October 28, 2016

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

Re: Preliminary Comments on DOER's Successor Solar Incentive Program Straw Proposal

Dear Commissioner Judson:

Thank you for the opportunity to comment on the Department of Energy Resource's ("Department" or "DOER") straw proposal for a successor solar incentive program, as originally released and presented on September 23, 2016. The Northeast Clean Energy Council ("NECEC") and our member companies are appreciative of your work to ensure a smooth transition for the solar industry to a new policy and incentive framework, and we greatly appreciate the opportunity to provide comments on the proposed design of the new program. We also want to thank the Department of Energy Resources (DOER) and the Administration for your leadership in addressing issues that affect the growth of the solar – and other clean energy – industries in Massachusetts, as well as for spearheading the intensive but productive stakeholder process thus far. We look forward to continuing our collaboration in the stakeholder working groups and beyond to refine and finalize a long-term sustainable structure for the new incentive program.

NECEC is the lead voice for hundreds of clean energy companies across the Northeast, helping to grow the clean energy economy. NECEC's mission is to create a world-class clean energy hub in the region delivering global impact with economic, energy and environmental solutions. NECEC is the only organization in the Northeast that covers all of the clean energy market segments, representing the business perspectives of investors and clean energy companies across every stage of development. NECEC members span the broad spectrum of the clean energy industry, including solar, energy efficiency, renewable energy, CHP, energy storage, fuel cells and advanced and "smart" technologies. Our members are already – or are very interested in – doing business in the Commonwealth and helping to grow our clean energy economy.

Summary and Overview

For the Next Generation Solar Incentive program to enable the continued robust development of solar in Massachusetts, it is essential that the program provide the appropriate underpinning for a stable and predictable marketplace. The transition to a new incentive program offers the Department and stakeholders an opportunity to avoid the uncertainty that has characterized past transitions – a chance to lay out a framework that will offer consistent and reliable support for the next half-decade of solar growth and beyond. The successor program can and should be conceived as a smooth glide path to long-term cost-competitiveness for solar, but it will only be able to do so by providing a workable framework for solar growth in the near-term and maintaining flexibility for extension, as appropriate, beyond this time period to avert any possibility of a "cliff" for the industry after the program ends.

With this framing, NECEC offers these preliminary comments and recommendations for the Department's consideration. As many of the intricate details and mechanisms continue to be

worked out in the Department's working groups, we hope that these comments will provide helpful principles and identify the areas of greatest concern for NECEC's members. We reserve the right to provide further comments as DOER refines the successor solar incentive program through the working group process. NECEC very much looks forward to continuing its collaboration with Department staff in the coming months.

To begin, NECEC applauds the Department for advancing an initial proposal that supports another 1600 MW of new solar development in the Commonwealth. We recommend that the Department structure the new program to enable future refinement and extension beyond 1600 MW if merited. The proposal as currently envisioned should provide more predictable incentives and at lower costs to ratepayers than the current SREC II program. Furthermore, the proposed successor incentive program attempts to level the playing field between net metered and non-net metered projects with the objective of mitigating market disruptions caused by delays in addressing distribution company net metering caps as they are reached. Despite the proposal's laudable intent on this issue, NECEC joins others in cautioning that the proposal should not and cannot be a replacement for net metering in the Commonwealth. Net metering has proven to be a solid cornerstone on which a robust solar industry in Massachusetts has been built, providing compensation for the benefits solar provides to customers, the electricity system and the environment. It has a critical role to play for the duration of the successor program and beyond as solar moves towards long-term grid parity.

NECEC has and continues to work with SEBANE, SEIA, VoteSolar, and MassSolar, and our views generally align with theirs. In particular, two issues critically important to the solar industry are:

- Eliminating or mitigating the gap between SREC II and the implementation of the successor program; and
- Implementing standards for the siting of solar consistent with and not duplicative of current siting requirements to ensure that the development of solar across the Commonwealth is not inappropriately restricted.

First, as the timing realities of developing and promulgating the Department's regulations become clearer, acting now to avert a significant gap between the current and successor incentive regimes takes on elevated importance. NECEC reiterates the comments made by members of the industry to the Department in their September 30 letter, which put forth several remedies that would "ensure the continuation of a viable commercial market for all projects during the development of a new program."

Second, we suggest that DOER consider moving the land use/siting issue into a separate, more inclusive and deliberative stakeholder process, which could maximize the likelihood of yielding sensible land use and siting policies that protect the Commonwealth's precious lands without unduly constraining responsibly-sited solar. These two issues will remain central imperatives as the successor program's development moves forward.

In addition, NECEC makes the following recommendations for the DOER's consideration. The successor program must:

- Employ a metering construct that guarantees the timely and accurate measurement of electricity production, consumption, and netting thereof;
- Strike an appropriate balance between project owners' and distribution companies'

rightly-held concerns regarding meter autonomy and access to production data;
- Provide a workable avenue for the development of community shared solar (CSS), including and especially a model for CSS that does not or cannot participate in net-metering;
- Safeguard and boost the participation of low and moderate income populations through both onsite and remote projects;
- Ensure a smooth ramp-down for the industry for the duration of the new incentive program, achieved through a combination of enlarged initial blocks (400 MWs) and a more gradual 'block-to-block' rate reduction of 2.5%;
- Preserve project diversity and equitable access to block capacity (e.g., for small rooftop projects, municipal projects, etc.) through appropriate rates and adders, block segmentation, application requirements, and other mechanisms;
- Set forth a block management structure offering predictability and stability to the marketplace, including transparency into real-time block capacity, future block tariff rates, and waitlist(s)/queue(s) for capacity reservation and enrollment; and
- Amplify the natural synergy between solar and energy storage and catalyze the deployment of storage across the state.

Our comments below expand on these and provide other recommendations, structured to mirror the subject-matter categories of the Department's six working groups. We offer our comments in this format to enable DOER staff to easily distill our recommendations and match them against other comments and the materials being considered by the working groups.

I. Billing, Crediting, and Metering

While significant details remain to be ironed out, NECEC generally supports the discussions and direction to date in the first working group on issues related to billing, crediting, and metering, including the role of third-party administrator(s) and REC verification. Below, we lay out specific thoughts and recommendations on these and other areas of discussion.

Calculation of Tariff Payments

There seems to be some agreement among working group members on DOER's proposed model for calculating tariff payments by "netting" the value of the energy, whether that be behind the meter usage or exported value (realized in net metering credits, QF payments, etc.). However, the implementation details will be critically important and there remains significant uncertainty with respect to the treatment of wholesale market participants that must be addressed.

In addition, the working group is discussing how time of use (TOU) rates – whether simple on/off-peak rates currently employed or more sophisticated time varying rates (TVR) or real-time pricing (RTP) in future years – can be factored into the netting methodology for all project types. The complexity of netting time-varying consumption, behind-the-meter usage, and exported power increases exponentially, and it is already a factor today for commercial customers with more complex utility service tariffs and 3rd party supply agreements. As TOU, TVR and RTP are extended to a wider array of customer classes in future years, the 10-to-20 year tariff program must be structured in a way that is compatible. This reality may offer support and an opportunity for the adoption of "smart" meters and advanced metering infrastructure (AMI), rather than deployment of multiple separate production and consumption meters, as part of the tariff program (as elaborated further below). From a broad perspective, we urge DOER and

stakeholders to proactively consider the impact of TOU/TVR on energy value netting and, by extension, tariff payment calculation.

Metering Standards

Based on the Department's presentations and working group discussions to date, it is clear that metering must be able to distinguish between consumption and production for the envisioned netting methodology to be successful. The most recent conversations have, as a result, focused on a two-meter construct to make the tariff payment calculation feasible: one standard, bidirectional utility meter to measure the net consumption for a given account, and one production meter to capture the total kWh generated by each system. Ownership of this second production meter – including access to its data – has been a topic of debate, with distribution companies asserting that the nature of the tariff program may necessitate utility ownership of both meters. Others contend that this is not necessary and support a model that retains customer/host ownership of the production meter but ensures utility 'reading-access' to ensure adequate capture of consumption and production data. Discussions about the possibility of an additional redundant production meter (one for the utility, one for project owner) seem to add a layer of unnecessary complexity and cost.

NECEC notes that both multi-meter models beg the question of whether an opportunity exists to promote AMI adoption under the new incentive program. Instead of two or even three "dumb" meters, the functionality of a single smart meter could be leveraged to measure production, behind the meter consumption, exported power, and the net thereof, not to mention increased compatibility with sophisticated TVR/TOU rate designs. When weighed against the complex, expensive, and possibly contentious alternatives being discussed, AMI adoption may be an option for the DOER to explore further as a model for the successor program.

On the whole, NECEC views the key issues relating to metering as 1) real-time access to data for solar system owner; 2) a clear and quick process to identify and correct any meter issues in the field; 3) a clear and quick process to settle disputes and make adjustments to production values in the event of issues or discrepancies with the production meter data; and 4) data integrity and reliable reporting to the third party administrator that is being proposed to conduct credit calculation and payment.

Third-Party Administrator

NECEC supports the concept of hiring a third party administrator, or several administrators performing different functions, to implement aspects of the new incentive program. A third party administrator should measure and verify the output of the solar systems, review block allocation applications, and certify applicant eligibility.

NECEC strongly recommends that the third party administrator also take on the role of allocating on-bill credits, whether full net metering credits or other on-bill credits in the case of non-net metered projects. The distribution companies have worked to improve their billing processes in recent years, but current billing systems are still inadequate, are in some cases still hand-billed, and should be considerably improved. A third party administrator taking on this functionality offers considerable value for all solar customers and ratepayers.

Community Shared Solar

All of the issues currently under discussion in the working groups will have an impact on all community shared solar (CSS) projects. As the Department is undoubtedly aware, one area of particular concern for many stakeholders is the lack of understanding of the ways in which community shared solar projects would operate in a non-net metered context. The continued feasibility and success of community shared solar under the new incentive program is a high priority for both members of the solar industry and advocates pushing for increased low-income access to solar.

NECEC notes DOER's solicitation for ideas from the industry about how these projects would operate, but recommends a more direct discussion of concrete options, which would be beneficial to all parties involved. As one option, NECEC has been participating in the development of National Grid's community remote distributed generation (CRDG) proposal in Rhode Island and is supportive of efforts to explore the merits of a structure similar to the CRDG model. This model would secure projects' ability to spread the benefits of solar participation through the sharing of on-bill credits. However, DOER and stakeholders would have to scrutinize whether certain provisions proposed in Rhode Island should be adopted for the Massachusetts program, particularly because CRDG does not have to grapple with the netting of energy value as proposed here in Massachusetts. These provisions include, but are not limited to: limits on the amount of credits a host can allocate to recipients based on recipients' on-site consumption (individual or combined); the calculation of recipients' monthly on-bill credit via a rate based on the recipient's rate schedule, not the host's rate schedule; and the reduction of the total incentive payment to the host based on any unallocated (unsubscribed) kWh.

Low Income Access

A critical derivative of enabling non-net metered community shared solar is low-income access and participation. Assuming the tariff program will provide adequate compensation for non-net metered solar projects, the ability for the program to benefit low-income communities hinges on non-net metered community shared solar mechanics. Whatever the specifics, it is imperative that non-net metered solar projects are able to assign at least a portion of the tariff they would be paid to low-income customers and affordable housing developments. Such an assignment would reduce the cash the non-net metered solar project would receive and transfer the value to designated offtakers in the form of a credit on their electricity bill. In this way, it would emulate and improve upon net metering through the allowable transfer of credits across utility territory and load zone boundaries.

A community shared crediting mechanism such as this is essential to share the benefits of solar without running into the tax and income issues and restrictions associated with sharing cash. As other groups have noted in previous letters to DOER, cash payments can raise tax issues for low-income individuals and impact eligibility for programs and services and many affordable housing developments are unable to accept cash that is not rental income.

II. Application Review, Qualification, and Block Management

Qualification

NECEC supports a block reservation system based on the criteria currently used by MassACA. That process requires applicants to demonstrate they have obtained all non-ministerial permits, have established site control and have an executed Interconnection Service Agreement. The 9-month reservation period with options to extend for legal challenges, interconnection delays not

under control of developer, and good cause are also valuable criteria that should be replicated in the successor program. NECEC strongly recommends that the Department preserve these thresholds for block capacity reservation and enrollment in the new program.

An additional issue the Department should take under consideration is the merit of embedding certain protections for public/municipal projects in application review and qualification criteria. Absent specific and separate blocks for public versus private projects as is the case with the net metering caps, municipal projects may face structural disadvantages in the successor program if they are forced to compete with private applications. A large and addressable part of the issue is simply the unavoidably longer applications timelines that municipal projects face, which will likely prevent project financiers, developers, and town officials from accurately predicting in which block the project will eventually fall. Though the seed for a public project may be planted during Block 1, the RFP and other mandatory procurement processes may not result in a completed application package until one or more future blocks have elapsed, which in turn may force developers or contractors who expected higher tariff rates to abandon projects. The Department should explore and remain open to creative workarounds such as extended reservation periods or lowered preliminary qualification criteria to ensure that municipal projects with lengthy application timelines are not disadvantaged.

Block Management

NECEC is supportive of the capacity-based block structure described in DOER's straw proposal. As a modest adjustment, we recommend that the incentive program be structured to provide additional room in the first two blocks. Given the expected gap between incentive programs for solar projects greater than 25kW, NECEC remains concerned that pent up demand for incentives will yield a significant number of applications upon the start of the program and quickly fill the first two blocks. Additionally, the expected demand for the initial blocks from large scale projects that require more capacity may run the risk of crowding out smaller commercial or residential projects, ultimately threatening the fulfillment of the statutory requirement that the program support "diverse installation types and sizes that provide unique benefits".[1] Instead, larger initial blocks of 400 MW each would allow for a more orderly transition to the new program and would provide increased stability for project investors. Later blocks could be reduced to 200 MW of capacity, though this capacity should be maintained as a minimum to ensure that all project sizes have an opportunity to participate for the duration of the successor program.

DOER staff have discussed the idea of including a departmental review period in the regulations, which would be triggered if development in the successor program has severely under or out-performed expectations after a set period of time. Generally, a readjustment period based on such a review will tend to drive developers to rush to 'beat the clock' before incentive levels are adjusted. As a result, we think this is likely not the best construct to embed in the Department's regulations, but we remain open to discussing alternative arrangements that would ensure appropriate levels of review authority for DOER.

Separately, NECEC joins other industry voices in asserting that the proposed 5% decline between blocks is too steep and not appropriately supported by industry cost reduction expectations. As an alternative proposal, NECEC recommends reducing the percentage step-down in incentive levels between blocks from 5% to 2.5%. As noted by others, the current

[1] The Acts of 2016, Chapter 75, An Act Relative to Solar Energy, Section 11.

proposal to reduce the incentive levels by 5% per year would result in an overall reduction of approximately 35% in incentive amount over the course of the successor program, and a 2.5% reduction would provide a more moderate glide path in greater alignment with the current pace of cost reductions in the industry. Industry forecasts through 2020 predict solar capital cost reductions ranging from approximately 2-3 percent per market segment in the early years of the incentive program to approximately 1.5 to 2 percent in the later years.

Similarly, as others have noted, NECEC further recommends that DOER not apply stepwise incentive reductions across the board to all proposed adders. Multiple adders are squarely intended to encourage project development in certain market segments or in certain areas (i.e., low income communities, on brownfields and landfills) that reflect costs expected to remain fixed for the duration of the successor program. While we recognize this has the impact of essentially increasing the impact of the adder over time and driving more development to these projects, the public policy rationale for incentivizing these activities will presumably remain in place for the lifetime of the new program. Other adders that are expected to see costs decline over time could be reduced along with the base tariff rates.

Finally, NECEC suggests that the Department employ a combination of policy levers – including application criteria, block size and segmentation, and rate and adder levels – to ensure equitable access to block capacity for the full range of diverse projects that can provide benefit to the Commonwealth. There is understandably some hesitation towards block segmentation for certain project sizes or types, and the Department should not rely exclusively, or even primarily, on minimums and carve-outs to ensure diverse project development. For any minimum carve-outs of block capacity that are employed, NECEC would recommend that the Department open up for general eligibility any capacity that has gone unused/un-enrolled for a certain predetermined period of time.

Beyond these initial recommendations, many complex questions remain: including how long does an applicant's block reservation period last, how does attrition within the block impact subsequent blocks; and questions about splitting capacity across blocks. We look forward to working with DOER to develop solutions to these problems.

III. Tariff design and specific project eligibility criteria

Non-Net Metered Adder

NECEC supports the location, offtaker and policy based adders included in the Department's proposal. These adders enable a diverse portfolio of solar projects, expand citizen access to solar, and align with the public policy objectives of the Baker Administration. Moreover, the proposed adders maintain programs and system types incentivized in the SREC II program including landfills and brownfields projects, community solar, parking canopies and building mounted systems.

NECEC has a concern related to the policy based non-met metered adder. At the Tariff Working Group, it has been suggested that the non-net metered adder is not necessary to facilitate the development of projects as Qualifying Facilities (QFs) whether tariff-based or wholesale. We disagree with this view and would strongly urge DOER to retain this adder as it is necessary if the successor incentive program is to accomplish the objective of mitigating market disruptions caused by delays in addressing distribution company net metering caps as they are reached.

NECEC supports Blue-Wave Capital's comments on this issue.

Tariff Duration and Tariff Rate "Caps"

NECEC supports the Department's initial proposals for ten and fifteen year tariff durations. Based on feedback from some of our members, we would also recommend that the Department include an option for longer-term tariffs, accompanied by appropriate rate level adjustments, to preserve the workability of differing financing models across the industry.

Separately, NECEC opposes recent proposals to cap or otherwise limit the total value of tariff rates plus adders. There should not be an arbitrary limit set on the combined total of base incentives and combinations of adders, as these adders are reflective of sound public policy priorities and already include the Department's well conceived 'one-adder-per-category' restriction. We would strongly urge the Department to dismiss any proposals to set a ceiling on the total per-kWh incentive rate.

Definition for Affordable Housing

The straw proposal notes "DOER intends to maintain SREC II criteria and Guideline for qualifying facilities that serve low income properties." The SREC II program defines solar serving affordable housing pursuant to the definition for "low or moderate income housing" set forth in M.G.L. ch. 40B. §20. This definition does not include all types of affordable housing developments because it includes only those built or operated by public agencies, nonprofits or limited dividend organizations. A more inclusive definition is the one set forth in M.G.L. ch. 40T, § 1 for "publicly-assisted housing". NECEC would encourage the Department to adopt that definition as part of the successor incentive program.

IV. Land Use and Siting

As stated at the beginning of these comments, land use and siting is an area of major concern for NECEC. We are fully supportive of the responsible siting of solar systems and the principles of responsible project development, but suggest that they be handled outside the context of the Department's emergency regulation for the successor solar incentive program.

We recommend that DOER move to a more deliberative collaborative process for the land use and siting issue and include all relevant parties, such as the larger environmental community, towns and municipalities, the agricultural and forestry communities, and relevant agencies within the Energy and Environmental Affairs secretariat. The goal of this separate deliberation should be to produce fair and non-discriminatory land-use guidance, which could be based on performance standards.

NECEC is concerned that the siting restrictions proposed by stakeholders and incorporated by DOER in their current form would significantly decrease the amount of land available for solar development throughout the state and significantly increase overall project costs, undermining the purpose of the incentive program altogether. Additionally, the restrictions currently proposed may unfairly target solar installations while other, potentially more impactful, developments and infrastructure are not restricted, including projects that similarly receive support from electricity customer or taxpayer dollars.

NECEC is working with other stakeholders to develop a set of sensible performance standards

that could be used to govern solar installations on protected lands. We encourage the working group and Department to continue pursuing this avenue in earnest, though as stated previously a resolution should not delay the Department's preparation and promulgation of an emergency regulation. As a general principle, rather than creating limits that restrict private landowners' rights in ways that no other state program currently does, the Department should consider providing additional incentives for projects that best promote the state's conservation goals (e.g., for projects that meet specified performance standards for soil management and tree clearing). This would reflect the additional costs that meeting these goals imposes on project development.

The issues surrounding land use and siting are of great importance to the solar industry, as inappropriate restrictions would undermine the objective of the successor solar incentive program. We look forward to working with the Department and other stakeholders to arrive at a set of solutions acceptable to all parties and recommend taking the necessary time to do so outside the time constraints of the emergency regulations if necessary.

V. Emerging Technologies and Business Models

NECEC believes that the solar successor program can be a potent catalyst for the deployment of advanced energy storage and other emerging technologies across the state. As the Department is undoubtedly aware, the *State of Charge* energy storage report identified substantial cost-reductions that storage technologies can provide related to the integration of DERs. By managing load, addressing reverse power flow issues, and avoiding feeder upgrades, energy storage holds the promise of $219m in cost reductions related to DER integration.[2] Properly incorporating energy storage into the successor solar incentive program will be vital in helping the state realize these cost reductions, and indeed a well-designed framework may unlock synergies not contemplated by the report to allow the state to access even greater savings.

At this preliminary juncture, NECEC presents the following recommendations to the Department for consideration in its treatment of advanced energy storage technologies and business models:

- Advancing Commonwealth Energy Storage (ACES) RFP awarded projects, as well as other projects that receive similar grants, should not be eligible for the storage adder under the successor solar program;
- A wide range of fast-acting, advanced energy storage technologies, including various battery models, should be considered eligible for the program;
- The energy component (duration, measured in kWh) of an energy storage system is proportionally greater than that of the power component (measured in kW). As such, optimizing the energy size of the energy storage is of utmost importance to ensure maximum return. An incentive based on kWh is most effective, because an incentive based on kW may artificially inflate the power design of a system;
- A minimum energy 'storage system power' to 'PV system power 'ratio (50%, 75%, etc.) should be set for adder qualification;
- Rate structures (e.g., time of use) that realize the un-monetized value streams of energy storage are generally a better tool than performance based metrics, as operations of the energy storage system can ensure that returns are maximized;

[2] See *State of Charge* report, page xii.

- The minimum for behind the meter project size should be lowered, possibly set at 5 kW, with similar power ratio requirements as mentioned above; and
- For behind the meter projects with zero net exports, a fast-track interconnect process for should be considered.

NECEC looks forward to the ongoing discussions and deliberations related to these issues, and our members can serve as technical resources should the Department or the working group require additional input and assistance.

VI. Cost Recovery, Tariffs, and DPU Process

Based on working group discussions to date, DOER has stated that it has prepared draft regulatory language implementing the straw proposal. We strongly recommend that DOER release this draft regulatory language for stakeholder review and initial comment prior to the conclusion of the working group process. NECEC recognizes that the final draft language may change based on decisions made in the working groups, but the "pre-release" of the language will provide all stakeholders the opportunity to better understand proposal details and identify any problems in advance.

More generally, NECEC supports a smooth, coordinated and efficient regulatory process at DOER and the Department of Public Utilities (DPU) to prevent delays that would have serious ramifications throughout the industry as developers and investors lay the groundwork for feasible project development under the new regime.

Other Considerations

NECEC understands that the Department is in discussions with the Municipal Light Plants (MLPs) to about how their citizens and businesses can participate in solar and take advantage of the successor incentive program. NECEC member companies want to be able to continue to bring their projects to these MLPs. We note that there will be great benefits in avoiding a decentralized model with as many as 41 distinct solar programs in each of the MLPs. As a result, we are supportive of the Department in its efforts to find a way for MLPs to participate in or provide their own joint equivalent solar incentive program.

Conclusion

Thank you for your consideration of our comments. NECEC looks forward to continuing to participate in the stakeholder process to work toward a consensus on the form of the successor solar incentive program. We would be glad to discuss any of our recommendations with DOER and reiterate that we are available as a resource to you throughout this process. Please do not hesitate to contact us if you have any questions or we can provide any assistance.

Sincerely,

Peter Rothstein
President

Janet Gail Besser
Executive Vice President

Cc: Michael Judge, DOER
Kaitlin Kelly, DOER
Jamie Dickerson, NECEC