HVAC Refrigeration Sheet Metal Building Automation
Energy Services Instrumentation Controls Electrical
A.S.M.E. Welding Solar PV

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Ruyle Mechanical Services, Inc. – Response to ABP System Design Criteria Feedback Request

First and foremost, thank you to the Illinois Power Agency for allowing the opportunity to provide these comments on system design criteria.

A. System Efficiency as Compared to an Ideal System
1. Should an ABP system be compared to a system with an ideal azimuth and tilt for that system's location and be limited to a certain percentage of the production of an ideal system? If so, what would be an acceptable threshold percentage?

Feedback: No. The ABP should not limit participation in the program based on a percentage of production of an ideal system. This is over governance by the program. This is the responsibility of the consumer and should not be the responsibility of the program. If the consumer, the citizen/entity, is agreeable to the SREC payout, then the system should not be excluded from participating in the program. This is a choice of the owner of the pv system and should not be the choice of the program.

If the ABP would like to provide some type of consumer protection regarding proper design and production of a solar pv system, Ruyle would suggest that the program require ABP participants to acknowledge receipt and review of the Consumer Rights checklist published by IREC or the Consumer Bill of Rights, also by IREC, or the Residential Consumer Guide to Solar Power by SEIA.

2. Rather than prohibiting participation, could a disclosure requirement scoring that system based on its percentage of optimal efficiency achieve the same goals?

Feedback: The ABP should not be burdened with requiring the consumer receive this information. The consumer should be responsible for gaining this information and educating themselves before purchase.

In addition, consumers require installations that meet their needs, locations and aesthetics. All of these will have an effect on the performance of the system While the ideal system should be south facing at 30 degree tilt, the consumer may require the system to be west facing at a 45 degree tilt. The design and therefore production is dictated by the requirements of the consumer.

The program should not prohibit participation thereby limiting the choice of the consumer.

B. Capacity Factor
1. Should there be a minimum capacity factor for projects submitted?

Feedback: No.

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2. Should an absolute range be drawn for each tracking type (fixed tilt, 1-axis tracking, 2-axis tracking)? If so, what range?

Feedback: No.

3. Alternatively, should capacity factors that deviate from the imputed PVWatts capacity factor by more than a certain percentage be disallowed? If so, what percentage?

Feedback: No. The capacity factor on PVWatts can be manipulated by the user. What purpose would this serve if the user can simply change the PVWatts capacity factor in the report and submit it to the program?

C. Azimuth
Currently, ABP systems are not limited to any particular azimuth or azimuth range.

1. Should there be a required azimuth range for ABP systems? If so, what should that range be? (for example, should all of or portions of systems with an azimuth less than 90 degrees or greater than 270 degrees be prohibited?)

Feedback: No. It should not be the IPA's responsibility to limit participation in the ABP in this way. Design of the solar pv array is based on a two-way conversation between the owner and the developer/designer. The consumer should not be limited in their ability to participate in the ABP because of the choices they make in the design of their system.

If the IPA would like for consumers to receive education in proper design of solar pv systems, then consumer protections documents published by reputable, and industry accepted organizations should be required. Limiting the systems allowed to participate in the ABP due to system design does not serve the purpose of the ABP which is to facilitate expansion of installed solar pv in Illinois.

D. Payback Period for Purchased Systems
1. Should there be a maximum payback period for ABP systems? If so, how many years/months would constitute an unacceptable payback period?

Feedback: No. Many factors can go into the payback period of a solar array. Some consumers require very expensive and specific models of solar modules with brand specific microinverters. Some consumers require the modules be located in a specific direction that might not be the optimal production area. Some consumers will choose to keep the tree shading the solar pv array even though it is affecting the solar production in a significant way. Some consumers will require a much larger array than what they need right now due to the fact that they plan to go "all electric" in the coming years and possibly run a B&B out of their guest house which will require more load. All of these factors and many more play into the payback calculation of a solar pv array. None of these choices should be dictated by the ABP instead of the owner of the solar pv

array. As long as the client is comfortable with the expense and the payback calculation and the associated SRECs, the solar pv array should be allowed to participate in the ABP.

2. Should an internal rate of return ("IRR") be allowed as a substitute for simple payback, and if so, what minimum IRR should be set?

Feedback: No. For the same reasons given in No. 1.

E. Distributed Generation Disclosure Form

One or more of the items above might require additional disclosure language on the Distributed Generation Disclosure Form. Please specify to which version of the Distributed Generation Disclosure Form your comments relate in your submission (system purchase, lease, PPA, greater than 25kW).

1. Which, if any, of the criteria should be disclosed to customers through the Distributed Generation Disclosure Form if this/these condition(s) are understood by the Program to be sub-optimal?

Feedback: All of the comments herein apply to all Distributed Generation Disclosure Forms required by the ABP: system purchase, lease, PPA, greater than 25 kW.

Ruyle suggests that all Disclosure Forms include consumer acknowledgement of receipt and understanding of consumer rights education materials as mentioned in earlier comments herein.

Possibly a "Going Solar" video on the Illinois Shines website could be an alternative idea to help educate the consumer on typical, high performing, solar pv design.

2. Additionally, are there any elements of the Distributed Generation Disclosure Form that would benefit from reconsideration, possible removal, or should any additional information be included that is absent from the form?

Feedback: Often the Disclosure Form is so early on in the process that by the time the solar pv array is built, the products identified have had to be changed due to available supply or because the owner changed their mind about some aspect of the array. This requires that the Disclosure Form be changed, re-signed and re-submitted. Also, the Disclosure Form often does not match the Proposal offered to the consumer due to selection of Approved Vendor and related fees which causes confusion.

Possibly a solution to this would be to allow for a calculation of Approved Vendor fees in the Disclosure form so that it is better matched to the proposal/contract signed with the developer.

Another solution would be to allow the original Consumer Disclosure Form to be edited to as built design with the changes recorded and noted between the two. This would allow consumers to see the difference in what was originally proposed and what was built and provide them an

opportunity to ask questions as to why the changes were made. It would also provide the consumer with an "updated" SREC calculation based on the as built design.

The Disclosure Form could be a "design phase" Disclosure Form and later an updated "Build phase" Disclosure Form.

F. Financing Structure

1. Should any of the requirements contemplated herein vary based on financing structure (ownership vs. leases vs. PPAs)? Why might leases or PPAs be handled differently in protecting consumer interests?

Feedback: It is our opinion that these should not vary based on the financing structure.

In general, we believe all the items the IPA is requesting feedback for is beyond the scope of the responsibility of the ABP and the IPA. These requirements, while viewed as providing protection to Illinois consumers also impedes the choice of the Illinois solar consumer. It should be on the consumer to educate themselves on the asset they are purchasing, leasing, etc.

While the ABP can offer guidelines on consumer protection education, the ABP and the IPA should not limit the participation of solar pv arrays in the program. The focus should be on the protection of the funds in the ABP and not whether a system is designed within a certain percentage of optimal production.

Again, thank you for providing the opportunity for comment.

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