

**STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION**

The Illinois Power Agency)	
)	
Petition for Approval of the IPA's)	Docket No. 14-0651
Supplemental Procurement Plan)	
Pursuant to Section 1-56 (i) of the Illinois Power)	
Agency Act)	

**VERIFIED JOINT REPLY BRIEF ON EXCEPTIONS OF
SUNEDISON, INC. AND THE ILLINOIS SOLAR ENERGY ASSOCIATION**

SunEdison, Inc. ("SunEdison")¹ and the Illinois Solar Energy Association ("ISEA"),² pursuant to 83 Ill. Admin. Code 200.830, respectfully submit to the Illinois Commerce Commission ("Commission") the following Verified Joint Reply Brief on Exceptions responding to the Briefs on Exceptions ("BOEs") filed by Commonwealth Edison Company ("ComEd"), the Staff of the Commission ("Staff"), and the Illinois Power Agency ("IPA") regarding the Proposed Order dated December 9, 2014 ("Proposed Oder") relating to the IPA Supplemental Solar Procurement Plan ("IPA Plan" or "Plan").

I.

Introduction

The Proposed Order's treatment of the IPA Plan represents a significant positive step toward the continued growth of a robust solar market in Illinois, providing an appropriate

¹ SunEdison is the leading global provider of energy solutions. (See Pentland, William, *Major Wind Acquisition Makes SunEdison World's Renewable Energy Developer*, Forbes, Nov. 17, 2014, available at: <http://www.forbes.com/sites/williampentland/2014/11/17/major-wind-acquisition-makes-sunedison-worlds-largest-renewable-energy-developer/>.)

SunEdison manufactures solar technology and develops, finances, installs, and operates distributed solar power plants, delivering predictably-priced electricity and services to its residential, commercial, government, and utility consumers.

² ISEA is a not-for-profit organization that promotes the widespread application of solar and other renewable forms of energy. ISEA serves as a resource for the solar industry in Illinois on renewable energy-related policy developments, education, and promotion of the use of renewable energy.

mechanism to promote the development of new solar projects. Specifically, on two of the issues that remain contested, the Proposed Order correctly decides that the Commission should minimize the costs of metering requirements and encourage the development of three (3) distinct markets, within which multiple solar providers could compete. In order to better achieve these goals, SunEdison and ISEA respectfully request that the Commission (1) adopt the IPA's recommended modifications to the IPA Plan's metering requirements, with the clarifications and refinements proposed herein; and (2) include the additional procurement category for the 25 kW - 500 kW market segment as set forth in the Proposed Order, and adopt the IPA's recommendation to develop distinct benchmarks for that category.

II.

The Commission Should Slightly Modify The IPA's Proposed Revisions To The Metering Requirements In The Plan

The metering requirements for photovoltaic or "PV" systems eligible to participate in the Supplemental Solar Procurement continue to be a source of confusion. As noted in the IPA's Brief on Exceptions, some of the confusion seems to stem from differences in understanding regarding the meaning of the terms "utility-grade electric meters" versus "revenue quality meters." (IPA BOE at 1.) Further confusion appears to come from a lack of understanding what constitutes acceptable PV output measurement by GATS and M-RETS, and the states within those RTOs. SunEdison and ISEA appreciate the IPA's attempt to clarify this issue in its Brief on Exceptions, appropriately recognizing that it is critical to minimize the costs associated with measuring PV output while ensuring an appropriate level of accuracy. Accordingly, SunEdison and ISEA support the IPA's suggested revisions to the Proposed Order, with one minor additional suggested change.

The Proposed Order provides:

With regard to PV systems <25 kW in size, only AIC is troubled by the reference to "utility grade" metering in the October 28, 2014 PV Plan. The Commission understands AIC to be recommending that the PV Plan not address appropriate metering in order to avoid adopting any standards or requirements that may be inconsistent with GATS or M-RETS provisions. Unfortunately, exactly where GATS and M-RETS fall on the question of appropriate metering for small PV systems is not clear in the record. While AIC cites portions of GATS and M-RETS operating rules purporting to require revenue quality metering for all systems producing RECs, ISEA and SunEdison argue that requiring such metering on smaller systems is not customary and not worth the expense in light of the number of RECs produced. Notably, ComEd has not expressed any concerns about the measurement/calculation of RECs from <25 kW PV systems. Given the state of the record and the entirely plausible argument that standard inverter readings, PVWatts forecasts, or simple calculations using the standard capacity factor in the PV Plan can be used to determine REC output on small systems, the Commission finds references to "utility grade" metering in the PV Plan reasonable. In addition, the Commission concurs with the IPA's intention to avoid heightening any metering standard and potentially create new barriers to participation, especially, as the IPA notes, against the backdrop of a law seemingly designed to encourage participation from smaller systems.

(Proposed Order at 25.)

The IPA properly notes that the language should be modified, to further the goal of providing the appropriate level of accuracy, while looking to minimize costs.

The IPA's Proposed Replacement Language provides:

With regard to PV systems <25 kW in size, only AIC is troubled by the reference to "utility grade" metering in the October 28, 2014 PV Plan. The Commission understands AIC to be recommending that the PV Plan not address appropriate metering in order to avoid adopting any standards or requirements that may be inconsistent with GATS or M-RETS provisions. ~~Unfortunately, exactly where GATS and M-RETS fall on the question of appropriate metering for small PV systems is not clear in the record. While~~ AIC cites portions of GATS and M-RETS operating rules purporting to require revenue quality metering for all systems producing RECs, while ISEA and SunEdison argue that requiring such metering on smaller systems is not customary and not worth the expense in light of the number of RECs produced. Notably, ComEd has not expressed any concerns about the measurement/calculation of RECs from <25 kW PV systems. ~~Given the state of the record and the entirely plausible argument that standard inverter readings, PVWatts forecasts, or simple calculations using the standard capacity factor in the PV Plan can be used to determine REC output on small systems, the Commission finds references to "utility grade" metering in the PV Plan reasonable.~~

The Commission declines to adopt a specific metering standard and instead directs the IPA to replace references to "utility-grade meters" with references to "revenue-quality metering" to be more consistent with applicable GATS and M-RETS terminology. However, the Commission understands that when using the term "revenue quality metering" in the Supplemental Plan, it does not necessarily mean requiring separate meters capable of meeting all ANSI C-12 requirements; instead, "revenue-quality metering" is measurement capable of achieving the accuracy ranges embodied in the ANSI C-12 standard for meters. If meeting this level of accuracy requires a "production meter" capable of such measurement, then that is a reasonable requirement; but if it can be demonstrated that the output from an inverter or some other approach can provide that level of accuracy, then that would also be acceptable. In addition, the Commission concurs with the IPA's intention to avoid heightening any metering standard and potentially create new barriers to participation, especially, as the IPA notes, against the backdrop of a law seemingly designed to encourage participation from smaller systems.

(IPA BOE at 4.)

SunEdison and ISEA explained that installation of revenue-quality meters is relatively expensive, and although the cost for a single meter in isolation might appear to be minor, the imposition of such costs on all smaller systems would be excessive for the volume of RECs that can be claimed from such systems. (See SunEdison/ISEA Joint Reply at 8.) Because of this, multiple jurisdictions in the PJM footprint that have addressed this subject -- including the District of Columbia, Maryland, and Pennsylvania -- by allowing PV Watts forecasts to be used for smaller systems, rather than requiring the more expensive "revenue-quality" meters or ANSI C-12 standards, which require meters with a +/- 2% accuracy level. (See, e.g., D.C. Mun. Regs. § 15-2903; see also Md. Solar Renewable Energy Facility Application ("The NREL PV Watts production estimate completed by Applicant at PJM-GATS is an acceptable method of estimating SRECs for Level 1 facilities."), available at: <http://webapp.psc.state.md.us/intranet/SiteSearch/Electic%20Info/EN73%20Solar%20REF%20Application%20Revised%20080714.xls>, Pa. Alternative Energy Portfolio Standard Alternative Energy Credit Program Frequently Asked Questions ("The Program Administrator calculates

estimates for each solar facility using the PV Watts Version 1 algorithm..."), available at: <http://paaeps.com/credit/faqs.do> (both last visited Dec. 27, 2014).)

Consistent with that approach, SunEdison and ISEA recommend the use of standard inverter readings, PV Watts forecasts, or simple calculations using the standard capacity factor for systems under 25kW for systems located in the PJM-GATS service territory. (See SunEdison/ISEA Joint Reply at 8.) This reflects the current industry standard, is cost-effective, and will not adversely affect Illinois consumers or any other stakeholder. M-RETS currently is evaluating options to relax metering standards which currently require a utility data feed in its footprint. (K. Pulvermacher, Midwest Renewable Energy Tracking System, Inc. Program and Policy Director, Dec. 23, 2014 telephone conversation with L. Albrecht, Policy Chair for ISEA's Board of Directors.) Accordingly, the Proposed Order should accommodate current M-RETS standards, but also should allow the IPA flexibility in the event M-RETS amends those standards. As a result, SunEdison and ISEA respectfully request that the IPA's Proposed Replacement Language be refined as reflected in the highlighted language below:

With regard to PV systems <25 kW in size, only AIC is troubled by the reference to "utility grade" metering in the October 28, 2014 PV Plan. The Commission understands AIC to be recommending that the PV Plan not address appropriate metering in order to avoid adopting any standards or requirements that may be inconsistent with GATS or M-RETS provisions. ~~Unfortunately, exactly where GATS and M-RETS fall on the question of appropriate metering for small PV systems is not clear in the record. While~~ AIC cites portions of GATS and M-RETS operating rules purporting to require revenue quality metering for all systems producing RECs, while ISEA and SunEdison argue that requiring such metering on smaller systems is not customary and not worth the expense in light of the number of RECs produced. Notably, ComEd has not expressed any concerns about the measurement/calculation of RECs from <25 kW PV systems. ~~Given the state of the record and the entirely plausible argument that standard inverter readings, PV Watts forecasts, or simple calculations using the standard capacity factor in the PV Plan can be used to determine REC output on small systems, the Commission finds references to "utility grade" metering in the PV Plan reasonable.~~

The Commission declines to adopt a specific metering standard and instead directs the IPA to replace references to "utility-grade meters" with references to

"revenue-quality metering" to be more consistent with applicable GATS and M-RETS terminology. However, the Commission understands that when using the term "revenue quality metering" in the Supplemental Plan, it does not necessarily mean requiring separate meters capable of meeting all ANSI C-12 requirements; instead, "revenue-quality metering" is measurement capable of achieving the accuracy ranges embodied in the ANSI C-12 standard for meters. **the IPA determines are necessary to receive SRECs in the applicable utility's service territory.** If meeting this level of accuracy requires a "production meter" capable of such measurement, then that is a reasonable requirement; but if it can be demonstrated that the output from an inverter, **PV Watts forecasts, simple forecasts using the standard capacity factor, or other estimated reading methodologies,** or some other approach can provide that level of accuracy, then that would also be acceptable. ~~In addition,~~ The Commission concurs with the IPA's intention to avoid heightening any metering standard and potentially create new barriers to participation, especially, as the IPA notes, against the backdrop of a law seemingly designed to encourage participation from smaller systems.

III.

The Commission Should Include The Additional Procurement Category For The 25 kW - 500 kW Market Segment With The Details Proposed By The IPA

The Proposed Order appropriately recognizes that it would be beneficial to encourage competition among the providers of intermediate-sized solar systems, in the 25 kW to 500 kW category:

In furtherance of promoting an intermediate size category, the Commission directs the IPA to revise its second procurement event in November of 2015 to include a category of >25 kW to 500 kW and a category of >500 kW to 2 MW. Of the RECs acquired in this procurement event, approximately 15% should be obtained from the >25 kW to 500 kW category, as suggested by ISEA and SunEdison. The second procurement event set forth in Section 5.1 of the PV Plan could be revised to read:

2. November 2015 (\$10 million; no maximum bid size for bids in the under 25 kW category (representing 50% of RECs in this procurement event), >25 kW to 500 kW category (representing 15% of RECs in this procurement event), and 2 MW maximum system size for the >500 kW and above category (representing 35% of RECs in this procurement event)).

While this introduction of a third size category is limited to the November 2015 procurement event, the Commission believes that it strikes a reasonable balance among the parties' arguments and offers an additional opportunity to smaller commercial installations to participate in the PV Plan without having to compete against significantly

larger projects. To be clear, the IPA is not restricted from adopting more than two size categories in a fourth procurement event if the IPA concludes that earlier events under the PV Plan suggest it would be advantageous to do so.

(Proposed Order at 48-49.) Both Staff and ComEd take issue with this conclusion. (*See* Staff BOE at 3-6; ComEd BOE at 1-6.)

A. The Parties Agree That The IPA Has The Authority To Adopt Additional Size Delineations.

The Proposed Order's clarification that "the IPA is not restricted from adopting more than two size categories in a fourth procurement event" restates the consensus among the parties concerning the IPA's authority. For example, Staff acknowledges that although there is no *requirement* for a third size delineation, nothing precludes the IPA's authority to create one. (*See* Staff BOE at 4.) SunEdison and ISEA explained that Illinois law requires that, where a statute fails to preclude an action or is silent, the agency's authority is not limited. (*See* SunEdison and ISEA Joint Reply at 6.) ComEd repeats its assertion that the creation of a third size category would contravene pricing requirements of Section 1-56(i) (*see*), while the Staff merely raises general cost concerns. (*See* ComEd BOE at 4; Staff BOE at 3-4.) However, the IPA successfully refuted the arguments concerning costs, noting that the requirement for bids to be selected on the basis of price must be understood in context, and that nothing about a third procurement category would preclude the agency from following all of the requirements of the law. (*See* IPA Reply at 3; *see also* Proposed Order at 46-47.) Significantly, the IPA does not take exception to the creation of a third size category (*see* IPA BOE at 5) and is "convinced that it indeed has statutory authority to conduct a procurement featuring a third size category...." (IPA Reply at 3). Thus, there clearly is no legal barrier to including the third size category in the IPA Plan.

B. The Record Demonstrates That The Size Delineation At 500 kW Is A Reasonable Mechanism To Ensure That The IPA Plan Does Not Skew Towards The Largest Systems.

Contrary to ComEd's assertion, there is substantial record support for creating an intermediate procurement category. SunEdison has shown that respected research organizations, including the National Renewable Energy Laboratory and the Lawrence Berkeley National Laboratory, have documented the differences in installed costs among residential, commercial, and utility scale solar systems. (See SunEdison Response at 8-9.) Further, as demonstrated in the record, 500 kW is a reasonable size delineation because it is a common capacity level for commercial solar inverters. (See IPA Reply at 1 (“Comments such as SunEdison’s statement that a 500 kW size delineation may be appropriate due to inverter size (SunEdison Response at 9-10) provide a sound rationale for the break point for a new size category, and the IPA appreciates such a concrete substantiation.”); see also SunEdison Response at 9-10.) Neither Staff nor ComEd take issue with these facts. (See generally Staff BOE, ComEd BOE.) Because of the documented differences in costs for smaller commercial systems versus larger systems, it is reasonable to create an additional size delineation at 500 kW to ensure that the winning bids in the 25 kW – 2 MW procurement tier do not skew inappropriately toward the largest systems. (See SunEdison/ISEA Joint Reply at 6-7.) Without this additional system size category, solar RECs procured in the auctions that do not include the 500 kW breakpoint likely will limit the number of bidders in this category and overwhelmingly be sourced from systems at or near 2 MW. This outcome would perpetuate an undesirable market gap identified by the national trade association for the solar industry, the Solar Energy Industries Association. (See GTM Research & Solar Energy Industries Association, *U.S. Solar Market Insight Report Q2 2014* at 5, Sept. 4, 2014, Executive Summary available at: <https://www.seia.org/news/new-report-shows-us-solar->

[industry-nearing-16-gw-installed-capacity](#) (last visited Dec. 29, 2014).) The IPA already has recommended capping the first procurement event at 500 kW. It is reasonable to extend this system size delineation to the November 2015 bid event, to encourage competition in this distinct market segment and encourage the greatest number of bids from the market.

C. Multiple Other Jurisdictions Have Created Rules To Ensure Meaningful Participation By Smaller Commercial Systems In REC Programs.

In crafting policies that will help shape the solar market in Illinois, the Commission should look to best practices established in jurisdictions with mature markets. SunEdison and ISEA have explained that jurisdictions such as Delaware, Colorado, Ontario, New York, and Massachusetts have designed their solar procurement programs to include carve-outs for "commercial" solar systems, which generally are smaller than 500 kW. (See SunEdison/ISEA Joint Reply at 7; see also Proposed Order at 38-43.) The Solar Energy Industries Association has identified a "gap" in the development of the smaller commercial solar PV market, and has praised states like Massachusetts and New York for creating carve-outs that will rectify the problem. (See GTM Research & Solar Energy Industries Association, *U.S. Solar Market Insight Report Q2 2014* at 5, Sept. 4, 2014, Executive Summary available at: <https://www.seia.org/news/new-report-shows-us-solar-industry-nearing-16-gw-installed-capacity> (last visited Dec. 29, 2014).) A consultant for the Delaware Public Service Commission likewise stated, "[t]iered incentive programs are a well established best practice, and most leading U.S. and international solar incentive programs have utilized differentiated incentives to support the growth of diverse solar markets." (Meister Consultants Group, *Evaluation of the Delaware SREC Pilot* at 21-22, Aug. 3, 2012, available at: <http://dep.sc.delaware.gov/electric/11399%20SREC%20Pilot%20Final%20Rpt.pdf> (last visited Dec. 29, 2014).) By

adopting best practices that include ensured procurement of RECs from systems 25 kW – 500 kW, Illinois will benefit from the lessons learned in other states.

D. The IPA’s Recommendation To Adopt Distinct Benchmarks For The 25 kW - 500 kW Market Segment Should Be Adopted.

The IPA rightly pointed out that the Proposed Order is silent on the issue of whether the 25 kW to 500 kW system tier should be considered a discrete "product" for which a separate benchmark should be developed – and if so, whether a separate benchmark should apply to the consideration of bids for all three procurement events. (IPA BOE at 5-6.) The IPA recommends establishing a distinct benchmark for this category in order to avoid the application of market assumptions relating to 2 MW systems, thereby resulting in the skewed market the creation of the 25 kW to 500 kW category seeks to avoid. (*See id.* at 6.) SunEdison and ISEA agree that a separate benchmark should be created for the additional size category and urge the Commission to accept the IPA’s suggested revisions to the Commission Conclusion on pages 48 and 49 of the Proposed Order. (*See id.* at 6-7.)

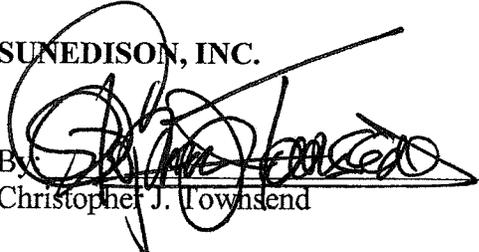
IV.

Conclusion

For the reasons stated herein, SunEdison and ISEA respectfully request that the Commission (1) adopt the IPA’s modifications to the Proposed Order’s metering requirements, with the further refinements proposed herein; and (2) include the additional procurement category for the 25 kW - 500 kW market segment as set forth in the Proposed Order, along with the IPA’s recommendation to develop distinct benchmarks for that category.

Respectfully submitted,

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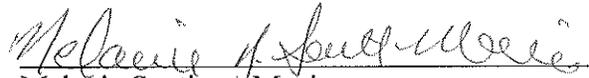
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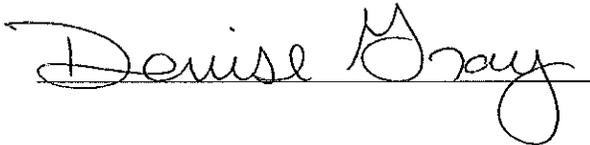
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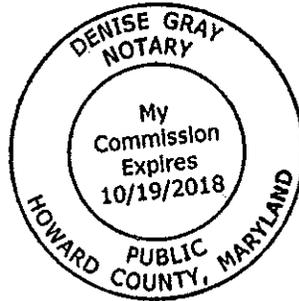
VERIFICATION

Melanie Santiago-Mosier, being first duly sworn, on oath deposes and says that she is the Director of Governmental Affairs, Midwest and Southeast, for SunEdison, Inc., that she has read the above and foregoing Verified Joint Reply Brief on Exceptions, knows of the contents thereof, and that the same is true to the best of her knowledge, information, and belief.


Melanie Santiago-Mosier

Subscribed and sworn to me
this 29 day of December 2014.





STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

VERIFICATION

Lisa Albrecht, being first duly sworn, on oath deposes and says that she is the Policy Chair for the Board of Directors of the Illinois Solar Energy Association, that she has read the above and foregoing Verified Joint Reply Brief on Exceptions, knows of the contents thereof, and that the same is true to the best of her knowledge, information, and belief.



Lisa Albrecht

Subscribed and sworn to me
this 30th day of December 2014.

Louise Susan Lichter

