STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

At a session of the Public Service Commission held in the City of New York on March 25, 2010

COMMISSIONERS PRESENT:

Garry A. Brown, Chairman
Patricia L. Acampora
Maureen F. Harris, recused
Robert E. Curry, Jr.
James L. Larocca

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

ORDER AUTHORIZING CUSTOMER-SITED TIER PROGRAM THROUGH 2015 AND RESOLVING GEOGRAPHIC BALANCE AND OTHER ISSUES PERTAINING TO THE RPS PROGRAM

(Issued and Effective April 2, 2010)

BY THE COMMISSION:

INTRODUCTION

The Renewable Portfolio Standard (RPS) employs two programs as the principal means of obtaining additional renewable resources. Both programs are administered by the New York State Energy Research and Development Authority (NYSERDA). The bulk of the electricity needed is obtained from competitive procurements of renewable resources (the Main Tier). A complementary program was established for behind-the-meter applications of renewable generation, allowing customers to directly participate in the promotion of innovative technologies (the Customer-Sited Tier). Customer-Sited resources include only certain self-generation, "behind-the-meter" facilities located in New York that are placed into service on or after January 1, 2003. This order completes a mid-course review of these RPS programs. It addresses the future of the Customer-

Sited Tier by establishing budgets and targets for that program through 2015, including the addition of solar thermal as an eligible technology. As an adjunct to the Customer-Sited Tier, a new initiative is established with authorized funding of up to $30 million per year to encourage additional customer-sited projects for larger-scale downstate (NYISO Zones G, H, I and J) solar photovoltaic, anaerobic digester and fuel cell projects to help address overall geographic balance in the RPS program. This order also addresses the scope and cost of administration of the RPS program, and the collection of costs from utility customers.

BACKGROUND

The RPS has been New York's primary policy initiative to promote the development of new renewable energy resources since it was established in 2004. When establishing the RPS, the Commission set an initial schedule of collections to fund most of the program's estimated costs through 2013. During 2009, the Commission undertook a planned mid-course review of the existing RPS program and its goals. In addition, in anticipation of the mid-course review, in early 2009 NYSERDA prepared and submitted an Evaluation Report.[1] Comments were received on the Evaluation Report. A further Mid-Course Report was issued by Staff on October 26, 2009, and two technical conference sessions were held to explore the issues it raised. In January, the Commission issued an order establishing a new

[1] NYSERDA, New York Renewable Portfolio Standard Evaluation Report: 2009 Review (Evaluation Report). The Evaluation Report relied in turn on the reports of two NYSERDA contractors: KEMA, New York Main Tier RPS: Impact and Process Evaluation (March 2009) and Summit Blue Consulting, New York Renewable Portfolio Standard: Market Conditions Assessment – Final Report (February 19, 2009). The Evaluation Report's assessment of the costs and benefits of the RPS program are discussed below.

RPS goal and resolving several issues primarily focusing on the Main Tier of the RPS program.[2] The Commission also directed Staff to consult with the interested parties and report back on a potential program to encourage larger-scale downstate (NYISO Zones G, H, I and J) solar photovoltaic, anaerobic digester and fuel cell projects. The Commission further noted that its decision on the funding budget and scope of the program would be linked to its decision on the Customer-Sited Tier in order to optimize program expenditures and deployment across these technologies, and that it expected to make the decision on both of these matters in the next few months.[3] In February, the Commission issued an order establishing an interim program to fund incentives for solar photovoltaic, anaerobic digester, fuel cell and small wind installations prior to NYSERDA implementing the Commission's final determinations regarding the future of the Customer-Sited Tier.[4]

NOTICE OF PROPOSED RULEMAKING

Notices of Proposed Rulemaking concerning the RPS program proposals under consideration in this order were published in the State Register on February 3, 2010 [SAPA 03-E-0188SP23 and 03-E-0188SP24]. The minimum period for the receipt of public comments pursuant to the State Administrative Procedure Act (SAPA) regarding the notices expired on March 22, 2010. The comments received in response to theses notices, and others that have been received to date that relate to the issues dealt with in this order, have been considered. The actions taken in response to the comments are addressed below.

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[2] Case 03-E-0188, Renewable Portfolio Standard (RPS), Order Establishing New RPS Goal and Resolving Main Tier Issues (issued January 8, 2010).

[3] Ibid., p. 17.

[4] Case 03-E-0188, supra, Order Providing Interim Funding for the Customer-Sited Tier (issued February 16, 2010).

CUSTOMER-SITED TIER

Overall Program

Since the inception of the RPS program, the Customer-Sited Tier has been designed to encourage customers to install their own "behind-the-meter" renewable energy production systems. This gives customers an opportunity to directly affect the generation source of the electricity they consume. It also provides an avenue of funding for promising higher-cost low or non-polluting electricity technologies that might otherwise find it difficult economically to compete for funding in the Main Tier. Such support helps sustain the infrastructure of distributors, installers and other businesses bringing these technologies to customers. It also promotes behind the meter resources which are likely to enhance distributed generation as an alternative to central station power plants.

In the Mid Course Report, Staff concludes that the Customer-Sited Tier strengthens New York's emerging clean energy economy, provides opportunities for job creation at all levels of the renewable resources supply chain, marginally increases the likelihood that technological advances will lower future costs, and facilitates locating distributed generation where it can do the most good. Staff notes that investments in the Customer-Sited Tier are generally not as attractive on an economic basis as the investments in the Main Tier, but that the effect of the Customer-Sited Tier on utility rates is minimal. Staff also notes that the Commission has recognized, from the inception of the program, that other public policy considerations, ranging from economic development to direct citizen participation, provide ample justification for the Customer-Sited Tier.

Comments

The comments received generally support continuation of the Customer-Sited Tier for the job creation (including assistance to farmers), reliability, environmental and health benefits that these technologies can provide. The groups providing comments can be characterized as primarily advocacy groups for renewable resource technologies/trade groups, consumers and installers that would be participating in the

programs, but also include utilities and governmental agencies.[5]

Expressing a different perspective, Multiple Intervenors (MI) suggests that the RPS program should be moderated because of high electricity prices in New York that contribute to the high cost of doing business in New York. MI believes that the Customer-Sited Tier is uneconomic. MI recommends that the funding for the Customer-Sited Tier be either returned to customers or transferred to the Main Tier.

[5] RENEWABLE INDUSTRY AND CONSUMER GROUPS: Natural Resources Defense Council, New York Solar Energy Industries Association, Pace Energy and Climate Center, Innovation Center for US Dairy/Dairy Management, Inc., Alliance for Clean Energy New York, Inc., Northeast Dairy Producers Association, Inc., Hudson Renewable Energy Institute, Inc., National Milk Producers Federation, Solar Alliance, New York Farm Bureau, Energy Paradiso/Sustainability Marketing Company/Green Home NYC/Nicholas Para, Inc./New York Solar Energy Society, Vote Solar Initiative, Community Environmental Center, Inc. (CEC), The Solar Energy Consortium (TSEC), and Ulster County Development Corporation (UCDC). INDIVIDUAL CONSUMERS: Douglas Shelmidine, Steve McGlynn, and Sylke Chesterfield. MANUFACTURERS/INSTALLERS, ETC.: Fortis Wind Energy U.S., FuelCell Energy Inc., Hudson Valley Clean Energy, Inc., Plug Power, Inc., Quasar Energy Group, Ener-G-Rotors, Inc., EarthKind Energy, Inc., eGen Solar, Inc., Payneless Energy, Inc., Sycaway Solar and Wind, altPOWER, Inc., RCM International LLC, Prism Solar Technologies, Inc., Great Brook Solar NRG LLC, Ecovis, Inc., Zero Point Clean Tech, Inc., CH-Four Biogas, Inc., Northeast Biogas LLC, Northern Power Systems, Cornell University – Pro-Dairy Program, Patterson Farms, Inc., Brookfield Renewable Power, Inc., Conserval Systems, Inc. (Conserval), CVD Equipment Corporation (CVD), Empire Clean Energy Supply (Empire CE), Energy by Choice, Ltd. (Energy by Choice), Energy Investment Systems, Inc., FALA Technologies, Inc. (FALA), Next Era Energy Resources, LLC, Niagara Wind Developers, Renewable Energy Strategies (RES), Sustainable Energy Developments, Inc. (SED), and Windsine Inc. UTILITIES: Consolidated Edison Company of New York, Inc./Orange and Rockland Utilities, Inc., Central Hudson Gas & Electric Corporation, New York State Electric & Gas Corporation/Rochester Gas and Electric Corporation, and National Grid. GOVERNMENT AGENCIES: New York State Energy Research and Development Authority, New York State Department of Environmental Conservation, New York State Department of Agriculture and Markets, and City of New York.

In lieu of the Customer-Sited Tier, MI suggests that efforts be increased to develop a voluntary market for these technologies. Innovative Energy Systems argues that the Customer-Sited Tier resources are very expensive and should not be increased to the detriment of funding for the Main Tier.

Discussion

We have unquestionably made meaningful progress towards achieving our RPS objectives, but we have not yet fully achieved what the Commission set out to accomplish in 2004. The ultimate policy objective is to support creation of renewable industries that are self-supportive based on market demand and market forces instead of relying primarily upon ratepayer and taxpayer assistance to survive. However, such markets are not expected to be at a mature state for some time, and during this maturation process New York will be in competition, both domestically and internationally, to attract investment in a new, clean, high tech economy.

The Customer-Sited-Tier has helped create market demand and jobs in New York State. The Customer-Sited Tier has stimulated financial investment in New York State by providing NYSERDA with the resources necessary to work with emerging technology companies and others to attract new investment in New York State. Continuation of the Customer-Sited Tier is necessary to demonstrate to the renewable energy industry that we stand by our commitment to develop renewable facilities in New York and to attract increased investment in renewable energy projects.

These are indeed difficult economic times, but downsizing the Customer-Sited Tier in order to obtain a quick but small rate benefit would be short-sighted. Instead, we are keeping our focus on the long term need to support sustained interest and investment in renewable energy. To accomplish our

goals, we must sustain the momentum we have worked hard to create.

The Customer-Sited Tier is designed to encourage emerging technologies to play a role in diversifying the State's energy mix; improve the environment; reduce demand during peak load times; and stimulate economic development opportunities in the State. The major benefits of the Customer-Sited Tier – customer participation, technological innovation and commercialization, economic development, fuel diversity, environmental mitigation and strategic load reduction -- continue to be important to the State, yet these substantial benefits are not easily quantifiable in a benefit cost test. Nevertheless the incremental effect on utility rates of the Customer-Sited Tier funding authorized today is de minimis. Having conducted a review of the program and these important concerns, it is our conclusion that a continued and increased investment in the Customer-Sited Tier is warranted and is in the public interest.

Eligibility of Technologies

The technologies currently eligible for participation in the Customer-Sited Tier include solar photovoltaic, anaerobic digestion biogas systems (anaerobic digesters), fuel cells and small wind. Participation in the program is generally limited to electric customers that pay the RPS surcharge. The Commission established a public review process to be used by advocates for the consideration of new technologies and resources for eligibility in the Customer-Sited Tier.[6] The process requires the submission of a petition addressing certain stated criteria; service of the petition on all parties listed on the official service list, as may be updated from time to

[6] Case 03-E-0188, supra, Order Approving Implementation Plan, Adopting Clarifications, and Modifying Environmental Disclosure Program (issued April 14, 2005).

time; and the issuance of a SAPA notice stating an opportunity for submitting comments on the petition. The process also allows an opportunity, at the discretion of the Secretary, for an extended comment period, reply comments, and/or for a technical conference for the parties to discuss the petition. Any petition is to address: (a) the origin and composition of the generation fuel; (b) the extent to which the technology will result in new and incremental renewable resources; (c) the nature of the process transforming that fuel into electricity; (d) the totality of the environmental and other impacts of the generation process, such as air emissions and waste products; (e) the degree of development of the technology; and (f) the probable cost of providing RPS Program support.[7] In addition to the eligibility petition process, the Commission stated that it would require that eligibility matters also be addressed during the 2009 review, if such issues exist at that time.

[7] While the Commission did not adopt additional criteria proposed by Plug Power Inc. (a developer of fuel cells, a technology that was already deemed eligible), the Commission stated that such criteria may provide useful guidance. Plug Power Inc. (Plug Power) suggested that criteria for admitting new technologies should be based on the reasons for the formation of the Customer-Sited Tier, including consideration of: (a) the potential for widespread application; (b) the potential for significant environmental and/or energy security benefits; (c) whether the technology is technically mature; and (d) whether the technology is capable of commercialization with incentives in the range needed by the three technologies that were already included in the tier. [Note: At the time, only solar photovoltaic, fuel cells and small wind were eligible; digesters were added later as a result of a petition.] In evaluating other technologies for inclusion, Plug Power further argued that consideration should also be given to the level of participation in the Customer-Sited Tier by the three technologies that had already been designated. If there are more applications than funds available, according to Plug Power, the Commission should not add more technologies without a compelling reason.

In the Mid Course Report, Staff proposed that solar photovoltaic, anaerobic digesters, fuel cells and small wind all remain eligible for support in the Customer-Sited Tier, generally for the same reasons they were already included (the economic development, reliability, environmental and health benefits these technologies can provide described above). Staff also proposed that as part of the 2009 review of the RPS Program, the Commission should include solar thermal hot water heating projects in the Customer-Sited Tier as an eligible technology despite the fact that their inclusion would not increase the percentage of consumed electricity generated from a renewable resource. To the degree that solar thermal hot water heating projects reduce the overall level of electricity consumption Staff would score the MWhs towards the RPS goal. Staff noted that a number of other states include solar thermal as an eligible technology in their renewable energy programs. Staff argues that solar thermal systems are more efficient than solar photovoltaic systems in that they extract comparably more of the useful energy content of sunlight; solar thermal energy displaces customer energy use at lower cost than solar photovoltaic; and that such systems emit no pollutants and generally replace and reduce the use of fossil fuels. Staff also pointed out that the Commission had considered a multifamily solar thermal hot water heating program for inclusion in the Energy Efficiency Portfolio Standard (EEPS) program, but found that the particular program proposed, despite its favorable attributes, could not pass the Total Resource Cost test.

By petition dated January 8, 2010, New York Solar Energy Industries Association (NYSEIA) seeks the inclusion of solar thermal hot water systems, as an alternative to electric hot water heating, as an eligible technology in the Customer-

Sited Tier. In its brief two-page petition, NYSEIA claims that solar thermal technologies meet the intent of the criteria that must be addressed in an eligibility petition.

Energy Investment Systems, Inc. submitted comments urging the inclusion of new technologies to capture useful energy from the gravitational force of downward traveling elevators. We do not have enough information on this proposal to address it at this time, but will not preclude future consideration.

Comments

The utility companies that provided comments generally supported modification of the eligibility rules in the Customer-Sited Tier to allow for a new category of larger utility-owned projects that would not need to be sited "behind-the-meter" or at the site of an RPS surcharge-paying customer. NextEra Energy Resources, LLC supports "utility-scale" photovoltaic projects, but not if owned by utilities. City of New York believes that the small wind category should specifically include building mounted systems in urban areas. Earth Kind Energy and other solar advocates supported the inclusion of solar thermal systems in the Customer-Sited Tier as proposed by Staff in the Mid Course Report. Consolidated Edison Company of New York, Inc. (Con Edison) suggested that it should only be supported with funding when displacing an electric water heater.

Discussion

The intended funding level for the general Customer-Sited Tier does not lend itself to utility-scale projects. There has been sufficient demand for projects by RPS surcharge-paying customers that the major modification requested by the utilities is not warranted at this time. Larger-scale and utility-owned projects will be discussed further below in regard to geographic balance.

NYSEIA's petition does not demonstrate that solar thermal technologies satisfy our criteria specified for eligibility petitions. A key criterion of the petition process we established is that the technology be a process that transforms fuel into electricity. The petition concedes that sunlight would be converted into heat, not electricity. The request in the petition is not granted to the degree that it claims to satisfy the criteria we have specified for eligibility petitions. However, the resolution of the petition is moot, as will be explained below.

We are free to address any remaining Customer-Sited Tier eligibility matters at this juncture as part of the 2009 review. With respect to solar thermal, we have struggled with finding a place for encouraging this technology. Solar thermal technologies are like energy efficiency measures in that they displace the need to generate electricity. In the EEPS proceeding, solar thermal systems were examined with the knowledge that they are an efficient system for supplying hot water. Analysis showed that their cost benefit ratio reach 1.0 when the systems are sized well above that normally used for residential purposes. For example, the benefit cost ratios for multi-family solar water heating systems were in the 0.6 range, and therefore, did not meet our Total Resource Cost test. Thus, solar thermal technologies do not meet the standard we typically employ for energy efficiency projects.

We are convinced that solar thermal technologies belong in New York's portfolio of programs to promote clean energy. According to NYSEIA, the technology is proven and ready for deployment, yet New York has not seen much widespread commercial acceptance of the technology, which has greatly improved in recent years.

We shall allow the inclusion of solar thermal hot water systems, as an alternative to electric hot water heating, as an eligible technology in the Customer-Sited Tier. Incorporation of this technology into the Customer-Sited Tier, while not a perfect fit, will be more administratively efficient than setting up a stand-alone program. But the use of solar thermal energy clearly involves a renewable source of energy that is more efficient than eligible solar photovoltaic systems and has better emissions characteristics than eligible digesters. A currently eligible solar photovoltaic system could conceivably power an electric resistance water heater. A solar thermal system would provide the same hot water more efficiently and cost-effectively than the combination of a solar photovoltaic system linked to an electric resistance water heater. While the production of electricity is eliminated, the same end use of energy is achieved with higher system efficiency. Staff's proposal that we calculate the reduction in the overall level of electricity consumption due to allowed solar thermal projects and score the MWhs towards the RPS goal is a pragmatic solution that has merit and is also adopted.

We will not at this time apply this same reasoning to the replacement or supplement of gas hot water heating or to space heating as those applications likely have a less favorable economic basis. In particular, a clear line must be drawn between active solar thermal systems and general passive solar design techniques. The use of an “active” collector of some form, versus simply building orientation and the use of windows, window treatments and storage mass, would define the type of system to be considered here. In taking this action we are not inviting other requests for the inclusion of additional technologies that do not involve processes that transform fuel into electricity. Petitioners shall remain bound to satisfy our

previously stated criteria and to follow the established public review process for the consideration of new technologies and resources for eligibility in the Customer-Sited Tier.

From an evaluation, measurement and verification point of view, the examination of a solar thermal system linked to a supplemental or back-up water heating system is more complex than simply measuring the electrical output of a solar photovoltaic system. Evaluation plans will have to be developed to reflect that increased complexity. We will require Staff and NYSERDA to work out those details.

Finally, it is our conclusion that solar photovoltaic, anaerobic digesters, fuel cells and small wind, continue to be eligible for support in the Customer-Sited Tier. These technologies remain desirable for their attributes and contribution to the New York economy, but current market demand and market forces, absent RPS support, are insufficient for these industries to be self-supportive. We suggest that City of New York work with NYSERDA to identify whether there are building-mounted systems that are efficient enough that they could be supported.

Specific Budget Levels and Incentive Caps

NYSERDA is currently administering the Customer-Sited Tier on an interim basis. The Commission approved approximately $20.9 million in interim funding for the RPS Customer-Sited

Tier,[8] allocated as follows:

INTERIM 2010 CUSTOMER-SITED TIER FUNDING BUDGET

	January	February	March	April	May	June	Total
Solar Photovoltaic	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$12,000,000
Anaerobic Digesters	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$6,000,000
Fuel Cells	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$1,800,000
Small Wind	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$300,000
Administration & Evaluation	$139,583	$139,583	$139,583	$139,583	$139,583	$139,583	$837,500
TOTAL	$3,489,583	$3,489,583	$3,489,583	$3,489,583	$3,489,583	$3,489,583	$20,937,500

The interim allocations are based on continuing funding at the monthly demand rates the Commission established in 2009.[9] The allocations are specific to each technology and funds allocated to a technology may not be transferred to another technology during the interim period. The interim period is continuing on a monthly basis from January through June unless changed by the Commission.

In the Mid Course Report, Staff recommended that the Customer-Sited Tier be continued, enhanced by the addition of solar thermal as a new eligible technology, and proposed specific funding levels by technology through 2015, as follows:

MID COURSE REPORT
PROPOSED CUSTOMER-SITED TIER FUNDING BUDGET

	2010	2011	2012	2013	2014	2015	Total
Solar Photovoltaic	$24,000,000	$24,000,000	$24,000,000	$24,000,000	$24,000,000	$24,000,000	$144,000,000
Anaerobic Digesters	$13,700,000	$13,300,000	$12,000,000	$11,600,000	$10,200,000	$10,200,000	$71,000,000
Fuel Cells	$6,100,000	$6,100,000	$6,100,000	$6,100,000	$6,100,000	$6,100,000	$36,600,000
Small Wind	$1,900,000	$2,800,000	$2,900,000	$3,100,000	$3,800,000	$4,000,000	$18,500,000
Solar Thermal	$4,300,000	$4,300,000	$4,300,000	$4,300,000	$4,300,000	$4,300,000	$25,800,000
TOTAL	$50,000,000	$50,500,000	$49,300,000	$49,100,000	$48,400,000	$48,600,000	$295,900,000

[8] Case 03-E-0188, supra, Order Providing Interim Funding for the Customer-Sited Tier (issued February 2010).

[9] Case 03-E-0188, supra, Order Concerning Further Modification of Funding for the Customer-Sited Tier (issued June 22, 2009) p. 6.

Staff explained that from a purely quantitative perspective, investments made in the Customer-Sited Tier, particularly for solar photovoltaic, are much more costly on a $/MWh basis than those made in the Main Tier. It notes that the budgets it recommended would account for about 20% of annual RPS program costs while contributing about 7% of the total MWhs. Staff concludes that while the Customer-Sited Tier resources are more expensive, they contribute to the qualitative benefits that are part of broader public policy goals identified by the Commission.

Staff's proposal for solar photovoltaic funding is predicated on a continuation of the following equipment size and incentive payment caps:

Residential:	Maximum 5 kW per site/meter
Commercial:	Maximum of 50 kW per site/meter
Not-for-Profit:	Maximum of 25 kW per site/meter
All:	Incentive amount may not exceed 50% of total installed cost

Staff's proposal for anaerobic digester funding is predicated on a maximum limit of $1 million in incentives for each installation in the form of buying down capacity costs and performance-based payments.

Staff's proposal for fuel cells funding is predicated on: a budget of $100,000 per year and a maximum limit of $50,000 in incentives for each installation in the form of buying down capacity costs and performance-based payments for very small systems of 25 kW or less; a budget of $3,000,000 per year and a maximum limit of $1 million in incentives for each installation in the form of buying down capacity costs and performance-based payments for small systems; and a budget of $3,000,000 per year and a maximum limit of $3 million in incentives for each

installation in the form of buying down capacity costs and performance-based payments for larger systems provided that these installations use biogas from landfills, wastewater treatment plants, and similar renewable sources as a feedstock. Staff's proposal for small wind funding is predicated on a new maximum equipment size cap of 600 kW in capacity per installation and a budget which averages about $3.0 million per year through 2015. Staff's proposal for solar thermal funding is an introductory amount designed to provide adequate funding to assess the efficacy of such a program.

Comments

The supporters of the continuation of the Customer-Sited Tier urge swift action on future funding and warn against the dampening effect funding discontinuity has on these emerging markets. As stated above, MI suggests discontinuing the Customer-Sited Tier and returning the funds to customers, and Innovative Energy Systems argues that the Customer-Sited Tier resources are very expensive and should not be increased to the detriment of funding for the Main Tier.

Solar Photovoltaic

In addition to its general concerns about funding, MI believes that solar photovoltaic installations should be ineligible for RPS subsidies due to their especially high costs. New York Farm Bureau believes that solar photovoltaic should be supported at the level of $24 million per year and that an in-city adder would be reasonable. NYSERDA believes that larger installations should be encouraged and that they would require at least $25 million per year in additional funding over the $24 millions proposed, for a total of $49 million per year. eGen Solar, Inc. supports a level of at least $49 million per year. NYSEIA believes that even the “high” level under review of $49 million per year is insufficient. Energy Paradiso,

Sustainability Marketing Company, Green Home NYC, Nicholas Para, Inc., New York Solar Energy Society, EarthKind Energy, Inc., Payneless Energy, Inc., and Great Brook Solar NRG LLC all support NYSEIA's position. They argue that a $24 million per year level would result in contraction in the market by as much as 50%, the $49 million per year level would provide for only a flat or modest growth rate, a level considerably in excess of $49 million per year is necessary for there to be substantial growth. Hudson Valley Clean Energy, Inc. believes that funding at the level of $50 to $100 million per year would be necessary for there to be growth in the market. Finally, altPOWER, Inc. argues that the current incentive program is grossly under-funded and limits system sizes to a point where they are insufficient for the commercial marketplace and that the Commission should designate $350 million per year over the next decade.

Anaerobic Digesters

New York Farm Bureau, Quasar Energy Group, CH-Four Biogas, Inc., Northeast Biogas LLC, Douglas Shelmidine, Steve McGlynn, and Sylke Chesterfield all urge that the Customer-Sited Tier support for anaerobic digester generation systems should be continued and should receive at least the funding level of $71 million through 2015 proposed in the Mid Course Report. New York State Department of Agriculture and Markets suggests that if certain interconnection issues are resolved, the proposed $71 million funding level for anaerobic digesters may be insufficient.

Fuel Cells

Plug Power Inc. believes that the current $1 million per unit cap is sufficient for the early stages of commercial adoption of fuel cell systems, and encourages the Commission to increase the funding allocation either now or over the next five

years so that the number of commercial installations can increase. Plug Power Inc. also encourages maintaining the funding proportions between large and small fuel cells that was in place in 2009. National Grid urges that fuel cell installations be capped at an equipment size of up to 10 kW and that no more than $1 million be paid in incentives per installation. FuelCell Energy Inc. recommends that to increase the pace of fuel cell development the current $1 million incentive cap for fuel cells should be increased to $3 million, or in the alternative, a new funding incentive should be created for fuel cells that are greater than 300 kW with a $3 million incentive cap per installation.

Small Wind

Northern Power Systems encourages the Commission to level the playing field between small wind and solar photovoltaic by adjusting the allocation of funds so that small wind receives at least as much funding as solar photovoltaic. Windsine Inc. notes that it took more than two years for the small wind program to show significant results, but that there has been significant momentum for the program in the last six months. Windsine Inc. seeks a funding level for the small wind category that provides the same level of support as solar photovoltaic and other technologies. Fortis Wind Energy U.S. notes that it is based in Ithaca, New York and may have to consider moving its business elsewhere if incentives are not continued. Niagara Wind Developers and Sustainable Energy Developments, Inc. seek funding of at least $6 million per year for small wind to have a measurable and positive impact.

Solar Thermal

NYSEIA, Conserval, CVD, Empire CE, Energy by Choice, FALA, RES, CEC, TSEC and UCDC support the $4.3 million annual budget proposed for solar thermal in the Mid Course Report. Con

Edison, New York Farm Bureau, NYSERDA, New York State Department of Agriculture & Markets, EarthKind Energy, and Vote Solar, Inc. expressly support the Mid Course Review proposal to include solar thermal in the Customer-Sited Tier, however, Con Edison suggested that it should only be supported with funding when replacing an electric water heater. Conserval supports its use for air heating (space heating). Brookfield believes that solar thermal should have to compete in the Main Tier for funding.

Discussion

We shall authorize NYSERDA to continue to administer the Customer-Sited Tier through 2015 with funding allocated as follows:

APPROVED CUSTOMER-SITED TIER FUNDING BUDGET

	2010	2011	2012	2013	2014	2015	Total
Solar Photovoltaic	$24,000,000	$24,000,000	$24,000,000	$24,000,000	$24,000,000	$24,000,000	$144,000,000
Anaerobic Digesters	$13,275,000	$13,300,000	$12,000,000	$11,600,000	$10,200,000	$10,200,000	$70,575,000
Fuel Cells	$3,600,000	$3,600,000	$3,600,000	$3,600,000	$3,600,000	$3,600,000	$21,600,000
Small Wind	$1,575,000	$2,800,000	$2,900,000	$3,100,000	$3,800,000	$4,000,000	$18,175,000
Solar Thermal	$3,225,000	$4,300,000	$4,300,000	$4,300,000	$4,300,000	$4,300,000	$24,725,000
TOTAL	$45,675,000	$48,000,000	$46,800,000	$46,600,000	$45,900,000	$46,100,000	$279,075,000

Note: Incorporates Interim Budgets through March 31, 2010.

The funding for solar photovoltaic and fuel cells is continued at the same rate we established earlier this year for interim funding. The funding for anaerobic digesters, small wind and solar thermal shall be at the rate proposed by Staff in the Mid Course Report except for slight adjustments in the first quarter of 2010 to match the interim levels that were in effect during that quarter. Additional funding for some of these technologies in geographic locations where they would be most cost-effective will be discussed further below in regard to geographic balance. Within thirty days of the end of each calendar year 2010 through 2014, NYSERDA shall calculate the unencumbered balance in each category and shall make, in consultation with Staff, and file with the Commission a written

proposal as to whether such unused funds by technology category should remain available for additional projects in that category or should be transferred to a different category to satisfy other demands. Such end-of-year unused funds shall remain unencumbered until the Commission determines their disposition. This determination will be made on the basis of the demand for and economics of each Customer-Sited Tier technology.

The funding authorization is predicated on and shall be subject to the following guidelines:

(a) For solar photovoltaic, our primary goal is to establish the lowest incentive level possible that can be offered on a sustained and predictable basis to continue the markets in New York State. The incentive levels should be adjusted regularly to address consumer demand and market factors in a way that will avoid program starts and stops and enable the industry to grow. Our funding is predicated on the following equipment size and incentive payment caps:

Residential:	Maximum 7 kW per site/meter
Commercial:	Maximum of 50 kW per site/meter
Not-for-Profit:	Maximum of 25 kW per site/meter
All:	Incentive amount may not exceed 40% of total installed cost after all other tax credits have been applied.

The $24 million annual budget will be treated as a monthly allowance of $2.0 million in each month from January 2010 to December 2015. No new applications shall be accepted for funding in a month when applications for that month already equal or exceed the available funds. The per-watt incentive for solar photovoltaic shall be limited and adjusted, as follows:

(i) the incentive level shall begin at $1.75 per watt.

(ii) NYSERDA may adjust the incentive level every two months to allow a reasonable period for installers and customers to enter into contractual agreement;

(iii) if applications in the prior two months exceed by a material amount the amount of available funds and fully use the available funds, NYSERDA will reduce the incentive level for the subsequent two months;

(iv) if applications in the prior two months did not fully use the available funds, NYSERDA may increase the incentive for the subsequent two months;

(v) NYSERDA may impose a cap on how much each installer can take of the available funds in any given month to ensure that multiple installers have an opportunity to participate; and

(vi) in an effort to educate customers interested in solar photovoltaic on efficiency measures that could help optimize the size of their potential installations and reduction in their electricity bills, we will require solar photovoltaic installers to provide a walk-through electricity audit concurrently with a consultation on solar photovoltaic installation. NYSERDA shall describe the details of this audit as part of the solar photovoltaic program in the revised Customer-Sited Tier operating plan.

(b) For anaerobic digesters, funding is predicated on a maximum limit of $1 million in incentives for each installation in the form of buying down capacity costs and performance-based payments.

(c) For fuel cells, funding shall be further apportioned into a budget of $100,000 per year and a maximum limit of $50,000 in incentives for each installation in the form of buying down capacity costs and performance-based payments for systems of 25 kW or less, and a budget of $3,500,000 per year and a maximum limit of $1 million in incentives for each installation in the form of buying down capacity costs and performance-based payments for larger systems.

(d) For small wind, funding is predicated on a maximum equipment size cap of 600 kW per installation.

(e) For solar thermal, funding is predicated on appropriate limits to be set by NYSERDA, in consultation with Staff, designed to match the incentive levels to a level of demand that can be satisfied within a calendar year with the corresponding budget.

While we believe the above limits will help ensure a stable and predictable market for the solar photovoltaic industry, we invite NYSERDA to petition the Commission to offer additional recommendations on how to strengthen the program within the budgets imposed.

Our decisions on funding for the Customer-Sited Tier are based on our recognition that the program provides benefits of technology innovation and commercialization, economic development, fuel diversity, environmental mitigation and strategic load reduction.

In addition, the Customer-Sited Tier allows customers an opportunity to directly participate in creating that future by providing them a choice on the generation source of the electricity they consume, an important aspect of the program. In that regard, we have structured the equipment size limits and funding categories in a manner that will maximize the opportunity for all customers, big or small, to participate. We have structured our decisions to preserve markets for smaller equipment within the reach of residential or small business customers. Concurrently, as discussed below, we are providing other funding for larger installations targeted in geographic locations where they would be most cost-effective. The allocation of funding to solar photovoltaic will continue to provide an opportunity for all customers throughout the State to obtain support for the type of smaller solar photovoltaic installations we have supported to date. As unit costs decline, we expect that this continued level of funding will result in an

increasing number of installations per year over time. The allocation of funding to anaerobic digesters recognizes that this technology is more cost-effective than others and should provide realization of the full market potential for this technology in the agricultural sector of the market. The allocation of funding to fuel cells preserves with a minor adjustment upward the level of Customer-Sited Tier support to date in the market for smaller installations. The allocation of funding to small wind demonstrates an increasing commitment to this technology over time which should closely match the predicted market potential for this technology, while clearly distinguishing the scale of these installations from those that have a capacity of one MW or more which should instead participate in the Main Tier. The allocation of funding to solar thermal demonstrates a new commitment long-term to this technology.

Our funding decisions also represent what we believe is an appropriate balance given the high cost of supporting these behind-the-meter technologies, particularly solar photovoltaic, compared with the cost and benefits obtained by the Main Tier of the RPS program. While the expenditures that we are approving over time are substantial, we find that the rate impact when expressed in terms of annual bills for customers is affordable. The overall cost of the Customer-Sited Tier equates to less than a 0.25% overall increase in utility rates statewide. Moreover, the incremental effect on utility rates of our decision is very small because the funding required for this component does not differ markedly from the current funding level for the Customer-Sited Tier.

The funding and management of programs in the customer-sited tier, especially for solar photovoltaic, has posed some challenges in the past. We will expect NYSERDA and

Staff to carefully monitor the flow of ratepayer dollars for each technology to ensure that incentives keep demand in balance so that funding does not become depleted well before the program term ends. We will also require NYSERDA, in consultation with Staff, to develop a revised Customer-Sited Tier Operating Plan to be submitted no later than June 2010, which defines the budgets and programs to be implemented through 2015, as described above and herein. The Plan should build on the original plan of February 2007 and reflect this order.

We expect the funding levels we are establishing will result in achieved MWhs and MWs[10] by technology as set forth in the following tables:

APPROVED CUSTOMER-SITED TIER EXPECTED ACHIEVEMENTS

	2010	2011	2012	2013	2014	2015	Total
MWhs							
Solar Photovoltaic	15,634	15,634	15,634	15,634	15,634	15,634	93,806
Anaerobic Digesters	29,675	33,883	31,290	25,544	24,633	24,633	169,657
Fuel Cells	22,183	22,183	22,183	22,183	22,183	22,183	133,098
Small Wind	1,048	3,045	3,108	3,178	3,944	4,028	18,351
Solar Thermal	6,773	9,030	9,030	9,030	9,030	9,030	51,923
Total	75,312	83,776	81,246	75,569	75,424	75,508	466,834

Note: Incorporates Interim Budgets through March 31, 2010.

	2010	2011	2012	2013	2014	2015	Total
MWs							
Solar Photovoltaic	13.71	13.71	13.71	13.71	13.71	13.71	82.29
Anaerobic Digesters	4.26	4.90	4.40	3.60	3.45	3.45	24.06
Fuel Cells	2.85	2.85	2.85	2.85	2.85	2.85	17.10
Small Wind	0.60	1.77	1.77	1.84	2.23	2.30	10.50
Solar Thermal	5.94	7.92	7.92	7.92	7.92	7.92	45.54
Total	27.37	31.16	30.66	29.92	30.16	30.23	179.49

Note: Incorporates Interim Budgets through March 31, 2010.

GEOGRAPHIC BALANCE

Background

[10] The annual figures illustrate our expectations and are not intended as hard targets. We expect that the actual rates of achievement will vary somewhat from these figures.

The Commission directed Staff to consult with interested parties to develop a plan for acquiring more renewable energy projects in the downstate regions of New York State to address an imbalance between the collection of RPS funding and RPS project locations (geographic balance). For purposes of planning, the Commission established a budget of up to $30 million annually through 2015 for solicitations for larger-scale solar photovoltaic, anaerobic digester and fuel cell projects in NYISO Zones G, H, I and J. Staff prepared a straw proposal with a solicitation method, including budget, to facilitate discussion at a workshop it convened with stakeholders on January 15, 2010. Staff's proposal adhered to guidance provided by the Commission, as follows:

1. The program should optimize the planning, budgeting and deployment of resources within the RPS program.

2. The program should facilitate larger installations of eligible renewable energy projects (above 50 kW), not currently met within the parameters of the Customer-Sited Tier, in NYISO Zones G, H, I and J.

3. Anaerobic digesters and fuel cells will only receive production incentive payments for the portion of fuel that is from renewable resource feedstock

4. The program should be administered efficiently and cost-effectively with evaluation, measurement and verification protocols in place.

5. The program should take into account the knowledge and expertise of the distribution companies within zones G, H, I and J that will enable more effective integration of their other clean energy and demand response programs, and will facilitate the identification of locations along their distribution systems for which added distribution support would be desirable.

Straw Proposal

The straw proposal recommended that a competitive process be used to annually solicit larger renewable energy projects in NYISO Zones G, H, I and J. For eligible projects over 50 kW, up to $5 million would be available for Zones G & H (Lower Hudson Valley) and $25 million would be available for Zones I & J (Southern Westchester and NYC). Incentives would be based upon a combination of installed capacity and performance payments. Unused funds from prior solicitations could be rolled-over to the following solicitation within the same zone group. The primary selection criteria would be cost (levelized cost of energy - $/kWh) but an adder would be established as part of the bid evaluations for projects that are located within electric distribution systems that would be expected to receive some operational benefit from installed projects. Electric distribution companies (utilities) would be expected to identify, in advance of the solicitations, these targeted system locations. Both utility and non-utility entities would be able to bid in the solicitations as long as the electric energy procured is consumed by an RPS-paying customer within the applicable zone group. Staff now estimates that with a budget of $30 million/year from 2011 through 2015, approximately 154,349 MWhs annually and 85.91 MWs of installed capacity of distributed renewable resource projects could be obtained through this program by 2015.

Comments and Disposition

All the parties attending the workshop and most submitting written comments were generally supportive of the straw proposal but many took exception with some of the recommended criteria, as described below. NRG Energy, Inc. opposes the proposal and would have the Commission address

geographic balance in the Main Tier by technology-specific targets.[11]

Budget Levels

Con Edison and Orange and Rockland Utilities, Inc. (O&R) believe that the $30 million budget is insufficient to address the geographic imbalance of renewable installations in the State. They also believe that the proposed funds should be allocated in proportion to utility customer's contribution to the RPS program instead of by NYISO load zones. They contends that this would result in $24.77 million for Con Edison; $2.26 million for O&R and $2.97 million for Central Hudson Gas and electric Corporation (Central Hudson). They also support keeping unused funds within the utility service territory and further suggest that unused funds be allowed to roll-over to a service-territory-specific Customer-Sited Tier.

Con Edison provided a proposal for a separate solar photovoltaic program for its utility service territory with a five-year total budget of $24.97 million to install 24.8 MWs of solar photovoltaic, and $4.0 million for a solar thermal program for electric residential and multi-family dwellings that could reduce electricity consumption by 960,000 kWhs annually. The solar photovoltaic program would be based on a combination of performance incentives paid to solar project owners over a ten-

[11] Comments were provided by Alliance for Clean Energy New York, Inc.; Brookfield Renewable Power, Inc.; Central Hudson Gas & Electric Corp.; City of New York; Consolidated Edison of New York, Inc./Orange & Rockland Utilities, Inc.; Consolidated Edison Solutions, Inc./Consolidated Edison Energy, Inc./Consolidated Edison Development, Inc.; Constellation Energy Commodities, Inc./Constellation NewEnergy, Inc.; Hudson Valley Clean Energy, Inc.; Independent Power Producers of New York, Inc.; Network for New Energy Choices; New York Solar Energy Industries Association; New York State Energy Research and Development Authority; Pace Energy and Climate Center; SunEdison LLC/SunPower Corp.; UTC Power Corp.; and Vote Solar Initiative.

year period, and capacity-based payments for projects installed in specified geographic zones to provide distribution system relief. It would also have a component to assist underserved markets in one-to-four family homes who own their residences. It proposes that the programs be funded through a separate set-aside in the Customer-Sited Tier budget. Con Edison further states that if the Commission rejects this proposal, it should, in the alternative, reserve 38.5 percent of the Customer-Sited Tier budget (the amount of RPS funds they estimate are collected from NYC ratepayers) for renewable resources projects in New York City. Con Edison/O&R would restrict the use of RPS funds to support hydrocarbon-fueled generation in ozone non-attainment areas such as New York City and do not believe such sources should be allowed to compete with solar photovoltaic for geographic balance funding. New York City opposes "draconian" limits on anaerobic digester funding.

Central Hudson believes the $5 million allocated for NYISO Zones G and H should be a minimum amount and not a maximum. It contends that its customers, along with O&R customers, who account for most of Zone G, already contributed nearly $19 million to the RPS through 2009. Furthermore, it contends, that additional contributions of $48 million to the RPS program through 2013 will be paid by these collective customers prior to any increases that will likely be required to meet the revised goal of 30%.

Other parties, including the City of New York (NYC), Network for New Energy Choices and Alliance for Clean Energy of New York (ACENY) propose that the $30 million be considered a “pilot” amount that should be increased over time.

Discussion

We believe the budget and the allocations between load zones identified in the straw proposal are sufficient to address

the imbalance of renewable installations in the State. Central Hudson has overstated the degree of original imbalance. We note that the most robust participation of programs in the Customer-Sited Tier, especially solar photovoltaic, has been in NYISO Zones G and H to the benefit of Central Hudson and O&R customers.[12] Although Con Edison's service territory has seen less dramatic results in invested projects, we reiterate that achieving a perfect correlation between the geographic source of funding and the location of resources is not the goal of the RPS program, which strives to obtain renewable projects in the most cost-effective manner. The straw proposal allocation of $25 million for NYISO Zones I and J is sufficient to contribute towards the disparity and attract the desired interest by developers in locating more customer-sited projects in the downstate area. Con Edison's proposal to earmark an additional separate fund from the Customer-Sited Tier budget would be redundant to what we are already providing, which will achieve many of the same objectives that Con Edison proposes. We see no need to set aside an additional source of funding in the Customer-Sited Tier for this purpose.

With respect to the comments of Con Edison, NYC and other parties that contend the overall $30 million budget is insufficient and should be increased over time, we point out the recent success of NYSERDA's $10 million competitive capacity-based solar photovoltaic program through the American Recovery and Reinvestment Act (ARRA) which yielded winning bids totaling approximately 6 MWs of installed capacity with an average price of $1.60/watt. While bid prices received in a competitive

[12] Through 2009, a total of $13.5 million has been paid or encumbered by NYSERDA through the Customer-Sited Tier program for projects in Central Hudson's service territory. For O&R's service territory, a total of $5.2 million has been invested by NYSERDA for projects.

solicitation in the NYC metropolitan area may be higher, the $25 million/year allocated to NYISO Zones I & J (all within Con Edison's service territory) has the potential to attract over 60 MWs of installed renewable capacity by 2015, which has great potential to assist NYC in achieving its solar energy goals.

Eligibility of Technologies

Hudson Valley Clean Energy, Inc. (HVCE) and ACENY request that the minimum proposed size limit of 50 kW be eliminated to allow for smaller residential and commercial projects. HVCE states that larger solar photovoltaic projects are not more cost effective on a per kWh basis. It recommends that bids be based on 500-1000 kW blocks of solar photovoltaic and there should be a limit to the amount of blocks any one developer can receive. In contrast, Central Hudson recommends that the minimum size of installations should be increased from the proposed 50kW to 500kW in its service territory. It also recommends that installations be limited to areas where distribution and/or substation support is needed and that incentive payments be based on energy production.

Brookfield Renewable Power Inc. (Brookfield) wants to make all technologies eligible in the RPS program (both Main and Customer-Sited Tiers) eligible in the geographic balance program, so long as their energy is delivered into NYISO Zones G, H, I, & J, in order to reduce the costs of the program. Brookfield also opposes the use of non-renewable feed-stock for fuel cells.

UTC Power Corporation (UTC), ACENY, and Pace Energy and Climate Center (Pace) object to the proposal that fuel cells be required to use only renewable feedstock. Instead, they support the use of natural gas to feed fuel cells. UTC and PACE also support the inclusion of combined heat and power applications.

Con Edison would prefer that the deployment of funds expressly designated for geographic equity be targeted to solar photovoltaic or other direct and renewable sources of generation to expand the knowledge of how these intermittent resources will provide additional benefits to the downstate electric system. Con Edison also recommends that the program include funding for off-shore wind development in the downstate region. Con Edison believes that the reduction of methane emissions by allowing renewable hydrocarbon-fueled resources (fuel cells and microturbines fueled by biogas), while having merit, should be given only secondary consideration. If fuel cells are to be powered by a renewable feedstock (e.g., biogas), Con Edison recommends a contractual arrangement to capture the broader supply of biogas in the downstate region, particularly at waste-water treatment facilities owned by New York City. It further explains that as long as the fuel cell owner has a contractual arrangement for the biogas, there should be no requirement for direct connection of the renewable fuel source to the fuel cell. It notes that the biogas must meet all requirements for pipeline quality gas and that the contractual arrangement be made with the local distribution company regarding the sale of the biogas commodity. NYSERDA supports this position stating that allowing renewable gas to be distributed via the distribution system could be critical in making renewably-fueled fuel cells viable.

Discussion

Our decision regarding the appropriate technologies to address geographic balance is to include those we believe would be best suited to benefit the downstate region. The technologies we originally identified will be eligible. We also want to build on the State's solar photovoltaic program in a manner that targets larger installations in the downstate region where they are more cost-effective and where distributed

generation can do the most good. With respect to the size of the installations, we concur with the straw proposal which calls for installations greater than 50 kW. This size compliments the solar photovoltaic installations that are already supported under the Customer-Sited Tier, which must be 50 kW or less, and provides economies of scale that will make the downstate program more cost effective and maximize the value for the ratepayer.

We agree that there is a need for contractual arrangements to capture methane gas at city-owned waste-water treatment and other anaerobic biogas digester facilities for pipeline distribution to an end user at a separate location, as discussed further below. We also agree that it is reasonable to allow the end user to use any number of technologies, including fuel cells, micro turbines or combined heat and power equipment to meet the needs of this program. We will not, however, provide funding for studies and other development activity for off-shore wind projects. The specific purpose of this program is to deploy a meaningful amount of renewable resources in downstate geographic areas for a period ending in 2015, rather than devoting resources to an uncertain option that is not likely to provide significant amounts of renewable resources prior to 2015.

Eligibility of Participants

Several stakeholders strongly objected to electric distribution companies (utilities) participating in the solicitations. Constellation Energy, IPPNY and ACENY all state that utility ownership of generation is contrary to the Commission’s long-standing pro-competition policies. They further state that the renewable generation landscape in the Northeast is highly competitive and there is no reason to believe a solicitation for downstate resources would not attract a large number of bidders without having utilities involved in

the bidding. IPPNY believes that if utilities are allowed to bid, it will chill the interest of market participants in future investment in the State. All commenting stakeholders agree, however, that there is a role for the utilities in promoting the program and by identifying distribution networks in their respective franchise territories which would particularly benefit from the strategic deployment of distributed resources where they are likely to have most value.

Con Edison states that it does not plan to bid into the solicitations but rather it will promote the program in its service territory. O&R and Central Hudson are interested in participating in the competitive solicitations, specifically proposing utility-sited solar photovoltaic resources. O&R also seeks parity for utility-owned solar photovoltaic ineligible for customer-owned net-metering.

NYC requests that NYPA-powered (New York Power Authority) NYC-owned buildings, which do not pay the RPS surcharge, be eligible for the program by charging an appropriate RPS assessment. NYSERDA also contends that consideration should be given to installations by non-RPS contributing customers, particularly the city-owned waste-water treatment plants that produce methane biogas, a renewable feedstock that the Commission has expressed a desire to capture.

Discussion

We recognize the concerns expressed by stakeholders regarding utility participation in the bidding process and utility ownership of renewable generation. We also recognize that constructing a bidding process with a level playing field between utility and non-utility participants could present a challenge. We agree with stakeholder assertions that the retail distributed solar photovoltaic market is demonstrably competitive and utility involvement in the market, at this time,

does not appear necessary to address any deficiencies. We do agree that there is a role for utilities at this time, which is to focus on promoting the best locations for these distributed resources to help achieve the environmental, load reduction and economic development benefits afforded by siting these technologies in strategic locations in their respective service territories. We agree with many of the stakeholders that utilities are not only uniquely situated to identify locations within their distribution networks that are in need of significant upgrades or replacement where added distribution support may be desirable but also that utilities are in the best position to analyze system performance and the impact of any installations on their respective distribution systems. We also encourage the utilities to streamline the interconnection process for these distributed generation renewable projects and, accordingly, direct Staff to monitor these interconnection activities.

However, we note there may be merit in allowing utilities to participate further in this program, at a later date, if it were to be found that private investment is not available or sufficient in areas where utility ownership may be better targeted, more cost-effective and beneficial. We recognize that this will require careful consideration to ensure that such a structure is in the best interest of the ratepayer and that utilities are not able to monopolize any market segment.

With respect to the eligibility of NYC-owned facilities, there are enough NYC-owned properties contributing to RPS because they do not obtain all of their electricity from NYPA for us to conclude that there is no need to consider how the program might be opened for other NYPA customers to obtain additional sites at this time. As to the source of biogas, the

ownership of the source is not relevant to the program in terms of eligibility so long as the dollars spent on such gas contribute to geographic balance. The contractual arrangements proposed by Con Edison, NYC and NYSERDA for capturing methane gas at waste-water treatment facilities are appropriate in this instance. We will allow customers paying the RPS surcharge to use the biogas created at an outside facility so long as the source of the biogas is within the same NYISO zone group. Under this system, the biogas supplier and the end-user enter into a financial contract where the end-user pays the biogas supplier a premium for the attributes associated with the biogas. The biogas supplier will inject pipeline quality biogas into the local distribution company's gas system and the end user, a customer that pays the RPS charge, will be allowed to take delivery of pipeline gas at a separate location. The end-user can then use any one of a number of technologies (fuel cells, micro turbine and CHP) to generate electricity and qualify for an RPS payment. The end-user is eligible for an RPS premium based on the number of kWhs generated using a quantity of gas withdrawn from the gas distribution system that is equivalent to the quantity injected by the biogas supplier. If the end-user consumes more gas at its location then was injected by the biogas supplier, only the portion of the generated kWhs associated with the biogas qualify for an RPS premium (at the same percent of biogas to total gas used in generation).

Frequency of Solicitations

Con Edison and NYC urge that solicitations occur twice a year initially. They claim that doing so will promote a less volatile solar installation market and will allow for greater program flexibility and more rapid revision and implementation of the most effective procurement structure. NYSERDA also

requested flexibility in the frequency of the solicitations in order to balance the design requirements of the program.

Discussion

We concur that providing flexibility in the scheduling of solicitations is in the best interest of the program and, at a minimum, will require at least one solicitation annually. We encourage NYSERDA however to structure the solicitations in a manner that will lead to rapid deployment within the constraints of the budget and collections schedule.

Conclusion

We will authorize NYSERDA to administer a competitive solicitation program to address geographic balance through 2015, as described herein, with funding allocated as follows:

APPROVED CUSTOMER-SITED TIER
FUNDING BUDGET GEOGRAPHIC BALANCE

	2010	2011	2012	2013	2014	2015	Total
Zones G & H	$0	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$25,000,000
Zones I & J	$0	$25,000,000	$25,000,000	$25,000,000	$25,000,000	$25,000,000	$125,000,000
TOTAL	$0	$30,000,000	$30,000,000	$30,000,000	$30,000,000	$30,000,000	$150,000,000

The funding authorization is predicated on and shall be subject to the following guidelines:

(a) NYSERDA may impose a cap on how much each installer can take of the available funds in any given year to ensure that multiple installers have an opportunity to participate;

(b) in an effort to educate customers interested in solar photovoltaic on efficiency measures that could help optimize the size of their potential installations and reduction in their electricity bills, we will require solar photovoltaic installers to provide a walk-through electricity audit concurrently with a consultation on solar photovoltaic installation. NYSERDA shall describe the details of this audit as part of the geographic balance program in the revised Customer-Sited Tier Operating Plan;

(c) for anaerobic digesters, fuel cells, biogas microturbines, and combined heat and power projects (including projects combining two or more of these technologies), funding is predicated on a maximum limit of $3 million in incentives for each installation in the form of buying down capacity costs and performance-based payments; and

(d) The mechanism for program delivery will be one or more competitive solicitations per year. The program will be coordinated with the other Customer-Sited Tier programs to optimize the use of resources and minimize potential market confusion.

We will require NYSERDA, in consultation with Staff, to incorporate this geographic balancing program into its revised Customer-Sited Operating Plan, to be submitted no later than June 2010, and further define the budgets and program to be implemented through 2015, as described above and herein. The Plan shall also incorporate the following provisions:

1. Only non-utility market participants will be allowed to submit bids in the competitive solicitations at this time.

2. In advance of each solicitation, utilities shall identify locations along their distribution system that would be expected to receive operational benefit from project installations.

3. There shall be no transfer of funds between the zone groups.

4. A technical evaluation panel will be convened to evaluate project proposals and bids.

5. The electric energy provided by the installation must be received by a customer who pays into the RPS program at a point on the "customer side" of the utility meter.

7. Incentives will be a combination of capacity and performance-based payments.

8. Evaluation, measurement and verification protocols shall be clearly specified.

We generally expect that the funding levels we are establishing could result in the following achieved MWhs and MWs by technology by the end of 2015:

APPROVED CUSTOMER-SITED TIER
EXPECTED ACHIEVEMENTS GEOGRAPHIC BALANCE

	2010	2011	2012	2013	2014	2015	Total
MWhs							
Solar Photovoltaic	0	17,589	17,589	17,589	17,589	17,589	87,943
Anaerobic Digesters/Fuel Cells	0	13,281	13,281	13,281	13,281	13,281	66,406
Total	0	30,870	30,870	30,870	30,870	30,870	154,349

	2010	2011	2012	2013	2014	2015	Total
MWs							
Solar Photovoltaic	0.00	15.43	15.43	15.43	15.43	15.43	77.14
Anaerobic Digesters/Fuel Cells	0.00	1.75	1.75	1.75	1.75	1.75	8.76
Total	0.00	17.18	17.18	17.18	17.18	17.18	85.91

PROGRAM ADMINISTRATION

Since the inception of the RPS program, the Commission has required NYSERDA to carry out its functions as program administrator, in an open, efficient and verifiable manner. To that end, we will continue to require NYSERDA to periodically inform the Commission, Staff, interested parties and the general public of the RPS program's progress in meeting the Commission's goals.[13] We will also require NYSERDA to continue providing Staff with monthly financial status and program progress reports

[13] The original requirement was stated in 2005 [Case 03-E-0188, supra, Order Approving Implementation Plan, Adopting Clarifications, and Modifying Environmental Disclosure Program (issued April 14, 2005)].

in addition to the year-end reports.[14] We expect that NYSERDA will also continue to post the year-end report on its website no later than the end of the first quarter of each year.

As in the past, we will require NYSERDA to continue performing the activities necessary to ensure that the RPS program is being effectively and efficiently administered to help fulfill its goals. In carrying out its role, it is important to reiterate the types of activities that are expected to be the responsibility of NYSERDA in administering the Main Tier and Customer-Sited Tier,[15] as described below.

Main Tier

Administration

In administering the Main Tier, NYSERDA will continue to be responsible for the day-to-day activities associated with scheduling, developing and issuing competitive solicitations for Main Tier projects and monitoring contracts awarded as a result of those solicitations through the term of each contract. NYSERDA will be expected to continue tracking the progress of

[14] The year end reports will provide the following for both subject year and cumulatively: a) Aggregated quantities of RPS program energy generated and payments associated with the environmental attributes of that energy, for both the Main and Customer-Sited Tiers (including the Geographic Balance component), with the latter based on calculations of assumed energy produced where necessary; b) Progress to date in meeting the RPS Program's annual targets; c) The number of RPS Program solicitations issued, number of proposals received, and quantities of environmental attributes subject to RPS contracts and to pending contracts; d) The number of customer-sited installations authorized and quantities of environmental attributes associated with those installations; and e) Such other financial and contractual data, as well as stakeholder feedback (including information obtained from the NYISO with respect to any reliability issues that may have arisen) as may be appropriate to ensure full and accurate reporting to the Commission and the public.

[15] Includes the Geographic Balance component.

the Main Tier and regularly consulting with Staff on matters pertinent to the success of the program.

As part of its administrative function, NYSERDA will also be expected to continue performing the majority of the measurement and verification activities associated with the Main Tier. This will be accomplished primarily by data collection from project owners under contract to verify the metered electricity production from each facility as part of the monthly invoices received by NYSERDA for payments of renewable attributes. On occasion, NYSERDA will need the assistance of third party consultants, particularly for biomass/biogas and hydroelectric facilities, when specific engineering analyses for verification of electricity production under contract may be required before payments for attributes are released.

Program Evaluation

In addition to the basic administration, measurement and verification activities described above, NYSERDA will be expected to provide input into the overall evaluation of the Main Tier progress going forward. The program evaluation activities will focus on updating benefit-cost analyses; macroeconomic benefits estimates and recommendations for improving the program as part of the 2013 review of energy programs required by the Commission in its January 2010 Order. Although much of the work could be provided by NYSERDA's in-house staff, we recognize that third-party contractors may be needed to assist in that review.

Customer-Sited Tier

Administration

Compared to the Main Tier, the Customer-Sited Tier is expected to require an increased level of administration given the nature of the eligible technologies and the volume of applications and anticipated projects that are likely to come to

fruition during the term of each program. For each component, NYSERDA will continue to develop program opportunity notices (PONs) for each technology (or in the case of the Geographic Balance component, develop solicitations) and review and analyze each application for technical merits. Once applications are approved, NYSERDA will be responsible for project reviews, prior to the release of final funds to installers, to ensure that projects are properly commissioned and operating.

As part of its administrative function, NYSERDA will also be expected to provide measurement and verification across all technologies in the Customer-Sited Tier to ensure that installations within each component are performing as expected to meet electricity generation projections. We expect that this activity will be performed via statistical sampling designed to achieve a 90/10 confidence level[16] for the overall energy generation estimate. More granular precision will be required for solar photovoltaic installations that are identified as having the potential to provide measurable value to the utility's electric distribution system. As part of the sampling, we expect that the solar photovoltaic systems will take advantage of internet-based, real-time monitoring of system performance and energy production. The costs of any monitoring equipment for these samples should be charged to the budget for program costs. The details of the measurement and verification protocols for each technology should be included in a revised operating plan.

Program Evaluation

The evaluation component of the Customer-Sited Tier will include an assessment of the contribution of the applicable technologies towards the overall RPS goal. This will include a

[16] A sample designed with a 90/10 confidence level will result in an estimate that will fall within +/- 10% of the true value of the measure 90% of the time.

market evaluation for each technology as well as an impact evaluation to assess the accuracy of estimated energy generation based on actual production. These evaluations will help to inform the Commission on the overall success and cost-effectiveness of the program relative to other clean energy options as part of its 2013 review.

Administration, Program Evaluation, and NYS Cost Recovery Fee Budgets

In the Mid Course Report, Staff proposed budgets for 2010 through 2024 to reflect the costs of administration and program evaluation by NYSERDA for the Main Tier and Customer-Sited Tier,[17] including the payment by NYSERDA of the NYS Cost Recovery Fee.[18] In preparing its proposal, Staff consulted with NYSERDA to determine NYSERDA's expected staffing, payroll, overheads, third party consulting fees and other expenses. Staff also considered the level of actual expenditures incurred and encumbered to date by NYSERDA for the types of activities described above, and potential scenarios for the scope of necessary work.

For the Main Tier, Staff expects the bulk of NYSERDA's administration costs to be incurred between the years 2010-2015, and to subsequently wind down as solicitations cease after 2014 and contracts expire on a staggered basis through 2024. For the Customer-Sited Tier, Staff expects the majority of administration costs to be incurred from 2010 through 2015, at which time application acceptance is expected to cease and project commissioning will likely wind down through 2018.

[17] Staff's proposal did not include a budget for the Geographic Balance component of the Customer-Sited Tier.

[18] The Renewable Portfolio Standard: Mid Course Report (October 26, 2009) p. 134 [Appendix A].

Comments

NYSERDA contends that the approximately $12.3 million budget proposed by Staff for administration and evaluation of the Customer-Sited Tier is not adequate, particularly if the Commission intends to move toward more performance-based programs. It has provided Staff with additional details on overall program administration and the budgets it believes are necessary to cover its costs given its intended scope of work. Staff's review of the information indicates that when the geographic balancing component of the customer-sited tier is taken into consideration, along with some funding revisions in the fuel-cell program, that the overall funding that NYSERDA proposes for administration, especially near-term, is very close to the funding proposed by Staff in its Mid Course Report.

Discussion

We reiterate that we will continue to compensate NYSERDA for its actual costs of administration and program evaluation for the Main Tier and Customer-Sited Tier, including the payment by NYSERDA of the NYS Cost Recovery Fee. We expect NYSERDA to manage the RPS funds prudently and within the budgets authorized. The budgets proposed in Staff's Mid Course Report are generally reasonable and are supported by the current spending on overall administration to date. We shall adjust the budgets in Staff's proposal to reflect the additional Geographic Balance component of the Customer-Sited Tier,[19] to separately state a Program Evaluation budget in keeping with the description of that task set forth above, and to match our

[19] We expect that the Geographic Balance competitive solicitations for larger projects will be less administratively burdensome and costly than the more numerous regular Customer-Sited Tier solicitations for smaller projects.

expectations as to scope of work and the expected timing of the implementation of this order. The budgets we are approving at this point are set forth in the Appendix. We will expect NYSERDA to manage its workload within these budgets and optimize the administration of these programs to the best of its ability. Of course, it is difficult to predict every contingency, particularly when trying to plan budgets for many years into the future. NYSERDA and Staff should keep each other informed of actual costs over time and NYSERDA should be prepared to bring any concerns that arise to us if it appears that an adjustment to the approved budgets is warranted.

COLLECTIONS

The modified collections we are approving today are to be implemented by the indicated electric delivery utilities commencing on July 1, 2010. The amounts to be collected in years 2010 through 2013 subsume and supersede those previously authorized for those years in 2004.[20] We estimate that the schedule of collections we are approving will be sufficient to support through 2024 the current Main Tier contract and maintenance contract costs, future Main Tier contract costs, the current and future Customer-Sited Tier costs including the Geographic Balance component, and the costs of administration and program evaluation by NYSERDA for the Main Tier and Customer-Sited Tier, including the payment by NYSERDA of the NYS Cost Recovery Fee. Our estimate of all these costs is specified in the tables in the Appendix. We expect NYSERDA to manage its solicitations such that its cash flow is in keeping with our estimates and so that its contracts do not encumber more monies than we have authorized for collection.

[20] The original schedule of RPS collections is shown in the Appendix.

CONCLUSION

For the reasons and in the manner described and discussed above, the Commission approves modifications to the Renewable Portfolio Standard (RPS) program and continues the Customer-Sited Tier through 2015, including the addition of solar thermal as an eligible technology and the establishment of a new initiative to encourage additional larger customer-sited downstate projects to ensure overall geographic balance in the RPS program; establishes the scope and cost of administration of the RPS program; and provides for the collection of costs from electric delivery customers. This order completes a mid-course review of these RPS programs.

The Commission orders:

1. The New York State Energy Research and Development Authority (NYSERDA) is authorized to continue the Renewable Portfolio Standard (RPS) Customer-Sited Tier programs for the period 2010 through 2015 in the same manner as the program was conducted previously, except as modified in the body of this order, including the addition of solar thermal as an eligible technology and the establishment of a new initiative to encourage additional larger customer-sited downstate projects to ensure overall geographic balance in the RPS program.

2. NYSERDA shall administer the RPS program, and shall be compensated for its costs, in the manner set forth in the body and Appendix of this order.

3. NYSERDA shall submit revisions to Operating Plans and reports as mandated in the body of this order. The Operating Plan revisions shall take effect as soon as Staff determines that they adequately reflect the requirements of this order.

4. Central Hudson Gas & Electric Corporation (Central Hudson); Consolidated Edison Company of New York, Inc. (Con Edison); New York State Electric and Gas Corporation (NYSEG); Niagara Mohawk Power Corporation (Niagara Mohawk); Rochester Gas and Electric Corporation (RG&E); and Orange and Rockland Utilities, Inc. (O&R) shall establish by contract with NYSERDA, a schedule of payments, no less frequently than quarterly commencing July 1, 2010, to transfer electric RPS funds to NYSERDA as set forth in the Appendix.

5. The electric RPS Charge is augmented commencing on July 1, 2010 and thereafter as indicated in the Appendix.

6. Central Hudson, Con Edison, NYSEG, Niagara Mohawk, RG&E, and O&R are directed to file tariff amendments and/or statements incorporating the revisions described herein. The filings shall be allowed to become effective on a temporary basis, on not less than 30 days' notice, on July 1, 2010. The filings will not become effective on a permanent basis until approved by the Commission. 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.

7. NYSERDA shall manage the RPS funds prudently and within the budgets authorized by the Commission.

8. The Secretary at her sole discretion may extend the deadlines set forth herein.

9. This proceeding is continued.

By the Commission,

(SIGNED) JACLYN A. BRILLING
Secretary

Table 1

Original Schedule of RPS Collections from Delivery Utility Customers through 2013
(Nominal $)

	2006	2007	2008	2009
Central Hudson	$1,196,509	$2,161,842	$3,130,122	$4,200,634
Con Edison	$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
Niagara Mohawk	$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 Collections	$24,072,909	$43,143,015	$62,136,526	$82,639,913

	2010	2011	2012	2013
Central Hudson	$5,152,111	$6,306,560	$7,184,776	$8,712,759
Con Edison	$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
Niagara Mohawk	$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 Collections	$100,765,818	$122,617,832	$138,876,295	$167,222,814

Table 2

Original Total RPS Collections from Delivery Utility Customers through 2013
(Nominal $)

	2006-2013
Total Collections	$741,475,122

Table 3

Current Main Tier Maximum Contract Costs Projected through 2024
(Nominal $)

	2006	2007	2008	2009
Main Tier	$12,877,600	$13,106,441	$16,455,460	$49,450,643

	2010	2011	2012	2013
Main Tier	$48,131,527	$48,131,527	$47,582,902	$45,163,316

	2014	2015	2016	2017
Main Tier	$45,163,316	$45,163,316	$31,249,932	$31,249,932

	2018	2019	2020	2021
Main Tier	$7,162,486	$0	$0	$0

	2022	2023	2024
Main Tier	$0	$0	$0

Note: Does not include 4th & 5th Solicitations.

Table 4

Future Main Tier Contract Costs Projected through 2024
(Nominal $)

	2006	2007	2008	2009
Main Tier	$0	$0	$0	$0

	2010	2011	2012	2013
Main Tier	$0	$33,986,881	$68,323,122	$111,904,888

	2014	2015	2016	2017
Main Tier	$150,233,101	$191,738,273	$191,738,273	$191,738,273

	2018	2019	2020	2021
Main Tier	$191,738,273	$191,738,273	$191,738,273	$157,751,392

	2022	2023	2024
Main Tier	$123,415,151	$79,833,385	$41,505,172

Note: Includes 4th & 5th Solicitations.

Table 5

Current Main Tier Maintenance Costs Projected through 2024
(Nominal $)

	2006	2007	2008	2009
Maintenance Costs	$1,519,080	$1,961,670	$3,912,624	$4,019,808

	2010	2011	2012	2013
Maintenance Costs	$4,019,808	$4,019,808	$4,019,808	$4,019,808

	2014	2015	2016	2017
Maintenance Costs	$4,019,808	$1,920,000	$0	$0

	2018	2019	2020	2021
Maintenance Costs	$0	$0	$0	$0

	2022	2023	2024
Maintenance Costs	$0	$0	$0

Table 6

Customer-Sited Tier Budget Through 2009
(Nominal $)

	2006-2009
Solar Photovoltaic	$75,300,000
Anaerobic Digesters	$20,110,000
Fuel Cells	$5,790,000
Small Wind	$2,100,000
Total Customer-Sited Tier	$103,300,000

Note: Excludes Administration and Evaluation Costs

Table 7a

Approved Customer-Sited Tier Budget
(Nominal $)

	2010	2011	2012	2013	2014	2015	Total
Solar Photovoltaic	$24,000,000	$24,000,000	$24,000,000	$24,000,000	$24,000,000	$24,000,000	$144,000,000
Anaerobic Digesters	$13,275,000	$13,300,000	$12,000,000	$11,600,000	$10,200,000	$10,200,000	$70,575,000
Fuel Cells	$3,600,000	$3,600,000	$3,600,000	$3,600,000	$3,600,000	$3,600,000	$21,600,000
Small Wind	$1,575,000	$2,800,000	$2,900,000	$3,100,000	$3,800,000	$4,000,000	$18,175,000
Solar Thermal	$3,225,000	$4,300,000	$4,300,000	$4,300,000	$4,300,000	$4,300,000	$24,725,000
TOTAL	$45,675,000	$48,000,000	$46,800,000	$46,600,000	$45,900,000	$46,100,000	$279,075,000

Note: Incorporates Interim Budgets through March 31, 2010.

Table 7b

Approved Customer-Sited Tier Budget
(Nominal $)

GEOGRAPHIC BALANCE COMPONENT

	2010	2011	2012	2013	2014	2015	Total
Zones G & H	$0	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$25,000,000
Zones I & J	$0	$25,000,000	$25,000,000	$25,000,000	$25,000,000	$25,000,000	$125,000,000
TOTAL	$0	$30,000,000	$30,000,000	$30,000,000	$30,000,000	$30,000,000	$150,000,000

Table 8

Customer-Sited Tier Budget Totals
(Nominal $)

	2006-2009	2010-2015	Total
Customer-Sited Tier	$103,300,000	$279,075,000	$382,375,000
Geographic Balance	$0	$150,000,000	$150,000,000
Total Budgeted	$103,300,000	$429,075,000	$532,375,000

Table 9

Administration & Evaluation Budget Through 2009
(Nominal $)

	2006	2007	2008	2009
Admin & Eval - Main Tier	$2,125,000	$2,125,000	$2,125,000	$2,125,000
Admin & Eval - Customer-Sited Tier	$1,075,000	$1,075,000	$1,075,000	$1,075,000
NYS Cost Recovery Fee	$1,515,393	$1,515,393	$1,515,393	$1,515,393
Total Budgeted	$4,715,393	$4,715,393	$4,715,393	$4,715,393

Table 10

Total Administration & Evaluation Through 2009
(Nominal $)

	2006-2009
Admin & Eval - Main Tier	$8,500,000
Admin & Eval - Customer-Sited Tier	$4,300,000
NYS Cost Recovery Fee	$6,061,574
Total Budgeted	$18,861,574

Table 11

Approved Administration & Program Evaluation Budget
(Nominal $)

	2010	2011	2012	2013
Main Tier	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Customer-Sited Tier	$2,427,000	$3,120,000	$3,072,000	$3,064,000
Program Evaluation	$0	$0	$200,000	$200,000
NYS Cost Recovery Fee	$992,000	$992,000	$992,000	$992,000
Total Budgeted	$5,419,000	$6,112,000	$6,264,000	$6,256,000

	2014	2015	2016	2017
Main Tier	$2,000,000	$2,000,000	$1,800,000	$1,600,000
Customer-Sited Tier	$3,036,000	$3,044,000	$2,283,000	$1,522,000
Program Evaluation	$200,000	$200,000	$200,000	$0
NYS Cost Recovery Fee	$992,000	$992,000	$992,000	$992,000
Total Budgeted	$6,228,000	$6,236,000	$5,275,000	$4,114,000

	2018	2019	2020	2021
Main Tier	$1,400,000	$1,200,000	$1,000,000	$800,000
Customer-Sited Tier	$761,000	$0	$0	$0
Program Evaluation	$0	$0	$0	$0
NYS Cost Recovery Fee	$992,000	$992,000	$992,000	$992,000
Total Budgeted	$3,153,000	$2,192,000	$1,992,000	$1,792,000

	2022	2023	2024
Main Tier	$600,000	$400,000	$200,000
Customer-Sited Tier	$0	$0	$0
Program Evaluation	$0	$0	$0
NYS Cost Recovery Fee	$992,000	$744,000	$496,000
Total Budgeted	$1,592,000	$1,144,000	$696,000

Table 12

Approved Administration & Evaluation Budget Totals
(Nominal $)

	2010-2015	2016-2024	Total
Main Tier	$12,000,000	$9,000,000	$21,000,000
Customer-Sited Tier	$17,763,000	$4,566,000	$22,329,000
Program Evaluation	$800,000	$200,000	$1,000,000
NYS Cost Recovery Fee	$5,952,000	$8,184,000	$14,136,000
Total Budgeted	$36,515,000	$21,950,000	$58,465,000

Table 13

Approved Total RPS Program Budget through 2024
(Nominal $)

	2006	2007	2008	2009
Current Main Tier	$12,877,600	$13,106,441	$16,455,460	$49,450,643
Future Main Tier	$0	$0	$0	$0
Maintenance Costs	$1,519,080	$1,961,670	$3,912,624	$4,019,808
Customer-Sited Tier	$11,250,000	$11,250,000	$32,900,000	$47,900,000
Admin & Eval*	$3,200,000	$3,200,000	$3,200,000	$3,200,000
NYS Cost Recovery Fee**	$460,820	$511,003	$683,502	$992,000
Total RPS Budget	$29,307,500	$30,029,114	$57,151,586	$105,562,451

	2010	2011	2012	2013
Current Main Tier	$48,131,527	$48,131,527	$47,582,902	$45,163,316
Future Main Tier	$0	$33,986,881	$68,323,122	$111,904,888
Maintenance Costs	$4,019,808	$4,019,808	$4,019,808	$4,019,808
Customer-Sited Tier	$45,675,000	$78,000,000	$76,800,000	$76,600,000
Administration	$4,427,000	$5,120,000	$5,072,000	$5,064,000
Program Evaluation	$200,000	$200,000	$200,000	$200,000
NYS Cost Recovery Fee	$992,000	$992,000	$992,000	$992,000
Total RPS Budget	$103,445,335	$170,450,216	$202,989,832	$243,944,012

	2014	2015	2016	2017
Current Main Tier	$45,163,316	$45,163,316	$31,249,932	$31,249,932
Future Main Tier	$150,233,101	$191,738,273	$191,738,273	$191,738,273
Maintenance Costs	$4,019,808	$1,920,000	$0	$0
Customer-Sited Tier	$75,900,000	$76,100,000	$0	$0
Administration	$5,036,000	$5,044,000	$4,083,000	$3,122,000
Program Evaluation	$200,000	$200,000	$200,000	$0
NYS Cost Recovery Fee	$992,000	$992,000	$992,000	$992,000
Total RPS Budget	$281,544,225	$321,157,589	$228,263,205	$227,102,205

	2018	2019	2020	2021
Current Main Tier	$7,162,486	$0	$0	$0
Future Main Tier	$191,738,273	$191,738,273	$191,738,273	$157,751,392
Maintenance Costs	$0	$0	$0	$0
Customer-Sited Tier	$0	$0	$0	$0
Administration	$2,161,000	$1,200,000	$1,000,000	$800,000
Program Evaluation	$0	$0	$0	$0
NYS Cost Recovery Fee	$992,000	$992,000	$992,000	$992,000
Total RPS Budget	$202,053,759	$193,930,273	$193,730,273	$159,543,392

*Actual costs expected to be less.
**Reduced from prior budget.

Table 13 (Continued)

Approved Total RPS Program Budget through 2024
(Nominal $)

	2022	2023	2024
Current Main Tier	$0	$0	$0
Future Main Tier	$123,415,151	$79,833,385	$41,505,172
Maintenance Costs	$0	$0	$0
Customer-Sited Tier	$0	$0	$0
Administration	$600,000	$400,000	$200,000
Program Evaluation	$0	$0	$0
NYS Cost Recovery Fee	$992,000	$744,000	$496,000
Total RPS Budget	$125,007,151	$80,977,385	$42,201,172

Table 14

Comparison of Costs, Collections and Cash Flow through 2024
(Nominal $)

	2006	2007	2008	2009
Original Collections	$24,072,909	$43,143,015	$62,136,526	$82,639,913
Costs	$29,307,500	$30,029,114	$57,151,586	$105,562,451
Interest and LC Proceeds	($500,933)	($1,909,312)	($1,603,439)	($898,776)
Difference	($4,733,658)	$15,023,213	$6,588,379	($22,023,762)
Cash Flow	($4,733,658)	$10,289,555	$16,877,933	($5,145,829)
Additional Collections	$0	$0	$0	$0
Difference	($4,733,658)	$15,023,213	$6,588,379	($22,023,762)
Cash Flow	($4,733,658)	$10,289,555	$16,877,933	($5,145,829)
Total Collections	$24,072,909	$43,143,015	$62,136,526	$82,639,913
Increase from Prior Year	$24,072,909	$19,070,106	$18,993,511	$20,503,387

	2010	2011	2012	2013
Original Collections	$100,765,818	$122,617,832	$138,876,295	$167,222,814
Costs	$103,445,335	$170,450,216	$202,989,832	$243,944,012
Difference	($2,679,517)	($47,832,384)	($64,113,537)	($76,721,198)
Cash Flow	($7,825,346)	($55,657,729)	($119,771,266)	($196,492,464)
Additional Collections	$7,825,346	$47,832,383	$64,113,537	$76,721,198
Difference	$5,145,829	($1)	$0	$0
Cash Flow	$0	($0)	($0)	($0)
Total Collections	$108,591,164	$170,450,215	$202,989,832	$243,944,012
Increase from Prior Year	$25,951,251	$61,859,051	$32,539,617	$40,954,180

	2014	2015	2016	2017
Original Collections	$0	$0	$0	$0
Costs	$281,544,225	$321,157,589	$228,263,205	$227,102,205
Difference	($281,544,225)	($321,157,589)	($228,263,205)	($227,102,205)
Cash Flow	($478,036,690)	($799,194,278)	($1,027,457,484)	($1,254,559,689)
Additional Collections	$281,544,226	$321,157,588	$228,263,205	$227,102,205
Difference	$1	($1)	$0	$0
Cash Flow	$0	($0)	($0)	($0)
Total Collections	$281,544,226	$321,157,588	$228,263,205	$227,102,205
Increase from Prior Year	$37,600,214	$39,613,362	($92,894,383)	($1,161,000)

	2018	2019	2020	2021
Original Collections	$0	$0	$0	$0
Costs	$202,053,759	$193,930,273	$193,730,273	$159,543,392
Difference	($202,053,759)	($193,930,273)	($193,730,273)	($159,543,392)
Cash Flow	($1,456,613,448)	($1,650,543,721)	($1,844,273,994)	($2,003,817,386)
Additional Collections	$202,053,759	$193,930,273	$193,730,273	$159,543,392
Difference	$0	$0	$0	$0
Cash Flow	($0)	($0)	($0)	($0)
Total Collections	$202,053,759	$193,930,273	$193,730,273	$159,543,392
Increase from Prior Year	($25,048,446)	($8,123,486)	($200,000)	($34,186,881)

Table 14 (Continued)

Comparison of Costs, Collections and Cash Flow through 2024
(Nominal $)

	2022	2023	2024
Original Collections	$0	$0	$0
Costs	$125,007,151	$80,977,385	$42,201,172
Difference	($125,007,151)	($80,977,385)	($42,201,172)
Cash Flow	($2,128,824,536)	($2,209,801,921)	($2,252,003,093)
Additional Collections	$125,007,151	$80,977,385	$42,201,172
Difference	$0	$0	$0
Cash Flow	($0)	($0)	($0)
Total Collections	$125,007,151	$80,977,385	$42,201,172
Increase from Prior Year	($34,536,241)	($44,029,766)	($38,776,214)

Table 15

Total RPS Collections from Delivery Utility Customers through 2024
(Nominal $)

	2006-2009	2010-2024	TOTAL
Total Collections	$211,992,363	$2,781,485,851	$2,993,478,214

Table 16

Approved Schedule of RPS Collections from Delivery Utility Customers through 2024
(Nominal $)

	2006	2007	2008	2009
Central Hudson	$1,196,509	$2,161,842	$3,130,122	$4,200,634
Con Edison	$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
Niagara Mohawk	$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 Collections	$24,072,909	$43,143,015	$62,136,526	$82,639,913

	2010	2011	2012	2013
Central Hudson	$5,552,217	$8,766,706	$10,501,695	$12,710,140
Con Edison	$46,426,407	$73,025,430	$87,124,506	$105,112,216
NYSEG	$13,396,153	$20,889,132	$24,779,252	$29,562,586
Niagara Mohawk	$31,481,457	$49,306,021	$58,566,351	$70,003,169
O&R	$4,241,442	$6,644,034	$7,894,770	$9,489,341
RG&E	$7,493,488	$11,818,892	$14,123,257	$17,066,559
Total Collections	$108,591,164	$170,450,215	$202,989,832	$243,944,012

	2014	2015	2016	2017
Central Hudson	$14,669,212	$16,733,175	$11,893,128	$11,832,637
Con Edison	$121,313,646	$138,382,515	$98,355,566	$97,855,307
NYSEG	$34,119,204	$38,919,786	$27,662,293	$27,521,596
Niagara Mohawk	$80,793,080	$92,160,692	$65,503,341	$65,170,175
O&R	$10,951,977	$12,492,924	$8,879,363	$8,834,200
RG&E	$19,697,107	$22,468,496	$15,969,515	$15,888,290
Total Collections	$281,544,226	$321,157,588	$228,263,205	$227,102,205

	2018	2019	2020	2021
Central Hudson	$10,527,545	$10,104,290	$10,093,869	$8,312,640
Con Edison	$87,062,266	$83,561,964	$83,475,787	$68,745,117
NYSEG	$24,486,076	$23,501,624	$23,477,386	$19,334,417
Niagara Mohawk	$57,982,171	$55,651,022	$55,593,630	$45,783,223
O&R	$7,859,824	$7,543,823	$7,536,043	$6,206,185
RG&E	$14,135,877	$13,567,550	$13,553,557	$11,161,810
Total Collections	$202,053,759	$193,930,273	$193,730,273	$159,543,392

	2022	2023	2024
Central Hudson	$6,513,209	$4,219,140	$2,198,795
Con Edison	$53,863,912	$34,892,074	$18,183,921
NYSEG	$15,149,110	$9,813,321	$5,114,189
Niagara Mohawk	$35,872,562	$23,237,601	$12,110,220
O&R	$4,862,737	$3,149,993	$1,641,612
RG&E	$8,745,621	$5,665,256	$2,952,435
Total Collections	$125,007,151	$80,977,385	$42,201,172

Table 17

Summary of MWh Results
(MWhs)

	15x15 load	Baseline	EO 111	Grn Mktg	GAP	TOTAL
2003	158,013,000	31,210,710	0	1,580,130	14,613,060	47,403,900
2004	160,211,000	31,468,717	0	1,602,110	14,992,473	48,063,300
2005	167,208,000	31,486,189	251,065	1,672,080	16,753,066	50,162,400
2006	162,237,000	31,503,661	282,812	1,622,370	15,262,258	48,671,100
2007	162,433,219	31,509,370	314,579	1,624,332	15,281,685	48,729,966
2008	163,552,495	31,515,079	346,366	1,635,525	15,568,779	49,065,749
2009	162,041,065	31,520,788	378,174	1,620,411	15,092,948	48,612,320
2010	160,192,211	31,526,497	410,002	1,601,922	14,519,243	48,057,663
2011	159,167,794	31,532,206	391,857	1,591,678	14,234,598	47,750,338
2012	157,553,065	31,537,915	373,712	1,575,531	13,778,762	47,265,920
2013	156,016,509	31,543,624	355,568	1,560,165	13,345,596	46,804,953
2014	154,177,290	31,543,624	337,424	1,541,773	12,830,366	46,253,187
2015	152,351,948	31,543,624	319,280	1,523,519	12,319,161	45,705,584

	LIPA Share of GAP	RPS Share of GAP	Current RPS Main Tier	Current RPS CST	Approved RPS New CST	Needed RPS New MT in 2015	New Smoothed Main Tier Targets	Total Main Tier	Total CST	Total RPS
2003										
2004										
2005										
2006			582,082					582,082		582,082
2007	2,298,789	12,982,896	582,812					582,812		582,812
2008	2,354,211	13,214,568	822,819					822,819		822,819
2009	2,287,566	12,805,381	2,947,044	108,296				2,947,044	108,296	3,055,340
2010	2,215,600	12,303,643	2,878,340	108,296	75,312			2,878,340	183,608	3,061,948
2011	2,172,287	12,062,311	2,878,340	108,296	189,958		1,396,316	4,274,656	298,254	4,572,910
2012	2,120,176	11,658,586	2,849,840	108,296	302,073		2,792,633	5,642,473	410,369	6,052,842
2013	2,057,073	11,288,524	2,686,793	108,296	408,512		4,188,949	6,875,742	516,808	7,392,550
2014	1,989,898	10,840,468	2,686,793	108,296	514,806		5,585,266	8,272,059	623,102	8,895,160
2015	1,921,307	10,397,854	2,686,793	108,296	621,183	6,981,582	6,981,582	9,668,375	729,479	10,397,854