Calgary

Memo

June 26, 2025

To: Alberta Utilities Commission
Engagement Office

RE: **024 Rule Questionnaire**

We are writing to provide feedback on the consultation process regarding Rule 024: Rules Respecting Microgeneration, as outlined by the Alberta Utilities Commission (AUC). The City of Calgary appreciates the opportunity to participate in this review, which addresses critical aspects of micro-generation, including application processing timelines, standardized information requirements, and unit sizing determinations. Our feedback aims to contribute constructively to the ongoing efforts to enhance the efficiency and effectiveness of the micro-generation framework.

Our responses to the item in the questionnaire are as follows:

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.

   We support the standardization of the methodology used to estimate annual consumption at a existing or new site and the estimated generation unit output. Standardized methodologies should prioritize ease of application and should be complemented by alternative pathways for consideration of special cases.

   a. Please identify and justify the best historical timespan for accurately assessing a customer6 s historical energy usage (for existing sites).

      It is recommended that projects select one full year of electricity usage and be given the flexibility to select from any period within the past three years. A one-year period is important to accurately capture season variations in electricity consumption. The ability to select a one-year period from any point within the past three years will allow project to select the most representative period of consumption (for example, if a building was unoccupied for a period in the most recent year, a previous year could be selected).

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

      It is recommended that a whole building energy model authenticated by a professional engineer is the best method for projecting a customer's future energy use. Energy modelling should be conducted as per the requirements of the National Energy Code of Canada for Buildings 2020 (or more current version as adopted by the province of Alberta). It is recommended that energy modelling should reflect intended building operation (e.g. schedules, setpoints, etc.) to the extent possible as opposed to adopting standard assumptions from the energy code.

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 micro-generation system (such as electric vehicle proof of purchase, etc.).

It is recommended that in cases of significant changes in building operation, a whole building energy model report authenticated by a professional engineer demonstrating the impact of the changes be acceptable as justification for proposed electricity consumption increases.

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.

It is recommended that the AUC work with industry practitioners to compile a list of acceptable software tools, specific system modelling considerations, and the appropriate qualifications for the individuals or firms using the tools.

2. There are currently no specified mechanisms for monitoring the compliance of micro-generation systems with the Micro-Generation Regulation (i.e., 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.

Post approval compliance monitoring is burdensome with limited benefits. With appropriate pre-project review, there is limited opportunity for significant deviation from the micro-generation regulation through standard operation. Furthermore, there is a high likelihood for optimized systems to from time-to-time generate more than a customer's yearly electricity consumption as a result of variations in solar availability in a given year or unforeseen changes in facility operation (e.g. unplanned outages). However, these overages would typically be small (<10% of annual consumption) and would not represent a significant deviation from the intent of the regulation. If any sort of post-compliance monitoring is introduced (which is not recommended), it should be focused on instances of significant deviation (for example an MG system consistently producing greater than 150% of the facility electricity consumption of a period of many years) only.

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.

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

It is recommended that inverter de-rating should not be an acceptable method of demonstrating system compliance. Systems should be evaluated based on the full capacity of all installed components. Typical practice is for solar system designs to undersize the capacity of the inverter compared to the capacity of the solar modules. Because of the modular nature of solar systems, projects can typically decrease the number of solar panels to achieve appropriate system sizing (as an alternative to de-rating inverters).

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, where 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.

   For micro-generation applications related to existing sites, having the utility provide an approved maximum system size for customers prior to proceeding with full applications would be beneficial in many instances. Utilities are well positioned to provide this information. It is important to note that the provision of a maximum system size from a utility should not restrict a customer from proposing a larger system if such a system should be allowed under the regulation (e.g. in the case where a new building is proposed on a site)."

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.

   No comments on this item.

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.

   It is recommended that the AUC consider opportunities for organizations to evaluate consumption at a portfolio level when comparing annual consumption and micro-generation unit output. For many organizations operating multi-facility portfolios, the ability to develop micro-generation units is limited to certain locations. There are instances where the physical capacity exists to develop larger generating units, but sites are limited by the electricity consumption at those specific sites. Having the ability to explore micro-generation at those sites in conjunction with utilities might yield additional opportunity for renewable energy development.

Sincerely,

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