



September 27, 2019

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

Re: Borrego Comments on 400 MW Review Straw Proposal

Dear Commissioner Judson:

Borrego Solar Systems, Inc. (Borrego) appreciates the opportunity to provide comments on the proposed changes and extension of the SMART Program. Borrego supports the comments of the Solar Energy Industries Association, the Coalition for Community Solar Access, MassSolar, the Northeast Clean Energy Council, the Solar Energy Business Association of New England, and Vote Solar (the Solar Commenters) on the 400 MW Review and offers the following additional comments:

1. **The 400 MW Review proposed changes around land-use should provide a longer transition for mature projects to secure final permits and interconnection agreements.** We strongly agree with the Solar Commenters' position that the new, potentially catastrophic land use policy changes DOER is proposing should only apply after the first 1600 MW of SMART have been reserved. We also agree that projects should have at least 6 months from the date on which the Emergency Regulation is filed to complete their required application documentation to be exempt from the new land use requirements.

Failing to allow a reasonable transition period for projects that are currently under development would strand millions of dollars of investment and provide a severe shock to a large segment of the Commonwealth's clean energy industry. In Borrego's case, the new proposals would result in a loss of approximately \$20 million in revenue overnight, with several millions of dollars of relatively mature development investments completely wasted.¹ **When viewed through the lens of the entire Massachusetts industry, DOER's current grandfathering proposal could strand hundreds of ground-mounted projects representing as much as \$60 million in already-spent investments that would be lost.**² While we understand that DOER feels compelled to act quickly

¹ This assumes the Emergency Regulation will be filed in November. Further delay would potentially allow some of these projects to receive interconnection agreements, which would reduce the losses.

² Our estimate is based on our review of the current interconnection queue information and conservative assumptions about investments incurred to date by projects at different stages of development. On average, developers must incur between \$200,000 and \$250,000 in expenses just to qualify a single community solar

to address the concerns voiced by certain conservation interests, we strongly recommend that DOER follow its previous precedent in providing a reasonable transition period before imposing severe new restrictions.³ Borrego's confidence in the Department's commitment to incrementalism and to allowing for appropriate transitions to avoid market shocks has been a key reason why we have continued to invest so much in Massachusetts even as the state has transitioned through a number of evolving solar programs. We respectfully request that the Department not take any hasty steps here that would erode our confidence and the confidence of our investors in these bedrock principles of good governance.

We submit that there are strong arguments for exempting mature projects from the new rules. Projects under development in National Grid and Eversource currently face separate and unique challenges that have prevented them from qualifying within a reasonable time. If not for these impediments, many of these mature, fully invested projects would already have qualified for SMART and would not be exposed to DOER's new land use penalties.

- **National Grid ISO Studies:** DOER is well aware of the Department of Public Utilities (DPU) investigation into the Affected System Operator (ASO) study process, which has prevented hundreds of megawatts of projects from receiving interconnection services agreements. If not for these unprecedented studies, many more projects would now or very soon be fully eligible for the SMART program. While Borrego is hopeful that a collaborative resolution can be reached on this topic with the electric distribution companies (EDCs), it is critical that DOER recognize the impact that the ASO study delays will continue to have on SMART projects in National Grid territory.
- **Eversource Parallel Studies:** Eversource studies complex projects in one by one, rather than in parallel as in National Grid. This approach has resulted in years-long backlogs in some parts of Eastern Massachusetts, effectively halting development for many projects. Borrego's experience to date--which is likely better than the rest of the industry's given our early investments in Eastern Massachusetts--indicates that projects in Eversource take 25% longer--approximately 3-4 months--to receive an interconnection agreement as compared to National Grid. If not for Eversource's peculiar approach to interconnection, many Eversource projects that are currently in queue would already have received all required documentation to participate in the SMART program.

2. DOER should freeze the base rates in National Grid and Eversource West until 2021. As the Solar Commenters state, National Grid and Eversource West projects cycled through the SMART Blocks significantly faster than anticipated. In its analysis of policy alternatives that led to SMART, Sustainable Energy Advantage (SEA) was instructed by DOER "to assume that the goal of the successor program was to install 1,600 MW over six calendar years."⁴ In other words, the eight capacity blocks were designed to decline at approximately one and one third block per

project for the SMART program. We estimate that approximately 250 individual projects (of the over 400 in the queue) could be stranded by the short transition period proposed by DOER.

³ DOER's SMART regulations provided exemptions to the land use and segmentation rules for projects that obtained permits and interconnection agreements prior to June 5, 2017. See 225 CMR 20.07(f)(3)(a) and 225 CMR 20.07(g)(6). This date was approximately eight months after DOER's first substantive proposal in September 2016, and more than four months after DOER presented its final proposal in January 2017. See <https://www.mass.gov/info-details/historical-development-of-the-solar-massachusetts-renewable-target-smart-program>.

⁴ <https://www.mass.gov/files/documents/2016/10/nf/developing-a-post-1600-mw-solar-incentive-program.pdf>.

year. Instead, National Grid and Eversource West cycled through all of their available blocks in *less than a year*, far outpacing the cost declines that SEA and DOER assumed would materialize over the course of six years. Those cost declines have not yet materialized, as the Joint Solar Comments correctly point out. The result is that current base rates in central and western Massachusetts are no longer sufficient to support continued development (and may not be sufficient to support the financing of many projects that have already secured SOQs in later blocks). **Consequently, we recommend that DOER freeze the base rates in National Grid and Eversource West at their current levels at least through 2021 to allow the market to catch up with the unexpected pace of decline in these base rates.**

As a point of reference, we recommend that DOER review SEA's most recent analysis for the Rhode Island Renewable Energy Growth Program, which recommends ceiling prices that are significantly higher than the base rates for projects in National Grid and Eversource West.⁵ As Table 1 shows, projects on the waitlist in National Grid and Eversource West would receive between 18-34% lower compensation than SEA believes these projects require in Rhode Island. This discrepancy is likely to be even more pronounced in Massachusetts due to the state's peculiar electrical contracting rules, which significantly increase costs for larger projects relative to Rhode Island.

Table 1: Comparison of REGrowth Ceiling Prices to SMART Base Rates

Project Size	Proposed 2020 REGrowth Ceiling Price (c/kWh)	National Grid Base Rate (Block 8) (c/kWh)	Percent Difference	Eversource West Base Rate (Block 8) (c/kWh)	Percent Difference
251-500 kW	17.85	14.62	18%	13.42	25%
501-999 kW	17.85	12.86	28%	11.81	34%
1 - 5 MW	15.15	11.70	23%	10.74	29%

- Major changes are needed to improve the dual use agricultural system (ASTGU) rules.** Farms are a critical piece of Massachusetts's landscape and livelihood. However, farming has become increasingly difficult, and many farmers face the choice of selling their land to a real estate developer or going out of business. If done correctly, the SMART program could provide a third alternative--allowing farmers to receive a stable, predictable income from a solar lease while allowing them to continue farming. We strongly agree with the Solar Commenters that this program needs substantial improvement if it is to live up to its promise. Indeed, in our view, this program has so far been a complete failure in that it has frustrated concerted efforts by conservation-minded farmers and willing developers to pursue dual use arrangements as an alternative to traditional ground-mounted solar. **To understand just how badly this program is failing, DOER need only consider that as of DOER's August 2019 update, less than 0.5% of the more than 750 megawatts of ground-mounted solar in the SMART program have been approved as ASTGUs.**

⁵ Sustainable Energy Advantage, Mondre Energy, Inc. *Rhode Island Renewable Energy Growth Program: Analysis and Discussion in Support of 2nd Draft 2020 Ceiling Price Recommendations*. August 28, 2019.

To improve this program so it may become a viable alternative to traditional ground-mounted solar, we recommend that DOER consider the following changes:

- **Avoid any further negative changes to the current shading requirements.** The existing shading requirement requires more land than necessary and complicates the design of ASTGUs, adding significant cost and substantially reducing solar yield. In our view and in the view of many of our agricultural partners, these requirements are already overly prescriptive, do not reflect farming realities on the ground, and are not needed for many perfectly reasonable agricultural uses, such as the cultivation of shade-tolerant plants or the use of the land for livestock grazing. We strongly urge DOER not to worsen these already unworkable rules.
- **Reduce leading edge height requirements to 4 feet or less.** The current one-size-fits-all height requirements for the ASTGU program add significant materials cost (they require substantially more steel and foundational work) as well as installation and operation and maintenance labor costs (electricians installing or servicing these systems must mount a truck or scaffolding to reach panels located above their reach, increasing both labor hours and risk). These requirements also increase the visibility of these arrays substantially, making permitting more difficult and angering neighbors. In practice, leading edge height requirements of 4 feet or less (which would still imply a height of approximately 8 feet on the high side of the panel) are sufficient for most agricultural uses, including nearly all crop uses and most grazing uses. Rather than mandating a super-expensive, one-size-fits-all height requirement that will be overkill for most agricultural applications, DOER should revise the requirement downward to allow for more flexibility and greater deployment at reasonable cost.
- **Do not limit DC project size.** DOER's proposal to limit project size to 2.5 MW DC appears highly arbitrary, and does not reflect real design practices in the field. In addition, further limits on projects size would only exacerbate the financial unworkability of the program, causing more farmers to opt for traditional ground mounted systems (which can be larger and therefore generate more lease revenue) rather than adopting ASTGUs. The result of this arbitrary size limitation will be to drive more farms toward traditional ground mounted solar, rather than toward the kind of dual uses DOER ostensibly seeks to encourage. Indeed, if DOER truly wants to make this program a viable alternative to traditional ground-mounted applications, it should increase the maximum size of the ASTGU program to 5 MW AC.
- **Incorporate bifacials into any new shading analysis and rules.** DOER and MDAR should quickly update the shading rule to fairly represent the reduced shading that may be possible with bifacial panels. Bifacial panels are largely transparent, allowing a significant amount of sunlight to reach the ground beneath and behind the panels. If properly accounted for in the ASTGU shading analysis, such panels could help avoid the tradeoff between ground insolation and solar project yield.
- **Consider hiring a third party administrator to review and approve ASTGU projects and waiver requests.** One of the greatest barriers to robust adoption of the ASTGU program has been the lack of consistent, timely guidance from DOER and MDAR with respect to what designs are appropriate under the ASTGU program. For example, Borrego has had to abandon several potentially viable ASTGU projects because of the difficulty of receiving clear guidance--and ultimately, approval--from MDAR for these projects. Developers often cannot wait months to submit designs for permitting or take the risk that a design that appeared to comply with the program would be rejected and require

re-permitting due to poorly advertised rules, and yet this is exactly the situation that exists today. Because of these challenges and those mentioned above, Borrego has had to construct all of our projects as traditional ground-mounts, rather than designing some of them as ASTGUs. In addition, if DOER makes the kinds of improvements suggested above, we would expect the volume of applications to increase as farmers and companies increasingly see this program as a viable alternative to traditional ground-mounted solar. One method to address the inconsistency in guidance and the potential increase in application volumes would be for DOER to contract with a new ASTGU administrator (such as the American Farmland Trust, the U.S. Department of Agriculture, or the Farm Bureau) to review site plans for completeness and compatibility and to issue letters of approval for new ASTGU projects.

Borrego welcomes the opportunity to work more closely with DOER and MDAR on ways to improve the ASTGU program. We truly believe this program has significant promise to avoid many of the challenging tradeoffs between land conservation and the need to rapidly decarbonize, and we sincerely hope the Department considers modifications to this program to enable it to benefit more communities in the future.

4. **DOER should grant automatic extensions for mechanical completion for projects that demonstrate that utility construction timelines exceed the required mechanical completion deadlines in the SMART program.** Borrego and others in the industry are experiencing another interconnection-related challenge stemming from long and unpredictable utility timelines, specifically, construction schedules that exceed the 12 or 18-month mechanical completion requirements under SMART. In some cases, we have received utility construction estimates that exceed two years, and we have been told that in cases where new substations may be needed, construction could stretch out for 5 years or longer before a project can begin to generate power. Currently, developers are required to complete construction of the solar array within 12 months (or 18 with an extension) regardless of whether the project has any chance of being allowed to generate electricity at the conclusion of that construction work. This requirement results in significant unnecessary costs, as projects must be procured and constructed far earlier than they will be available to generate revenues. And yet this requirement provides no benefit to either customers or ratepayers, since neither receives a benefit when a project sits rusting in a field. For this reason, we recommend that DOER clarify in regulation or guidance that the mechanical completion deadline will automatically be extended for any projects that can demonstrate that forecasted utility construction schedules or utility-caused delays would result in interconnection of the project after the end of the default mechanical completion deadline. cause : upgrade construction timelines are not being completed on time.

DOER and the state of Massachusetts have long supported the solar industry and Borrego's mission to solve the world's energy problems by accelerating the adoption of renewable energy. We sincerely appreciate the Department's thoughtful focus on the next phase of the SMART program and to our recommendations for how to improve it, and look forward to further dialogue with you and other stakeholders in the coming months.

Sincerely,

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