LODESTAR ENERGY

COMMENTS OF LODESTAR ENERGY, LLC ("LSE")
DOER SMART 400 MW "Straw Powerpoint" Review released September 5th, 2019
September 27, 2019

Since 2015 LSE has developed or co-developed approximately 55 MW-dc of ground-mounted, rooftop, canopy and other solar facilities in the Commonwealth, plus 12 MW-dc of similar facilities in neighboring jurisdictions. We appreciate this opportunity to comment on DOER's tentative "straw" recommendations for a "SMART-II" program expansion and modification.

The proposed 800 MW program expansion is unreasonably conservative and constrained

We believe any meaningful program expansion should comprise *at least* another 1600 MW – and preferably double that volume – to avoid an inevitable do-over in a matter of months. The proposal's underlying assumption that "large" ground-mounted projects will continue to "hold steady" at ~ 47 MW/month appears based on incorrect assumptions. Among other factors, the proposed expansion does not reflect the fact that at least "several hundred MW" of projects have been suspended indefinitely by the ASO cluster study. Many of these projects have not been able to file SMART SQAs due to inability to secure Interconnection Service Agreements – or even Impact Studies – until the cluster study is complete. Issuance of ISAs for these projects will break another log-jam like that created by the SMART initial-program-window following closure of the SREC-II program, which saw over 2,500 SMART SQAs filed in the program's first few weeks. As indicated by experience with stop-and-start extensions of the federal Investment Tax Credit and the Commonwealth's net-metering caps, such disruptive approaches may seem penny-wise but are pound-foolish – they undermine rather than advance market certainty, PV investment and project development. Indeed, the unpredictability they generate often drives development to other jurisdictions, as New Jersey's current experience seeking to replace an established SREC program demonstrates.

We believe an 800MW expansion will fill at a much faster rate than 47 MW per month for "large" projects. We note that the Straw does not indicate any verifiable basis for its 47 MW/month estimate, which appears to assume few if any projects from Western/Central MA (nearly half the Commonwealth). This is because the ASO suspension was announced at the end of January 2019, only 2 months after the SMART window opened. That suggests in turn that the Straw's figures are seriously biased downward regarding actual demand – biased downward both by the ASO suspension's effects, and by perceptions that the program already is way oversubscribed.

We strongly recommend that the proposed program expansion total 1600 MW minimum, and up to 3200 MW.

The Additional Land Use Restrictions would undercut past DOER precedents and current DOER goals

The vast majority of projects that benefit LIH, LMI, and CSS customers unable to site their own solar PV are necessarily ground-mounted projects featuring scale economies which are sited on land that has not before been materially disturbed. DOER's apparent desire to **discourage** greenfield development across-the-board paints with far too broad a brush, and will undercut its expressed goals of bringing solar benefits to low- and medium-income residents who have not thus far received proportional benefits.

Specifically but not exclusively, if DOER merely discourages "greenfield" projects to the point of financial infeasibility (see below), developers will not site more compensating CSS or similar projects on brownfields or landfills. The proposal tacitly acknowledges the high hurdles such projects already face, even with substantial incentives. It is clear that the economic incentives for brownfield, landfills and dual-use ag sites are not capable of overcoming the significant development risks associated with those projects. DOER should not assume that developers will switch to developing these projects simply because greenfield projects are made less attractive. Instead, developers will seek new markets, including those in other states and non-SMART spheres.

Applying an additional 5X greenfield subtractor to projects sited *in Town-approved solar zones* would contravene both DOER's Model Solar Zoning Ordinance and other actions DOER has taken to encourage predictable solar siting since the MA SREC programs began. Historically, DOER not only has promoted the Ordinance to Town Planning Boards, but has deferred to their determinations even when they adopted PV moratoria that undercut the state's general solar goals. We do not understand why DOER now seeks to override such considered local determinations.

Specifically but not exclusively, a 5x greenfield subtractor would make non-viable most or all future "greenfield" projects. For example, under the Straw proposal a 15 acre greenfield facility in a solar-zoned area would appear to be subject to a subtractor of $0.0375/kWh as a Category 2 project. This would represent more than 33% of a Block 9 base rate in National Grid or Eversource West, resulting in a net rate far below acceptable financial returns. Even with adders, few projects would be developed under this scenario, despite hard-fought local determinations encouraging them.

Straw Category 3 projects would fare worse. For example, under Category 3 the example project above would be subject to a $0.075/kWh subtractor, resulting in a net-rate near or below ISO-NE wholesale electric prices. The Straw tacitly acknowledges the perverse policy results this approach would produce – a massive exodus of larger-scale projects that could bid into the highly-uncertain ISO-NE market (theoretically avoiding SMART constraints altogether), or a similar exodus of solar development to other states. Given that such projects represent a main source of future, affordable solar benefits to renters and other low- or -medium income residents who have struggled to benefit from solar PV, no rational program should encourage such outcomes.

We strongly recommend that the increased "greenfield" subtractor be withdrawn, or in the alternative that it not apply to projects sited in Town solar zones or to projects that benefit low-income or similar under-served constituencies.

Declining block rates are not representative of in-the-market realities

We believe that a constant 4% decline in the base rate and community solar adders are not representative of the economics for Large Scale Ground Mounted arrays (500kW or larger). Most such projects have been seriously impacted by tariffs, increased interconnection costs, and significant delays imposed by the EDCs related to ongoing transmission studies.

We believe that DOER should decrease the Base Incentive Rate solely by 4% in Blocks 2 through 5, by 1% in Blocks 6 through 8, and by 0% -- i.e., hold the Base Incentive Rate constant -- in Blocks 9 through 12. We believe a thorough analysis of these later block projects similar to the analysis completed by DOER related to increasing the Greenfield Subtractor and the Public Entity Adder would result in the determination that most of the projects in Blocks 6-8 (and any additional blocks beyond that) would not be financeable at current rates of decline.

Additionally, DOER should not decline the incentive payment for Community Shared Solar. There is little reason to believe that costs are going to decline as the market for subscribers becomes more and more saturated with projects, while the base of customers remains constant (or in fact shrinks). Our analysis estimates that the value of the CSS adder in blocks 9-12 would be less than $0.02/W DC, which would not incentivize development of these projects, resulting in no benefits to CSS subscribers. To account for this, DOER should remove the Declining Block structure for community solar.

Finally, DOER is proposing to add abandoned Community Solar Adder capacity into the currently open Block. As described above, the current blocks are generally not incentive for development, and the reallocation of capacity into those blocks will not address the issue at hand. DOER should allow the adder capacity to remain in its current Block and move STGU's up in line to fill in for those projects that have withdrawn their CSS adder.

The proposed Energy Storage requirement as-is would needlessly hinder solar development and momentum

The Straw's 100% energy storage requirement – while understandable in concept -- could needlessly discourage many projects whose battery economics (even with falling storage prices) do not make financial sense. Right now, *even SMART Block 3-5 Storage Adders* are only marginally beneficial, given current costs and the uncertainty surrounding ISO-NE capacity rates. As these Blocks fill and the Adder declines, projects in lower SMART blocks – let alone "SMART-II" blocks -- will be hard-pressed to show financeable returns. It is far from given that storage costs will decline enough to make up the difference, in light of (e.g.) recent global upticks in storage demand and relatively scant battery cost history. While we applaud the DOER's support for storage, DOER must recognize that battery costs are not guaranteed to decline like historical solar panel and inverter costs .

We recommend instead that DOER continue to encourage – rather than mandate – storage by appropriately nuanced incentives, including maintaining and increasing the Storage adders rather than eroding them. If DOER should adopt a storage mandate, it should couple this requirement with a storage adder that is fixed at the Block 4 rate.

Any Interconnection Congestion Subtractor would be duplicative and disruptive

Serving utilities already have – and utilize regularly -- ample tools to de-incentivize development in congested areas. The ASO suspension is merely the most radical example. On a daily basis, Initial Impact or System Studies under the Tariffs tell developers and their financiers where – and where not – to pursue projects because costs of addressing actual or future congestion may be too great. Delays in interconnection studies, high costs of interconnection upgrades, and long post-ISA construction periods augment these signals. The proposed subtractor appears to assume without explanation that these signals are not sufficient and utilities are not capable by themselves of managing project interconnections in ways that assure system safety and reliability as well as customer service.**We do not understand why DOER should want to insert itself into these Tariff matters by seeking to add a further congestion penalty to those which already, and powerfully, apply.**

The Straw's Solar + Storage Metering and Operational Changes do not make sense

The Straw appears to propose a blanket across-the-board 3% AC discount rate for calculating DC-coupled storage system production with customer-owned meter reading. This is too simplistic and over-generalized. There are two locations within the DC power flow that a meter could be placed. If a meter is placed between the battery and the DC/DC converter (or if developers use the RGM metering inherent to the DC/DC converter) then a 3% loss estimation is valid. However, if the meter is placed between the DC/DC converter and the solar inverter, then this 3% loss estimation is inaccurate as typical inverters + transformers incur loss of less than 3%. In summary, this policy should be clarified as to the location of a meter on the DC side. Furthermore, a more detailed policy, that allows **the serving utility and project sponsor to simply agree to a conversion loss rate based on UL-endorsed manufacturer specifications. Each inverter manufacturer provides a reading of expected DC/AC conversion losses. All financeable inverters must be UL-approved. DOER should allow the optionality for the developer to elect the standard 3% blanket discount rate OR determine a discount rate based on manufacturer specifications.**

Additional Commenters

Carbon Finance Strategies LLC has developed or co-developed over 24 MW of ground-mounted PV projects in Massachusetts, including several projects with LSE. It joins in these comments.

Please contact Dan Watson at dwatson@lodestarenergy.com if you have questions about these comments.

Yours truly,

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