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TO: DOER SMART Staff  
SMART PROGRAM REVIEW COMMENTS- September 25, 2019

Thank you for the opportunity to present these brief comments on the SMART Program for its' required review and in response to the Straw Proposal presented first at the Shakespeare and Company - Elayne P. Bernstein auditorium in Lenox , Massachusetts.

We'd like to begin by commending DOER on it's choice of this facility in the Berkshires.

BPVS, Berkshire Photovoltaic Services Inc. is now in it's 35<sup>th</sup> year of designing and installing PV systems of all types in the region. We've operated continuously under the same name and management all these years and participated in every PV incentive program. For the last three years since *The Berkshire Eagle* initiated a Renewable Energy Category in it's "Best in the Berkshires" reader's poll ; BPVS has been selected #1- each year.

Our firm's experience in Massachusetts solar incentive programs is unmatched . There is a long history of solar pioneering installations in the Berkshires and western Massachusetts due in large part to the environmental ethos that adheres to the people who make this area home. Only one of our Massachusetts installations have participated in the SMART program since it started in November 2018. The disconnect between what DOER and the utilities portray as the SMART program is a turn off to discerning people.

#### Irrevocable Utility Ownership of Attributes

The SMART program conveys irrevocable ownership of all solar electricity attributes to the host utility for the full ten or twenty year term.. There is no opting out of this requirement. The DOER SMART Consumer Disclosure Form refers to the separation of attributes from electrons in a way that sounds plausible and reassuring to the average consumer but is deceptive. It's important to explain to consumers ( and many ask ) about this last paragraph of the Consumer Disclosure Form which states in part:

"while you cannot claim that you are using the solar power generated by the facility, your purchase of a solar array does support solar development in Massachusetts and increase the amount of solar energy consumed by all electric ratepayers in the Commonwealth."

Our customers want to understand this and we explain that the SMART program incentive is really a transaction. The PV system owner has to convey the clean energy goodness of their generation and it's environmental benefits to receive payment over and above the basic value of electricity from the utility. This was true of previous programs as well and we have presented careful consumer disclosure on RECs & SRECs since 2002. Prior to SMART, customers always had the opportunity to opt out. Many chose not to participate in selling attributes at all for environmental authenticity reasons.

DOER's choice of phrasing is unfortunate because the utilities may use attributes conveyed through the SMART Program as a Renewable Energy Certificate or REC and other "*Certificates*" in venues outside of the Massachusetts Renewable Portfolio Standard.

The SMART program was begun before the final SMART Utility tariff was ready to publish and before the utilities had presented their **Solar Massachusetts Renewable Target ( "SMART") Renewable Energy Certificate Assignment and Aggregation Form Agreement ( Agreement"**) publicly. Imagine you are a consumer with good reading comprehension who has just signed the Consumer Disclosure form and is presented with the utility SMART REC agreement which states:

- The utility is "*authorized to include and represent my ( Solar Tariff Generation Unit) or STGU in the New England Power Pool Generation Information System ( "NEEPOOL-GIS") and/or any U.S. state, domestic , or foreign registry for Environmental Attributes ( collectively " Other Registries"*).

We explain that means a utility can and often does sell the RECs from a SMART Participant in New York state or other more lucrative REC markets. That means the *solar* in the *solar* energy is not consumed by any Commonwealth of Massachusetts electric ratepayers. It appears the next iteration of the SMART program needs a Consumer Disclosure Form on the DOER Consumer Disclosure Form .

It gets worse. As it turns out for most of our customers the following clauses in the ( " Agreement" ) are too open ended a risk to take on for a ten or twenty year irrevocable obligation. Actual " Agreement " language is in italics:

The utility "*may need my assistance to( a.) monitor and record ...(b.) "perform any and all acts necessary " for the utility " to participate in NEEPOOL /GIS and/or " Other Registries"*.

*"I shall take all commercially reasonable means necessary, and pay any costs or fees associated with such actions to cooperate in a timely manner with" ( the Utility). " to register the STGU in NEEPOOL – GIS and/or Other Registries for environmental attributes in order to qualify for any program(s) an/or otherwise receive and use the Certificates."*

Thoughtful people ask what other programs and registries and certificates? Are these attributes worth more than the utility is paying us ? We point them to the strange language in the SMART Tariff on page 12 , Section 17.2 - approved by the Department of Public Utilities . This is a section wherein Force Majeure events like tornados and earthquakes are cited and it concludes with this statement:

*" Notwithstanding the foregoing , a Force Majeure Event shall not be based on Owner's ability to sell market products [ meaning attributes and/or certificates] at a price greater than the rates applicable to the STGU or the Company's [ meaning the Utility] ability to purchase market products at prices below the applicable rates.*

In other words consumers should expect that SMART attributes are worth more than they are getting.

Who wants to sign an Agreement which hints that extra transaction costs and fees may be charged for conveying your solar attributes irrevocably and cheaply to the

utility so they in turn can sell them at a profit in “Other registries” foreign and domestic?

The state has a transparency obligation to consumers that is muddled in this program. At the very least the state should be disclosing to consumers a guide to attributes and certificates sales and the plans by Massachusetts utilities and “other registries” to derive alternate environmental certificates from the same kWh of solar electricity SMART participants generate. There should be periodic public reports on the price a utility received and the venue used to sell attributes derived from SMART participants.

### **Solar + Storage**

During the Q & A at the Lenox SMART PROGRAM STRAW PROPOSAL presentation I asked how the state can justify their support and encouragement of Solar + Storage products and designs which exclusively use Lithium based batteries. DOER officials expressed ignorance of the Environmental Justice and Ecologic issues and did not want to hear my summary of the research findings. This is a complex subject that goes to the heart of what “sustainable” means.

Green technology aims for low cost and high efficiency for EV and Stationary batteries but in this arena ignores the consequences to the people who live and work in the primary extraction industry sites, particularly in the Congo for Cobalt and the Atacama Desert and Andean foothills region of Chile, Bolivia and Argentina often called, the “Lithium Triangle. No other place on Earth can supply Lithium cheaper.

A bibliometric study : **Socio-Environmental Impacts of Lithium Mineral Extraction : towards a research agenda**, authored by Datu Buyung Agusdinata, Wenjuan Liu, Hallie Eakin and Hugo Romero published in *Environmental Research Letters* of 27 November 2018 is a good place to start. In the last year one could expand this paper’s findings to evaluate the number of scientific papers in the general area of Lithium batteries which examine environmental injustice against those which discuss re-purposing spent LI batteries from EV’s into residential storage products and grid scale storage. There is still a remarkable silence in the academic community on issues affecting the culture of indigenous peoples in Africa and South America including forced migration as well as on water quality and groundwater table losses that affect unique species and habitat. There appears to be a five fold increase in papers discussing re-purposing LI batteries for consumers in highly developed countries.

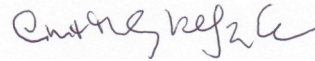
I hope DOER will examine why a few hours of back up power readiness for well to do residential electric accounts and/or the very rare demand response occasions in Massachusetts when small scattered storage units could be dispatched by the utility, caused expensive program design and policy determinations and incentives, a special cross utility program for residential lithium battery packages as an efficiency measure along with HEAT loan eligibility or Solar + Storage and Ma Solar Loan eligibility and all the resulting administration and spurious sales pitches....when there is no real imminent need for these features in terms of utility outages or lack of demand response strategies. Who is making the real sacrifice for this program ?

This is an especially important question since better battery technology is just a few years away. Even if there was a crying need for storage at this scale, conventional lead acid batteries are cheaper and 100% recyclable. It takes 4x the energy to recycle a LI battery than it takes to make it. The US has abandoned LI recycling to the Chinese but a

Page 4 of 4

lot of spent batteries are piling up so this re-purposing and not incidentally re-profiting scheme has appeared. Examined under a purely technical rationale the use or re-use of LI batteries as Stationary battery banks does not make sense and from a safety perspective putting them in residences created design challenges which reduce their efficiency as electricity storage. Technical safety issues have only been feebly addressed. Why is DOER ignoring these issues?

Sincerely,

A handwritten signature in dark ink, appearing to read "Chris Derby Kilfoyle", written over a light blue rectangular background.

Christopher Derby Kilfoyle