

June 25, 2021

VIA ELECTRONIC FILING

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

Re: Reply Comments

**In the Matter of Northern States Power Company
dba Xcel Energy-Electric's 2020-2034 Upper Midwest
Integrated Resource Plan
Docket No. E-002/M-19-368**

Dear Mr. Seuffert,

We respectfully submit the attached Comments in response to the Commission's September 15, 2020 notice and subsequent comments and notices in the above-mentioned docket.

Please do not hesitate to contact me if you have any questions.

Sincerely,

s/ *Ross Abbey*

Ross Abbey

Director, Regulatory and Legislative Affairs
United States Solar Corporation

STATE OF MINNESOTA
BEFORE THE
PUBLIC UTILITIES COMMISSION

Katie Sieben
Valerie Means
Matthew Schuerger
Joseph K. Sullivan
John Tuma

Chair
Commissioner
Commissioner
Commissioner
Commissioner

In the Matter of Northern States Power
Company dba Xcel Energy-Electric's 2020-2034
Upper Midwest Integrated Resource Plan

DOCKET NO. E002/M-19-368

REPLY COMMENTS

United States Solar Corporation (US Solar) submits these comments in response to stakeholders' initial comments regarding Xcel Energy's (Xcel or the Company) proposed Integrated Resource Plan (IRP) for 2020-2034.

US Solar is a developer and owner/operator of community solar gardens, solar plus energy storage projects, and other distributed-connected energy resources (DERs) in Minnesota. We have reviewed the initial comments in this docket and offer this reply for the Commission's consideration.

As an initial matter, it seems clear that incorporating some level of distribution-interconnected DERs into Xcel's Minnesota system will play a role in decarbonizing its system at the lowest cost to ratepayers. The question, then, is what level of DER deployment is needed (as part of Xcel's broader IRP) to achieve Minnesota's decarbonization goals at the lowest cost to ratepayers? In other words, what level of distributed generation and storage is cost-optimal for Xcel's Minnesota ratepayers today and in the future?

Based on our review of Xcel's proposed IRP and initial stakeholder comments, it appears that only one stakeholder – the Citizens Utility Board of Minnesota (CUB) – attempted to answer this key question in a comprehensive and rigorous way.¹ Per CUB's initial comments, they partnered with Vibrant Clean Energy, LLC (VCE) to model the lowest-cost Xcel IRP for Minnesota using VCE's WIS:dom® - P model to "simultaneously co-optimize[] utility-scale generation,

¹ See CUB's February 11, 2021 comments, at 2. See *also* February 11, 2021 Joint Comments of Vote Solar, Institute for Local Self Reliance, The Environmental Law & Policy Center, and Cooperative Energy Futures, at 12 ("Xcel partially acknowledges that its treatment of distributed solar does not reflect distributed solar's ability to be part of an optimized resource mix.").

storage, transmission, and DER” in a way that views the distribution system as a platform for hosting DERs.² Unlike traditional IRP models, VCE’s model treats distribution-interconnected DERs as a variable that can be dynamically scaled up or down during the course of model runs (along with traditional model variables, like transmission capacity and utility-scale generation) to determine the optimal mix of resources for minimizing long-term ratepayer costs.

Perhaps not surprisingly, CUB and VCE found that when its IRP model is allowed to co-optimize for distribution-level resources (e.g., 10-MW grid supply solar), the model is able to identify a significant amount of additional ratepayer savings. This makes sense conceptually because now, for the first time, the IRP model can dynamically calculate the net savings that would result from, say, reducing future transmission spend in favor of ratepayer spending on distribution-interconnected solar and energy storage. Stated differently, VCE’s model can glean economic advantage from the distribution system’s latent DER-hosting capacity to generate ratepayer savings – unlike traditional utility models that ignore the ability to employ this latent hosting capacity.

Using this powerful new modeling approach, CUB and VCE estimate that Xcel could reduce its cumulative Minnesota ratepayer costs by “\$6.45 billion by 2040” by implementing CUB’s proposed *Consumers Plan*, which achieves this modeled cost reduction by selecting, among other resources, “1,900 MW of distributed solar PV” and “1,300 MW of 8-hour battery storage” over the next 15 years.³ With this level of DER capacity, VCE found that by 2035, “the Consumers Plan is 2.15 ¢/kWh cheaper than [Xcel’s] Preferred Plan.”⁴

In a separate nation-wide study, VCE’s modeling found that deploying at least 247 GW of distribution-interconnected solar, among other resources, would be the most cost-effective way to transition to a clean energy system by 2050.⁵ As Clean Energy Economy Minnesota (CEEM) noted in their initial comments:⁶

[VCE’s] recent Local Solar For All study found that distributed solar and energy storage are essential to lowering costs along with utility-scale projects. The study found that **savings would approach half a trillion dollars** for consumers. This is important for regulators to consider because overreliance on utility scale may not prove the lowest cost option

² See CUB’s February 11, 2021 comments, at 4.

³ *Id.*, at 3.

⁴ *Id.*, at 12.

⁵ Vibrant Clean Energy, et al. (2020) Why Local Solar for all Costs Less: A New Roadmap for the Lowest Cost Grid. December 2020 <https://www.localsolarforall.org/roadmap>

⁶ Clean Energy Economy Minnesota February 21, 2021 comments, at 7-8 (emphasis added).

Again, these estimated savings result from simply allowing the model to select distribution-interconnected DERs as an available resource when doing would result in a cost savings.

Fortunately, as a policy matter, Minnesota statute already allows for distribution-level interconnection of solar PV facilities up to 10 MW in size. And as the Distributed Solar Parties point out, Minnesota already has Commission-adopted distributed generation tariff (DG Tariff) meant to establish clear terms for 10-MW solar project development, which is currently up for revision.⁷ Minnesota also has an active stable of proven CSG developers who stand ready to start building larger solar projects at a lower price once a revised DG Tariff is approved. The Commission is thus well positioned to not only require the Company to plan for more DERs in its IRP, but also to enable the market to begin delivering larger DERs at a reasonable low cost.

In conclusion, we respectfully ask the Commission to direct Xcel to rework and reperform its modeling with assumptions and updates consistent with the overall findings of CUB's *Consumers Plan*. Or if that's seen as too difficult, at least direct Xcel's IRP to use the cost-optimal DER capacity increments found in CUB and VCE's model results, to unlock significantly more ratepayer savings over the next 15 years.

Thank you for your careful consideration of this matter.

Sincerely,

s/ Ross Abbey

Ross Abbey

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⁷ February 11, 2021 Joint Comments of Vote Solar, Institute for Local Self Reliance, The Environmental Law & Policy Center, and Cooperative Energy Futures, at 27.