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Michael Judge
Director, Renewable & Alternative Energy Division
Department of Energy Resources

Re: SMART Guideline Comments:

Definition of Agricultural Solar Tariff Generation Units Guideline

Please don't take away the flexibility *included in the new provisions*, by also adding the "additional provisions" that essentially *dictate the details of design that take that flexibility away*. The designs should be determined appropriate to the relative agricultural project proposal. The farms in Massachusetts are as diverse as the geography and all of the natural resources should be considered in balance.

Furthermore, expanding opportunity for farmers to access the use of the Ag Solar Tariff is the *better option in the interest of the Commonwealth when installing solar arrays on private land. Dual use requires great accommodation at significant cost to both the land owner and the solar developer*. These comments will further explain.

Dear Mr. Judge,

Thank you for the opportunity to comment on the proposed 225 CMR 20.00 Regulatory Provisions Specific to Agricultural Solar Tariff Generation Units on behalf of our family farm. We have a very keen interest in these provisions as a developing renewable energy on small farms such as ours.

We have proposed a solar project that would incorporate a 1 megawatt solar array, occupying almost 7 acres of land stretched across the back of our farm behind the cranberry bogs that would incorporate the growing of beachgrass on the southern end closest to residential neighbors and a 90 plus hive apiary on the northern end closest to neighboring cranberry bogs.

Both agricultural projects are indisputable in their economic value and potential income; both are entirely compatible with the soils limitations of most cranberry farms (sand) and the economic requirement to grow cranberries, (an apiary & beachgrass). Both projects would remove carbon from the environment. We have experience with both and confidence that they can be accommodated within an array designed for that purpose. I am certain that a detailed proposal would meet or exceed exactly what you envisioned for a comingled project that could ensure the viability of a farm.

When I read the first two pages, including all six special provisions, I was delighted. It seemed to have included the flexibility I had asked for in earlier comments to allow for a more creative design to accommodate a wider category of agricultural enterprise. Our proposed project was modest and

incorporated two different wholly compatible agricultural projects to install in, around and under solar panels within an upland array to support our cranberry farm. However it did not “fit” the confines of the prior provisions. I pleaded for flexibility and inclusion, and thought we were heard.

However, the devil was in the details. “The additional provisions” that followed walked-back all of that flexibility by specifying details in the layout design. By dictating spacing design in the regulations these provisions eliminate any opportunity to be more creative and include projects that may not be traditional livestock or cropping systems however serve well on small farms.

Implied in the added provisions is an assumption that the amount of shade, or the height of the panels at their lowest, would be more important to the natural resource base than nutrient loading, protecting water quality and quantity and reducing rather than increasing the carbon footprint of the farm.

Let me give you our real life example:

Under the earlier version of the Ag Solar Tariff Guidelines we could install a more traditional livestock operation which would result in waste and nutrient loading, manure management concerns, additional water dependency and greater carbon footprint, all with a minimal production based on live weight value in dollars. Instead we are proposing a commercial apiary of 90 plus hives, to provide pollination services, propagate honey bees and orchard bees for pollination. The hive units do not require a minimum height of 10’ above ground would not result in nutrient loading or require additional water resources and would benefit the community of cranberry bogs that surround the property.

The net revenue and value to our farm from raising bees would be significantly higher than if we raised traditional livestock, and the bees would create significant enhancement to our cranberry operation and those of neighboring growers. In the area of the proposed apiary we would grow clover blends for forage. They tolerate partial shade. There would be no pesticides used and they do not require irrigation.

Requirements of beachgrass: We already grow beachgrass within a partially shaded blueberry patch, which is sold to stabilize the shoreline. It requires no pesticides and is replanted yearly. From visiting many different arrays and various layouts we know that we can grow beachgrass between rows of panels **when the rows** are amply spaced & not the space between the panels in the row. Currently we harvest the grass with hand tools when it reaches 2’ in height. I have attached a photo of example.

I can tell you without reservation that there is more market for beachgrass than there are producers. Massachusetts in particular, with our hundreds of miles of disappearing shoreline should be promoting the growth of this crop wherever they can and especially within a solar array.

The specific design criteria for an agricultural solar project should be up to the landowner, the solar developer & engineer based on what will work for the intended crops. Rather than dictating one size fits all design specifications for all agricultural adder projects, there should be flexibility to use efficiently designed systems that are suitable for non-traditional agricultural enterprises, including those that can tolerate shade and that don't need equipment operating under the arrays.

Why The Ag “Adder” Provision is The Best Option for the Commonwealth:

The arrangement between a landowner and a solar company where an Agricultural “adder” is in place is a far better project for protection of the resource base than without. Examples on the landscape abound. To accomplish an Ag Solar Project that would qualify and be operational throughout the life of the array, the design must work within the landscape of the farm environment. It requires a lot of work, concessions & commitment on the part of both the solar developer and the landowner from the very outset & throughout the operation. That comes at a cost that must be realized. Otherwise the incentive for both is to install as many panels as they can, unconstrained by other considerations.

When the agricultural enterprise is required and accountable to maintain the Ag Solar Tariff then both parties have a vested interest in the continued success of the agricultural enterprise within the array. They are, in essence, in a partnership for success. Ultimately that will provide the best incentive to keep up the arrangement and requires less intervention or enforcement by the state.

We have been asked, why don’t you just do it without the Ag “Adder”

Without the agricultural “adder”, the only farms that can truly benefit are large landowners that can support large projects or farms whose energy consumption is primarily electrical. Installing solar panels onto small farms without the Ag Solar Tariff removes value from the property base which is often limited, without adequate compensation for the loss of value over time and instead provides a disincentive to dual use. The consequence is to install as many panels as can fit regardless to the effect on the farm, which lowers the future value and therefore limits a farmer’s ability to borrow against their most valuable asset, the term of the lease.

Flexibility within an agricultural system that continues to produce agricultural products, as well as energy, at a rate that appreciates the value of accommodating both, may be the key to the continued sustainability of many small farms.

Thank you again for the opportunity to comment. I will be happy to answer questions.



Array below is in Fairhaven Ma. & would accommodate beachgrass between rows: similar spacing for a working + 90 hive apiary with clover cover.

Pictures taken on December 8, at 10:30am

