

New York State
Renewable Portfolio Standard
Program Performance Report
(Program Period Ending December 2005)

NYSERDA

2006

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Background

The 2002 State Energy Plan prepared by the New York State Energy Planning Board warned of the possible consequences of New York's heavy dependence on fossil fuel. The plan noted that the State's fossil fuel resources (gas, coal, oil) are largely imported from abroad or out-of-state, have significant long-term negative environmental impacts, and ultimately face depletion. A proceeding was instituted by the New York State Public Service Commission (PSC) on February 19, 2003, to explore the development of a Renewable Portfolio Standard (RPS). The PSC voted on September 24, 2004, to adopt a RPS, with a goal of increasing the proportion of renewable energy used by New York consumers from the current 19.3% to at least 25% by 2013.

As part of the September 24, 2004 action to adopt the State's RPS program, the PSC designated the New York State Energy Research and Development Authority (NYSERDA) as the central procurement administrator of the RPS Program. The PSC ordered the major investor-owned utilities to collect from ratepayers, funds to be administered by NYSERDA, for the purpose of achieving a mandatory RPS target set at 24% of retail consumption. The PSC expects that a non-mandatory procurement of resources, brought on by voluntary green power marketing, will contribute at least the remaining 1%, so that at the end of the RPS program period in 2013, the State will again have a quarter of its energy use provided by renewable resources. This combination of voluntary and mandatory targets creates a need for proactive participation from all energy stakeholders, including consumers, to achieve 25% or higher levels of renewable use. NYSERDA's 24% RPS obligation is comprised of two components: the Main Tier, consisting of larger facilities which feed electricity directly into the statewide electric grid, and a Customer-Sited Tier, which consists of smaller, behind-the-meter resources.

Tiered Approach to Meeting Mandatory RPS Targets

For the mandatory component of the RPS program, the PSC established two tiers of eligible resources. The first or "Main Tier" consists primarily of medium to large-scale electric generation facilities that sell their electrical output into the wholesale power market administered by the New York Independent System Operator (NYISO). The second or "Customer-Sited Tier" consists of "behind-the-meter" facilities that would not generally be cost-competitive with existing large-scale generation, but would have value in their potential to be located near urban load centers where power prices are higher and in areas where localized environmental benefits and avoided distribution system upgrades would be valued highly. Eligible resources and technologies for both the Main and Customer-Sited Tiers are currently prescribed by order of the PSC and may change over time (refer to Appendix B of the April 14, 2005 Order of the PSC). The RPS program has provisions for evaluating new resources/technologies for eligibility as the program progresses. In fact, the PSC added customer-sited anaerobic digestion (biogas generation) as an eligible technology during 2005.

Solicitation approaches for the Main and Customer-Sited Tiers will be distinctly different. Eligible Main Tier resources will compete on the basis of the size of the incentive required to produce renewable energy. RPS incentive payments are associated with renewable energy that is generated and delivered into the spot power market administered by the NYISO. Eligible Customer-Sited Tier resources such as photovoltaics (PV), small wind and fuel cells will be provided incentives in a manner similar to NYSERDA's current New York Energy \$martSM programs.

Procurement Targets

The following are cumulative RPS energy targets (in MWh) for the 2006-2013 period, as specified by the September 24, 2004 Order:

Year	Main Tier	Customer-Sited Tier
2006	1,121,247	25,259
2007	2,326,171	50,488
2008	3,549,026	75,685
2009	4,767,994	100,855
2010	6,012,179	125,988
2011	7,297,746	151,081
2012	8,556,710	176,123
2013	9,854,038	201,130

Note: Not shown are energy targets associated with voluntary compliance by the Long Island Power Authority (LIPA) and the New York Power Authority (NYPA), voluntary green retail sales, and state agency renewable energy purchase obligations pursuant to Executive Order 111.

Main Tier Program Component

In RPS programs of many other states utilities are required to buy a certain percentage of the energy their customers need from renewable sources. In New York's RPS program, NYSERDA, as the central procurer, does not procure commodity energy. Rather, NYSERDA pays a production incentive on a megawatt-hour basis for energy delivered from the renewable generator to the New York spot power market. In exchange for receiving this incentive, the renewable generator agrees to relinquish all rights and/or claims to the environmental attributes or benefits associated with each megawatt-hour of delivered energy.

Accelerated Main Tier Solicitation

In late 2004, the impending expiration of the Federal Production Tax Credit (PTC) for wind generators created the risk of a lost opportunity to reduce substantially the cost of

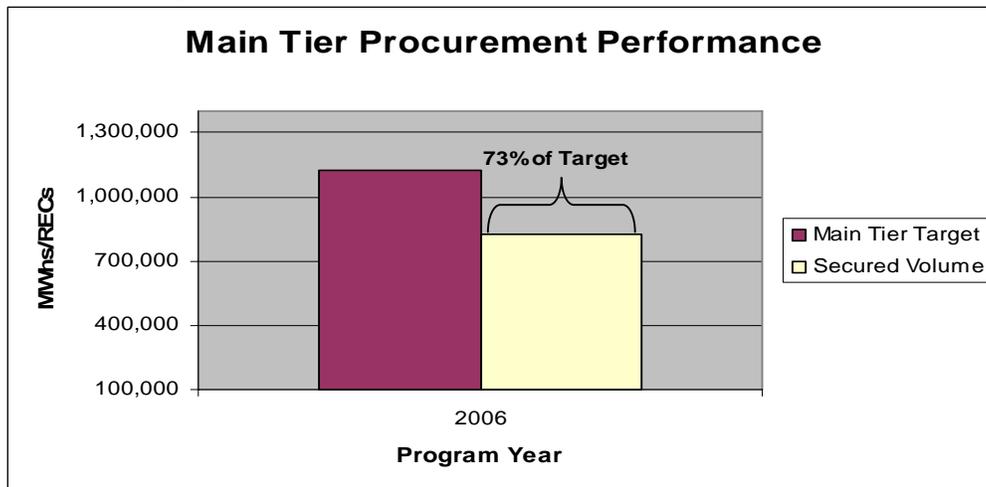
the RPS to New York’s ratepayers. The PTC was slated to expire by December 31, 2005, meaning that to qualify for the tax credits, a project would have to reach commercial operation by this date. The value of the PTC was considered quite substantial, and accordingly, the PSC in its December 16, 2004 Order, authorized NYSERDA to conduct an accelerated solicitation to capture this value.

NYSERDA released a Request for Proposals, RFP 916, on December 20, 2004. To fully explain the solicitation process, NYSERDA held a bidders’ conference and formally responded to written bidder inquiries. Twenty-two (22) sealed-price bids were submitted for consideration on January 18, 2005, and awards were announced on January 24, 2005. NYSERDA awarded contracts to seven projects totaling \$166.4 million. In total, NYSERDA contracted to provide incentives for 821,617 MWh of production at seven facilities in the first year, with varying contract durations ranging from one year up to ten years. All contracts were scheduled to begin January 1, 2006.

Accelerated Solicitation Results

The quantity contracted under RFP 916 represents approximately 73% of the 2006 target and 9% of the cumulative RPS Main Tier program target through 2013. Approximately \$191 million was committed for these projects. Results from the accelerated solicitation are depicted in Figure 1.

Figure 1. Accelerated Main Tier Solicitation Results



Of the quantity for which NYSERDA contracted to pay incentives in the accelerated solicitation, 98% comes from four new wind facilities while the remaining 2% comes from three re-powered hydroelectric facilities. Three of the four new wind facilities are located outside of New York. The remaining wind facility and three hydroelectric facilities are located in upstate New York. Facility and contract details can be found in Table 1.

Table 1. Accelerated Solicitation - Facility and Contract Details

Facility	Resource Type	Location	New Capacity Supported (MW)	Expected Annual RPS Production (MWh) ¹	Contract Duration (years)
Spier Falls	Hydro	New York	0.8	3,115	10
Higley Falls	Hydro	New York	2.2	8,917	1
Browns Falls	Hydro	New York	0.2	978	1
Maple Ridge	Wind	New York	231	679,927	10
Jersey-Atlantic	Wind	New Jersey	7.5	4,895	10
Criterion	Wind	Maryland	50	64,036	4
Bear Creek	Wind	Pennsylvania	22	59,743	4
Totals			313.7	821,611	

Program Development

NYSERDA, with New York State Department of Public Service (DPS) staff, developed a program implementation plan for PSC consideration in the spring of 2005. After consideration, the Commission issued an order on April 14, 2005 establishing key program implementation details such as: criteria and procedures to determine facility eligibility; solicitation models that may be used; criteria for determining financial eligibility of existing hydroelectric facilities of five megawatts or less, existing direct combustion biomass facilities, and existing wind facilities not currently eligible to participate in the RPS; and the design of an on-going monitoring and evaluation program. The Order also required additional consideration of several issues, including deliverability of out-of-state intermittent resources, allowing bilateral agreements, unbundling of attributes from energy, and potential modifications to the Environmental Disclosure Program to accommodate these proposed changes.

Work on the detailed RPS program implementation plan progressed concurrently with the accelerated solicitation under RFP 916. After the PSC issued its April 14, 2005 Order, NYSERDA held several technical workshops with stakeholders to address certain program design elements. The workshops focused on auction design, pricing structures, biomass eligibility, customer-sited tier program funding allocations and how best to foster growth in the voluntary green power market in an environment with centralized procurement. At the conclusion of the workshops, several administrative proceedings commenced. Notices of proposals pertinent to the implementation of the Main Tier solicitation process (the Solicitation Notice and the Program Modifications Notice) were published in the State Register on September 21, 2005. Pending issues are expected to be resolved in the first half of 2006.

¹ Values reflect as-bid quantities.

Customer-Sited Tier Program Component

The September 24, 2004 Order established a Customer-Sited Tier to ensure that photovoltaics, small wind systems, fuel cells, and similar technologies that may become eligible for RPS support, continue to play a role in diversifying the state's energy mix, avoided distribution system upgrades, stimulating economic development opportunities in the State, and improving the State's environment.

Eligibility requirements for the Tier were defined in the September 24, 2004 Order to include only generation facilities, including self-generation, located in New York that have been placed into service on or after January 1, 2003. Technologies identified in the Order as eligible for support are fuel cells (solid-oxide, molten carbonate, proton exchange membrane, and phosphoric acid), solar photovoltaics, and wind turbines rated at 300 kW or less. Anaerobic digestion of animal manure and food wastes was added as a result of a November 2005 PSC Order.

In its April 14, 2005 Order, the Commission requested that NYSERDA establish appropriate metrics and weighting factors to determine how funds will be allocated among projects and technologies. It directed NYSERDA to take into account the technical and market risks resulting from implementation of each technology. The proposed framework would involve reviewing the relative costs and benefits of specific projects using criteria such as:

- cost-effectiveness;
- location in specific load pockets;
- peak kW demand reductions;
- economic development (new jobs, job retention, siting of new companies and manufacturing facilities, increased manufacturing output from existing facilities, emphasis on key emerging technologies, development of workforce skills);
- impact of tier technologies on fuel diversity;
- participation by the residential and small business sectors; and
- environmental benefits and reduction of harmful emissions.

A process was developed by NYSERDA to evaluate the market and technical readiness of the eligible renewable energy technologies. The process involved considering the relative importance of each of the PSC-approved criteria identified above, assigning weighting factors, and determining relative scores for each technology. Allocating a fixed amount of funding to each technology provides a level of certainty and encourages the representative industry to invest in the manufacturing, distribution, and installation infrastructure necessary to build and serve customer demand. The level of certainty is balanced against the risk of over-funding a technology sector that is not able to efficiently bring systems to the customer or under-funding a technology sector that has a more mature infrastructure.

The process approach was presented to interested parties at a workshop held at DPS Albany offices on July 13, 2005. Workshop participants stressed the need to provide

certainty through allocating relatively large blocks of the funds at the outset of the program. There was also interest in allowing annual allocations to roll over to the next year to encourage the respective industry to build stronger momentum in market demand.

Subsequently, a notice of proposal pertinent to funding allocation and implementation of the Customer-Sited Tier was published on October 5, 2005. The PSC sought comments from the parties on several questions dealing with funding allocations between currently eligible technologies and those that may become eligible during an annual funding cycle, and of this initial funding allocation, the fraction that should be set aside for each currently eligible technology. Finally, the PSC sought input on how unspent funding, by eligible technology, would be treated through 2009, the first year where program design and funding structure would be revisited. A Commission Order on these issues is expected in 2006.

Program Funding and Expenses

On the basis of an assessment of costs to satisfy RPS program objectives, the September 24, 2004 Order established total RPS funding in the amount of \$741,475,122, to be collected from utilities over the 2006 to 2013 time frame. On the basis of this schedule of collections, funding as of the close of the reporting period is as depicted in Table 2 below.

Table 2. Program Funding

Allocation	Life of Program
NYSERDA Program Administration Costs ²	\$ 27,449,578
NYS Fees ³	\$ 12,123,146
Accelerated Main Tier Solicitation Encumbered Funds ⁴	<u>\$ 191,478,087</u>
Total Committed Program Funds	\$ 231,050,811
Collections	\$ 741,475,122
Total Committed Program Funds	<u>\$ (231,050,811)</u>
Remaining Uncommitted Program Funds	\$ 510,424,311

² Costs include salaries and benefits, overhead, consulting support, and various other administrative costs.

³ Per the September 24, 2004 Order, fees paid to New York State to cover non-NYSERDA State agency staff involvement.

⁴ Actual facility output can vary on an inter-annual basis from a low of 85% to a high of 115% of expected (bid-based) output. Program funds contractually encumbered are based on procuring 115% of expected bid-based quantities for the term of the contract.

In 2005, NYSERDA spent \$901,999 on administering the RPS program including NYS fees. These administrative expenditures are shown in Table 3.

Table 3. 2005 Program Year Expenditures

Expenditure	Amount
NYSERDA Program Administration Costs:	
Salaries and Benefits	\$ 520,560
Consulting Support	\$ 177,650
Overhead	\$ 87,627
NYS Fees	\$ 116,162
Total Expenditures	\$ 901,999

Technical Analyses and Reports

To evaluate various program design options, NYSERDA completed and/or sponsored several technical analyses and reports during the planning and initial implementation of the program. Some of the analyses and reports focused on:

- designing various program structural elements;
- estimating the costs of implementing a RPS program;
- evaluating the prospects for wholesale power competition;
- developing bid assessment mechanisms to conduct the accelerated solicitation;
- establishing proxy funding allocation structures for PSC consideration for implementing the Customer-Sited Tier;
- developing specific guidelines for determining eligibility of various forms of biomass generation;
- determining the capability of the New York bulk power system to accommodate significant penetration of wind generation;
- analyzing out-of-state delivery requirement options and the impacts associated therewith; and
- initial assessment of reciprocity with other states' RPS programs.

To the extent this work resulted in refined written reports or presentations, it was distributed to parties to the RPS proceeding through a list-serve mechanism and some work products reside on the PSC website and/or the NYSERDA website (e.g., RPS Cost Analysis with supporting Appendices, Workshop Resource Documents, RPS Biomass Guidebook).

Much of the aforementioned work efforts resulted in secondary work product (letters, memoranda, spreadsheets, etc.) used by DPS staff or NYSERDA to advance or otherwise deliberate on specific design options or recommendations and were not formally reported. With the exception of the assessment of the capability of the New York bulk power system to accommodate significant penetration of wind reliably, which was jointly

managed by NYSERDA and the NYISO, NYSERDA and DPS staff collaborated on the management of the remaining investigative work. Most work product was directly related to the New York RPS and not readily transferable to other jurisdictions. However, the reliability assessment has been distributed internationally and continues to be a benchmark of best practices for other reliability assessments being undertaken elsewhere. The final report "The Effects of Integrating Wind Power on Transmission System Planning, Reliability, and Operations" was published on March 4, 2005 and is now available at:

http://www.nyserderda.org/publications/wind_integration_report.pdf

Various resource documents, studies and reports, including some, but not all, prepared by NYSERDA, DPS staff and consultants employed by NYSERDA can be found at:

<http://www.dps.state.ny.us/03e0188.htm#related>