



February 22, 2018

Delivered electronically to DOER.SMART@state.ma.us

Commissioner Judith Judson
Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

RE: Draft SMART Program Guidelines

Dear Commissioner Judson,

Thank you for the opportunity to provide comments on the draft SMART program guidelines. Our comments focus on the Low Income Generation Units Guideline ("Low Income Guideline") and the Definition of Agricultural Solar Tariff Generation Units Guideline ("Agricultural Guideline"). As discussed in greater detail below, with respect to the Low Income Guideline, we are most concerned by the incorrect regulatory definitions in the document as well as the lack of guidance on how Alternative On-bill Credit Generation Units (AOBCs) can qualify for the relevant low income adders available under SMART. For the Agricultural Guideline, we have serious reservations about the shading, height and spacing requirements and their impact on the ability to successfully develop dual use solar applications on farmland.

Boston Community Capital (BCC) is a thirty year old community development finance institution dedicated to building healthy communities where low-income people live and work. Since 2008, BCC has been working through its affiliate, BCC Solar Energy Advantage, to develop innovative financing and business models to expand access to solar in low-income communities. We presently own and operate approximately 7 MW of solar capacity

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across 80 Massachusetts projects. These projects primarily serve affordable, multifamily housing developments. We also have projects that benefit non-profit organizations and municipal facilities, such as the Greater Boston Food Bank. Our experience in developing solar for low income beneficiaries means we are uniquely positioned to understand the challenges of serving this market segment and the ways in which policy design can enable or hinder a more equitable distribution of solar's direct benefits across all classes of ratepayers.

I. Low Income Generation Units Guideline

The Low Income Guideline, as currently drafted, includes incorrect regulatory definitions and provides no guidance on how AOBCs can qualify for the relevant low income adders available under SMART. The regulatory definitions should be corrected and all omissions regarding AOBCs rectified before the Low Income Guideline is finalized so that it appropriately aligns with the SMART regulations.

For example, the Low Income Guideline cites the definition for "Low Income Community Shared Solar Tariff Generation Unit" (LICSS) that DOER adopted in the emergency SMART regulations rather than the definition in the final, promulgated regulations. A LICSS is defined as: "A Community Shared Solar Tariff Generation Unit with at least 50% of its energy output allocated to Low Income Customers in the form of electricity or *net metering credits*" (emphasis added). However, the final version of the SMART regulations defines a LICSS as: "A Community Shared Solar Tariff Generation Unit with at least 50% of its energy output allocated to Low Income Customers in the form of electricity or *bill credits*" (emphasis added). Similarly, the definition for "Low Income Property Solar Tariff Generation Unit" incorrectly references "net metering credits" instead of "bill credits". The definition for "Low Income Customer" is also incorrect and does not mirror the definition in 225 C.M.R. § 20.02.

Elsewhere, the Low Income Guideline fails to specify a process for how AOBCs would demonstrate to DOER their eligibility for low income adders. For example, the section on page 2 of the Low Income Guideline detailing eligibility requirements for LICSS makes no mention of the Payment/Credit Form that the distribution companies propose requiring AOBCs to complete in order to allocate bill credits. This form is mentioned in the SMART tariff that the distribution companies submitted to the Department of Public Utilities and is currently being considered in D.P.U. 17-140. While that proceeding is on-going and the tariff is subject to change, the Low Income Guideline should already include guidance on how AOBCs can demonstrate eligibility. The same is true for the section on page 4 of the Low Income Guideline, which outlines how to provide proof that 100% of output is delivered to low or moderate income housing. Guidance should be given to owners and authorized agents of AOBCs in this section as well.

Aside from these issues, BCC would like to express some concern with the requirement that to serve a private entity affordable housing development and qualify as a Low Income Property Solar Tariff Generation Unit, an agreement with a 20 year minimum term is required. BCC understands this requirement is intended to ensure that the relevant conditions of the program are satisfied for a term that is coincident with the 20 year SMART term. However, some affordable housing providers operate on the basis of 1, 3, 5 or 10-year low-income rental contracts (known as AHAPs), which are regularly renewed. Such providers would be unable to sign a solar-related agreement for a term of 20 years as it exceeds the length of their AHAP. To address this, BCC suggests that the Low Income Guideline provide greater clarity and flexibility with respect to this requirement. First, the Low Income Guideline should explicitly state on page 5 that if an applicant can provide proof of an agreement that demonstrates a commitment to renewing or extending an agreement beyond the initial term, and the agreement is extended or renewed, a project will qualify and retain its eligibility. Second, the Low Income Guideline should allow a project to retain its qualification in the event an agreement is cancelled, or not renewed or extended, or a property loses its affordable housing status, so long as the owner or authorized agent is able to substitute a new, qualifying agreement with an eligible low or moderate income housing provider in a timely manner.

Finally, BCC reiterates its request for DOER to adopt a broader definition for “Low-Income Customer” in the Low Income Guideline. For example, at a minimum, to the extent a household or electricity customer otherwise qualifies for a distribution company’s electricity discount rate, that should be sufficient to qualify as an eligible beneficiary of a LICSS. This approach could make it easier for solar developers to identify electricity customers for low-income solar projects as information on services addresses enrolled in a distribution company’s discount rate is not publicly available. What’s more, while an estimated 280,000 electricity accounts are enrolled on the R-2 rate, as noted in the testimony we submitted in D.P.U. 17-140, approximately 850,000 households in Massachusetts have incomes that are at or below 60% AMI and two-thirds of these households are not enrolled on an R-2 rate. The current definition of “Low Income Customer” is too narrow and excludes a number of households that qualify as low income in other programs.

Defining “Low Income Customer” so that it only includes customers enrolled on an R-2 rate is narrow and does not align with the definition of low income households used in other contexts. The affordable housing sector, for example, often defines households as low income when they have incomes that are 80% of Area Median Income (AMI), while the R-2 rate uses the more restrictive 60% AMI as the income threshold. What’s more, households with incomes that vary above or below 60% AMI from year-to-year won’t be consistently eligible for an R-2 rate and could face difficulties qualifying for an R-2 and participating in a solar project. Finally, households with incomes below 60% AMI but not receiving any means-tested assistance programs may also have trouble qualifying for an R-2 rate based on the current R-2 rate applications. This is why, in BCC’s view and the view of other low income advocates, an inclusive definition of Low Income Customer is needed along with a simple, inexpensive and transparent way to

verify eligibility, such as whether a service address is located in an Environmental Justice Population.

II. Definition of Agricultural Solar Tariff Generation Units Guideline

BCC agrees with the general intent behind the SMART program's requirements for Agricultural Solar Tariff Generation Units, i.e. preserve farmland and encourage dual use. However, the draft Agricultural Guideline too narrowly focuses on the dual use of specific portions of the farm where a solar installation is located rather than on the dual use opportunity for the farm as a whole.

In addition, the draft Agricultural Guidelines include several requirements regarding the amount of shading permitted under solar panels, heights of arrays, and spacing between panels. In order to qualify for the agricultural adder, a particular Solar Tariff Generation Unit must meet all of these requirements. BCC believes it is counterproductive for the SMART program to be specifying and constraining the design of solar installations to this extent for the purposes of qualifying for the agricultural adder. The practical effect of these restrictions will be to increase costs, encourage suboptimal siting and design of solar arrays, and deprive farmers of the flexibility to use solar in a manner that best benefits their farming operation and meets their needs. This is discussed in further detail below.

Shading requirement

The requirement regarding the allowed amount of permitted shade reduction can confound a farmer's efforts to use solar to support existing or new agricultural activities on a particular property. For example, a farmer that puts a solar installation on a field that receives a maximum of eight hours of sun per day would not qualify for the agricultural adder if the panels reduced the maximum amount of sunlight hitting the ground under the panels to three hours per day. This would be the case even if the ground beneath the panels could still support shade tolerant crops, including many lettuces, cress, endive and kale as well as some forage crops. That's because the Agricultural Guideline permits no more than a 50% reduction in sunlight from baseline conditions. This restriction undercuts the intent of the SMART program to encourage dual use on agricultural lands and should be removed. So long as a farmer can demonstrate the dual use application required by the regulations, the amount of shading under the panels is irrelevant.

Minimum height requirements

The minimum height requirements for solar arrays are presumably aimed at allowing mechanized or non-mechanized tilling, cultivating, harvesting and related activities to occur under the panels. Such minimum requirements are unnecessary. First, as the SMART regulations require dual use of agricultural lands in order to qualify for the agricultural adder, a farmer already has incentive to work with a solar developer to design an array that allows for the agricultural activities to occur underneath the solar array.

Second, many crops don't require the use of mechanical equipment, yet the Agricultural Guideline would require compliance with the minimum height standard even when such equipment is not needed.

Third, conventionally designed solar arrays already allow adequate height for people or animals to access the majority of the space under the panels as well as between rows. The lowest point on typical ground mount arrays is over three feet above grade and the highest point typically around ten feet above grade. This provides ready and easy access for people working under all but a very small area under the lowest edge. And even in those areas, many crops won't require access.

Fourth, cross bracing or cabling under arrays would be required underneath the panels to maintain the integrity of the structure, but this would make access under the arrays by tractors and other equipment challenging if not impossible. While it's possible to build support structures without such bracing or cabling, the design of such solar systems would be similar to carports and have large, deep reinforced concrete foundations that are harder to decommission and require much more steel. The use of such concrete foundations for such tall arrays can perhaps be avoided on some sites, but only with very deep steel pilings, which would require even more steel than a solar array built using concrete foundations.

Finally, requiring solar arrays to have a minimum height of eight feet from grade is in very direct conflict with the priorities of most planning and zoning boards and many abutting property owners who want solar projects to be as inconspicuous as possible. A minimum requirement such as this will make solar less aesthetically attractive and only serve to increase local opposition to farm-based solar projects and to solar generally.

Spacing requirement

The four foot spacing requirement in all directions around and between individual panels for fixed-tilt solar arrays effectively reduces the size of a solar installation that would normally be accommodated on a parcel of land by two-thirds. This dramatically impacts the economics of a solar project and would require three times more land to be used to install the same amount of solar energy production on a farm.

What's more, to comply with the spacing and minimum height requirement, a fixed-tilt solar array would need to use about three times as much steel in the racking as conventional solar systems even if they are built at conventional heights. Combining the spacing requirement with the minimum height requirement would require four or five times as much steel as a conventional racking system, or more. The end result would be a very large, conspicuous and expensive solar system that disrupts far more land than was otherwise necessary and represents a significant waste of natural resources and embodied energy. Given that such measures are not essential for dual use applications of solar on farmland, they should not be required.

During the stakeholder process DOER convened to inform the development of the SMART program, farm owners and forestry owners representatives in the stakeholder group for land use issues supported a regulatory framework that had as its primary priority keeping farms and forests economically viable and helping to keep farmers on their land. The draft Agricultural Guideline strays far from that fundamental goal and will make it unnecessarily difficult for farmers to use solar to diversify their incomes to help keep their farms operating.

For example, BCC is working closely with a cranberry grower in Wareham to explore the opportunities to install solar on their land. The farmer has made it clear that the land lease revenues they would receive by siting a solar project on their farm, without the agricultural adder, is not sufficient to incentivize them to locate solar on their land. But complying with the draft Agricultural Guideline's spacing requirements would take up more land than they have available for such a project and wouldn't make economic sense either. The owners have other options than solar, as this particular farm has enough road frontage to meet the zoning requirements to create at least fifteen by right Form A house lots.

Further, the recent ground mount solar ordinance in Wareham makes clear that solar projects must "minimize impacts on scenic, natural and historic resources" and requires visually screening projects from abutters and roads. Complying with this ordinance would be very challenging with the proposed minimum height requirement. BCC has also recently looked at other farm-based projects in other towns and came to the conclusion that it would be infeasible to minimize aesthetic impacts on the neighborhood if the eight foot minimum height requirement is enforced.

In sum, if a farm is better able to remain economically viable as a farm with the help of solar, the goals behind SMART program on the use of solar in agricultural settings will be met. As such, for the reasons outlined above, BCC strongly encourages DOER to eliminate the shading, height and panel spacing requirements and provide farmers with the flexibility to design a solar installation in a way that best suits their needs and their farms.

Thank you for your consideration.

Regards,



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