SECOND STRAW PROPOSAL
Fiscal Year 2016 Renewable Electric Storage Program
September 15, 2015

Introduction

This second straw proposal is being issued by Board Staff and the Market Manager in response to written public comments that were submitted on the first straw proposal for the FY2016 Renewable Electric Storage (RES) Incentive Program[1], and a discussion of those comments at the June 24, 2015 RES Working Group meeting[2]. The first straw proposal, issued on May 7, 2015, was the result of ideas and recommendations expressed by stakeholders at an April 13, 2015 Working Group meeting based on the experiences of the FY2015 program.

Following is a summary of the major changes from the first straw. Staff and the Market Manager recommend:

- An open enrollment program with a prescriptive rebate offered on a first come, first serve basis
- Allocating half of the $6 million budget to the open enrollment program while retaining the other half for a program later in FY2016 to be recommended by Rutgers Laboratory for Energy Smart Systems (LESS) and refined through the stakeholder process
- Basing the prescriptive rebate on energy capacity (kWh) rather than power capacity (kW)
- Allowing RES systems to be integrated with either existing or new RE installations, and
- Refining the application and monitoring requirements to enable evaluation of the resiliency implications of incentive design, rather than establishing a minimum discharge time for RES systems.

In keeping with the transparent and inclusive nature of NJCEP program development, public comments on this straw proposal will be welcomed and considered. Comments should be submitted in writing to publiccomments@njcleanenergy.com by 5:00 pm on September 25, 2015. Based on that input, final recommendations for the FY2016 program will be developed by Staff and presented to the Board of Public Utilities (Board) for review and approval at one of its regularly scheduled agenda meetings.

Background and Context

Since the first straw proposal summarized the development of the Renewable Electric Storage Incentive Program and the outcome of the FY2015 competitive solicitation, stakeholders interested in that information should refer to that document.

Program Goal

The goal of the FY2016 Renewable Electric Storage Incentive program is to provide support in the form of financial incentives for energy storage systems that are integrated with Class 1 renewable energy

[1] The first straw proposal and the public comments submitted in response to it may be found at http://www.njcleanenergy.com/main/njcep-policy-updates-request-comments/policy-updates-and-request-comments.

[2] Notes of the Working Group meeting may be found at http://www.njcleanenergy.com/committees/energy-storage

projects installed behind-the-meter at customer sites. It seeks to benefit New Jersey ratepayers by supporting the installation of renewable electric storage systems in government, commercial, institutional and industrial entities for the purpose of providing emergency back-up power for essential services, offsetting peak loads by shifting electricity to hours of higher demand and, or helping to stabilize the electric distribution system through the provision of frequency regulation services.

Program Objectives

The FY2016 program is designed to meet the following objectives:

1. Focus on energy storage systems integrated with behind-the-meter electric generation defined consistently with the New Jersey Renewable Portfolio Standard definition as a New Jersey Class 1 renewable energy resource, which are "ready to build" and can be completed as expeditiously as possible.

2. Establish maximum incentive amounts which will allow the limited amount of funds to be committed to a broader number of projects.

Program Funding Levels and Budget

The first straw proposal was issued prior to the Board's consideration of the program and budget recommendations contained in the FY2016 Comprehensive Resource Analysis (CRA) and the Market Manager's Compliance Filing. At its June 17, 2015 agenda meeting, the Board approved both the CRA and Compliance Filing, thus setting the funding level for the FY2016 RES Incentive Program at $6 million.

At its July 22, 2015 agenda meeting, the Board approved a grant agreement with the Rutgers University Laboratory for Energy Smart Systems (LESS) to conduct a market assessment of the NJCEP's renewable electric storage, biopower and combined heat and power incentive programs. Staff recommends setting aside half of the FY2016 funding level pending the completion of LESS' research and its incorporation into a new incentive program. Thus, the program proposed in this straw proposal will be budgeted at half of the FY2016 funding level, or $3 million.

Project Eligibility Requirements

Although the FY2015 program was open to both existing RE systems and those being installed in conjunction with the RES project, the first straw proposal recommended limiting the FY2016 program to existing RE systems. Staff reasoned that this limitation "ensures that energy storage incentives do not motivate investment in solar that would not otherwise be cost effective, thereby contributing to the current SREC oversupply situation."

Several stakeholders argued against this revision, saying it is costlier to retrofit an existing RE system with storage capability than it is to install the RE and RES systems together; that system owners may not be able to take full advantage of the Federal Investment Tax Credit; and that facilities which don't have existing RE systems would be excluded from the program. In addition, one stakeholder pointed out that the amount of solar capacity that could potentially be developed under the program's limited budget would not materially impact the SREC oversupply situation.

After considering the stakeholders' comments on this issue, Staff and the Market Manager agree that the eligibility restriction on yet-to-be-constructed RE projects contained in the first straw proposal be withdrawn, and that the provision in the FY2015 solicitation granting eligibility to both new and existing RE projects be maintained in the FY2016 program.

The following additional project eligibility requirements are proposed to be carried over from the FY2015 program:

- The RE system to which the electric storage project is integrated must be a behind-the-meter, net metered system interconnected to the New Jersey electric distribution system and sized to produce no more than 100% of the site host's historic annual electric consumption.

- The proposed site host must be served under a non-residential electric tariff and contribute to the Societal Benefits Charge (SBC) through their electric and/or natural gas bills.

- Renewable electric storage projects must have a minimum energy capacity of 100 kWh.

- Incentives are contingent upon the applicant meeting all other program requirements, including but not limited to compliance with the host EDC's interconnection requirements and compliance with all applicable local, state and federal laws, permit requirements and regulations.

- Applicants must agree to supply accurate cost information based upon the actual as-built installation cost.

- Applicants must identify the source of funds and the amount of any other direct incentives received for the project. Applicants must deduct other direct incentives from the total installed cost in the calculation of final incentive amounts.

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- Applicants who receive incentives from the New Jersey Energy Resilience Bank (ERB) for storage equipment or technology will not be eligible to receive incentives under this program for the same equipment or technology.

Technical Requirements

Staff and the Market Manager recommend that the following technical requirements outlined in the first straw proposal be maintained:

- Storage systems must be capable of charging and discharging electricity only. Thermal storage systems (i.e., those that store energy in the form of ice or hot water) are ineligible.

- Electricity placed into storage must be generated by the Class 1 renewable energy system to which the storage is integrated. The storage device may not be charged by electricity generated by other on-site fossil-fueled generators, nor can it be imported from the distribution system except for short-term charging and discharging that enables ancillary services with no material net import or export from the grid.

- Equipment must be new, permanently installed and utilize proven and commercially available technology that is scalable and replicable at other sites. The program is technology agnostic.

However, several stakeholders who submitted public comments took issue with the technical requirement in the first straw proposal stating that "the program will not set a minimum or maximum number of hours for which the [host facility's] critical load must be supported". Some stakeholders recommended establishing a reasonable minimum discharge time – the consensus being two hours, although one stakeholder argued for much longer – would ensure that storage systems are capable of supporting emergency back-up and load shifting, rather than being designed solely for frequency regulation.

The proponents of a minimum discharge requirement make the argument that since the average power outage in the US lasts about three hours, a storage system that fully discharges in 30 minutes has little value as a resiliency or load shifting tool. Staff and the Market Manager agree with the intent to structure ratepayer-provided incentives to motivate system designs that ensure resiliency benefits but, based on stakeholder input, are not convinced that setting a two-hour minimum discharge time should be a technical requirement for this program.

As explained in the "Incentive Structure and Maximum" section below, basing the incentive payment on energy capacity instead of power capacity will serve to level the economic playing field between systems designed primarily for frequency regulations and those designed primarily for emergency back-up or load shifting. Stakeholder input is sought on application requirements which can fulfill the data collection role in evaluating the implications of the proposed incentive structure on the potential resiliency benefits from ratepayer investment in renewable electric storage projects.

Program Delivery

In the first straw proposal, Staff and the Market Manager laid out a series of program delivery options – competitive solicitation, rolling solicitation and open enrollment with prescriptive rebate – and listed each option's advantages and disadvantages. After reviewing the pros and cons of each option, Staff and the Market Manager recommended transitioning the incentive program from the competitive solicitation format used in FY2015 to an open enrollment program with a prescriptive rebate.

Among those stakeholders who chose to comment on this issue, there was no clear indication as to whether the competitive solicitation or the open enrollment options garnered the most support. However, in light of the fact that Rutgers LESS will be researching the RES program and is expected to make recommendations shortly on its future direction, Staff and the Market Manager believe that an open enrollment program with a prescriptive rebate is better suited to serve as an interim measure until such time as those recommendations can be implemented.

The June 24 working group meeting included a stakeholder discussion on a proposed a "dual track" approach to the incentive program. One approach would be based on project maturity and the other on project purpose. The former would divide the tracks between "shovel-ready" projects and those in the planning stages, while the latter would divide the tracks between projects that intend to participate in the frequency regulation (FR) market and those that don't. Several stakeholders pointed out that a purpose-based approach would require the Market Manager to ensure that projects receiving higher

incentives for not participating in FR do not participate in future years. While Staff and the Market Manager see merit in a purpose-based dual track approach, they believe that basing the incentive payment on the RES system's energy capacity essentially accomplishes that objective by offering higher payments to systems designed to operate more effectively for load shifting and emergency back-up purposes than for FR.

Incentive Structure and Maximum

As noted above, Staff and the Market Manager recommend that the initial phase of the FY2016 program be an open enrollment program with a prescriptive rebate based on the energy capacity of the proposed RES system. The second phase will be based on recommendations from the Rutgers LESS study.

Staff and the Market Manager believe that an energy capacity-based incentive will offer higher rebates to projects whose primary purpose is load shifting or emergency back-up, and are thus less likely to take advantage of the revenue stream available to projects that participate in FR. Meanwhile, FR participants will still be eligible for incentives, although at a level that recognizes their ability to earn revenue from another source.

The incentive payment will be based on the RES system's energy capacity in kWh as stated on the manufacturer's specification sheet. Applicants must therefore ensure that their applications include a spec sheet that clearly identifies this number. The Market Manager will deem an application incomplete if it does not include a spec sheet indicating both the system's energy capacity and its minimum discharge time.

Staff and the Market Manager propose an incentive level of $300 per kWh of energy capacity. There will be no incentive level tiers for systems with higher energy capacities, since data from the FY2015 solicitation indicated that economies of scale did not exist for the range of RES systems submitted in that program.

The proposed $300 per kWh incentive level was arrived at by analyzing how various prescriptive incentives compared on a percentage basis to the incentives awarded in the FY2015 solicitation. At the $300 per kWh level, most of the FY2015 projects would have received incentives equal to about 50% of their commitments. As those projects were all designed for the frequency regulation market, Staff and the Market Manager believed that such an incentive level would offer appropriate funding for projects whose primary purposes were emergency back-up and/or load shifting. Consideration was also given to the relationship between the incentive level and the program budget.

The maximum incentive for an individual project will be the lesser of $300,000 or 30% of the project's total installed cost. The $300,000 maximum is based on a system with an energy capacity of 1,000 kWh (1 MWh). Systems with energy capacities in excess of 1,000 kWh may still participate in this program, although their incentives will be capped at the $300,000 level (or 30% of installed cost, if less).

There will also be a maximum incentive per entity of $450,000. The per-entity maximum applies to multiple projects under the ownership of a single site host, developer/installer or other ownership entity within one program year.

As motivation for the timely completion of projects, applicants who require a six-month extension beyond the initial 12-month approval period will forfeit 10% of their incentive award.

Application Process

The Market Manager intends to use the forms it created for the FY2015 solicitation, with some revisions, for the FY2016 program. A complete list of the forms and documents required in the application packet will be included in the program announcement.

Since this is an open enrollment program, applications will be considered on a first-come, first-served basis. The order of applications will be determined by the date they are received by the Market Manager (all applications are date-stamped on receipt). There will be no priority given to applications from any particular customer sector or geographic area of the state.

The Market Manager and Staff will determine if an application is complete. If they deem an application incomplete, they will contact the applicant with the reason(s) for their determination and indicate the step(s) the applicant must take to make the application complete. Since this is not a competitive solicitation, the applicant and Market Manager are allowed to communicate with each other regarding the proper submittal of applications.

Applications that are deemed incomplete will be immediately removed from the queue. Once an applicant remedies the deficiencies by submitting the necessary items to make the application complete, the application will be time-stamped a second time, thus placing it at the end of the queue.

Once an application is approved, the Market Manager will mail an approval letter to the applicant. The approval letter will include the amount of the incentive commitment and the 12-month deadline for project completion. A Final As-Built package must be submitted prior to the 12-month deadline.

All RES projects are required to pass an NJCEP program inspection in addition to any inspections required by local code officials or electric distribution companies (EDCs). The program inspection will verify that the equipment installed at the host site is the same equipment described in the Final As-Built package and meets the energy capacity specifications on which the incentive award is based.

Incentive checks will be processed upon receipt of a passed inspection report by the Market Manager, and are generally issued within 60 to 90 days from the start of processing.

Level 3 Interconnection Study Reimbursement

Level 3 interconnection studies are generally required by EDCs for storage systems that intend to participate in FR. As part of the FY2016 program, applicants may be reimbursed for 50% of the cost of any Level 3 interconnection study required by an EDC. Documentation of the study's cost and proof of payment in the form of a receipt and/or cancelled check must be submitted to the Market Manager with the Final As-Built package to process a reimbursement claim. As a condition of reimbursement, the applicant must agree to provide the study to Staff and the Market Manager and allow it to be made publicly available on the NJCEP website. The reimbursement amount will not count against either the individual or entity incentive caps.

Monitoring and Reporting

Incentive recipients will be required to provide Staff and the Market Manager with data on the performance and efficiency of their storage systems on a quarterly basis for the first 12 months of operation. Reportable data will include the type of purpose served during the quarter and the number of hours the system served that purpose or was available for doing so; the total amount of kilowatt-hours input into and discharged from the system during the quarter; overall operating efficiency; and storage capacity factor for the quarter. This information will be valuable to Staff in evaluating the success of the program, and will help inform the discussion on the design of future energy storage programs. Failure to submit these reporting forms on a timely basis may result in the system owner being declared ineligible for future programs incentives.

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