powerdash

February 5, 2019

Massachusetts Department of Energy Resources
100 Cambridge St., Suite 1020
Boston, MA 02114

Dear DOER Clean Peak Standard team:

I'm writing to share input on behalf of our company, PowerDash Inc. Formed in 2008, our company was one of the first Massachusetts companies to become a Benefit Corporation when Massachusetts law provided for this option in December 2012. We took this step to institutionalize social responsibility into the very charter of our organization. Our mission reflects our deeply held belief that a smart electric grid is a public good that should be built on open standards and easy interoperability.

Today our company serves about 3,500 alternative energy installations, with customers in all sectors including private companies, municipalities, state agencies, and federal agencies. We are an approved independent verifier in many jurisdictions, including Massachusetts, NEPOOL-GIS, NYGATS, and the State of California.

We strongly support policies that incentivize innovation in the clean energy space and provide opportunities for Massachusetts companies to compete in this growing field.

Below is our input on the Clean Peak Standard, specifically the Metering questions. We do not have comments on questions outside that section at this time.

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Verification of Metered Data

24. Do you support this [single Independent Third-Party Meter Reader] proposal? If not, please describe why.

We do not support the proposal that a single entity act as the Independent Third-Party Meter Reader (TPMR), unless that entity is a public or quasi-public agency such as the Massachusetts Clean Energy Center. If a private company were selected to serve as the sole Independent TPMR for the CPS, it would introduce instability, inertia, and unnecessary expense for the following reasons:

- Without competition in service quality and pricing when selecting an Independent TPMR, CPS program participants would be subject to the same problems found in every monopoly market.
- Because there are many early-stage, evolving technologies that will be deployed in CPS-eligible systems, such as a wide range of energy storage technologies, the metering technologies are necessarily also at an early stage and cannot reasonably be offered by a single provider. For example, as solar inverter companies such as Enphase and Fronius have integrated revenue-grade ANSI C12 metering directly, we expect storage manufacturers will do the same.
- With all the dynamism and consolidation present in the evolving solar/storage marketplace, relying on a single Independent TPMR introduces the risk of CPS participants being stuck with a provider that may not be sustainable over the long term. We have seen the results of solar

inverter manufacturers going out of business or being acquired. What if an earlier kind of DOER program required all solar projects to use Satcon inverters? With Satcon having gone out of business and technical support options limited, that would have represented a significant source of friction, unreliability, and expense in developing the Massachusetts market.

We have already seen the problems some other states have faced when they attempted to "pick a winner" by selecting a single private company to serve as the verifier for solar incentive programs. Developers and system owners then lose choice and leverage in the marketplace, prices go up, and service quality and policy integrity go down. As one example, an independent review of Connecticut's Residential Solar Investment Program (RSIP), which used the single-verifier approach, found that "62% of installers listed the data acquisition system as one of their most frequently repaired system components. Repair costs were as high as $500, with an average of $175 per repair."[1] It is our view that these high costs and increased hassle necessarily follow without competitive offerings from different companies that can fulfill the verifier role.

Furthermore, with all the positive models that currently exist for more open qualification of multiple Independent TPMRs, such as with NEPOOL-GIS and the MassCEC Production Tracking System, there is plenty of experience on which to draw in crafting a multi-provider approach that both satisfies the requirements of the CPS program and ensures efficiency, resilience, and cost-effectiveness for CPS program participants.

Metering Specifications and Requirements

26. Describe in as much detail as possible the metering standards and requirements (type, accuracy, etc.) that DOER should employ to ensure the accurate collection of data.

In general, we think the meter and current transformer (CT) specs should match the NEPOOL-GIS specs for meters and CTs.

Because the CPS hinges on timing of energy delivery, we think some additional technologies should be considered to verify the timestamps of energy delivery. Some blockchain implementations may be appropriate for this need, so long as there is clear and reasonable way for verifiers to comply with a blockchain requirement. Other more traditional technologies can also reasonably corroborate the timing of energy delivery.

27. Should different standards apply to different sizes and types of facilities? If so, please describe your recommendations in as much detail as possible.

As with the NEPOOL-GIS requirements, different accuracy classes of the ANSI C12 standard could apply for the meters, and different accuracy classes of the ANSI/IEEE C57.13-2008 standard could apply for the CTs, depending on the nameplate capacity of the generator.

Regarding verifying the timestamps of energy delivery, we believe it may be appropriate for there to be different mechanisms depending on the size of the system.

[1] https://www.ctgreenbank.com/wp-content/uploads/2016/03/RSIP_Evaluation_I_Final_Report_and_cvr_ltr.pdf

28. What other verification mechanisms could be deployed to simplify the process, particularly for small-scale systems for which some types of metering solutions may be cost-prohibitive?

For the accuracy specs of the meters and CTs, we think the current NEPOOL-GIS specs appropriately handle the need for all sizes of systems. For simplified verification of the timestamps of energy delivery, especially in smaller-scale systems, a few options could be considered:

- Corroboration of energy delivery timestamps from two sources: both generation/storage equipment manufacturer data and verifier-recognized ANSI C12 meter.
- Selective auditing of energy delivery timestamps by requiring verifiers to provide Web API access (using industry-standard payload formats such as offered by SunSpec)

We are ready to provide more detailed input on these verification mechanisms whenever it is appropriate to do so.
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Thank you for the opportunity to provide this input.

Sincerely,

Stephen Lapointe
Co-Founder and CEO