

AUC Micro-generation Rule 24
AREA Presentation, 21 June 2025



ALBERTA RULES AND REGULATIONS AROUND MICROGENERATION

- Renewable Electricity Act, 2017
 - Builds on the previous ____ Act
 - Makes it the responsibility of the Alberta Electrical System Operator (AESO) to foster renewables
 - The exact wording is “to develop a program to promote Large-Scale Renewable Electricity”
 - Targets at least 30% of electric energy produced in Alberta by 2030 will be Renewable Energy.
- Ministerial Order, 2019, set near-term targets for Alberta
 - 15% electricity from Renewable sources by 2022
 - 20% electricity from Renewable sources by 2025
 - 26% electricity from Renewable sources by 2028

WHO IS IN CHARGE?

- Alberta Utilities Commission (AUC)
 - Regulator of the utility companies
 - Concerned with generation, distribution and transmission of energy.
 - Concerned with both Electricity and Natural Gas
- Independent System Operator (Alberta Electric System Operator)
 - Monitors and Coordinates activities of generating units to ensure grid stability
 - Directs large-scale generators to be on-line, off-line, or change operating mode as system needs require.
- Utility companies (ATCO, ENMAX, EPCOR, Fortis, etc.)
 - Some only distribute energy; not concerned with generation (e.g. Fortis)
 - Some concerned with both generation and distribution (e.g. ENMAX)
- Cities in Alberta that own generation and distribution systems:
 - Medicine Hat, Red Deer, Lethbridge, Crowsnest Pass, Cardston, Ft. Macleod, Ponoka
 - ENMAX is mostly concerned with Calgary
 - EPCOR is mostly concerned with Edmonton

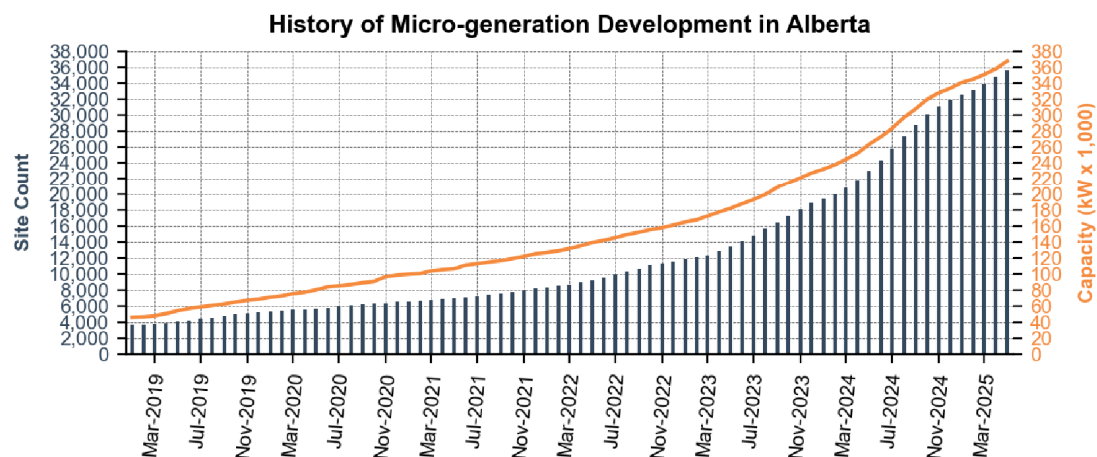
Today's talk is about the AUC and the rules they have published for Micro-generators

ALBERTA DEFINES DIFFERENT CATEGORIES OF “DISTRIBUTED GENERATION”

Data from: **aeso**

- Small Distributed generation < 5,000 kW
 - e.g. large wind farms
- Micro-Generator < 150 kW
 - e.g. solar panel farms
- Mini-micro-generator < 10 kW
 - e.g. house rooftops

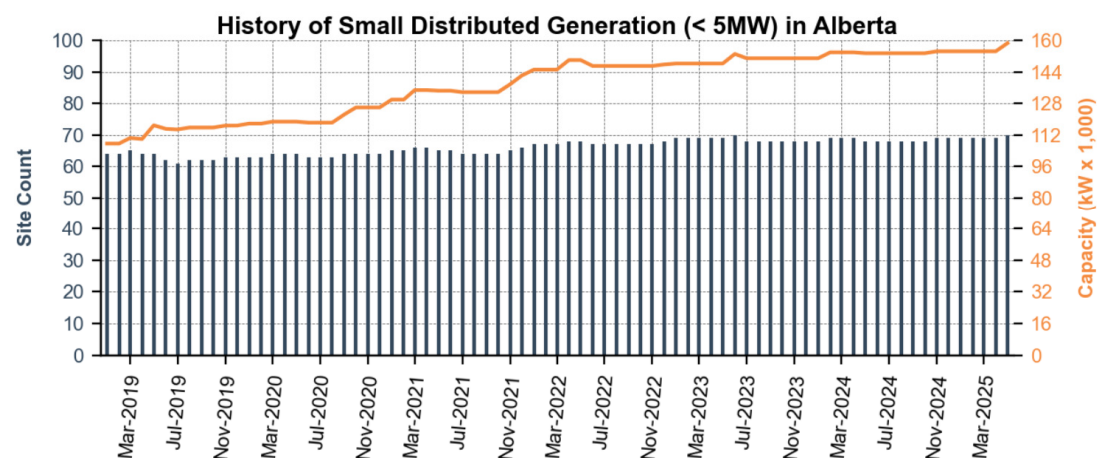
Figure 1: Micro-Generation Development in Alberta



Micro-generation and Small Distributed Generation by Energy Source

May-2025	Micro-generation		Distributed Generation	
	Number of Sites	Installed Capacity (kW)	Number of Sites	Installed Capacity (kW)
Biomass	1	1,692	5	12,533
Co-gen/Solar	2	263	0	0
Gas	6	1,132	25	73,626
Gas Cogen	7	1,533	5	14,280
Hydro	2	109	4	8,900
Other	42	6,488	2	2,065
Solar	35,469	353,915	8	21,750
Solar/Wind	33	277	0	0
Wind	54	2,061	21	25,375
Total	35,616	367,471	70	158,529
May-2024	22,292	257,776	68	153,413

Figure 2: Small Distributed Generation Development in Alberta



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Contact Us

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Rule 024: Rules Respecting Micro-Generation

	Related information
Rule	Rule 024: Rules Respecting Micro-Generation
Effective date	July 16, 2019
Description	Rule 024 applies to customers who intend to generate energy for their own use from a micro-generation generating unit that is capable of generating up to five megawatts of energy. The rule sets out the requirements that must be met before constructing and interconnecting a micro-generation unit to the distribution grid. It also sets out a process for disputes between micro-generation customers and the applicable wire owner regarding the costs to connect to the grid.
Forms	Form A – Micro-generation notice Form B – Notice of dispute Form C – Notice of complaint
Reference information	Micro-generation notice submission guideline Additional information about micro-generation

Actually the rule is older than this. 2019 is just the last revision date. I think it was first approved in 2008.

Key take-away:

The Rule sets out the requirements to be met before constructing an interconnecting a micro-generation unit to the distribution grid.

Management of costs are also mentioned.

AUC Rule 24



Rule 024 (Version 1.1)

Rules Respecting Micro-Generation

effective on July 16, 2019.

Contents

1	Definitions	
2	Exemption from power plant applicationMG's don't have to be big corporations.
3	Micro-generation notice process.....	...MG's must notify their utility company.
4	Qualification as a micro-generation generating unit.....	...MG's must use suitable equipment.
5	Costs of bi-directional interval meterThe utility must install a suitable 2-way meter.
6	Extraordinary interconnection costsThe utility isn't on the hook for MG installation costs.
7	General provisionsEither party can lodge a complaint with the AUC.
8	Retention of records.....	...Both parties must keep track of their exchanges.

IN LAYMAN'S TERMS:

AUC Rule 24

The AUC is reviewing its Rule 24. They will plan an update with our feedback.

- (like all of its other rules, it periodically updates them).
- The underlying regulations and laws from the Government of Alberta have not changed.
- We can give them feedback to (hopefully) improve the rule to make it less restrictive on system design.

General subjects that the AUC is asking about:

1. Estimation of a customer's annual production from their micro-generation system.
2. Post installation compliance. How important is this? How should monitoring be done?
3. De-Rating of micro-generation customer inverters.
4. City of Medicine Hat's micro-generation rules and application process.
5. Technical standards for micro-generation system inverters.

<https://engage.auc.ab.ca/consultations/rule-024-rules-respecting-microgeneration/>

Our feedback is due before June 26, so get writing!

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The AUC is asking the following 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?
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?
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?
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?
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.)?

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The full text of the AUC's question # 1:

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

The other questions are like this, too. There are many "sub-questions" associated with each one.

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The full text of the AUC's question # 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.

- 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.).

*Who's assuming that there is any non-compliance?
What evidence of non-compliance would motivate this?*

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The full text of the AUC's question # 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.

If this is another compliance issue, provide evidence that it occurs, and that the occurrences matter.

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The full text of the AUC's question # 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.

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

Why are they asking to "reduce the number of full applications"?
There already are ways to determine the system size.

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The full text of the AUC's question # 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.

- 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 inverter technical standards don't change that often.
CSA reviewed their standard in 2020 and decided not to change it.*

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The full text of the AUC's question # 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.

DISCUSSION...

QUESTIONS?





BY THE WAY...

- It's still running well
(but needs new bearings)
- Starting to integrate it with
the Sol-Ark Inverter

