasonable alternatives available, the action being undertaken is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable; and

(3) as applicable to the coastal area, the action being undertaken is consistent with applicable policies set forth in 19 NYCRR §600.5, regarding development, fish and wildlife, agricultural lands, scenic quality, public access, recreation, flooding and erosion hazards, and water resources.

VII. THE BALANCE OF THE RPS INQUIRY

A. 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 Offices of Consumer Services and Economic Development and Policy Coordination conducted public outreach forums to get information to communities about the RPS and to facilitate and seek public input. Commencing on June 14, 2004, DPS Staff conducted extensive on-the-record public education and

input forums in eight locations: New York City, Long Island, Buffalo, Henrietta, Syracuse, Binghamton, Watertown, and Albany. Over 150 speakers made comments and 1,161 letters, electronic, and opinion line comments were also received. The forums were attended by legislators, local executive officials, representatives of business and the public interest, and members of the public.

In addition, public input was also sought and received on our toll-free Opinion Line and consumer Web site.

The transcripts of those public forums and all public comments have been incorporated into the record of this proceeding and have been considered by us.

B. Targets

Our overall policy goal is to increase the share of electricity sold to customers that is generated from renewable resources to at least 25 percent of total retail sales. After considering, *inter alia*, the baseline level of such electrical output, the additional amount we project will be provided over time as a result of the dictates of Executive Order 111, and the complementary role of the voluntary green market, we have determined the target amount or "requirements" for RPS eligible resources of the six major electric utilities that will be necessary to fulfill the goal. In order to ensure that sufficient energy will be supplied to service retail sales, the generation output that must be obtained must be sufficiently higher in quantity to account for power losses that occur in the transmission and distribution of that energy from the generator to the customer. As a percentage of their overall requirements, the applicable utilities will need to meet the following RPS targets (to be administered centrally by NYSERDA):

Year	Target
2006	0.96%
2007	1.95%
2008	2.94%
2009	3.90%
2010	4.86%
2011	5.83%
2012	6.76%
2013	7.71%

Based on projections of load growth contained in the 2002 State Energy Plan, those percentage targets translate into effective renewable energy targets (MWh - again using requirements as the basis of measurement) as follows:

Year	Target
2006	1,360,424
2007	2,821,830
2008	4,306,437
2009	5,787,968
2010	7,301,693
2011	8,867,181
2012	10,403,939
2013	11,988,888

In Appendix D of this Order, we have provided a cost analysis that establishes the estimated levels of funding for the RPS program. In addition, in Appendix F of this Order, we reference a group of worksheets that contain the detailed calculations used in the cost analysis. Because we have decided to institute the RPS surcharge on the delivery portion of customer bills, it was necessary to translate the estimated RPS funding levels into cost collection allocations by delivery utility. The cost collection allocations, by delivery utility, by year, are set forth in Appendix E of this Order.

C. Implementation and Next Steps

Generally, RPS programs require detailed procedures.

Staff should therefore develop an implementation plan, in consultation with the parties, as appropriate, for our approval, by March 31, 2005, that addresses the following matters, including, but not limited to:

1. The establishment of a central procurement program, including: (a) the establishment of a certification procedure to determine facility eligibility, (b) the design of procurement models, (c) processes for implementation of the Customer-Sited Tier, and (d) developing projected costs of administering the central procurement model.

2. The development of a process to determine the eligibility of new and existing technologies that are not currently eligible for RPS support. As part of this step, Staff should also develop criteria to evaluate demonstrations of financial need that existing hydroelectric facilities of five megawatts or less, existing direct combustion biomass facilities, and existing wind facilities are permitted to make.

3. The preparation of an on-going monitoring and evaluation program.

4. Identification of any changes to the environmental disclosure program, if necessary, as a result of the implementation of the RPS program described herein.

5. The development of a mechanism ensuring the allocation and disclosure of renewable power related to the RPS surcharge to the retail customers paying the RPS surcharge.

6. Identification of the process for our 2009 Review, which when developed, should address, but not be limited to, such items as: (a) program costs and benefits; (b) any needed modifications to the list of eligible resources; (c) the appropriateness of continuing the delivery requirement; and (d) a proposal on how to transition to a more market-based system.

In addition, Staff should analyze and report to us on the Phase 2 Reliability Study. Staff should seek input from interested parties, as appropriate, when conducting its review. We will consider any and all recommendations necessary to protect system reliability.

Finally, we direct the six major electric utilities (Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation, New York State Electric and Gas Corporation, Rochester Gas and Electric Corporation, and Orange and Rockland Utilities, Inc.) to: (1) execute contracts with NYSERDA, the central procurement agent, to establish a payment schedule for the utilities to transfer the RPS surcharge collected from ratepayers to NYSERDA; (2) prepare, file and implement tariff revisions necessary to collect an RPS surcharge from applicable ratepayers; (3) update billing systems to include the RPS surcharge (with the SBC surcharge) on the Delivery portion of utility bills; (4) set up RPS accounting and recordkeeping; (5) collect the RPS surcharge from ratepayers; and (6) transfer the RPS surcharge collected from ratepayers to NYSERDA.

VIII. CONCLUSION

The RD recommendations are adopted only to the extent set forth herein; exceptions thereto are denied except as granted herein.

Our approval of this Order establishes an overall policy goal of increasing the amount of renewable resources used to provide electric energy to New York consumers to a level of at least 25 percent of total retail sales. In furtherance of that goal, the Order includes the adoption of a Renewables Portfolio Standard (RPS), as described herein, applicable to retail electricity sales. The RPS program includes the collection of funds in a new RPS surcharge applied to delivery service, and the administration of those funds on a central basis by the New York State Energy Research and Development Authority (NYSERDA). To ensure flexibility to adapt the program to changing market conditions and new technologies, we will monitor the results on an on-going basis with a comprehensive review to occur in 2009. Outside of the RPS program, we will continue to support efforts by "green marketers" and others to increase the share of electricity produced through renewable

resources and made available through the competitive market. Ultimately, our goal is to see a transition from the RPS program to a fully competitive market that maximizes the potential of renewable energy resources.

The Commission orders:

1. In conjunction with this decision, our findings pursuant to the requirements of the State Environmental Quality Review Act (SEQRA), set forth in the body of this Order, are adopted.

2. A retail Renewables Portfolio Standard (RPS), as described in the body of this Order, is adopted applicable to retail electricity sales.

3. An RPS surcharge is established to fund above-market costs of renewable resources under the RPS program. The RPS surcharge will be a volumetric charge applied to the delivery portion of customer bills to all retail customers that pay the System Benefits Charge (SBC). The format of affected customer bills will be modified to show a combined SBC/RPS surcharge in the place of the current SBC charge. The RPS surcharge will commence with customer bills issued on or after October 1, 2005.

4. The levels of funding for the RPS program, to be collected in rates over successive twelve-month periods, each such collection period commencing three months prior to the applicable calendar year, shall be as set forth in Appendix E of this Order, until such time as the Commission revises the figures based on differing actual costs or for other purposes including administrative costs. Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation, New York State Electric and

Gas Corporation, Rochester Gas and Electric Corporation, and Orange and Rockland Utilities, Inc. shall fashion their RPS collection rates for each collection period to correspond to their respective collection allocations, with any over- or under-collections being trued up on an annual basis and each utility maintaining adequate records to justify its RPS rates and true-ups.

5. The New York State Energy Research and Development Authority (NYSERDA) is designated as the administrator of the central procurement component of the RPS program and all associated funds, for which it shall be compensated an appropriate administrative fee to be determined by the Commission. All RPS program and administrative funds collected by the utilities through the RPS surcharge shall be transferred to NYSERDA.

6. Within 90 days of the issuance of this Order, Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation, New York State Electric and Gas Corporation, Rochester Gas and Electric Corporation, and Orange and Rockland Utilities, Inc. shall enter into such contracts or agreements with NYSERDA as are necessary for NYSERDA to be able to administer the central procurement component of the RPS program and all associated funds, including the establishment of a schedule of transfer payments of the RPS program funds and associated administrative fees which shall be made to NYSERDA no less frequent than quarterly.

7. Within 90 days of the issuance of this Order, Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation, New York State Electric and Gas Corporation, Rochester Gas and Electric Corporation, and Orange and Rockland Utilities, Inc. shall file tariff amendments and/or statements on not less than one day’s notice to become effective October 1, 2005, incorporating the revisions described in this Order. The requirements of Section 66(12)(b) of the Public Service Law as

to newspaper publication of the changes proposed by these filings is waived.

8. Within 120 days of the issuance of this Order, Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation, New York State Electric and Gas Corporation, Rochester Gas and Electric Corporation, and Orange and Rockland Utilities, Inc. shall update their billing systems and shall be prepared to adjust their bill formats to incorporate the revisions described in this Order.

9. Within 45 days of the issuance of our approval of the implementation plan, to be developed as described in this Order, Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation, New York State Electric and Gas Corporation, Rochester Gas and Electric Corporation, and Orange and Rockland Utilities, Inc. shall set up such RPS program accounting and record-keeping systems as are necessary to account for the RPS program and any related changes to their environmental disclosure records caused by the RPS program.

10. The provisions of the Recommended Decision in this proceeding are adopted only to the extent set forth herein; exceptions thereto are denied except as granted herein.

11. This proceeding is continued.

By the Commission,

(SIGNED) JACLYN A. BRILLING
Secretary

PARTIES FILING BRIEFS ON AND OPPOSING EXCEPTIONS

AES-NY, LLC (AES)

ANTARES GROUP, INC (Antares)

THE BUSINESS COUNCIL OF NEW YORK STATE, INC. (The Council)

CHANGING WORLD TECHNOLOGIES (CWT)

COMMUNITY ENERGY, INC. (Community Energy)

CONSOLIDATED EDISON SOLUTIONS, INC. (ConEdison Solutions)

CONSTELLATION NEW ENERGY, INC AND CONSTELLATION POWER SOURCE, INC. (Constellation)

ENERGY MANAGEMENT, INC. (EMI)

EMPIRE STATE FOREST PRODUCTS ASSOCIATION (ESFPA)

ENEL NORTH AMERICA, INC. (ENA)

ENERGY ANSWERS CORPORATION (EAC)

ENERGY ASSOCIATION OF NEW YORK STATE

EVOLUTION MARKETS LLC (Evolution)

INDEPENDENT POWER PRODUCERS OF NEW YORK, INC. (IPPNY)

INTEGRATED WASTE SERVICES ASSOCIATION (IWSA)

JOINT UTILITIES

KEYSPAN CORPORATION (KeySpan)

THE LONG ISLAND POWER AUTHORITY (LIPA)

THE LYONSDALE BIOMASS FACILITY (LBF)

THE MANUFACTURERS ASSOCIATION OF CENTRAL NEW YORK (MACNY)

MULTIPLE INTERVENORS (MI)

MUNICIPAL ELECTRIC UTILITIES ASSOCIATION OF NEW YORK STATE (MEUA)

NATSOURCE LLC (Natsource)

NRG ENERGY, INC (NRG)

NEW YORK INDEPENDENT SYSTEM OPERATOR (NYISO)

THE NEW YORK OFFICE OF ATTORNEY GENERAL (NYOAG)

THE NEW YORK STATE RESEARCH AND DEVELOPMENT COPORATION (NYSERDA)

THE NEW YORK STATE RELIABILITY COUNCIL, LLC (NYSRC)

NEW YORK STATE DEPARTMENT OF PUBLIC SERVICE STAFF (DPS Staff)

NUCOR STEEL AUBURN, INC (Nucor)

PARTIES FILING BRIEFS ON AND OPPOSING EXCEPTIONS (cont'd)

ONONDAGA COUNTY RESOURCE RECOVERY AGENCY (OCCRA)

PLUG POWER INC (Plug Power)

RCB WIND ADVOCATES (RCB)

RENEWABLE ENERGYTECHNOLOGY AND ENVIRONMENT COALITION (RETEC)

RIDGEWOOD RENEWABLE POWER LLC (Ridgewood)

SMALL HYDRO GROUP (SHG)

SOLAR ENERGY INDUSTRIES ASSOCIATION (SEIA)

STERLING PLANET, INC (Sterling Planet)

STRATEGIC ENERGY LLC (Strategic Energy)

TAYLOR RECYCLING FACILITY LLC (Taylor)

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

General Requirements:

(1) To be eligible, a generation facility must have first commenced commercial operation on or after January 1, 2003, except for certain Maintenance Resources listed below.

(2) Eligibility is limited to the electricity sold in a retail sale in New York State made by a load serving entity to a customer – self-generation is not eligible in the Main Tier.

(3) To be eligible, a generation facility must forego the receipt of any System Benefits Charge (SBC) funds commencing with the first period of generation related to the first receipt of RPS funds.

Category	Source	Other Requirements
Biogas	Landfill Gas (Methane) Reciprocating/Internal Combustion Engine	
	Sewage Gas (Methane) Reciprocating/Internal Combustion Engine	
	Manure Digestion (Methane) Reciprocating/Internal Combustion Engine	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 any applicable SPDES permit. If not required to have a SPDES permit, the CAFO must be operating in compliance with the best management practices for a facility of its size set forth in the *Principles and Water Quality Protection Standards* specified in the *Agricultural Environmental Management (AEM) Framework & Resource Guide* developed by the NYS Department of Agriculture and Markets and the NYS Soil and Water Conservation Committee.
	Anaerobic Digestion (other biogas digestion using agricultural or food processing residues and by-products)	
	Biomass* Thermochemical Gasification (syngas)	
	Biogas (from eligible sources of biomass* feedstock) Combined Heat & Power	
	Biogas (from eligible sources of biomass* feedstock) Co-fired with existing fossil-fuel Combustion	Only the electricity generated from the biomass portion of the fuel is eligible.
Biomass *	Biomass Direct Combustion	
	Biomass Combined Heat & Power	
	Biomass Co-fired with existing fossil-fuel Combustion	Only the electricity generated from the biomass portion of the fuel is eligible.

Liquid Biofuel	Biomass* Liquification through acid or enzymatic hydrolysis (Ethanol)	
	Biomass* Esterfication (Biodiesel, Methanol)	
	Biomass* Thermochemical Pyrolysis (Bio-oil)	
	Biomass* Hydrothermal Liquefaction	
	Liquid Biofuel (from eligible sources of biomass* feedstock) Combined Heat & Power	
	Liquid Biofuel (from eligible sources of biomass* feedstock) Co-fired with existing fossil-fuel Combustion	Only the electricity generated from the biomass portion of the fuel is eligible.
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 Hydroelectric	Facility capacity limited to 30MWs or less with no new storage impoundment.
Solar	Photovoltaics	
TidalOcean	Tidal Turbine Turbine	
	Ocean Wave Turbine Turbine	
	Ocean Current Wave Turbine	
	Ocean Thermal Pumped Storage Hydro Powered by Tidal	
Wind	Wind Turbines	
Maintenance Resources	Hydroelectric	In-State run-of-river hydroelectric facilities of 5MWs or less in commercial operation at any time prior to January 1, 2003 that demonstrate need to receive RPS financial support to operate.
	Wind Turbines	In-State facilities in commercial operation at any time prior to January 1, 2003 and that demonstrate need to receive RPS financial support to operate.
	Biomass Direct Combustion	In-State facilities in commercial operation at any time prior to January 1, 2003 and that demonstrate need to receive RPS financial support to operate.

***See Definition of Eligible Sources of Biomass**

RPS Customer-Sited Tier Eligible Electric Generation Sources

Categorization of Source Generation Type

General Requirements:

(1) To be eligible, a generation facility must have first been placed into service on or after January 1, 2003.

(2) Self-generation is eligible in the Customer-Sited Tier.

(3) Only facilities located in New York State shall be eligible for funding in the Customer-Sited Tier.

Category	Source	Other Requirements
Fuel Cells	Solid Oxide Fuel Cells (SOFC)	
	Molten Carbonate Fuel Cells (MCFC)	
	Proton Exchange Membrane Cells (PEM)	
	Phosphoric Acid Fuel Cells (PAFC)	
Solar	Photovoltaics	
Wind	Wind Turbines	Facilities 300 kWs or less.

Definition of Eligible Sources of Biomass

Agricultural Residue

Woody or herbaceous matter remaining after the harvesting of crops or the thinning or pruning of orchard trees on agricultural lands. Agricultural by-products such as leather and offal and food processing residues that are converted into a biogas or liquid biofuel.

Harvested Wood

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.

Mill Residue Wood

Hogged bark, trim slabs, planer shavings, sawdust, sander dust and pulverized scraps from sawmills, millworks and secondary wood products industries.

Pallet Waste

Unadulterated wood collected from portable platforms used for storing or moving cargo or freight.

Refuse Derived Fuel

The source-separated, combustible, untreated and unadulterated wood portion of municipal solid waste or construction and demolition debris generally prepared by a densification process resulting in a uniformly sized, easy to handle fuel pellet or briquette.

Site Conversion Waste Wood

Wood harvested when forestland is cleared for the development of buildings, roads or other improvements.

Silvicultural Waste Wood

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.

Sustainable Yield Wood (woody or herbaceous)

Woody or herbaceous crops grown specifically for the purpose of being consumed as an energy feedstock (energy crops).

Urban Wood Waste

The source-separated, combustible untreated and uncontaminated wood portion of municipal solid waste or construction and demolition debris. Adulterated forms of wood, such as plywood and particle board, may be used as a feedstock for biogas or liquid biofuel conversion technologies if it can be demonstrated that the technology employed would produce power with emissions comparable to that of biogas or liquid biofuel using only unadulterated sources as feedstock.

DELIVERY & RELATED REQUIREMENTS

1. Retail Sale Requirement

- For electricity to be eligible, it must be demonstrated to the satisfaction of the Commission or its designee that the electrical output of the generation facility either originated in New York State or was contractually delivered into New York State, and was sold to consumers in New York State in a retail sale.

2. Delivery Requirement

- For electricity to be eligible, it must be demonstrated to the satisfaction of the Commission or its designee that the electrical output of the generation facility was scheduled into a market administered by the New York Independent System Operator, Inc. (NYISO), not by bilateral energy contract (commonly called a "physical" bilateral) wherein the right to the energy is directly transferred to a particular load serving entity, and the energy is generated in accordance with such schedule, and is subject to confirmation. The type of bilateral energy contracts excluded from eligibility does not include financial "hedge" contracts where the right to the energy is not directly transferred to a particular load serving entity but instead is determined in a market administered by the NYISO. Intermittent renewable generation that is difficult to schedule may be sold into the spot market of the control area it is located in as it is generated without simultaneous transmission into the New York Control Area, so long as an equal quantity of energy is transmitted out of the affected spot market into the New York Control Area during the same calendar month (monthly matching). In addition, if the control area of origin has an attributes accounting and tracking system, or an environmental disclosure program, such system and/or program must be able to recognize monthly matched transactions without the double counting of attributes in any jurisdiction.

3. System Contract Requirement

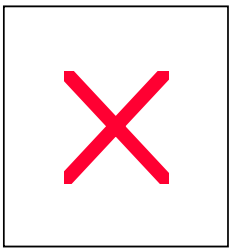
- Electricity scheduled by way of a system contract - guaranteeing a quantity of energy from any one of a number of generation facilities rather than from a particular generation facility – shall not be eligible unless the quantity of output of each generation facility that actually provided energy generated in accordance with such schedule can be demonstrated to the satisfaction of the Commission or its designee. In addition, if the control area of origin is not the New York Control Area and has an attributes accounting and tracking system, or an environmental disclosure program, such system and/or program must be compatible with the recognition of the quantity of output of each generation facility that actually provided energy generated without the double counting of attributes in any jurisdiction.

4. Net Metering

- Assuming the quantity of energy is sufficient to be scheduled into a market administered by the New York Independent System Operator, Inc. (NYISO), net electricity produced from Customer-Sited generation facilities (that amount produced above the amount used by the customer) is eligible so long as such net electricity is not sold to the local distribution utility under a mandatory net-metering regime.

APPENDIX D

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION



RENEWABLES PORTFOLIO STANDARD
ORDER COST ANALYSIS

CASE 03-E-0188 **SEPTEMBER, 2004**

List of Tables

Table 1

Calculation of Statewide RPS Targets (MWh's)

Year	SEP Forecast	Baseline	EO 111	Green Marketing	Increment Target	Total Renewables	Renewables Percentage	Incremental Percentage
2003	160,480,000	31,210,710	0	0	0	31,210,710	19.45%	0
2004	162,844,000	31,468,717	0	0	0	31,468,717	19.32%	0
2005	165,280,000	31,486,189	251,065	0	0	31,737,254	19.20%	0
2006	167,490,000	31,503,661	282,812	228,584	1,360,424	33,375,480	19.93%	0.81%
2007	169,977,000	31,509,370	314,579	457,167	2,821,830	35,102,945	20.65%	1.66%
2008	172,404,000	31,515,079	346,366	685,751	4,306,437	36,853,633	21.38%	2.50%
2009	174,658,000	31,520,788	378,174	914,335	5,787,968	38,601,264	22.10%	3.31%
2010	176,910,000	31,526,497	410,002	1,142,919	7,301,693	40,381,110	22.83%	4.13%
2011	179,031,000	31,532,206	391,857	1,371,502	8,867,181	42,162,747	23.55%	4.95%
2012	180,907,000	31,537,915	373,712	1,600,086	10,403,939	43,915,652	24.28%	5.75%
2013	182,866,999	31,543,624	355,568	1,828,670	11,988,888	45,716,750	25.00%	6.56%

Table 2

RPS Regulatory Targets for LSEs

Year	RPS Increment
2006	0.96%
2007	1.95%
2008	2.94%
2009	3.90%
2010	4.86%
2011	5.83%
2012	6.76%
2013	7.71%

Table 3

Comparison of Baseline Renewable Resources

Year	RD	ORDER
2006	18.76%	18.81%
2007	18.48%	18.54%
2008	18.22%	18.28%
2009	17.98%	18.05%
2010	17.75%	17.82%
2011	17.53%	17.61%
2012	17.35%	17.43%
2013	17.16%	17.25%

Table 4

Comparison of Voluntary Green Marketing

Year	RD	ORDER
2006	0.16%	0.14%
2007	0.16%	0.27%
2008	0.16%	0.40%
2009	0.16%	0.52%
2010	0.16%	0.65%
2011	0.15%	0.77%
2012	0.15%	0.88%
2013	0.15%	1.00%

Table 5

Comparison of Statewide RPS Targets

Year	RD	ORDER
2006	0.94%	0.81%
2007	1.92%	1.66%
2008	2.87%	2.50%
2009	3.81%	3.31%
2010	4.74%	4.13%
2011	5.67%	4.95%
2012	6.58%	5.75%
2013	7.50%	6.56%

Table 6

Comparison of RPS Regulatory Targets for LSEs

Year	RD	ORDER
2006	1.11%	0.96%
2007	2.25%	1.95%
2008	3.38%	2.94%
2009	4.48%	3.90%
2010	5.58%	4.86%
2011	6.68%	5.83%
2012	7.75%	6.76%
2013	8.82%	7.71%

Table 7

Quantity of RPS Main Tier Resources Reached Through 2013

ENERGY SOURCE BLOCK	Location	Market Index	MWs Reached	MWHs Reached
Manure Digestion NY-z2	NY Zone 2	NY Zone 2	1.65	8,654
Landfill Gas Microturbines NY z1	NY Zone 1	NY Zone 1	2.91	24,215
Landfill Gas Microturbines NY z2	NY Zone 2	NY Zone 2	1.09	9,032
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	579.00	1,724,494
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
		TOTALS	4,545.70	15,090,580
		EO111	31.48	104,503
		Green Marketing	550.85	1,828,670
		NE Demand	424.22	1,408,297
		NY RPS	3,539.16	11,749,111

Table 8

Comparison of RPS Main Tier Resources Reached (MWs)

Year	RD	ORDER
2006	387	343
2009	1,926	1,686
2013	4,047	3,539

Table 9

Comparison of RPS Main Tier Resources Reached (MWhs)

Year	RD	ORDER
2006	1,519,115	1,330,452
2009	6,446,626	5,668,079
2013	13,432,768	11,749,111

Table 10

Quantity of Customer-Sited Tier Resources Reached Through 2013

		MWh's	MW's
	Solar		
PV		21,431	16.31
	Wind		
Small		1,361	0.78
	Fuel		
Cells		216,986	27.52
	Totals	239,778	44.61

Table 11

Comparison of Customer-Sited Tier Resources Reached (MWs)

		RD	ORDER
	Solar		
PV		18.66	16.31
	Wind		
Small		0.78	0.78
	Fuel		
Cells		31.49	27.52
	Totals	50.93	44.61

Table 12

Comparison of Customer-Sited Tier Resources Reached (MWhs)

		RD	ORDER
	Solar		
PV		24,519	21,431
	Wind		
Small		1,361	1,361
	Fuel		
Cells		248,258	216,986
	Totals	274,138	239,778

Table 13

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

	2006	2007	2008	2009
Main Tier	$3,425,421	$15,901,466	$32,879,808	$51,110,309
Customer-Sited Tier	$16,304,706	$16,304,706	$16,304,706	$16,304,706
Total Cost to Achieve RPS	$19,730,127	$32,206,172	$49,184,514	$67,415,015

	2010	2011	2012	2013
Main Tier	$66,020,663	$82,634,788	$91,625,939	$108,276,167
Customer-Sited Tier	$16,304,706	$16,304,706	$16,304,706	$16,304,706
Total Cost to Achieve RPS	$82,325,369	$98,939,494	$107,930,645	$124,580,873

Table 14

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

	2006	2007	2008	2009
Main Tier	$10,612,250	$31,045,475	$50,641,339	$71,079,114
Customer-Sited Tier	$16,304,706	$16,304,706	$16,304,706	$16,304,706
Total Cost to Achieve RPS	$26,916,956	$47,350,181	$66,946,045	$87,383,819

	2010	2011	2012	2013
Main Tier	$88,309,003	$108,695,905	$122,775,285	$148,120,262
Customer-Sited Tier	$16,304,706	$16,304,706	$16,304,706	$16,304,706
Total Cost to Achieve RPS	$104,613,709	$125,000,611	$139,079,991	$164,424,968

Table 15

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

2006	2007	2008	2009	2010	2011	2012	2013
($14,746,111)	($19,716,657)	($24,687,204)	($29,657,750)	($49,749,319)	($69,840,887)	($89,932,456)	($110,024,025)

Table 16

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

2006	2007	2008	2009	2010	2011	2012	2013
($11,481,006)	($2,112,262)	$7,256,483	$16,625,227	$13,608,375	$10,591,522	$7,574,670	$4,557,817

Table 17

Overall Net Bill Impact – Cost-Based Approach (2003$)

2006	2007	2008	2009	2010	2011	2012	2013
($6,496,990)	$10,377,253	$31,753,793	$54,382,492	$46,184,425	$39,690,128	$25,572,859	$19,114,665

Table 18

Overall Net Bill Impact – Market Clearing Approach (2003$)

2006	2007	2008	2009	2010	2011	2012	2013
$689,839	$25,521,262	$49,515,324	$74,351,297	$68,472,765	$65,751,245	$56,722,204	$58,958,760

Table 19

Comparison of Cumulative Cost Premiums to Achieve the RPS [2006-2013]

Cost-Based Approach (2003$)

	RD	ORDER
Main Tier	$507,979,388	$451,874,560
Customer-Sited Tier	$148,947,952	$130,437,647
Total Cost to Achieve RPS	$656,927,340	$582,312,207

Table 20

Comparison of Cumulative Cost Premiums to Achieve the RPS [2006-2013]

Market Clearing Approach (2003$)

	RD	ORDER
Main Tier	$719,109,428	$631,278,633
Customer-Sited Tier	$148,947,952	$130,437,647
Total Cost to Achieve RPS	$868,057,379	$761,716,280

Table 21

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

	RD REV'D*	ORDER
Cost-Based Approach	$185,551,107	$178,916,460
Market Clearing Approach	$355,513,197	$323,209,970

***Note: The RD figures were revised for this table to account for line losses and NYPA allocations in the same manner as the Order to put the figures on a comparable basis.**

Table 22

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

	Order Both Approaches
Residential	-0.90% to +1.68%
Commercial	-0.78% to +1.79%
Industrial	-1.54% to +2.20%

Table 23

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

ORDER Market Clearing Approach	2006	2009	2013
CENTRAL HUDSON			
Residential Bill Impact Range	-0.14% to 0.00%	0.00% to +1.22%	0.00% to +1.32%
Commercial Bill Impact Range	-0.16% to -0.06%	+0.96% to +1.45%	+0.91% to +1.57%
Industrial Bill Impact Range	-0.24% to -0.08%	+1.31% to +2.03%	+1.23% to +2.20%
CON EDISON			
Residential Bill Impact Range	-0.01% to +0.04%	0.00% to +0.66%	0.00% to +0.89%
Commercial Bill Impact Range	-0.01% to +0.03%	+0.32% to +0.53%	+0.38% to +0.70%
Industrial Bill Impact Range	-0.01% to +0.04%	+0.42% to +0.66%	+0.50% to +0.88%
NYSEG			
Residential Bill Impact Range	-0.09% to 0.00%	0.00% to +0.24%	-0.68% to 0.00%
Commercial Bill Impact Range	-0.09% to -0.03%	+0.08% to +0.23%	-0.66% to -0.31%
Industrial Bill Impact Range	-0.14% to -0.05%	+0.14% to +0.36%	-1.03% to -0.55%
NIAGARA MOHAWK			
Residential Bill Impact Range	-0.16% to 0.00%	0.00% to +0.29%	-0.90% to 0.00%
Commercial Bill Impact Range	-0.14% to 0.00%	0.00% to +0.25%	-0.78% to 0.00%
Industrial Bill Impact Range	-0.28% to -0.08%	+0.10% to +0.50%	-1.54% to -0.48%
O&R			
Residential Bill Impact Range	-0.27% to 0.00%	0.00% to +1.58%	0.00% to +1.68%
Commercial Bill Impact Range	-0.29% to -0.13%	+0.86% to +1.68%	+0.83% to +1.79%
Industrial Bill Impact Range	-0.36% to -0.21%	+1.41% to +2.06%	+1.35% to +2.19%
RG&E			
Residential Bill Impact Range	-0.01% to +0.06%	0.00% to +0.53%	-0.15% to +0.19%
Commercial Bill Impact Range	0.00% to +0.05%	+0.19% to +0.47%	-0.13% to +0.16%
Industrial Bill Impact Range	-0.01% to +0.08%	+0.31% to +0.70%	-0.20% to +0.25%

Table 24

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)

*Note: Does not reflect increased use of biomass co-firing with coal.

Table 25

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

	Emission	Base Case	RPS Case	Net Change	Percentage Change
2006					
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					
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					
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 26

Displacement of Generation Resources (GWh's)

	Base Case	Order 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 27

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

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

APPENDIX E

Cost Collection Allocations by Delivery Utility (Nominal$)

	2006	2007	2008	2009
CHG&E	$1,196,509	$2,161,842	$3,130,122	$4,200,634
CONED	$10,181,631	$18,310,499	$26,411,100	$35,271,313
NYSEG	$3,041,702	$5,422,156	$7,774,090	$10,263,723
NIMO	$7,086,698	$12,633,111	$18,158,625	$23,998,862
O&R	$945,446	$1,693,188	$2,432,021	$3,234,890
RG&E	$1,620,922	$2,922,221	$4,230,568	$5,670,491
TOTAL	$24,072,909	$43,143,015	$62,136,526	$82,639,913
LIPA	$4,491,580	$8,110,343	$11,777,317	$15,768,461
TOTAL WITH LIPA	$28,564,489	$51,253,359	$73,913,843	$98,408,374

	2010	2011	2012	2013
CHG&E	$5,152,111	$6,306,560	$7,184,776	$8,712,759
CONED	$43,080,806	$52,532,758	$59,606,575	$72,054,077
NYSEG	$12,430,793	$15,027,145	$16,952,823	$20,265,055
NIMO	$29,212,826	$35,469,579	$40,068,400	$47,986,941
O&R	$3,935,793	$4,779,560	$5,401,238	$6,504,912
RG&E	$6,953,489	$8,502,230	$9,662,482	$11,699,070
TOTAL	$100,765,818	$122,617,832	$138,876,295	$167,222,814
LIPA	$19,402,450	$23,840,306	$27,337,169	$33,210,305
TOTAL WITH LIPA	$120,168,268	$146,458,138	$166,213,463	$200,433,119

Note: Each calendar year cost collection allocation stated above is to be collected over a twelve month period beginning three months prior to the calendar year. For example, the cost collection allocation for calendar year 2006 is to be collected from October 2005 through September 2006.

APPENDIX F

List of Order Cost Analysis Spreadsheet Files Posted on Web site

Order-Case-Results-9-20-04.xls
RPS-Emissions-Order-Case.xls
RPS-Fuel-Use-Order-Case.xls
RPS-Cost-Collection-Allocations.xls
Bill-Impacts-Order-Case-CB-9-8-04.xls
Bill-Impacts-Order-Case-MCA-9-8-04.xls
Revd-RD-Case-Results.xls