STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

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

PETITION
NY-SUN 2016-2023 FUNDING CONSIDERATIONS AND OTHER PROGRAM IMPLEMENTATION CONSIDERATIONS

Introduction

In his 2013 State of the State address, Governor Cuomo proposed extending the NY-Sun Initiative through 2023 at the existing annual funding levels to provide long-term program certainty to solar photovoltaic (PV) system developers, attract significant private investment in PV systems, enable the sustainable development of a robust PV industry in New York, create well-paying skilled jobs, improve the reliability of the electric grid, and reduce air pollution.[1] This Petition addresses funding and program implementation considerations for the NY-Sun Initiative through 2023.

In furtherance of the NY-Sun Initiative, on September 3, 2013 the New York State Energy Research and Development Authority (NYSERDA) submitted a petition (September 3rd Petition) to the Public Service Commission (Commission) requesting the authority to, among other things, transition the operation of the Renewable Portfolio Standard (RPS), Customer-Sited Tier (CST) Standard Offer and Competitive PV Programs to a MW Block incentive structure and to allow NYSERDA to work with the Long Island Power Authority (LIPA) and New York State Department of Public Service (DPS) Staff to explore the opportunity to pursue the NY-Sun initiative through a coordinated statewide solar PV program.[2]

The Commission issued an Order on December 19, 2013 (2013 Order) approving the transition of the Standard Offer and Competitive PV Programs to a MW Block structure and directing NYSERDA to submit, for Commission approval, the program goals and design criteria that will be used to develop the MW Block programs.[3] In addition, recognizing that the effectiveness of

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[1] http://www.governor.ny.gov/sites/default/themes/governor/sos2013/2013SOSBook.pdf, p. 32.
[2] http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={0F859D11-6C91-4068-B1EF-1F7F44064023}
[3] Case 03-E-0188; Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Order

the MW Block strategy depends on market transparency and long-term certainty over the duration of the NY-Sun initiative, the Commission directed NYSERDA to submit a funding request to support the program structure post 2015.[4]

The Commission also encouraged NYSERDA to work with LIPA and the New York Power Authority (NYPA) to identify the potential merits of a statewide approach and to submit a proposal defining how we might capture the anticipated benefits in the design and administration of such a program.

In this Petition, NYSERDA requests that the Commission issue an order: (1) authorizing $960,556,000 of new funding for the CST PV programs, to be used for program funding (incentives, implementation, and consumer education), program administration, program evaluation, and the New York State cost recovery fee;[5] (2) authorizing LIPA residential and small non-residential customers to participate in a statewide PV program pending execution of a Memorandum of Understanding (MOU) between NYSERDA and LIPA/PSEG Long Island; and (3) authorizing the implementation of a Megawatt (MW) Block program designed to achieve an estimated 3 gigawatts (GW) of installed PV capacity based on the design criteria provided herein.

Requested Actions

1. Funding for NY-Sun Initiative

The existing annual funding level for NY-Sun, which the Governor proposes to extend through 2023, is $150 million. The Commission's April 24, 2012 Order (2012 Order)[6] established the annual RPS contribution to the NY-Sun initiative at $108 million for program incentives for years 2014-2015. The balance of the funding to meet Governor Cuomo's proposal is provided through LIPA programs.

NYSERDA proposes to continue funding program incentives for the duration of the NY-Sun initiative. To deliver these incentives and achieve market transformation, NYSERDA also proposes additional program funding for implementation and consumer education, as well as reasonable budgets for program administration, program evaluation and the New York State Cost

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Authorizing the Redesign of the Solar Photovoltaic programs and the Reallocation of Main-Tier Unencumbered Funds," issued and effective December 19, 2013, p. 2.

[4] Id. p. 14.

[5] See Public Authorities Law § 2975.

[6] Case 03-E-0188 Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, "Order Authorizing the Expansion of the Solar Photovoltaic and Geographic Balance Programs from 2012 through 2015 and the Reallocation of Main-Tier Unencumbered Funds," issued and effective April 24, 2012, pp. 12, 13.

recovery fee. Each of these funding categories is described in more detail below, and will be further documented in an Operating Plan to be developed by NYSERDA in coordination with DPS Staff.

a. Program Funding.

Program funding consists of program incentives, program implementation, and consumer education.[7] New program funding in the amount of $900,100,000 is requested. Estimated sub-allocations are provided below; budgets will be further developed in the Operating Plan. It is requested that reallocations between these program funding categories be allowed at NYSERDA's discretion to enable achievement of the program goals.

Program Incentives

In this Petition, NYSERDA requests that the Commission authorize new funding for PV incentives in the amount of $864 million, the total amount of funds that would be required to continue the annual funding level of $108 million from 2016 through 2023. Allocations between the system size categories served by the PV programs (up to 50kW for small systems, greater than 50kW up to 200kW for medium size systems, and greater than 200kW for large systems) will be made based on historic demand, market potential, installed cost per watt, and equity, in consultation with DPS Staff. With the total of $1.08 billion dollars for PV program incentives (funds previously authorized for 2014-2015 plus $864 million requested herein) NYSERDA expects to achieve an estimated 3 GW of installed PV capacity. A more specific target will be established in the Operating Plan to be prepared as part of the MW Block design process.

Based on the current growth rate of the industry, the rate of decline of system installed costs, and demand on incentives, NYSERDA believes it will be possible to eliminate the RPS-funded PV incentives within the timeframe of NY-Sun, and in some regions of the state sooner than others. A MW Block design enables the market to grow at its own rate. As the blocks are fulfilled, incentives will decline at the rate the market will bear. However, other factors, such as the level of federal tax incentives, prices of modules and other equipment, and the rate at which soft costs of installations are lowered, will influence this timeline. Therefore, NYSERDA's funding

[7] Previously, all RPS-funded program implementation costs were included in "program administration." However, NYSERDA has historically assigned program implementation costs to "program funds" in all System Benefits Charge-funded program portfolios, including the Energy Efficiency Portfolio Standard (EEPS) and the Technology and Market Development Program (T&MD). As the Commission has indicated their intent to address policy-based outcomes of the entire portfolio of clean energy programs more comprehensively (Case 07-M-0548, Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard, "Order Approving EEPS Program Changes" issued and effective December 26, 2013, pp. 2-3), NYSERDA proposes to standardize the manner in which various costs are tracked and reported. Therefore, program implementation costs are articulated separately in this Petition from program administration costs.

request is commensurate with the extension of NY-Sun through 2023, with the understanding that the timeframe in which these funds will be committed and spent may be shorter or longer, depending on market conditions. NYSERDA will implement the MW Block program in a manner to enable the elimination of cash incentives as soon as possible.

A key to the success of the MW Block model is to enable the market to grow at its own pace, enabling a self-sustaining industry in the long run. Many residential and small non-residential projects are installed, and therefore have incentive payments due, within several months of application approval. Larger projects may be installed one to two years after application acceptance, and may be paid incentives over time, based on performance. However, because the MW block program is market based, providing incentives in response to demand, it is possible that the program timeframe may accelerate, as stated above, and that the growth rate may require the expenditure of funds in advance of planned collections for this program.

As is currently the case, NYSERDA will use RPS funds (all unexpended Main Tier and CST funds) to support expenditures, recognizing that future collections can be used for longer-term commitments. However, NYSERDA requests authorization to borrow from other unexpended ratepayer funds administered by NYSERDA, including those of the Energy Efficiency Portfolio Standard (EEPS) and the Technology and Market Development Program (T&MD), in the event that RPS funds cannot fully meet cash flow needs. NYSERDA will continue to report on actual, and provide a forecast of estimated end-of-year cash balances, expenditures and commitments of RPS, EEPS and T&MD funds, as is current practice or as is currently required in previous Orders.[8]

Program Implementation

Program implementation includes the following: application review including technical assistance for reviewing and approving the design of more complex systems, field assistance to installers as needed, quality assurance inspections and follow-up, and program support systems. Due to the significant increase in program participation rates, increased program implementation services will be needed starting in 2014. The program implementation budget, estimated at $32,600,000, will supplement funds already approved for 2014-2015, and will support program implementation through the conclusion of this NY-Sun initiative.

[8] Case 10-M-0457, In the Matter of the System Benefits Charge IV, "Order Continuing the System Benefits Charge and Approving an Operating Plan for a Technology and Market development Portfolio of System Benefits Charge Funded Programs", issued and effective October 24, 2011; Case 07-M-0548 – Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard, "Order Authorizing Efficiency Programs, Revising Incentive Mechanism, and Establishing a Surcharge Schedule" issued and effective October 25, 2011

Consumer Education

Market stakeholders have indicated that one of the highest PV balance-of-systems costs (non-module costs) is customer acquisition. PV companies report that there is considerable customer confusion regarding the various contract types (direct ownership, leases and power purchase agreements), as well as the benefits associated with PV systems. In addition, NYSERDA believes that customers and potential customers may not be fully aware of PV system operating characteristics, including implications of power outages.

Industry convergence is bringing new competitors and creating new value propositions, with the potential to redefine how consumers view PV systems and interact with their providers. The industry is well positioned for growth. To fully capitalize on this growth opportunity and encourage informed decision making, NYSERDA believes it is in the best interest of New York residents and businesses for NYSERDA to provide objective information regarding the benefits, risks, opportunities and limitations of PV systems, as well as an explanation of various business models, opportunities in community solar (as appropriate), energy storage, and other topics. Messaging will be integrated, to the extent reasonable, with messaging funded through the EEPS and T&MD portfolios regarding energy efficiency, consistent with the State's desire to address overall clean energy goals. Education will be delivered through NYSERDA's website, partner/installers, internet-based outreach, social media and print media. A proposed budget of $3,500,000 is requested starting in 2014 with an anticipated duration of five years (although information will remain on NYSERDA's website indefinitely).

b. Program Administration

Consistent with the Commission's April 2, 2010 Order,[9] NYSERDA has carried out its functions as program administrator in an open, efficient and verifiable manner. The April 2 Order acknowledged that, in comparison to the Main Tier, because of the nature of the technologies and program volume, the CST requires increased levels of administration.[10] Based on NYSERDA's past experience with the Standard Offer PV Program, the highest volume CST program, by far, it is anticipated that a total administrative budget, consisting of NYSERDA staff and overhead, of up to $38,706,000, representing 4% of the total budget requested herein, will be needed to effectively manage the 10-year program through completion. Note that Regional

[9] 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; p. 39.

[10] Id. p. 41.

Greenhouse Gas Initiative (RGGI) funds will be used for costs related to program administration in the LIPA service territory, if a statewide program is approved.

Currently, the CST PV Programs are subject to monthly and annual reporting requirements as defined in the April 2, 2010 Order.[11] NYSERDA proposes to continue those reporting requirements, and will also maintain close contact with DPS Staff, providing ad hoc reports as needed to assess the progress of the program.

In order to fully assess the market transformation effects of the program, NYSERDA, DPS Staff, LIPA, NYPA and the investor-owned utilities will need to align reporting in a consistent manner and form regarding the installation of PV systems, including those not utilizing program incentives. This information is typically reported to and available from the US Department of Energy or other parties; however, it is important to ensure that data is consistent across the sources. This will also be important for tracking capacity relative to the net metering ceiling, which will likely need to be reviewed at some point during the program period. NYSERDA will work with DPS Staff and all other parties to review reporting activities and further discuss consideration of the net metering ceiling. The budget requested above does not anticipate any new costs associated with this alignment of reporting.

These costs represent a reasonable estimate at this time; a more detailed analysis will be included in the Operating Plan. As done previously, NYSERDA will monitor and periodically report actual administrative costs and project future needs to ensure that the administrative budgets are appropriate. The budget proposed herein is intended to supplement the administrative budget already available to the PV programs for years 2014-2015 through the CST. The budget also estimates costs to close out the program post-2023, including performance monitoring and payment of related incentives, after the last applications are accepted. NYSERDA requests that the Commission approve this initial program administration budget, subject to review and adjustment in subsequent years.

c. Program Evaluation

Evaluation is anticipated to include both impact assessment and market characterization. Impact assessment is used to verify that energy production is meeting expectations, and will make use of system infrastructure and reporting inherent in the program delivery model to keep costs as low as possible. Market characterization may include analysis of market trends related to business models, identification of market barriers (continuing or new), and analysis of installed costs and

[11] Id. p. 39.

balance-of-systems costs. In particular, market characterization studies are needed should market transformation not be proceeding as anticipated. The budget for evaluation is estimated at $2,500,000 and will be more fully developed in the Operating Plan in consultation with DPS Staff. The budget proposed herein is intended to supplement the evaluation budget already available to the PV programs for years 2014-2015 through the CST. RGGI funds will be used to support evaluation in LIPA service territory.

d. Cost Recovery Fee

The Cost Recovery Fee is a fee assessed to NYSERDA and other public authorities by New York State for an allocable share of state governmental costs attributable to the provision of services to public benefit corporations pursuant to Section 2975 of the Public Authorities Law. Annually, the Director of the Budget, in consultation with the State Comptroller, determines the amount of expenses incurred for the provision of central government services to public benefit corporations. The Director the Budget is responsible for determining the amount owed by each public benefit corporation. Historically, NYSERDA's annual cost recovery fee assessment has averaged about 2% of annual expenditures. Therefore, NYSERDA has proposed that a budget of $19,250,000 (2% of total funding), be reserved for payment of the Cost Recovery Fee. This estimate will be updated periodically to reflect actual assessments and the program's allocable share of such assessments.

2. Statewide PV Program

LIPA's contribution to the $150 million statewide commitment has consisted of its PV incentive programs, PV feed-in-tariff and other solar initiatives. While the LIPA budget is established on an annual basis, the 2014 budget and several previous year LIPA budgets for PV initiatives have, on average, exceeded the $42 million gap between the RPS contribution and the statewide NY-Sun commitment.

NYSERDA has been in discussions with LIPA and PSEG Long Island regarding the potential for a statewide PV program for residential and small non-residential customers. During 2014, prior to a transition of its PV incentive programs to NYSERDA's MW Block program, PSEG Long Island anticipates achieving more than 12 MW of installed PV capacity from residential and small non-residential customers. Based on initial discussions, if the Commission approves a statewide initiative, and pending execution of a Memorandum of Understanding between the parties (NYSERDA, LIPA/PSEG Long Island), NYSERDA is prepared to contribute $28 million of RGGI funds on behalf of LIPA customers to the statewide PV incentive funding pool. It is expected that these funds, along with the $10.7 million in the 2014 PSEG Long Island budget, will achieve approximately 100 MW of additional installed PV capacity in LIPA service territory by 2017. Incentives will be targeted to LIPA's residential and small non-residential customers, for systems up to 100kW. Statewide, it is anticipated that, by that time, up to one GW of PV capacity may be funded through the MW Block program across all system size ranges served by the program (small, medium and large.) PSEG Long Island will continue to implement other solar initiatives that will result in significant installed MW of PV in support of NY-Sun, including the feed-in-tariff program, which is expected to achieve approximately 100 MW of installed capacity within the same timeframe. In addition, LIPA expects to procure additional PV capacity through a competitive procurement.[12]

Because of the current state of the PV market on Long Island, it is anticipated that $28 million of RGGI-funded incentives will be fully subscribed on Long Island by 2017, and that PV installations may then no longer require up-front cash incentives - considerably sooner than in other parts of the state. While the schedule for contributions of RGGI funds to the statewide incentive pool may not match the rate at which funds are expended for LIPA customers, over the term of the program the RGGI-funded contributions to the NY-Sun incentive pool will match the total amount of incentives paid to LIPA customers from the incentive pool. NYSERDA, LIPA and PSEG Long Island will continue to monitor the Long Island PV market, and will make adjustments to the size and duration of the program as needed to ensure full market transformation.

In addition, NYSERDA will explore with NYPA whether there is potential to include NYPA customers in a Statewide PV incentive program, with the expectation that NYPA would provide funds to pay the program costs, administration, evaluation, and cost recovery fee, as appropriate, on behalf of those customers.

3. <u>MW Block Program</u>

Simply stated, the MW Block approach allocates MW targets to specific regions of the State; breaks those regional MW targets into blocks to which incentives are assigned; awards incentives to applications based on the block in effect at the time of application submission; and then moves to the next incentive level when a MW block is fully subscribed. Once all of the blocks within a region are fully subscribed, no incentive is offered.

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[12] LIPA has issued a Request for Proposals for up to 280 MW of New, On-Island, Renewable Capacity and Energy ("RFP" or "280 MW RFP") for the addition of up to 280 MW of renewable energy, including all associated capacity and environmental attributes. While LIPA does not fall under the jurisdiction of New York State's renewable portfolio standard (RPS), LIPA has adopted a goal to strive toward incorporating a larger percentage of renewable resources in its resource portfolio.

In implementing the MW Block program, NYSERDA will track the subscription status of the current MW blocks by region on its web site, indicate the date that each block was initiated, and also indicate the incentive level for the subsequent blocks. The market will be in a position to monitor block status, will have improved information regarding the likely timing for incentive changes, and will know what the next incentive level will be in advance of the change, at least one full block ahead. Each region and system size category will be tracked separately, and regional demand will drive the rate at which each block is subscribed.

Overall, the MW Block approach provides certainty and transparency regarding incentive levels to the industry, accounts for regional market differences, provides a clear signal to industry that New York intends to eliminate cash incentives in a reasonable timeframe, and allows for the elimination of those incentives sooner in regions where market conditions can support it, based on market penetration, demand, and payback.

In addition, to encourage the installation of PV systems that are cost-effective, and to make PV available to a greater number of households, NYSERDA will offer other means to stimulate the growth of the industry, such as facilitating access to financing while cash incentives are reduced and eliminated. For example, NYSERDA will be launching PV financing through Green Jobs-Green New York[13] in the first quarter of 2014 and may provide further support for PV financing through the Green Bank.

NYSERDA held a stakeholder meeting on November 19, 2013, to which a broad cross-section of industry members, trade associations and advocates were invited and attended, to seek initial feedback on possible MW Block program design criteria. Overall, participants emphasized the need for simplicity and transparency, encouraged a small number of regions, requested recognition of the differences between the residential and non-residential markets, suggested small (10 to 15 cents) incentive drops, and recommended that a reasonable amount of administrative flexibility be available to adjust the program to unanticipated market changes, while still ensuring predictability of incentive changes.

NYSERDA will continue to work with DPS Staff to develop an Operating Plan to transition the Standard Offer PV Program to a MW Block Program as soon as possible after the Commission's approval of the goals and design criteria, which are proposed as follows:

[13] Title 9-A, sections 1890-1899-a, "Green Jobs-Green New York Act of 2009."

- Statewide goal of approximately 3 GW achieved through incentives;
- Three regions – LIPA service territory, Con Edison service territory, and the balance of the state;
- Three separate block structures within each region: systems up to 50kW in size (residential and small non-residential systems), systems greater than 50kW up to 200kW (medium non-residential systems), and systems greater than 200kW up to 2MW (large non-residential systems). Note that in LIPA service territory, there will likely be only one block, residential and non-residential systems up to 100kW, as systems larger than 100kW can participate in LIPA's feed-in-tariff program. Also note that residential systems will have a size limit consistent with net-metering law, currently 25kW.
- A capacity-based standard offer incentive for small and medium sized systems, and a performance-based incentive for large systems, as an initial design parameter.
- Flexibility to make adjustments in the block design should market conditions vary significantly from projections. An initial Block design consisting of the assigned MWs and incentive schedule for each block will be developed for the duration of the program, for planning purposes. Criteria will be established which may trigger an adjustment to the planned incentive level or the MWs of future blocks. Stakeholders will be notified at least one full block in advance of any planned changes. For example, if market conditions trigger an adjustment, there will be no change to the current (first) block or the next (second) block; however the third block and future blocks may be adjusted.
- Flexibility to re-allocate funds between system size categories (small, medium and large) if warranted. Because limited data currently exists regarding demand within each of these size categories as compared to the others, the initial allocation may or may not prove most effective. Criteria will be established to trigger a review of the allocations to determine whether adjustments are needed. If so, any changes to future blocks will be made in accordance with the timing stated for adjustments above.

The Operating Plan will lay out the initial regional blocks and incentives planned to be implemented for the duration of the program in the small and medium size categories. The Operating Plan will be updated at a later date with the MW blocks and incentive levels for large systems, as soon as plans for the transition of the Competitive Bid PV Program to a MW Block design are finalized.[14] The Operating Plan will specify the conditions under which adjustments to the MW Block design may be made while still providing necessary predictability to the industry. NYSERDA also recommends that a program review be scheduled for 2017 to assess program progress, obtain broad stakeholder feedback, and make any adjustments needed. Again,

[14]The Competitive Bid PV Program would be expected to transition to the MW Block model in 2015, after sufficient as-installed market data are acquired (as opposed to as-bid data).

if adjustments are needed to the Block design, changes will be made in accordance with the timing indicated above.

Conclusion

Should the Commission grant the requests herein, the CST PV Programs will continue to make a significant contribution to New York's renewable energy goals and Governor Cuomo's NY-Sun Initiative. Accordingly, NYSERDA requests that the Commission issue an Order: (1) authorizing $960,556,000 of new CST PV funding, as requested herein; (2) authorizing LIPA residential and small non-residential customers to participate in a statewide PV program pending execution of a Memorandum of Understanding (MOU) between the relevant parties; and (3) authorizing the implementation of a Megawatt (MW) Block program structure based on the design criteria provided herein.

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Respectfully submitted,

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