

Entegrus DER Hosting Capacity Methodology

May 1, 2026

1. Purpose

In accordance with the Ontario Energy Board's Distributed Energy Resources Connection Procedures (DERCP) Section 4.4.2, Entegrus publishes this document to provide transparency into the methodology used to assess Distributed Energy Resource (DER) hosting capacity on its distribution system.

This document provides a high-level overview of the technical criteria and approach used to determine available capacity. It is intended for informational and screening purposes only.

2. What is Hosting Capacity?

DER hosting capacity represents the maximum amount of DER generation that can be connected to a feeder or station without:

- exceeding equipment or system limits, or
- requiring system upgrades or reinforcement

Hosting capacity values are indicative only and do not:

- guarantee connection approval
- reserve capacity on the system
- replace the Preliminary Consultation (PCIR/PCR) or Connection Impact Assessment (CIA) processes

Final connection feasibility and cost are determined through the formal DERCP connection process.

3. Methodology Overview

Entegrus determines available DER hosting capacity by evaluating a proposed connection against a series of technical constraints. The available capacity is governed by the most limiting (lowest) constraint.

Step 1: Establishing a DER Inventory

Entegrus maintains a feeder- and station-level inventory of existing and allocated DERs, including:

- Nameplate (AC) capacity or accepted derated capacity
- DER type (inverter-based, rotating machine, storage, etc.)
- Operating mode (exporting, export-limited, non-exporting)
- Point of connection (feeder/station)

All existing and approved DERs are included in capacity calculations.

Step 2: Apply Technical Constraints

1. Thermal Feeder Limits

Capacity is limited by the current-carrying capability of feeder conductors and equipment. These limits ensure that DER connections do not overload distribution infrastructure.

2. Station and Transformer Limits

Total connected DER is assessed against station transformer capacity and loading conditions. Limits may include:

- Transformer nameplate ratings
- Station loading conditions
- Minimum station load

3. Minimum Feeder Load / Reverse Power Flow

DER output must not exceed system load under minimum loading conditions where reverse power flow is not permitted. This is often a governing constraint for inverter-based DER.

4. Short-Circuit Capacity Limits

DER contributions to fault current are evaluated to ensure equipment ratings are not exceeded. The impact depends on DER technology:

- Inverter-based DERs have limited fault contribution
- Rotating machines contribute higher fault current

5. DER Penetration / Screening Thresholds

For small and micro DERs, Entegrus may apply screening thresholds consistent with industry practice and DERCP guidance (e.g., feeder penetration limits) to support simplified connection processes.

6. Upstream (Hydro One) Constraints

Where applicable, upstream system limits imposed by Hydro One or another host distributor/transmitter are considered. The governing capacity is the lower of:

- Entegrus-calculated feeder/station capacity, or
- upstream system capacity limits

Step 3: Determine Available Capacity

Available hosting capacity is calculated as:

Available Capacity = Applicable Limit – Existing and Allocated DER Impact

The final hosting capacity value is the lowest remaining capacity across all applicable constraints.

4. Additional Considerations

Exporting vs Non-Exporting DER

Entegrus considers the operating characteristics of DERs when assessing hosting capacity. Exporting, export-limited, and non-exporting DERs are treated differently due to their varying impacts on system loading, reverse power flow, and fault contribution.

Multiple DER Systems

Where multiple DER systems exist at a site, the total capacity is assessed based on the combined AC capacity of all units, consistent with DERCP requirements.

Derated Capacity

Entegrus may accept statically derated capacity where properly documented and compliant with DERCP requirements.

5. Contact

For project-specific assessments or to confirm available capacity, customers should submit a Preliminary Consultation Information Request (PCIR) through the Entegrus DER connection process or email generation@entegrus.com.