



Energy Storage Working Group Meeting

September 20, 2013

NJDEP Hearing Room - Trenton, NJ

1:00 pm to 3:00 pm

Dial-in number: 1-866-740-1260

Participant Code: 2183408#

- I. Update on Net Metering & Interconnection Standards, Working Group Meeting of September 11, 2013 (Scott Hunter and John Teague – BPU Office of Clean Energy)
- a. **John Teague:** The meeting discussed the battery storage issues, involvement with the division of fire safety and their response to battery fires. We received some comments on that issue that Charlie will discuss later. The next meeting is on November 1st at 10 am at 44 South Clinton Ave.
 - b. **Scott Hunter:** The meeting discussed also the interaction between fossil generation from fuel cells and CHP with a New Jersey Class I Renewable generator behind a single meter and how we should address net metering of those types of facilities to ensure that fossil generation is not included in the retail value of the Class I renewable. We added battery storage to that discussion because it has a similar potential impact where a battery could be charged from the grid during off peak hours and attempt to sell the power back and get retail credit for it unless the system were properly metered and accounted for with the EDC. Comments were captured that other states have more robust examples of battery storage and net metering. Washington State is one of those states where they had this experience and we have a diagram of that to help facilitate the discussion (see attachment). What must be done is proper metering to take care of this issue.
 - i. **Question from Audience:** In terms of definitions, the production meter vs. the net meter. What would the production meter do?
 1. **Scott Hunter:** The production meter is used for SREC creation. It's measuring the generation in kWh from the PV system after it has gone through the inverter.
 - ii. **Question from Audience:** The program we're thinking of is using it for double duty, solar generation and for discharge of the battery when you're doing services back and forth. My concern is if you're being penalized from this diagram.
 1. **Charlie Garrison:** The key is the disconnect switch after the production meter- if when you're operating on battery, (presuming there is islanding capability) nothing should flow through the

production meter or the net meter. Charging that battery, if that disconnect switch is closed then you're feeding into the battery backup subpanel and not feeding your critical loads. So there would not be net metering.

- iii. **Question from Audience:** The main difference is when the utilities are worried about net energy sales (kWh). They don't want that to be pushed out into the grid. Frequency regulation doesn't net any hours. The signal is designed to just come in and out and there are no net energy sales. If you're not connected to the grid you can't respond that way. If it's not net metered and it is connected to the grid, every time you pull in you pay and every time you push out- it destroys the business model. It is a difficult concept, but the discussion should happen.
- iv. **Question from the Audience:** Can you connect the battery directly to the grid?
 - 1. **Eva Gardow, First Energy:** You would have to use a different inverter, there is a diagram for that as well. There would be a separate battery inverter going into the main panel, as opposed to the other side of the disconnect.

II. Tentative Schedule for NJCEP Energy Storage Program Plans (Charlie Garrison)

- a. **Sept 20, 2013:** ES Working group meeting to review and discuss the comments received by the BPU
- b. **Early Nov., 2013:** Market Manager issues straw proposal for solicitation concepts
- c. **Mid Nov.;** Follow-up Energy Storage Workgroup meeting
- d. **End of Nov., 2013:** Deadline for written comments on straw proposal
- e. **End of Dec., 2013:** Market Manager presents final program proposal to NJBPU
- f. **Jan., 2014:** NJBPU agenda meeting; present plan to Board for vote on final program proposal.
- g. **March, 2014:** Roll-out of first solicitation
 - i. **Scott Hunter:** Rolling out the first solicitation in March is not going to give us a lot of data for the CRA process. We've been discussing adding an RFI type of step that would enable project developers to let us know what kind of project they intend to propose a project for the solicitation and give a cursory summary of the project meeting the criteria. Within December and February anticipate some type of RFI element.
 - ii. **Charlie Garrison:** Additionally, there will be more Energy Storage Working Group meetings after November, once we release the straw proposal we'll have another meeting to discuss it.

Note: The above schedule will need to be revised and will be communicated with stakeholders at the next opportunity when materials or update on the next WG are sent out. Changes to the above timeline will include a step between December and February for a release of RFI. Other dates may slightly change as well.

III. Presentation of Comments Submitted on FY2014 Program Design

- a. http://www.njcleanenergy.com/files/file/public_comments/PublicCommentsSubmittedResponseto72313ESWGmeeting.pdf
- b. Also available at <http://www.njcleanenergy.com/renewable-energy/programs/energy-storage>
 - a. Kenneth J. Lutz, Ph.D., AMR Strategies LLC - see their comments at the NJCEP website link listed above
 - a. **Mike Ambrosio:** One of the key issues is how much backup power does the storage need to supply? Do you have an opinion on that topic?

- i. **Dr. Kenneth Lutz:** As far as I'm concerned the amount of storage to be provided is the function of the particular project that is being proposed. I wouldn't put a lot of restrictions on that.
- b. **Scott Hunter:** Related to that, what should be the relationship between the renewable energy and the storage portion? This is a program that was approved in the REIP program, and if this was meant to be in the energy division it would have been looked at differently from the beginning.
 - i. **Mike Ambrosio:** I think it comes down to what the purpose is to be of the program. It is an important issue in my opinion how long the storage is to last.
- b. Todd Olinsky-Paul, Clean States Energy Alliance – see their comments at the NJCEP website link listed above
 - a. **Lyle Rawlings:** If you narrow the definition to critical facilities to those traditionally considered as that (hospitals, communication facilities, etc) many of them already have emergency power backup. Whereas our awareness of more distributed needs got more acute after Hurricane Sandy, and those are facilities that don't plan for any emergency backup, so it may be valuable to broaden that definition.
 - i. **Scott Hunter:** Two responses to that. First, the definition that we're using for critical facilities is going to mirror what is developed in the CHP program, and second, this is not going to be a threshold criteria item, so it's not how projects are going to be judged when making award decisions.
- c. Samuel A. Wolfe, Viridity Energy, Inc. - see their comments at the NJCEP website link listed above
- d. Eva Gardow, FirstEnergy Technologies - see their comments at the NJCEP website link listed above
- e. Tom Leyden on behalf of Christopher Cook, Solar Grid Storage - see their comments at the NJCEP website link listed above
 - a. **Comment from Audience:** I have a concern over the solar grid storage recommendation of the lower requested per kWh rebate. That should be a metric that includes the net benefit per kwh for the overall project because there are other components in technology that come into battery that loosens up that value and as opposed to per kwh, it should be the net aggregate reward. Cost vs. value.
 - i. **Charlie Garrison:** It would have to be something we could quantify and evaluate. A lot of what Tom said is revisiting what was said in the Biopower workgroup.
 - b. **Lyle Rawlings:** Will there be time to submit more written comments after this meeting?
 - i. **Charlie Garrison:** We will probably ask for informal comments to be submitted in a short timeframe after this meeting. The formal ones will be after we issue the straw proposal.
 - ii. **Scott Hunter:** We may need to flip the schedule, and have the straw proposal out earlier and ask for comments, like the schedule for the biopower workgroup?
 - iii. **Charlie Garrison:** If we can get the minimum requirements down in time then that would be a possibility to get the straw out.
- c. **Comment from Audience:** This is going in the direction that storage is an add-on to solar, but I wouldn't leave out storing energy in another fashion and make criteria up for that.
 - i. **Charlie Garrison:** That might be like biopower, which we are going to start with the tried and true, and then in FY15 move onto newer technologies.

- ii. **Scott Hunter:** There are two opportunities. FY14 and the \$2.5 million we have in the REIP. That is a threshold criteria- that the power comes for at least X% from a NJ Class I Renewable energy resource. It doesn't have to be solar. For FY14 if you want to argue that other resources should contribute to the power, that's a comment for the CRA for the FY15-17 discussions. The other is to demonstrate need for the program. We will ask for public comment early and as the program evolves.
- d. **Comment from Audience:** What are the criteria for the prices for incentives?
 - i. **Tom Leyden, Solar Grid Energy Storage:** We wanted to keep it simple, and we picked a number that we thought was reasonable.
 - ii. **Scott Hunter:** When you said the target rebate should be \$0.35-\$0.50 per Watt-hour of storage, were you thinking one fixed incentive? The way we're approaching this in biopower, we were expecting to have people name their price. Economics are one of the criteria.
 - iii. **Tom Leyden, Solar Grid Energy Storage:** I also suggested that it would be heavily weighted toward the lowest cost per kwh storage. It should be competitive.
 - iv. **Eva Gardow:** There's cost and there's technology development.
 - v. **Charlie Garrison:** How do we demonstrate that the benefit is to the ratepayer and the grid, and not just a user who wants to run their 8 kW system when they lose power?
 - vi. **Eva Gardow:** When it comes to the customer sited project, you might not be able to do that. You would want to have it benefit as many ratepayers as possible, and maybe that should be a criteria item.
 - vii. **Charlie Garrison:** Yes, and that is potentially a third criteria for President Hannah to decide, under critical infrastructure. That will play an important role, but we haven't determined if it's an absolute minimum requirement.
 - viii. **Janja Lupse:** There are many criterions we will be looking at, so this is just one piece, and then we'll have scoring weight and other things we will need to establish.

V. Facilitated Discussion on Comments and Other Program Issues

a. Economic Criteria

- i. **Scott Hunter:** As like the biopower criteria, Staff would like to evaluate projects based on cost per kWh analysis for first 20 years of generation.
- ii. **Lyle Rawlings:** My comment is on the criteria, as for what the scoring mechanism should be. First, there would be two threshold criteria that it has to be renewable energy and a proposed cut off for being considered renewable energy would be less than four hours of storage. Then the other threshold would be readiness, that it must be complete within 18 months of award. After the threshold criteria, there would be scoring totaling 100 points, with 30 points going to the cost side and 70 points for the value side. Cost is 0-30 points in terms of cost per kWh of storage capacity. Of the 70 value points, 0-20 points for the value as of serving a critical facility, 10 points for providing emergency power. 20 points for grid support and grid stabilization. 10 points if you provided load shifting and/or demand reduction. 10 points for innovation, both technical and economic innovation.
- iii. **Scott Hunter:** The suggestion for the biopower program was that we would develop criteria in conjunction with the stakeholders and share that in the solicitation, but we weren't going to share the weighting in the solicitation with stakeholders. That is

standard practice in the public grant making process. The weighting is shared with the evaluation committee before the proposals are received.

- iv. **Lyle Rawlings:** Why not share the weighting, so people give you what you really want?
- v. **Scott Hunter:** We will provide in the straw proposal what our proposed weighting is, and you, along with everyone else, are welcome to comment on it.

***Post meeting note:** The straw proposal will contain Staff's preliminary recommendation on the evaluation scoring system that will be applied to the solicitation responses. These scoring values are subject to change prior to approval by the NJBPU and will be provided in the straw proposal for the sole purpose of soliciting stakeholder comments. The final evaluation scoring system will not be published in the solicitation but will be established by the evaluation committee prior to the release of the solicitation.*

- vi. **Charlie Garrison:** It is just as important to establish how we evaluate each of those criteria. For example, if the project meets the criteria in its entirety, the full point value would be awarded. If the criteria are only partially met, then a portion of that award value would be scored. The partial scoring process is what we need to get feedback on.

b. Project Readiness Criteria

- i. **Scott Hunter:** With the biopower group, in addition to the sustainability determination, interconnection applications came up and where that falls in the project schedule. Given the interconnection barriers that are happening in California, I would think interconnection would be a key determinant for storage application, especially if we're looking at metered applications as opposed to grid supply applications.
- ii. **Comment from audience:** What were the barriers in California?
 - 1. **Ron Reisman:** Janja and I spoke to the Program Administrator for California's PUC, he told us they had 678 applications for behind the meter projects, but only 3 were approved because they were all held up with interconnection issues with the utility.
- iii. **Charlie Garrison:** With this, should we go back a step and have a requirement of including the application for interconnection with the EDC, or is that a waste of time for the EDC's because the project won't go forward without the funding?
- iv. **Eva Gardow, First Energy:** A lot of these projects are going to be installed on places that already have an interconnection agreement, that somewhere along the process they need to show that the interconnection agreement has been revised?
- v. **Charlie Garrison:** I think we would want that a little earlier to show the project is in place.
- vi. **Scott Hunter:** Another question as part of project readiness, should a requirement be that there is already an existing renewable energy system on site? Not that you are planning to create a new system.
 - 1. **Charlie Garrison:** That depends on the system size, if it's small it may not cause an issue. However bigger systems could take longer and effect project readiness.
 - 2. **Lyle Rawlings:** It may be easier and faster to design something that is designed to integrate solar and batteries from the get-go than to retrofit an existing project.
 - 3. **Charlie Garrison:** We could allow both, but emphasize time to complete to get payment. As like the early completion incentive we introduced in the biopower meeting. We should probably make the interconnection application either a heavily weighted or firm requirement. There hasn't been any issue with the EDC's to get that completed.

- vii. **Lyle Rawlings:** Whatever you're going to build you have to have an interconnection application and a contract to build.
- viii. **Eva Gardow, First Energy:** Based on the amount of money that is available in the solicitation, there will probably be only project sizes between 50-200kw. You will be able to fund between 5 and 15 or 20 projects.
- ix. **Pam Frank:** I have a concern with permitting, if you have a project for this program, is it possible the BPU could work together with DEP to expedite permitting?
 - 1. **Charlie Garrison:** DEP did say in the Biopower meeting this morning that they would provide some priority to these projects.
- c. Timeline and Frequency Criteria:
 - i. **Ron Reisman:** Do we want to duplicate what we did for Biopower for Energy Storage, if we put all of the funding into the first round?
 - 1. **Charlie Garrison:** I think we all agree that we can do that. If all the funding is not fully committed or new funding is available, a second solicitation round will be held.
 - ii. **Charlie Garrison:** Should we change the solicitation round timeline? 30 days instead of 60 days to submit applications? 60 days instead of 90 days for the whole solicitation round?
 - 1. Stakeholders mostly agreed to this, expediting of the solicitation.
 - iii. **Charlie Garrison:** We would also like to implement an incentive cap for the total project. Possibly \$500K would be the project cap, and then 150% of that would be the entity cap.

VI. Next Steps

- i. Straw proposal will be out early to mid-November, comments on straw proposal will be due after that, another Energy Storage meeting to follow before Thanksgiving.

VII. Adjournment

Energy Storage Working Group 9/20/13

Please Sign In

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