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.**

Micro-generators with 200-amp service or less should be enabled to have unrestricted self supply and export to the grid, like Alberta industry can now. The factor that impacts the utility is the flow of electricity, not the annual quantity. Local capacity limits related to flow are already enforced by the utilities as part of their standard application review process and therefore, we do not need a secondary system at this very micro scale to address capacity concerns. Since current systems are additionally inherently limited by their grid connection, enabling unrestricted self-supply and export without mandating detailed output projections would significantly reduce the administrative burden for all parties without materially impacting the grid. This change would reduce the need for solar installers and utilities to assess most residential and some small commercial micro-generation system sizes, and enable the AUC and utilities to focus their information specifications on the systems that are more consequential to the grid.

If this adjustment is not made there should be a standardized methodology or minimum information requirements for utilities' calculation of the estimated annual consumption at a client's site and the production output. A clear, standardized process would improve efficiency, enhance fairness and reduce delays.

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

I recommend not assessing historical energy use and instead enabling unrestricted self supply and export within the maximum generation rates that their grid connection can support, which is already factored into micro-generation approvals.

If historical energy use is needed, micro-generators should be able to choose between using their previous year's usage or an average of the past 3 to 5 years of consumption. This will allow for accommodations related to changing weather conditions, but will also not be overly burdensome to those without 3 or 5 years of historical data.

Customers should also be allowed to justify additional generation to offset new electricity demands such as heat pumps, electric water heaters and electric vehicle chargers at the time of purchase rather than having to wait a year or more. In such cases, standardized load estimates or manufacturer specifications for new technologies (e.g., EV chargers or heat pumps) can be used

to project expected increases in consumption. There is publicly available data on average usage for common loads such as these.

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

As noted above, I recommend *not* assessing future energy use and instead enabling unrestricted self supply and export for micro-generators on 200 amp service of less.

- **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.)**

For micro-generators on a 200-amp service or less, I recommend *not* requiring proof for future energy use, and instead enabling unrestricted self supply and export.

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.

For micro-generators on a 200-amp service or less, I recommend *not* requiring calculations for yearly energy output, and instead enabling unrestricted self supply and export.

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.

The introduction of post-approval compliance protocols would add additional and unnecessary burden for both micro-generators and the utilities. This would fundamentally undermine the purpose of Alberta's Micro-Generation Regulation, which the AUC has stated is "in part, to promote self-supply by renewable energy resources and to simplify the regulatory process for micro-generators" (Decision 23412-D01-2018 & reiterated in 2023). Post-approval compliance protocols would also undermine one of the primary current incentives for Albertans to become more energy efficient (reducing their electricity consumption currently enables them to generate additional credit).

Post-approval compliance protocols would also generate housing and business market uncertainty because homes and businesses with solar would increasingly be seen as a burden involving added paperwork and potentially new costs/penalties for those who are purchasing a home or business. An analogous example is that there are no compliance monitoring systems and processes in place for electrical panels after initial installation; any modifications or additions are captured through the electrical permit requirement process.

Additionally, the benefits of encouraging distributed generation far outweigh the risks of minor overproduction as excess generation helps reduce the need for other power plants and reduces electricity costs for neighbouring consumers.

- **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.).**

There is no best way to structure mechanisms for post-approval compliance monitoring. To reiterate, the introduction of post-approval compliance protocols would create an additional and unnecessary burden on both micro-generators and the utilities (who would almost certainly have to manage this), would fundamentally undermine the goal of Alberta's Micro-Generation Regulation, and would undermine one of the primary incentives for Albertans to become more energy efficient (generating additional credit by reducing their electricity consumption).

Policing homeowners who reduce consumption for personal or seasonal reasons (such as empty-nesters) is not a good use of the utilities' time and would not impact the overall health of Alberta's grid. Distributed micro-generation decreases demand on the grid and contributes to reducing the capital cost requirements for additional utility-scale power plant construction or expansion. Improvements to the upfront system sizing process and clearer utility guidelines would be a more effective and less intrusive means of addressing any concerns about large micro-generators putting too much electricity onto certain sections of the grid at any one time.

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.

The introduction of post-approval compliance protocols such as this would create an additional and unnecessary burden on both micro-generators and the utilities (who would almost certainly have to manage this), would fundamentally undermine the goal of Alberta's Micro-Generation Regulation, and would undermine one of the primary current incentives for Albertans to become more energy efficient (generating additional credit by reducing their electricity consumption).

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

Yes, micro-generators should be permitted to de-rate their inverters. This allows for future-proofing so that system sizes can be easily increased later when additional loads are purchased, like an EV, and would not require a costly full replacement of an inverter. Also, there are a limited number of products available and de-rating is often the only option for optimizing or maximizing a micro-generator's potential or adhering to various onsite electrical constraints.

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.

Adding an initial step to determine a potential micro-generation system's maximum permissible size is redundant if a process and standardized methodology is adopted. There is no need to add additional hoops for micro-generators to go through. **The goal of the Micro-Generation Regulation and the AUC should not be, as stated in this question, "to reduce the number of (micro-generation) applications received."**

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.

Given that the utilities are essentially the face of the AUC in the community, we believe it would be logical for the AUC to routinely bring the utilities together to ensure better alignment on all matters. If the AUC does not want to routinely bring the utilities together on these sorts of matters, they could always subcontract to Solar Alberta to make this happen. As a trusted non-profit society in operation for more than 34 years, they have demonstrated the ability to successfully bring together most utilities on a number of occasions. The main limitation to Solar Alberta facilitating more regular utility collaboration has been a lack of dedicated resources, which could be easily addressed through a formal partnership with the AUC. With Solar Alberta as a neutral convenor, the AUC could reduce confusion amongst micro-generation applicants,

streamline approval processes, and promote clearer, more consistent guidance across the province.

With respect to inverter standards specifically, it would be best to have a single accepted standard for all inverters, which would be communicated to utilities and jurisdictional inspection departments. CEC approval should be the only requirement.

- **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 working group should meet once or twice a year.

An example of a technical requirement, other than inverters, that should be included in this discussion is system sizing for heat pumps. The utilities across Alberta are sizing for heat pumps differently so this would be a good topic for discussion.

If the AUC does not want to routinely bring the utilities together on these sorts of matters, they could always subcontract to Solar Alberta to make this happen. We have managed to bring most of the utilities together on a number of occasions. As stated above, the only reason we don't routinely do this is because as a non-profit, we lack the dedicated resources to do so. This could be easily remedied by a sub-contract with the AUC.

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.

Aggregating sites that are on different feeders or with different retailers would be advantageous. In addition to these ideas and **enabling unrestricted self supply and export for Albertans with a 200-amp service or less**, I believe that Alberta should maintain the pillars of our Micro-Generation Regulation that have enabled Alberta to be the best province for micro-generators in Canada. Those pillars are:

1. **The One-to-One Ratio:** Enables Alberta micro-generators to receive a credit for the electricity that they put on the grid at a rate equivalent to the rate they pay when drawing electricity from the grid.
2. **Solar-Specific Pricing:** Enables Alberta micro-generators, like all power plants in the province, to switch from a higher electricity rate to a lower electricity rate when it is financially advantageous to them.

3. **Year-End Credit Carry Over and/or Payout:** Enables Alberta micro-generators to benefit from any credit they have earned in one calendar year or carry it into the next.