



July 27, 2018

Judith Judson, Commissioner
Massachusetts Department of Energy Resources
100 Cambridge Street, 10th Floor
Boston, MA 02116

Re: Solar Massachusetts Renewable Target (“SMART”), Updated Energy Storage Guideline and SQ Reservation Period Guideline Drafts

Dear Commissioner Judson:

The undersigned industry associations and organizations (“the Solar Parties”), on behalf of more than 100 member companies, write to provide our comments on the updated Energy Storage Guideline and Statement of Qualification Reservation Period (“SQ”) Guideline.¹

We appreciate the effort from Department of Energy Resources (“DOER”) staff in developing these guidelines. We further appreciate the open dialogue with you and your staff throughout this process. We look forward to working with DOER to ensure the SMART program is implemented quickly and in a smooth and efficient matter.

Energy Storage Guideline

The Solar Parties thank Department staff for engaging in robust stakeholder discussions throughout the development and refinement of the updated Energy Storage guideline, including at the stakeholder meeting on April 13 and in subsequent conversations since

¹ <https://www.mass.gov/service-details/development-of-the-solar-massachusetts-renewable-target-smart-program>.

then. Though member companies in our coalition have voiced concerns in the past about unintended consequences that can arise from administratively determined operational requirements, we appreciate that DOER has endeavored to identify reasonable baseline requirements that will provide assurance of beneficial operations while preserving storage operator flexibility to optimize behavior for multiple market/price signals available to them. In general, we strongly support the revised energy storage guideline and urge DOER to move expeditiously to finalize it.

In addition to the annual 52 complete cycle equivalent requirement included in the SMART regulations (225 CMR 20.06(1)(e)), the Department's updated storage guideline provides additional parameters for systems to demonstrate compliance with the operational requirements needed to qualify for the energy storage adder. Storage co-located with standalone solar facilities may choose one of two options: dispatching during summer/winter peak hours, or participation in wholesale market or retail-level programs aimed at reducing ratepayer costs (if deemed satisfactory by DOER). Storage co-located with behind-the-meter solar facilities must demonstrate that the storage system reduces onsite customer peak demand or increases self-consumption of on-site generated solar. For both categories of systems, we appreciate and support the preservation of multiple compliance options for each project, as this optionality will allow developers and customers to demonstrate compliance in the manner that best fits with their project configuration and use-case.

In the following sections, the Solar Parties offer input and recommendations on selected provisions included by DOER in the updated storage guidelines:

Definition of Co-Located: The guideline provides two criteria for defining co-located – the Solar Tariff Generation Unit (STGU) and Energy Storage System (ESS) must be located on the same or adjacent parcels, and must be interconnected to the same common collector located on the same parcel(s) on which the STGU and ESS facilities are located. Regarding the second criteria, the guideline provides an example/explanation pointing to a service drop serving no other utility customers and no load from other parcels. We strongly support the updated “same common collector” language in the revised guideline. However, we are concerned about the explanatory phrasing limiting the interconnection/common collector element from serving “no other utility customers.” We believe this usage could cause unintended issues, especially for commercial and industrial customers whose consumption may be spread across multiple meters and/or multiple utility accounts (e.g., even a single-building, single-occupant warehouse or manufacturing facility with multiple meters/accounts). We would strongly recommend modified language clarifying/specifying that a single entity/customer will not encounter co-location definitional concerns by virtue of simply

having multiple meters or accounts associated with the consumption of that single entity/customer. To that end, we propose the following edits to the definition of co-location:

*To be deemed co-located, the Solar Tariff Generation Unit and the Energy Storage System must be located on the same or adjacent parcels, and must be **either** interconnected to the same common collector located on the same parcel(s) on which the STGU and ESS facilities are located (i.e. an electric service on such parcel(s) connected to the same circuit at nominal AC voltage or distribution element that serves no other utility customers and no load other than that associated with the parcels on which the Solar Tariff Generation Unit(s) and Energy Storage Unit are located), **or, for behind-the-meter/onsite systems, must be behind meters associated with the same customer electricity billing account.** If a Generation Unit Owner has a separate ISA for the Energy Storage System, the Owner must also provide that ISA with their Statement of Qualification Application.*

Co-location of multiple STGUs with an ESS: The Solar Parties strongly support DOER's affirmation that an applicant may co-locate multiple STGUs with a single ESS. This will serve to facilitate the deployment and benefits of increasingly common multi-array, campus-style configurations making use of a combination of roof-mounted, ground-mounted, and canopy installations. These use-cases will need to rely on the operation of an ESS that is fully integrated with each STGU, so this affirmation is critical. Furthermore, we strongly support the specification that the combined capacity of the multiple STGUs (kW DC) be used in the formula for calculating the storage adder, especially the accompanying decision to allow the storage adder to be applied to each individual STGU's SQ. We believe this is a fair and straightforward way to handle the complexity of having multiple STGUs co-located with an ESS. Finally, we would recommend that DOER clarify the eligibility and adder mechanics for projects that seek to install multiple ESSs in conjunction with one or more STGUs. We would support additional specifications 1) ensuring flexibility to develop project configurations with multiple STGUs and one or more ESS, and 2) confirming that the same calculation (ratio of combined PV capacity to combined ESS capacity) will also apply in such instances with more than one ESS. We do recognize that certain more complicated project pairings may be dealt with most appropriately through an individualized determination process by DOER, which would provide an option for projects to pursue special approval if the guidelines do not address every project variation.

Option #1 for ESS co-located with standalone STGUs: As the footnote on page 4 of the guideline explains, DOER proposes to define peak hours for the summer and winter as: a) business days between June 1 and September 15, between 3p and 8p (Summer),

and b) business days between December 1 and March 1, between 4p and 9p (Winter). The Solar Parties request clarification that demonstrating compliance via on-peak dispatch in these periods of the year will in no way affect or limit the operation/dispatch of the ESS during the Fall (i.e., September 16 through November 30) and Spring (i.e., March 2 through May 31). We note that this option is needed because regulatory or market developments could prevent certain energy storage facilities from participating in the ISO-NE markets, either now or in the future.

Option #2 for ESS co-located with standalone STGUs: As stated above, Option #2 for ESS co-located with standalone STGUs allows for systems to demonstrate compliance through participation in the ISO-NE wholesale market or a retail-level program aimed at reducing cost (if deemed satisfactory by DOER). Regarding ISO-NE market participation, the Solar Parties would first request that the guideline make clear that any/all ISO markets (energy, capacity, ancillary services) fulfill this criterion. In addition, we suggest that DOER provide further specificity around the term “participation” to remove any issues stemming from ambiguity with its definition. For example, a system should be able to demonstrate “participation” in the ISO-NE capacity market by either taking on a capacity supply obligation (CSO) or by registering in the FCM (without a CSO) and passively earning Performance Incentive payments under ISO-NE’s Pay for Performance rule through performance during Capacity Scarcity Conditions (“CSC”).

Size of First Energy Storage Adder Tranche: The guideline states: “the Energy Storage Adder multiplier [\$0.045/kWh] will decline by 4% after each Energy Storage Adder tranche is filled. The first tranche will be equal to 80 MW AC and is based on the amount of solar photovoltaic capacity qualified to receive the Energy Storage Adder.” While we recognize that the Department made this decision to align the size/structure of the storage adder tranche with all other adder tranches, which are based on solar photovoltaic capacity, we submit to the Department that the prioritization of solar+storage deployment under the program warrants consideration for tying the size of the first storage tranche to 80 MW of nominal rated *storage* power capacity, not solar. Because of the design of the adder and the technical realities of pairing solar and storage technologies, 80 MW of adder capacity tied to the capacity of the solar generator will only support deployment of approximately 40 MW of energy storage. The reason for this is that the variable SMART energy storage incentive design will mostly result in the deployment of energy storage systems that are between 30-70% of the capacity of the co-located solar facility. Variations in the ratio of storage-to-solar capacity in the initial phase of the program could mean that storage adder tranches may advance faster than the rate of storage cost declines. If DOER’s goal is to support the deployment of 80 MW of energy storage in the first adder tranche, DOER should tie the decline in the adder to the size of the energy storage system. We believe that doing

so will also provide symmetry with how the other adder tranches advance – based on the installed capacity of that product or off-taker type.

The SMART storage adder was designed to recognize storage’s tremendous flexibility in how it provides value – from targeted use cases where the battery plays a supporting role, to applications where storage is center stage, and may be the same size as the solar array. SMART should maintain that commitment to flexibility by ensuring the storage adder declines consistently based on installed capacity, regardless of the use cases that make up a given tranche.

However, if DOER retains the current approach, we urge DOER to take into account the fact that the first tranche will likely support approximately half of the 80 MW of energy storage capacity identified under the first adder block when the DOER considers the size of the subsequent blocks. We would urge DOER to create larger second and third energy storage blocks so that this important market segment can continue to grow.

Good Cause Exemption for “Non-Functional” Disqualification: While we appreciate the intent of the 15% “non-functional” disqualification authority, as included in the SMART regulations and reiterated in the updated Guideline, the provision presents financing issues for Energy Storage Systems without assurances or exemptions for circumstances that may be outside of developers’/customers’ control. Existing solar systems have experienced extended downtime due to lightning strikes, utility outages, and other hardware failures that could also easily occur in any Energy Storage System or supporting equipment. We also note that the high demand for energy storage systems may cause availability concerns for replacement components, meaning that replacement parts could take weeks or months to arrive before needed maintenance can be completed. We request that the Department add a “Good Cause Exemption” provision to this requirement that covers unexpected downtime events, or add comparable language specifying that certain reasonable circumstances outside developer/customer control will not be subject to the “non-functional” disqualification provision.

Metering and Interconnection Rules: Many of our member companies have noted the confusion and administrative delays surrounding metering and interconnection rules for co-located energy storage and solar facilities. At the moment, the industry and the EDCs lack clarity as to what standards and rules are appropriate for interconnection and metering of these relatively new systems and configurations. While they are technical in nature, such rules can have direct consequences for DOER’s goal of supporting the deployment of the full range of PV+storage applications. For example, if developers are

required to submeter PV or storage elements of a combined system using AC-meters (as opposed to a single meter located at the same common collector), a range of use cases that rely on the ability to DC-couple solar and storage could be prevented. Similarly, if interconnection agreements impose non-reliability-related restrictions on energy storage charging or discharging, numerous use cases—from wholesale market participation to renewables integration to demand response—could be affected or prevented. There is also a very real possibility that metering and interconnection decisions could add significant cost or complexity to projects unnecessarily.

With a storage industry that is growing and innovating, not all PV+storage configurations can be metered with a single AC production meter. Overly prescriptive requirements will stifle innovation in the storage market. In fact, in the updated storage guideline, example #2 on page 7 provides exactly such a case where metering of all production will require the use of another solution besides a single AC production meter, otherwise not all SMART-eligible PV production will be captured. This would be true for both residential DC-coupled storage with a subpanel for backed-up loads, as well as for larger campus-style arrangements, among other configurations. The most efficient and economical solution for all ratepayers is production reporting from ANSI-certified revenue grade meters within, e.g., SolarEdge smart inverters, as is currently done under SREC II. If costly physical metering is required, then at least two AC production meters are needed to accurately measure all renewable energy production.

For these reasons, we urge DOER to convene one or more technical sessions over the next month to resolve certain system configurations and provide for ad hoc resolution of others, as needed. If needed, DOER should also consider updating the energy storage guideline or SMART regulations to provide flexibility and clarify the Department's expectations with respect to these issues. Additionally, we would recommend a further, flexible, grace period until metering issues are fully resolved.

Statement of Qualification Reservation Period Guideline

The Solar Parties believe that the revised SQ Guideline generally appears to impose reasonable discipline on STGU Owners. Additionally, the SQ Guideline rightly recognizes that STGU Owners should be encouraged to meet policy objectives throughout the tariff term, even if the eligibility requirements may be unfeasible at the outset of the term. Therefore, the Solar Parties support the provision authorizing a change in the off-taker based adder one time during the tariff term (8.b.ii), and we appreciate its inclusion in the updated SQ Guideline. We suggest, however, that STGU removal from any off-taker based adder eligibility does not constitute a “change” contemplated under 8.b.ii.

The SQ Guideline also introduces a subscription threshold for CSS and Low Income Community Shared Solar (“LICSS”) adder eligibility, measured at the “time of tariff enrollment.” The Solar Parties are supportive of a reasonable subscription threshold, provided that the term “tariff enrollment” is clearly defined.

Based on conversations with DOER, we understand “time of tariff enrollment” to mean the date on which the STGU achieves its Commercial Operation Date (“COD”). We agree that this revision encourages appropriate discipline from STGU owners seeking off-taker based Adders and is generally consistent with best practices within the solar industry. Especially among community solar providers, where a sensitivity to customer experience is paramount, it would be impractical to require an onerous level of subscription at the point of the Statement of Qualification Application.

Similarly, the proposed guidance seems to adequately recognize that the Commercial Operation Date for a given STGU is often outside the control of the STGU Owner and is, instead, largely determined by the utility schedule. Due to this reality, and to account for other unforeseen delays in the construction process, community solar providers need the flexibility to assign subscribers to projects based on expected operational timelines. Further, we anticipate that a Schedule Z/Credit Allocation Form/off-taker list will accompany any final interconnection documentation provided to the utility by an STGU Owner, making Commercial Operation Date a natural threshold for demonstrating initial eligibility compliance for any off-taker based adder. In addition, the Solar Parties suggest that, in light of the uncertainty of the start of the SMART program, there be a grace period for the initial tranches of CSS and LICSS adders, since many projects will hit COD for SMART at the same time they receive a SOQ, which will be as soon as the program begins.

Critically, project financing considerations require well-defined parameters for securing and retaining adder eligibility treatment. On the CSS adder in particular, we are concerned that, given the incentive to reserve a CSS adder early in a project development cycle even if a project will not ultimately materialize as a CSS project, the initial queue of “CSS projects” will overstate the actual market response to the SMART program. Some consequences are needed for projects which elect a CSS adder but ultimately fail to materialize as CSS projects.

For that reason, the Solar Parties request that the Guideline include more precise language around the adder eligibility demonstration, as well as a clear outline of the consequences for failing to demonstrate compliance (including any notice and cure period from DOER). For example, the SQ Guideline currently lacks clear definitions of

“Tariff Enrollment” (as noted above), “Tariff Term”, and “Subscribed”, and does not establish how an STGU that is determined by DOER to be ineligible for an off-taker based Adder may subsequently “requalify” for an adder at the currently-available adder tranche.

Some specific clarifications needed include:

- 1) As a matter of definition: “becomes operational” as a milestone is ambiguous; DOER should use either “permission to operate” or “interconnection” as they are better-defined terms; and
- 2) The new language states that a CSS project must prove compliance by providing “to the Department an updated Schedule Z, Credit Allocation Form, or Off-taker list annually by no later than December 31st...”. We understand this to mean that as long as a compliant Schedule Z/form is provided at any time during a calendar year, the project has proven compliance for the calendar year. This aligns with the current reality that one can only update Schedule Zs twice a year and avoids any complications that may arise from filing over the holidays and the off chance that there are major changes in subscribers at the end of the year, which could result in a lapse in compliance if compliance is only assessed at the end of the year.

Finally, the Solar Parties request that the SQ Guideline clarify some of the language around the subscription threshold for CSS and LICSS adders. As written, it is unclear whether the 90% requirement refers to the full output of the STGU (90% of 100% of total output), or just the applicable limitations for these STGUs (90% of 50% of total output). With regard to ongoing compliance requirements, the Solar Parties can accept an annual demonstration requirement, but suggest that granting the Solar Program Administrator authority to obtain such information directly from the utilities may help streamline the process and allow for technological improvements in the sharing of this information.

Conclusion

We appreciate the revisions made by DOER on these draft guidelines. We recommend the modest changes above to improve clarity and workability for the industry. We look forward to continuing to work with DOER to ensure that Massachusetts maintains its place as a national leader in clean energy. Thank you for considering these recommendations.

Yours sincerely,



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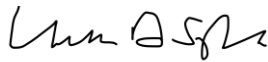
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