Western Solar

Date: June 25, 2025

To: Alberta Utilities Commission

Re: Rule 024 and Micro-Generation Application Process Questionnaire

Question 1: Should there be a standardized methodology or minimum information requirements for utilities calculation of the estimated annual consumption at a customer's existing or new site and the calculation of the micro-generation unit's output? Please provide an explanation.

a. Please identify and justify the best historical timespan for accurately assessing a customer's historical energy usage (for existing sites).

Assuming this question is asking about an existing electrical service that is applying for a new microgeneration project. I believe it is critical in certain scenarios to be able to use any 12 month timeframe that represents an typical average of 3 years worth of electrical data The reasoning for this is noted below.

For agriculture clients (particularly irrigation) their usage depends a lot on the amount of rainfall experienced annually. Hence there is significant variation year to year. If a client wishes to construct a microgeneration facility after a year of unusually high rain fall, their previous 12 months of usage will be down compared to the normal and as a result the data will be heavily skewed to non average data.

Similarly for commercial/industrial clients, operational realities vary from year to year. Various circumstances such as a slow year, renovations, adding product, or tenant changes can affect the usage in any given year. As a result, 12 consecutive months of usage data from any of the past 3 years should be acceptable. Or an average of 3 years.

Also, an allowance of +25% should be acceptable to allow for growth. As we see the constant move to electrification such as EV's, electric motors in industrial applications, etc. there should be an allowance for customers to build a solar system that is sufficient to offset both current usage and the usage that they are anticipating in the near term because of the electrification of their home or business.

b. Please identify and justify the best way for accurately projecting a customer's future energy usage (for new sites).

Assuming this question is asking about an new electrical service that is apply for a new micro-generation project. There are a few possible approaches that should all be acceptable.

- Using data from a comparable sized home or business with comparable operations. For example, if a family is moving into a new home that is 20% larger then their previous home the usage should be calculated by adding 20% to their usage at their previous home. Similarly, if a business/farm has similar sized electrical loads to compare to such as a 50hp pump at another location, and a 50hp pump at the new service location, it should be acceptable to use the data from this comparable.

- In a scenario where the client feels that comparables fail to include some of the new loads on the new electrical service. Additional calculations that include the electrical equipment that is being added that was not included in the comparable should accompany the data and be deemed acceptable.

- If no comparables are available a Hot 2000 report should be generated to show the anticipated annual usage.

c. Please specify and justify the minimum level of proof that utilities should accept if' customer explains that they intend to increase their electricity consumption shorty after installing a micro-generation system (such as electric vehicle proof of purchase, etc).

As described in 1(a) a +25% over historical usage should be accepted to allow clients to build in extra capacity for anticipated additional electrical consumption. Many clients have set capital plans and to expect them to have receipts for their future project while installing a micro-generation system is unreasonable.

Anything outside of the +25% allowance should be accompanied by a proof of purchase or a formal set of drawing showing the intended expansion/additional loading.

d. Please explain how a new micro-generation unit's yearly energy output should be calculated, including accommodation for any partial shading or coverage of a rooftop solar photovoltaic system.

A report from a recognized and reputable software such as Helioscope should be sufficient.

2. There are currently no specified mechanisms for monitoring the compliance of micro-generation systems with the Micro-Generation Regulation (ie. the micro-generation system generates all or a part of, but not more than, the customer's yearly electricity consumption) after the system is approved. How important is post approval compliance monitoring to ensure micro-generators are remaining aligned with the Micro-Generation Regulation? Please provide an explanation.

There are many factors that could affect a household, business, and farm energy requirements over time that are out of their control. For farm clients that have irrigation systems, their usage is very dependant on the amount of rain they receive in any given year. In years of more rain, they require less irrigation and in turn require less power. It would be unreasonable to expect these clients to turn off/remove solar panels due to circumstances out of their control. Similarily if a residential or rental unit sits empty while attempting to find new tenants or during a sale process it is unreasonable to not pay the owner for the electricity being produced. In the commercial world if there is a downturn and businesses are slower or potentially out of work, it would exacerbate the situation if they then do not get paid for their energy production.

There are also circumstances where micro-generation owners make investments in their operation that reduce the energy requirements. One example of this is a business could put in a solar system this year and a few years later invest in more energy efficient machinery that reduces the electricity draw. It would be unreasonable to expect the customer to remove solar panels from their roof because of investing in additional energy efficient machinery.

While we are agreeing with putting boundaries around what size of system can be approved, there is no harm to any party (grid, customers, or society) if a business, farm or homeowner continues to produce in accordance with their approved system size even though they may have had a reduction in their usage.

In addition to the many practical reasons that this is not necessary, this additional layer of monitoring would be expensive and add additional unnecessary cost to the rate payer. In the current economic climate, it would be irresponsible to add additional cost to the rate payer especially since there would be no benefit to the grid, customers, or society.

a. Please identify and justify the best way to structure mechanisms for post-approval compliance monitoring, particularly regarding which party (or patties) should assume primary responsibility (such as the AUC, the AESO, utilities, et.)

As described above we feel this is an irresponsible and unnecessary thing that has a high potential of causing more harm then good to customers and society as a whole.

3. What type of inverter de-rating, and associated evidence of this de-rating, would ensure that a micro-generation facility will not later increase its system capacity beyond the micro-generation system size approved by the utility? Please provide an explanation.

No further proof of de-rating is required as this process is already verified through the permitting and safety codes process. The electrical inspectors require proof of manufacturers de-rating of the inverters to match the electrical permit. The site is then inspected for compliance by the electrical inspector, the compliance report is required by Fortis to obtain a bi-directional meter and permission to connect from the utility.

a. Should micro-generators be permitted to de-rate their inverters, subject to the previously described limitations? Please provide an explanation.
De-rating, especially for commercial 3-phase inverters, is necessary. Commercial inverters come in set sizes ie. 30kW, 60kW, 75kW, 100kW. As these are quite large building blocks it is often required to de-rate the inverters to achieve a size that works for the system design.

4. The City of Medicine Hat's micro-generation application process includes an initial step to determine a potential micro-generation system's maximum permissible size, which has been found to reduce the number of full applications received. Would it be useful for the micro-generation application process to include an initial sizing determination phase, here a utility first determines a customer's maximum permissible micro-generation system size before the customer makes a decision to proceed to a full application? Please provide an explanation.
This adds another layer of approval process that is time consuming and not necessary.

Provided clear guidelines exist, it should be up to a competent installer to determine an acceptable size and submit the documents accordingly.

5. The AUC has heard from stakeholders that inverter standards for micro-generation systems often change, creating temporary misalignment with some AUC guidance documents and contributing to some confusion among micro-generation applicants Would it be helpful for the AUC to facilitate a working group of relevant parties that reviews technical standards (for inverters, etc)? Please provide an explanation.

Provided proper communication of the inverter standards are provided well in advance (ie. minimum of 12 months) it is reasonable to maintain standards be updated as necessary. It would be useful to have collaboration on better methods of communication and industry input on timelines to ensure that there is a good supply of inverters on the market that comply with any new standards.

a. If yes, how often should the working group meet? (e.g. monthly, quarterly annually). Please provide examples of technical requitements, other than inverters, that should be included in the discussions

Frequency should be based on new standards that are being contemplated.

b. If no, please suggest a different way that the AUC can keep abreast of changing technical standards

6. Please identify, and provide justification and details for, any other high priority micro-generation issues that should be addressed to ensure the effective and efficient functioning of the micro-generation landscape.

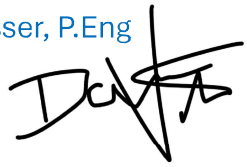
The process for getting large micro-generation sites approved (>150kW) is currently broken. The requirements currently dictated by Fortis Alberta in DER-02 require not only UL1741-SB rated complaint inverters, they also require multiple layers of redundancy via specialized equipment that is very expensive and carry very long lead times (30-50 weeks).

In addition, the response time for large micro-generation has been unreasonably long. We have been working with utilities for nearly two years to get generation approved and connected. There needs to be standard which dictate required timelines for the utility for each step of the process.

Thank-you for considering our feedback in these very important matters.

Sincerely,

Dan Visser, P.Eng



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