

The additional agriculture PV guideline number 1 is potentially highly disruptive of the purpose of agricultural PV for several reasons outlined below. It should be removed or substantially modified.

1.

1. 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;

Problems with this proposed regulation:

a. The issue should not be whether or to a single square foot of land beneath or behind or adjacent has a 50% reduction in sunlight, but rather the effect on agricultural productivity. The program regulations already require :

4. crop(s) to be grown to be provided by the farmer or farm agronomist in conjunction with UMass Amherst agricultural extension services, including compatibility with the design of the agricultural solar system for such factors as crop selection, sunlight percentage, *etc.*;

The judgement of UMASS Stockbridge scientists that agricultural PV on poles has demonstrated deminimus effect on agricultural productivity in test plots and pasture, is already the basis for agricultural PV in the first place and should sufficient when combined with review of system compatibility with its intended farm use that is already required.

The height (8 feet) and spacing requirements (4 feet), and design of system for crop selection, sunlight percentage address this issue

b. Such a regulation if applied to all farms equipment and machinery would forbid the use of irrigation distribution systems, feeding stations, and storage bins, that cast shadows.

This regulation would require a study of each agricultural PV device to assure that not a single square foot of land reduces shade 50% over a year will mean that the substantial benefits of agricultural PV will be forfeited or delayed because one square foot at the base of a PV pole had a 50% shading reduction whether or not this shading reached agricultural productivity one iota.

The regulation suggests, to me, an effort to prevent any use of agricultural PV.

c. Often the ground beneath an agricultural PV pole will be covered with plastic or organic mulch as in the test plots at the Stockbridge institute. This may true if the poles or tables were either placed within rows or between rows.

d. In considering agricultural PV for our apriay and christmas tree farm. we were instructed by UMASS scientist to place PV tables or poles on the North side of the hives between rows. We might choose to use web-mulch beneath the tables. The permeable web-mulch would allow water penetration and would also make the question of percent shading completely irrelevant. A similar use of web-much product between tree rows with PV tables or poles would also be an agriculturally appropriate choice.

At the very least the regulations should require that the shading question does not apply if the UMASS agronomist suggested or approved the use of a mulch system beneath the Ag PV.

e. To suggest that finding a single square foot of 50% shade would bar the use of an agricultural PV system on a 20 acre agricultural PV installation suggests an underlying hostility to the use of PV on working farms under the already detailed guidelines for SMART.

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