Questionnaire: Rule 024 and Micro-Generation Application Processes Questionnaire

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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.

Short Answer:
Yes, but only for larger systems. Smaller systems (200-amp service or less) should be allowed to export freely without these restrictions.

Why:

- Utilities already manage flow and capacity limits.
- Removing detailed calculations for small systems would reduce paperwork, costs, and delays.
- Installers work across many areas with different rules, which makes things confusing and more expensive.
- Standardization would improve fairness, consistency, and efficiency across Alberta.

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

Recommendation:

- **Small systems (≤200 amps):** Don't require historical use—allow free export.
- **Larger systems (>200 amps):** Let customers choose:
    - Last year's usage, or
    - 3–5 year average (to reflect changes in weather or usage).

- Also, allow customers to account for future usage increases (e.g., new EV or heat pump) right away.

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

Recommendation:

- **Small systems:** Don't require this—allow free export.
- **Larger systems:** Use a similar method as above:
    - Estimate based on historical data + planned additions like EVs or electric heating.

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.)

Recommendation:

- **Small systems:** No proof needed—just allow export.
- **Larger systems:** Accept reasonable proof, like:
    - Bill of sale, permit, receipt, or contract for EVs, renovations, or energy-intensive appliances.
- Some utilities are currently asking for too much (e.g., insurance or registration for an EV), which is unreasonable.

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 rooftop solar photovoltaic system**.**

Recommendation:

- **Small systems:** Don't require this—allow free export.
- **Larger systems:** Follow Solar Alberta's Solar Business Code of Conduct:
    - Factor in hardware, tilt, direction, shading, layout, and location.
    - If certain factors can't be calculated, clearly state what's missing and how it could affect output.

Alberta Solar Business Code of Conduct (https://solaralberta.ca/wp-content/uploads/2023/12/Alberta-Solar-Business-Code-of-Conduct-Nov2023.pdf):

5.6.1. Depending on the installation, Material Factors for production calculations of the system should include: ● Equipment and hardware specifications; ● Tilt; ● Azimuth; ● Size; ● Roof layout; ● Geographic location; ● Shading; and ● Any other reasonably evident or anticipated factors impacting system performance.

5.6.2. In the event a performance calculation is unable to include the Material Factors, production projections should clearly identify the omitted factors, the reason for any such omission and the potential impact of the omission.

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.

Short Answer:
No. Post-approval monitoring is unnecessary and harmful.

Why:

- It adds extra paperwork and cost for homeowners and utilities.
- It goes against the purpose of Alberta's Micro-Generation Regulation, which is meant to **promote renewable energy** and **simplify the process**.
- Homeowners who reduce their energy use (e.g., by becoming more efficient) would be **penalized** for doing something good.
- It would make homes with solar **less attractive** to buyers due to added red tape and possible fines.
- There's no ongoing compliance monitoring for things like electrical panels, so doing it for solar doesn't make sense.
- Extra solar power benefits everyone by **lowering grid demand** and **reducing costs** for neighbors (as seen in California's case).
- The question misquotes the regulation — it doesn't say micro-generators can't produce more than they use; that language is misleading.

- Future issues like oversupply are already being looked at by the Alberta government through **demand-side management**, so there's no need for extra action by the Alberta Utilities Commission (AUC).

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.).

Short Answer:
There shouldn't be any post-approval monitoring.

Why:

- It would create an unnecessary burden.
- It would go against the goals of the current regulation.
- It punishes energy efficiency.
- It's a poor use of time and resources.
- Better solution: **Improve the system sizing process at the start** and give utilities clear, consistent rules.

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.

Short Answer:
Inverter de-rating shouldn't be used for strict enforcement. Focus should stay on service size and initial approvals.

Why:

- De-rating (limiting the inverter's output) can be reversed, so it's not foolproof.
- There's no known evidence of people misusing de-rating, but theoretically, it's possible.
- Trust and clear interconnection agreements are more practical than heavy compliance systems.
- Upfront approvals and grid connection limits already control how much power a system can produce.

- Adding more monitoring or enforcement would create **unnecessary work and costs** for both homeowners and utilities.
- It also **discourages energy efficiency** by punishing people for using less electricity.

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

Yes. De-rating should be allowed.

Why:

- It helps future-proof the system—homeowners can later increase their system when they get an EV or another energy-hungry appliance.
- Inverter choices are limited, and sometimes de-rating is the only way to match system needs.
- It's also useful for managing specific electrical needs or limitations at the property.

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.

Short Answer:
No. This step is unnecessary if we have a standardized sizing process.

Why:

- **Adding more steps makes the process more complicated** for homeowners and solar installers.
- The goal shouldn't be to reduce applications — it should be to **support clean energy and simplify the process**.
- For homes with **200-amp service or less**, allow **unrestricted self-supply and export** within their existing grid connection limits. This would remove much of the need for detailed sizing calculations.

- A **public tool** (like the **City of Lethbridge's map**, which shows the allowed system size for each home) is a **much better solution** than requiring homeowners to get a custom review from their utility.
- If a proposed system is too big, the application process should be simple and clear for justifying increased use.
- **Backlogs and delays** could also be solved by having the AUC set **clear timelines for system commissioning**, so utilities can plan better and hire the staff they need.
- If the AUC is worried about consumer protection, it should require all installers to follow Solar Alberta's **Business Code of Conduct** by becoming members — this would **raise industry standards** and protect consumers without slowing down the process.

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.

Short Answer:
Yes, definitely. Regular collaboration would reduce confusion and improve consistency.

Why:

- Utilities are the public face of the AUC and should be **aligned in their practices and interpretations**.
- Bringing them together regularly would **create consistent guidance** for micro-generators across Alberta and **streamline application approvals**.
- If the AUC doesn't want to do this directly, it could **partner with Solar Alberta**, a long-standing and trusted non-profit with a proven track record of organizing multi-utility collaboration.
- Solar Alberta already works with utilities but **lacks the funding** to do it routinely — a **formal subcontract** could solve this.

Regarding inverter standards:

- There should be **one accepted standard** across Alberta (e.g., CEC approval) communicated clearly to utilities and inspection bodies to eliminate confusion.

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.

Once or twice a year is enough to stay current with technical changes.

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.

Short Answer:
Yes — Alberta should keep key policies that make it a leader in micro-generation, and also expand flexibility for system owners.

1. **Allow Aggregation of Sites**
    - Let people combine generation from **multiple sites** even if they are on **different feeders or have different electricity retailers**.
    - This would give more flexibility and **maximize renewable energy use**.
2. **Unrestricted Self-Supply and Export for 200-Amp or Smaller Services**
    - Let small system owners (typical homes) **generate and export freely** based on their connection limits, without extra red tape.
3. **Protect the Three Pillars of Alberta's Micro-Generation Success:**
    - **One-to-One Credit Ratio**:
        - Micro-generators get credited the **same rate** for the electricity they export as what they pay when buying electricity.
    - **Solar-Specific Pricing Flexibility**:
        - Micro-generators can **choose lower electricity rates** (like other power producers in Alberta) to **maximize savings**.
    - **Year-End Credit Carryover or Payout**:
        - If micro-generators earn excess credit, they should be able to **carry it over** to the next year or **receive a payout**.