

August 28, 2018

To: Michelle Rosier and the DGWG Technical Subgroup

Fresh Energy respectfully submits these comments for technical subgroup consideration regarding topics discussed during the August 24th call.

Data sharing between utilities and transmission owners and/or MISO will be increasingly important.

I appreciate the points that MREA brought to the group and the conversation around information sharing between distribution and transmission owners/operators. I agree that this sharing of data will be increasingly important. However, I have been tracking MISO's DER forecasting exercise and it is my understanding that MISO asked the Load Serving Entities (LSE) whether they could provide information of DER location and profiles through an expanded version of Module E and then concluded that it would not be a practical request – either because the information was not available, or because it would be overly burdensome. Unfortunately, I don't think this issue has been fully resolved, but I would recommend that the subgroup ask the MISO team directly for their input. I do think their modeling plan and need for this data may shape the metering requirements in the state standard over time.

Technical standards that can be applied across all utilities in the state should reside in the TIIR and not the TSMs.

I understand that there are cases where technical standards will need to vary by utility, which is the argument for the TIIR and supporting TSM framework. However, as discussed often in the first phase of the DGWG, the state will benefit from having clear, uniform statewide standards. This includes uniform technical standards. It will be challenging for the installers and the Commission to track ever-evolving technical manuals for each utility. And it will be challenging for utilities, particularly those with fewer DER applications, to keep their TSM updated and on pace with swift DER technology advancement. In my view, a successful path forward will be to create an almost-all-encompassing TIIR document, with a supporting TSM where absolutely necessary.

The first sentence of Section 8 of the draft TIIR on metering states that “the Area EPS Operator shall specify metering requirements in the Area EPS Operator's TSM.” This is a concern.

Does each utility in the state really require unique metering configurations for DER interconnections such that a statewide standard cannot be established? Are there no shared elements that could be written into the TIIR? Could a common set of requirements be agreed upon for small systems or certain standard configurations? This is a discussion I encourage the subgroup to be having with respect to metering, but also the TIIR in full.

Importantly, a plan for TSM writing, updating, and approval should be workshopped with this technical subgroup in the near term. Since the engineers that will likely also be responsible for creating and maintaining their utility TSM are members of the subgroup, I encourage Commission staff to make time for this discussion. This important question should not be left to be debated in written comments after the work of the draft TIIR is already complete. I am concerned that the ease of deferring largely to the TSM in this phase of the workgroup sets utilities up for an overwhelming challenge down the road. I encourage the subgroup to pause and discuss the plan for this framework including what level of oversight from the Commission is appropriate for these manuals. With a shared understanding of the TSM creation and rollout plan, this phase of the workgroup process will have much stronger footing.

To the extent possible, the technical requirements for systems 20kW and smaller (“Simplified Interconnections”) should be fully established in the TIIR.

The majority of the DER interconnection requests in the state are systems under 20kW, as Michelle mentioned again on the August 24 call. One of the successes of the first phase of the workgroup process is that we established a clear process to streamline that simple, standard majority. Can the same be done with the technical standard? Could there be a place in the TIIR that encompasses all requirements for DER system under 20kW? Could those requirements be prescriptive and standardized across the state (without reference to a TSM)?

Again, same points about user ease and accessibility that were made with the process document remain applicable to the technical document. When a residential solar customer or installer is handed the TIIR, they should be able to identify the relevant information for their system design. I encourage the subgroup to consider how the draft TIIR could be reformatted for user accessibility, particularly for the small system majority.

The technical standard should accommodate least-cost design solutions for their DER customer.

Utilities should explore and accommodate new technologies and new application of existing technologies, particularly where there is cost-saving potential for their customers. On the topic of metering and monitoring specifically, I have two examples for subgroup consideration.

One example of a least-cost solution is a meter socket adaptor, sometimes called a generation meter adaptor, such as the ConnectDER.¹ This technology allows for a slick, simple, inexpensive design solution to physical interconnection as an alternative to a supply-side connection. The “Smart” model of the ConnectDER could also potentially be used as a solution to PCC monitoring. Utilities in California provide eligible DER customers the installation of this technology as a product offering for a fee in coordination with their interconnection request.² Is this a service that utilities in Minnesota would be willing to offer their customers? Would utilities allow the customer to install and own this piece of equipment?

As a second example, when installing solar on my own home in South Minneapolis I was required to install an 200A meter cabinet for Xcel’s production meter which is significantly oversized for the function that it is serving. The reason I was given for the installation of the 200A meter cabinet was that it is the minimum size for a new service in Xcel’s Standards for Electric Installation and Use Manual (“Blue Book”). I was tying my PV in on a 30A breaker, so the least-cost piece of equipment to serve that purpose would have been a 30A meter socket (still rated to 200A). The cost of a 30A meter socket is ~\$70 compared to ~\$250, and the box is half the size. I encourage the subgroup to consider what standards outside of the TIIR and TSM are relevant to DER interconnection. Does it make sense for the TIIR and TSM to contain all technical requirements? Is there a risk of duplication or contradiction in having multiple technical standards documents? If requirements such as meter cabinets will remain outside of the

¹ <http://connectder.com/>

²PG&E:

<https://www.pge.com/includes/docs/pdfs/mybusiness/customerservice/startstop/newconstruction/greenbook/servicerequirements/TD-7001B-007.pdf>

SDG&E:

<https://www.sdge.com/residential/savings-center/solar-power-renewable-energy/renewable-meter-adapter>

SCE:

https://www.sce.com/wps/wcm/connect/855b06e5-bf01-4b4b-9557-cef8d4d59a3d/Generation_Meter_Adapter_1478027630_AA.pdf?MOD=AJPERES

interconnection standards, how can this subgroup work to update those peripheral standards for least-cost DER interconnection application?

Thank you for your consideration of this input.

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