FORTIS ALBERTA

November 19, 2025

DER Bulletin 2025-002: DER Operational Requirements for Voltage Regulation

Beginning in 2026, FortisAlberta will implement new operational requirements for certain Distributed Energy Resources (DERs) to enhance voltage regulation and maintain overall system reliability across its distribution network.

While standards for DER integration are already in place, the increasing penetration of DERs introduces new challenges in voltage control and reactive power management. To address these, FortisAlberta will begin directing the use of advanced autonomous control modes, as defined in IEEE Std 1547™-2018, including:

- Volt-VAr
- Watt-VAr
- Volt-Watt
- Fixed Power Factor (Fixed-PF currently in use)

Many of these control modes enable DERs to dynamically respond to grid conditions, improving localized voltage support and reducing system losses.

Key Changes Rationale

Current Practice:

DERs operate under a Fixed-PF mode, which lacks responsiveness to real-time voltage deviations and can lead to overvoltages for customers, resulting in nuisance tripping of DERs.

New Requirements:

DERs will be expected to operate under Volt-VAr, Watt-VAr, or constant power factor with Volt-Watt modes depending on their location and feeder characteristics. These modes allow DERs to autonomously adjust power output based on real-time system conditions, enhancing grid reliability and resiliency.

Location-Based Requirements Expected:

For sites near substations:

Volt-VAr is likely to be implemented with Volt-Watt

For sites further down the line (related to system impedance):

Any combination of Volt-VAr, Watt-VAr, and constant power factor with Volt-Watt will be used

Implications for DER Proponents

Operational Adjustments: DER proponents will need to configure their systems to support the required control modes. FortisAlberta will provide updated Volt-VAr, Watt-VAr, and Volt-Watt curves tailored to local feeder conditions.

Compliance and Coordination: These changes are aligned with IEEE Std 1547™-2018 and are intended to improve system voltage stability.

Common Questions

Will ratchet charges increase due to consumption?

Billing is determined on the average of 15-minute interval demand values for both kW and kVA within a given month. The ratchet is set at 90% of the highest metered kW/kVA demand in the past 12-month period including and ending with the billing period. A slight overshoot for a few seconds would have minimal impact.

In short: If set up correctly, Volt-VAr or other advanced control modes will not cause a ratchet increase.

Will revenue drop due to VAr consumption?

For sites operating at constant power factor and absorbing large amounts of reactive power, revenue will more likely increase. Revenue is not expected to be greatly affected, as unity power factor operation will occur more often along with far fewer nuisance trips.

Requirements Related to Legacy Equipment and Timelines

Definitions:

- **Legacy DERs:** Connected prior to January 2020
- **Non-legacy DERs:** Connected on or after January 2020, following FortisAlberta's DER-02 bulletin which referenced IEEE Std 1547™-2018

For non-legacy DERs:

A 60-day notice with control mode set points will be issued to the provided contact for implementation. Notification to FortisAlberta once the settings are implemented will be required.

For legacy DERs:

DERs connected prior to January 2020 may not have been commissioned with advanced control functions. FortisAlberta will work directly with proponents on reasonable timelines for implementation if required.

Legacy DERs will only be asked to implement advanced controls:

- By request from the proponent, or
- Due to a system operations issue

These are case-by-case, and the rollout may only affect specific legacy DERs.

Proposed Roll-Out Plan

The rollout of advanced DER settings is planned for Q1 2026 and will proceed in stages:

NEW LARGE MG AND DG SITES:

Any project not past the 110-day package will have advanced control modes prescribed. If settings are not prescribed before reaching the 110-day package, the DER will be part of the staged rollout and considered non-legacy.

First projects:

DER locations that participated in the pilot will have their control modes made permanent. Two projects experiencing nuisance tripping at the substation will be the first currently connected DERs to officially switch (pending agreement with the proponent).

Expected Start: Q1/Q2 2026

Second round:

DER locations experiencing repeat nuisance tripping issues, typically identified by the DER and Operations Planning team. All DERs on that feeder will be included.

Expected Start: Q2 2026

Third round:

DER locations in weak grid areas as defined by AESO and FortisAlberta analysis.

Expected Start: Q2 2027

Fourth round:

Final staged rollout by region. Any feeder not yet included will be addressed.

Expected Start: Q2 2028

Timelines are subject to change and may be moved up where possible.

Next Steps

FortisAlberta will engage with stakeholders and DER proponents throughout 2026 to support the transition. Technical guidelines and updates will be published in subsequent bulletins.

For further questions, please reach out to your designated Stakeholder Relations Manager.

Action Required

Please submit written feedback by close of business on **December 19, 2025**, to Generation@fortisalberta.com.

Use the subject line:

Feedback for FAI Control Mode and EMT Consultation Nov 2025 from [Affiliation]