



Sent via email: DOER.SMART@state.ma.us

February 22, 2018

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

Re: SMART program (225 CMR 20.00) – draft SMART Guidelines
Stakeholder Comments

Dear Commissioner Judson and DOER staff,

Thank you for the opportunity to comment on the proposed SMART Guidelines released by the Department of Energy Resources (“DOER”) on January 22, 2018. We wish to offer comments on one of the proposed Guidelines as noted below.

As background, Renewable Energy Development Partners, LLC (“REDP”) is a developer of commercial-scale solar and other renewable energy projects throughout New England. To date we have successfully developed or co-developed over 40 MW of solar PV under the SREC I and SREC II programs, all of which are currently operating as part of Massachusetts’s portfolio of in-state renewable generation resources. We have developed a number of projects in partnership with local farmers, and we are continuing that effort under the framework of the SMART program.

Guideline Regarding the Definition of Agricultural Solar Tariff Generation Units

The proposed guideline includes additional provisions for Agricultural Solar Tariff Generation Units (“ASTGUs”) beyond those provisions included in 225 CMR 20.00. In particular, three of the proposed additional provisions state as follows:

3. all Agricultural Solar Tariff Generation Units must demonstrate that the maximum sunlight reduction from the panels on every square foot of land directly beneath, behind and in the areas adjacent to and within the Agricultural Solar Tariff Generation Unit’s design shall not be more than 50% of baseline field conditions;
4. the typical growing season shall be considered to be March through October, with sunlight hour conditions with maximum 50% sunlight reduction to be between 10AM and 5PM for March and October, and from 9AM to 6PM from April through September;
5. fixed tilt designs shall include a minimum four feet distance between each panel(s) in order to avoid full shade beneath and behind each row of panels; single- and double-axis tracking systems must demonstrate the 50% sunlight reduction maximum can be achieved without the minimum four feet distance; and

While we acknowledge and support DOER's desire to regulate ASTGUs such that their installation and operation will truly accommodate "dual use" (solar generation AND agricultural use on the underlying land), we fear that the particular metrics proposed above are unnecessarily restrictive and may result in a very limited pool of eligible projects in what otherwise could be a robust and innovative market.

If implemented as proposed, the PV "density" allowed for an ASTGU would be dramatically lower than for a traditional ground-mounted PV project. Since many agricultural landowners have trivial annual electricity costs, the only way they can financially benefit from on-site PV projects is by way of lease income. The lease income for solar PV projects is driven by the PV density per acre - the higher the PV density, the higher the possible lease payment per acre. Under the proposed guideline, the only alternative available to most agricultural landowners to generate meaningful lease income from PV is to commit a much larger portion of their land holdings to this dual use than would otherwise be necessary. Many do not have that flexibility due to a variety of other constraints (unsuitable land, operational requirements, zoning and wetlands setbacks, etc.) Based on preliminary feedback from the agricultural interests we've spoken to, the proposed guidelines would render all of the otherwise feasible dual use projects "dead on arrival". With the metrics proposed by the draft guidelines for ASTGU's, the value of a land lease under dual use scenario is so low that a farmer would be better off removing land from agricultural use and leasing that land under a Category 3 land use scenario. This is clearly not the desired result of the guideline, and we would suggest that more flexible provisions for ASTGU's would allow farmers to benefit from solar without the loss of agricultural lands.

Accordingly, we suggest modifying the metrics proposed above to contain a) a "performance based" standard and b) a less restrictive dimensional standard(s) than currently proposed. The performance-based standard should rely less on the absolute quantity of sunlight received compared to baseline conditions but rather on the continuing agricultural suitability and/or productivity of the underlying land considering its actual agricultural use. We have received feedback from growers and other experts that many crops do well under partial shading, and there may be other environmental and operational benefits from partial shading as well. In addition, in every ground-mounted project that we have developed, the grass growth is either more or at least equally as productive within the array than outside of it. In pastures or landfills where the grass is not irrigated, the panels provide relief from the stress of direct sunlight in dry conditions and expose the plants to a higher percentage of beneficial diffuse radiation. We can see from our own experience that ground mounted systems of typical design, if properly elevated above pasture land, would maintain healthy grass growth and provide significant opportunity for grazing of sheep or other livestock. From our direct experience, the proposed panel spacing and 50% shading metric required by the draft Guideline is simply not necessary to maintain healthy grass growth, and we suspect that there are many other crops that do not need these restrictions for healthy growth. We would note that 225 CMR 20.06(1)(d) already contains special provisions for ASTGUs including initial reporting of the crops to be grown and the compatibility of the proposed solar design with the proposed agricultural use, as well as annual reporting of the productivity of the crops and other data. A performance-based guideline could stipulate additional clear and measurable ongoing performance standards for agricultural productivity, and required reporting of same, to complement the existing regulatory requirements.

In addition, an appropriate and less restrictive dimensional standard should be developed which sets a minimum row spacing between the rows of panels, a minimum panel tilt and perhaps a minimum number of panels stacked in each row. We would note that we, along with many other firms, have successfully developed large PV projects on closed landfills throughout Massachusetts wherein the continued health of the vegetated cover beneath the PV panels is critical to the integrity of the landfill capping system, and where vegetation has been successfully maintained after PV facility construction. DOER should seek input from DEP regarding the typical row spacing and panel tilt angles that have been incorporated into the design of these projects as a reference. Ideally, the guideline would be structured so that if the project, as designed & constructed, complies with the minimum dimensional standard it would be determined to qualify as an ASTGU, and subsequent reporting during the operational period would be limited to demonstrating the continued agricultural use beneath the ASTGU. If the project does not comply with the dimensional standard, the applicant would be obligated to demonstrate the suitability of the design with the particular agricultural use, with supporting documentation from qualified experts, to qualify initially as an ASTGU and would then be subject to more stringent monitoring and reporting requirements to confirm the continued viability of the underlying agricultural activities.

In any case, we would encourage DOER to study existing pasture-located projects, to observe the health of grasslands beneath typical PV designs and to engage more robustly with the agricultural community, whose members stand the most to benefit from a well-regulated agricultural solar program. We are confident that as a result DOER would be in a better position to establish practical and appropriate metrics for ASTGUs.

In closing, we would like to commend DOER staff for their work in developing the SMART program and the referenced Guidelines. Thank you again for the opportunity to comment on the development of this important program.

Regards,



Hank Ouimet, PE (FL), LEED AP
Managing Partner