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Rule 024 and Micro-Generation Application Process Questionnaire

- 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.**

An individual home or business annual consumption is incredibly variable. Basing an MG's size on a single moment in time of a consumer is not a meaningful way to assess a site. Families grow, businesses change; we cannot be holding back our industry on something so trivial. MG's should be allowed to connect any size system that the current service is rated for. We should allow the industry to maximize the amount of renewables installed with private dollars, not holding them back. Commercial sites pay to have their service installed, their MG should be based on the service they PAID to have installed. Tennant's change in a building, if a building owner has a high consumption tenant move out, they should not be penalized with being limited to installing a smaller system.

In any scenario, MG information needs to be 100% binary and not subject to various WSP's (Wire Service Provider) requesting their own type of information or subject to constant changes or update for how applications are presented. Applications need to have a very clear set of requirements that is not capable of being subject to interpretation as that creates large project delays. If moving away from a consumption-based approach and to a binary process of available connected service limit, it is a very clear mathematical calculation based existing WSP equipment and a process that cannot be "gamed" that ultimately has only barrier is protection and control for the WSP and limited to customer service size and the Canadian Electrical Code. Generation can be limited in other ways (compared to existing system size limits) if required like financially incentivizing MG's to supply power based on their consumption profile if the intent is to still have MG's only produce approximately their yearly consumption or generation profile. This will make it financially attractive to sculp the generation profile to consumption profile and leave it up to the MG to decide those businesses cases.

This topic consumes far too much of the industries time and energy. Let's lighten everyone's load and encourage MG installation, not discourage and complicate it with consumption-based MG applications. Alberta needs a quick pass/fail process decision process on connection feasibility that is not subject to consumption behavior to get MG's approved.

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

Historical energy usage should not be the barrier for MG sizing. The allowable system size should be based on the service size and existing available load that is approved. Caution should be noted to not have the ability to allow WSP's to post new tariff

rates/riders/ that would diminish MG benefit and consider a MG regulatory set rate potential to ensure across Alberta there are not regions that would become prejudiced compared to others based on WSP rate changes for distribution/transmission charges on how Microgen credits are calculated and compensated. This would extremely simply calculated financial returns for customers if all generation is dealt with uniformly across the province.

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

Historical energy usage should not be the barrier for MG sizing. The allowable system size should be based on the service size and existing available load that is approved. Caution should be noted to not have the ability to allow WSP's to post new tariff rates/riders/ that would diminish MG benefit, and consider a MG regulatory set rate potential to ensure across Alberta there are not regions that would become prejudiced compared to others based on WSP rate changes for distribution/transmission charges on how Microgen credits are calculated. This would extremely simply calculated financial returns for customers if all generation is dealt with uniformly across the province.

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.)

If historical/projected energy usage is not the barrier for MG sizing, then this problem goes away. People can install a system that is ideal for their property, and not worry about needing to upgrade in the future. Proof will be in a connection based approach attained by both WSP and customer with a third party authorization form that will allow understanding of existing connected equipment limitations and a binary system size available without any upgrades.

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.

This should be between the installer and the customer. If energy usage is not a barrier, then needing to prove the estimated output is not necessary.

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 Micro-generation regulation states that a Microgenerator "is intended to meet all or a portion of the customer's total annual energy consumption at the customer's site or aggregated sites" , the question above has added the words "but not more than".

Post-approval compliance monitoring would add an incredible burden to a system that already cannot keep up with itself. This would irrevocably damage confidence in the

regulation and installations would plummet. We cannot seriously expect people to remove or reduce their system because their consumption has gone down with the likes of LED lighting upgrades or other government incentivized energy efficient upgrades. We should be encouraging consumers to be more energy efficient, not financially targeting them. There needs to be security that a system that is approved is not at risk of future curtailment. The fact that this is even being contemplated raises serious concerns about regulatory overreach. This runs completely counter to Alberta's reputation for promoting certainty, personal ownership, and free market autonomy.

Further to previous points made, if consumption is not a barrier, then post-approval compliance monitoring is irrelevant. Keep simply supply and demand market economics as the tool used to put a value on energy and let the market solve for it. With a connected binary limit for MG's the grid stability will be protected by WSP's and generation from MG's could provide great addition to AESO supply/demand market. If the grid in long term becomes oversaturated with MG's for certain hours financially incentivizing large scale storage would be better than stifling the cheapest forms of generation possible that is ultimately borne by the customer and would in theory bring down average power pool pricing and provide lower power cost to all grid consumers.

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.)

There should be no post-approval compliance monitoring. This would be a detrimental cost and effort that would serve only to hurt all stakeholders of the industry. In a connection based approach, the WSP meters can simply report if any KVA demand exported was greater than their MG agreement and if it is creating a farmwork to rectify the compliance.

With a connection based approach it will most likely end up with standardized system sizing in the small MG sized for residential/small load sites of 100amp or 200amp service sizes and extremely simply these applications for MG sizing and construction timelines.

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.

Manufacture provided de-rating is the only way. They can provide a letter and/or an additional nameplate as evidence of this. There are limited sizes of inverters on the market, so confidence in de-rating inverters is necessary. If someone changes or removes their inverter de-rating in the future, that is a violation of their agreement akin to physically changing the inverter size. Their MG agreement should be at risk of de-listing if not immediately corrected. Additionally with a connection-based approach if a WSP meter logs an export event greater than MG approved KVA then this can also be a mechanism to ensure compliance is easy to monitor/maintained/reported to ensure grid safety. If an MG is exporting more than the prescribed agreement KVA in a 15 min interval it will be very evident in the HUFF files available with the WSP's for billing purposes to catch this scenario.

- 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 microgeneration 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.**

Yes, there should absolutely be a pre-approval phase to confirm the physical hosting capacity and unique requirements of a site. It is wild that a multi million-dollar project needs to move all the way to full IFC stamped drawings to find out what the interconnection requirements might be. Giving projects a way to have some confidence of the site-specific barriers would be an excellent addition to our process. The current process involves significant investment from customers on larger MG projects before even knowing if interconnection is approved or feasible with 100% certainty.

- 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.**

Yes, it would be highly beneficial for the AUC to facilitate a working group focused on reviewing and updating technical standards such as inverter compliance. This group should include representation from the AUC, WSP stakeholders, and qualified industry professionals, with the goal of developing unified, province-wide standards. These standards should not be subject to change at the discretion of individual WSPs operating on their own timelines, as this inconsistency continues to create confusion and risk for micro-generation 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 AUC should oversee the working group and convene it at their discretion when changes to standards are being considered. Industry stakeholders must be notified well in advance of any planned changes so they can factor those requirements into upcoming bids. There must also be clearly stated grandfathering provisions that protect projects with signed contracts from being retroactively burdened by new standards. Without this, the industry is left vulnerable to the kind of disruption seen during the transition from UL1741SA to UL1741SB, when systems designed with compliant inverters like Fronius were suddenly deemed non-compliant mid-project. A transparent and consistent process is essential for maintaining trust, minimizing costly delays, and preserving the credibility of Alberta's micro-generation program. Bi-annually would be a good start.

- 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 microgeneration landscape.**

-WSP's need to be held to account on response and processing times for all types of microgeneration applications. It is not acceptable to be given a response of "I do not

have a timeline for a response". The amount of contract risk is not feasible for client or contractor in some instances.

-The ever-changing interconnection requirements from the WSP need some type of governing process. It is not acceptable for the requirements to change mid-project when construction has already begun.

-All MG applications should be standardized between all WSP's to allow no zones in Alberta of areas of high risk of processing errors, different type of documents requested, or application decision tree process.

-If moving to a connected load-based MG approach, a standardized list of information should be available to customers before they apply that will have all the binary values given that will allow system sizing and successful MG application. Value like transformer KVA, phase, relevant protection equipment required to size MG. With the clear WSP asset information, contractors can apply the CEC (Canadian Electrical Code) and existing service size to design system sizes with or without customer upgrades already considered. This information can also be used to identify if customer interconnection will require any upgrades with the designed system with the WSP.

Respectfully,



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