Rule 024 and Microgeneration Application Processes Questionnaire

Questions:

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 and explanation.**

Yes, the UCA maintains there should be a standardized methodology, as well as minimum information requirements for utilities' calculation of both estimated annual consumption and micro-generation output. Standardization would promote fairness, transparency, and consistency across Alberta's electricity market, ensuring that all customers—regardless of their chosen provider—are treated as equitably as possible.

Maintaining the status quo may lead to inconsistent or overly conservative estimates, in turn limiting a customer's ability to properly size their micro-generation project, especially in cases where future consumption (e.g., from EVs) is not adequately considered.

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

The UCA suggests continuing to use the most recent 12 months of consumption data as the default. However, to introduce responsiveness and flexibility into the process, customers should be allowed to request a 3-year average if they believe the most recent year is unrepresentative of their typical or expected consumption. Finally, documented adjustments for known upcoming changes (e.g., EV purchase, heat pump installation) should also be permitted.

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

For new sites, the UCA proposes developing and applying a standardized load estimation tool based on home size, occupancy, and appliance mix. Additional documentation (e.g., building permits, appliance specs) may help to refine and improve estimates.

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

In order to justify increases to electricity consumption after installing a microgeneration project, the UCA suggests that the minimum level of proof ought to be either a proof of purchase, or registration, of devices, including but not limited to EVs, air conditioners, heat

pumps, hot tubs, etc.). In cases involving material changes to the customer's property, approved development and/or building permits may be submitted explaining the expected changes to electricity consumption levels.

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

Calculating a new microgeneration unit's yearly energy output should be done subject to industry-standard tools (e.g., PVWatts), and should be adjusted for various factors including:

- Roof orientation and tilt
- Local solar irradiance
- Shading analysis (e.g., using satellite imagery or site photos)

The UCA believes such an approach should be standardized across utility providers and would ensure the most accurate output estimates.

2. There are currently no specified mechanisms for monitoring the compliance of microgeneration systems with the *Microgeneration Regulation* (i.e., the microgeneration 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 microgenerators are remaining aligned with the *Microgeneration Regulation*? Please provide an explanation.

Monitoring the compliance of microgeneration systems is important in safeguarding against the potential for cost shifting to other consumers, maintaining fair electricity pricing, and preserving the integrity of the grid. Compliance monitoring must also be simple and streamlined to minimize costs.

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

One potential way to reduce the administrative costs associated with compliance monitoring may involve the submission of annual compliance reports, including both production and consumption data. However, to avoid unnecessary administrative burden, the UCA would suggest such reports should only account for instances in which a customer's annual production exceeds consumption by at least 10%. Responsibility for compliance monitoring, to create a system of checks and balances could be shared between utility providers, the AUC and the AESO. Responsibilities may be structured as follows:

- Utilities: Monitor system output via smart meters.
- AUC: Provide oversight and handle disputes.
- AESO: Monitor grid impacts.

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

The UCA proposes requiring manufacturer documentation or installer certification confirming de-rating. This would prevent future upsizing without re-approval and protects grid integrity, avoids additional cost shifting, and reduces consumer compliance costs.

   a. **Should microgenerators be permitted to de-rate their inverters, subject to the previously described limitations? Please provide an explanation.**

Yes, this should be permitted, with adequate safeguards in place. De-rating allows consumers to install future-ready systems while complying with current limits. However, utilities should be notified of any changes.

4. **The City of Medicine Hat's microgeneration application process includes an initial step to determine a potential microgeneration system's maximum permissible size, which has been found to reduce the number of full applications received. Would it be useful for the microgeneration application process to include an initial sizing determination phase, where a utility first determines a customer's maximum permissible microgeneration system size before the customer makes a decision to proceed to a full application? Please provide an explanation.**

While the UCA broadly supports measures to improve administrative efficiency, caution must be exercised to avoid adding additional, and potentially unnecessary costs. Most installers will request to see confirmation of previous consumption to appropriately "right size" a customer's project. For these reasons, there does not appear to be a pressing need to introduce an initial sizing determination phase to the existing application process.

5. **The AUC has heard from stakeholders that inverter standards for microgeneration systems often change, creating temporary misalignment with some AUC guidance documents and contributing to some confusion among microgeneration 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.**

Yes, the UCA believes it would be helpful to facilitate a working group to help align AUC guidance with evolving standards, reducing confusion and delays for applicants.

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

The UCA suggests quarterly meetings for working group meetings. Topics could include:

- Updates on inverter standards
- Battery storage integration
- Smart meter compatibility
- Safety and fire codes

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

N/A

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

In addition to the above responses, the UCA respectfully proposes the AUC consider the following:

1. Take steps to streamline, standardize, and shorten the microgeneration application process and introduce clear connection timeline requirements. AUC Rule 007 and Rule 024 both address the microgeneration application process, however neither rule currently mandates a specific connection timeline.
2. In addition to Rule 024, the AUC may also wish to consider engagement with Distribution Facility Owners to incorporate standardized connection timelines in T&Cs.