

**Comments of Advanced Microgrid Solutions  
Massachusetts Department of Energy Resources RPS Solar Carve Out III**

October 28, 2016

**About Advanced Microgrid Solutions**

Advanced Microgrid Solutions (“AMS”) appreciates the opportunity to submit comments on the Massachusetts Department of Energy Resources’ (“DOER”) RPS Solar Carve Out III (“SREC III”). AMS is a modern energy company led by a team of industry veterans. We design, finance, install and manage energy storage solutions for commercial, industrial and government buildings throughout the State of California. We continue to site and develop project opportunities throughout the country, including New Jersey and Maine. Our business model is to use best-in-class energy storage technology and proprietary analytics software to aggregate behind-the-meter battery storage and directly benefit both customers and the electric grid as a whole.

AMS is currently contracted to build over 120 MW / 500 MWh of customer-sited energy storage projects for grid support. We are developing landmark energy storage and microgrid projects addressing the water-energy nexus, grid reliability and renewable energy integration that use advanced energy storage to integrate solar, wind, fuel cells and other renewable resources into the electric grid and lower energy costs for customers.

AMS fully supports the DOER’s important efforts to promote and ensure the participation of Solar+Storage systems in Massachusetts. We look forward to engaging throughout the stakeholder process.

**Comments**

**I.) Valuation**

The evaluation of SREC III incentive levels for behind-the-meter storage must be based on two primary drivers: sufficient cost recovery and the ability to drive investment such that the incentive level does not discourage or disincentive the need for asset utilization and value creation. The incentive must provide sufficient cost recovery to enable storage developers to earn a competitive ROI and thus drive market participation.

Together, the behind-the-meter storage industry used primary data on a dollar-per-kWh of storage to base extrapolations based on the value of solar system kWh. Our findings concluded that the upfront incentive valuation to be ~\$330/kWh of an energy storage system. This assertion assumes that the storage system will also need to generate at least two times this incentive value in revenue in order for the developer to achieve a competitive return on investment that both incentivizes asset performance and maximizes value to the customer and the grid.

**II.) Incentive Structure**

The current Massachusetts DOER SREC III Straw Proposal suggests an adder for behind-the-meter storage based on solar system production kWhs. This is sufficient

under particular conditions, but requires additional guidelines that would base payment on storage system kWhs. Otherwise, a storage adder based on solar production would lead developers to undersize storage systems. For example, developers could add very small systems that fail to create additional value for their customer or the grid while still collecting the full incentive. Additionally, any non-dynamic sizing floor will incentivize the market participants only to size to the bare minimum disregarding system optimization. Therefore, the incentive payment must be tied in some way to the energy storage system size. Together, our industry advocates for the following:

#### **Upfront Incentive Structure | Storage System kWh Based Adder**

Under this structure, incentive payments are based on storage system kWhs and could be dispersed as an upfront payment. Primary calculations suggest a value of approximately ~\$330/ kWh upfront. For this scenario a size floor and payment ceiling cap based on the ratio of the storage system kWhs to the solar system kWhs is necessary. Finally, our industry further advocates for a floor of 25% of the solar system capacity and a payment cap at ~55% of the solar system capacity.

#### **Annual Incentive Structure | Solar Adder with Incentive Multiplier Based on Size**

This scenario builds on the currently suggested fixed adder of ~\$0.03 / kWh of solar production, but suggests additional participation parameters to ensure that energy storage systems are optimally incentivized to maximize value generation.

An incentive multiplier based on the ratio of the storage system kWh to the solar system kWh capacity is best suited at a value of 1 ( $\$0.03/\text{kWh}$ ) = ~35% with the ability to move up/down incrementally (e.g., for multiplier 1.2 ( $\$0.035/\text{kWh}$ ) = ~40%; multiplier 0.08 ( $\sim\$0.25/\text{kWh}$ ) = ~30%, etc.). Accordingly, our industry advocates for a 25% floor with no incentive payment below that sizing. Further, we advocate for a cap at ~55% with no additional payment beyond this size.

### **III.) Incentive Stepdown**

We support the SREC III Straw Proposal plan to step down incentive levels based on megawatt tiers, but advocate that the storage adder stepdown be based on storage megawatts installed, not solar megawatts. This allows the system to more effectively reflect market forces and send a clearer market signal.

Depending on how these tiers are structured, we also encourage that the storage incentive follow a steeper cost stepdown than solar -- storage technology is at an earlier learning-curve position.

### **IV.) Equipment Qualifications**

To encourage incentive programs to maintain credibility and to ensure consumer protection, we encourage additional equipment standards. The standards should help scale mature technologies and indicate program intent (i.e., that SREC is not intended to be a pilot program). An example standard is the for UL certification for the internal system component. AMS, alongside it's industry partners, look forward to engaging further on the development of additional equipment qualifications and necessary standards.