

Distributed Energy Resources (DER)

Connection requirements, hosting capacity, and cost guidance · Effective May 1, 2026

What is a Distributed Energy Resource?

A Distributed Energy Resource (DER) is any electricity source or controllable load connected to the distribution system on the customer side of a connection point. Common examples include:

Generation

- Rooftop solar panels (PV)
- Small wind turbines
- Battery storage systems
- Micro-hydro generators
- Small biomass or biogas generators

Export Types

- **Exporting** - DER exports power to the grid under normal operation
- **Export-Limited** - DER is restricted to a set export level via a Power Control System (PCS)
- **Non-Exporting** - DER does not export to the grid (formerly called "load displacement")

Regulatory authority: DER connections in Ontario are governed by the *Distribution System Code* (DSC) and the *Distributed Energy Resources Connection Procedures* (DERCP), Version 3, both effective May 1, 2026. SLHI's [Conditions of Service, Appendix Q](#) sets out our distributor-specific requirements.

DER Classifications Updated May 1, 2026

The size of your DER determines which connection process applies. All capacity figures refer to the total AC inverter nameplate capacity at the connection point.

Classification	Nameplate Capacity	Connection Process	CIA Required?
Micro-Embedded Generation	≤ 12 kW Updated	Simplified / streamlined process	Simplified CIA (or none)
Small Embedded Generation	> 12 kW up to 500 kW (< 15 kV) or 1 MW (≥ 15 kV)	Standard CIA process	Yes - detailed CIA
Mid-Sized Embedded Generation	> 500 kW up to 10 MW (< 15 kV) or > 1 MW up to 10 MW (≥ 15 kV)	Standard CIA process	Yes - detailed CIA
Large Embedded Generation	> 10 MW	Full CIA + IESO assessment	Yes + IESO review

* The micro-embedded threshold increased from 10 kW to 12 kW effective May 1, 2026 (DSC Amendment EB-2019-0207). Capacity is

based on total AC inverter nameplate capacity. Where multiple inverters are installed (e.g. solar + battery), capacities are summed.

Connection Process

All DER connections follow the OEB's DERCP process. The eight key steps are:

1 Preliminary Consultation

Submit a Preliminary Consultation Information Request (PCIR). SLHI will provide a Preliminary Consultation Report (PCR) within 15 business days confirming basic feasibility and available capacity at your proposed connection point. No charge for the preliminary consultation.

2 Application Submission

Submit a CIA Application (Form B for small/mid/large DERs; simplified application for micro DERs). Provide nameplate capacity, fuel type, technology, service address, and whether the facility is exporting, export-limited, or non-exporting.

3 Connection Impact Assessment (CIA)

SLHI assesses the impact of your proposed DER on the distribution system. For micro-embedded DERs a simplified CIA may apply. See the CIA timelines table below.

4 Offer to Connect

SLHI provides a detailed cost estimate and formal Offer to Connect within the applicable timeline.

5 Connection Cost Agreement

You and SLHI agree on and execute a Connection Cost Agreement confirming final costs.

6 ESA Inspection & Authorization

Your qualified electrical contractor submits an Application for Inspection to the Electrical Safety Authority (ESA). SLHI must receive an ESA Connection Authorization before proceeding.

7 Connection Agreement

Execute a Connection Agreement with SLHI. Residential customers are not required to provide commercial liability insurance (DSC Appendix E, s.9.2). Non-residential customers must provide proof of insurance. All customers are advised to consult their insurer regarding DER coverage.

8 Build, Energization & Commissioning

Work is constructed and the DER is energized. Provide As-Built drawings to SLHI on completion.

CIA Timelines Updated May 1, 2026

DERCP s.5.6 / DSC s.6.2.12

For small embedded generation facilities, SLHI will provide an assessment, cost estimate, and Offer to Connect within the following timelines from receipt of a *complete* application:

Scenario	Timeline
No distribution system reinforcement or expansion required	60 days
No reinforcement required, but a host distributor (Hydro One) CIA is needed	75 days New
Distribution system reinforcement or expansion required (regardless of host CIA)	90 days

The 75-day timeline is new effective May 1, 2026. It applies when SLHI must coordinate with Hydro One as the host distributor for a CIA, but no system upgrades are needed.

DER Hosting Capacity

DERCP s.4.4.2

SLHI is required to publish its methodology for calculating available DER hosting capacity and to share that information with Hydro One quarterly. The interactive [SLHI Distribution System Capacity Map](#) shows available capacity by feeder. The map is updated at least quarterly and submitted to the OEB's [Centralized Capacity Information Map \(CCIM\)](#).

How SLHI Calculates Remaining Feeder Capacity

Available feeder capacity is determined as the lowest remaining value across all of the following limiting criteria. Each feeder is assessed against all constraints:

Limiting Criterion	How it is Applied	Reference
Thermal Feeder Limit	Generation limited to 200 A or 400 A depending on feeder voltage class	Hydro One DT standards
Thermal Station Limit	Total station-connected generation must not exceed 60% of transformer MVA nameplate rating plus minimum station load	Hydro One DT standards
Minimum Feeder Load	DER output must not cause reverse power flow into the station under minimum load conditions. Available capacity = Minimum feeder load – Existing connected generation	Hydro One transmission interface requirements
Small Generation Penetration	Micro-generation (≤ 12 kW): max 7% of feeder peak load on F-class feeders; max 10% on M-class feeders. Non-exporting micro-DER may be excluded from this limit.	Hydro One DT.10.20
Short-Circuit Capacity (SCC)	New generation must not cause short-circuit levels to exceed station equipment ratings or Transmission System Code limits	Hydro One standards; applicable industry standards
Upstream Transmitter Limit	The governing available capacity is the lower of SLHI's calculated feeder/station limit and Hydro One's published upstream limit. SLHI's capacity will never exceed Hydro One's published limit.	Hydro One CCIM data

Formula: Available Capacity = Applicable Limit – Existing Connected Generation (evaluated for each criterion; lowest value governs)

Capacity figures reflect whether existing DERs on a feeder are exporting, export-limited, or non-exporting, as each affects available capacity differently. Where SLHI shares feeders with adjacent LDCs, this is noted on the capacity map. The CCIM does not replace direct engagement with SLHI as part of a formal connection application — applicants should always contact SLHI to confirm available capacity for their specific project.

Connection Cost Guidance Updated May 1, 2026

DERCP s.4.4.3 / DSC Appendix G, Part 1 · Conditions of Service Appendix Q · Updated annually

The following table provides indicative connection costs by DER group to help applicants understand the potential financial implications of a project before proceeding. These are estimates only — actual costs are confirmed in the Connection Impact Assessment (CIA) and Connection Cost Agreement. All costs are in Canadian dollars and exclude HST.

Important: Costs below do not include upstream Hydro One CIA fees (which vary by project); distribution system upgrade costs (billed separately if required); or SCADA/transfer trip costs where applicable. For micro-embedded DERs (≤ 12 kW) processed under the simplified CIA, no CIA fee is charged.

Table 1: DER Group Connection Cost Summary

Cost Item	Notes	Group 1 Micro-DER ≤ 12 kW	Group 2 Single-phase $>12-30$ kW	Group 3 Three-phase $>10-100$ kW	Group 4 $>100-250$ kW
Metering	¹ Material & labour; meter type based on connection requirements	\$263	\$553	\$553	\$3,193
Commissioning	² On-site commissioning and verification	—	—	—	—
SCADA	³ Remote monitoring; required for larger DERs	—	—	—	\$516
CIA Fee	⁴ Connection Impact Assessment study fee	—	\$516	—	\$2,200
Total Estimated Connection Cost		\$263	\$1,069	\$553	\$5,909

Table 1 — DER Group Connection Cost Summary. Costs are estimates; actual costs confirmed in the Connection Cost Agreement. Upstream Hydro One CIA fees (where required) are additional and vary by project. Last reviewed: May 1, 2026.

Past Connection Cost Variances Updated May 1, 2026

DSC Appendix G, Part 2 · Conditions of Service Appendix Q · Updated annually · Customer-identifying information not disclosed

The OEB requires distributors to publish actual versus estimated connection costs for DER projects completed in the past two years. This helps applicants understand realistic cost variability before committing

to a project.

No DER connection projects have been completed at SLHI in the past two years (2024-2025).

Accordingly, no variance data is available for this period. This table will be updated annually as projects are completed. Applicants should contact SLHI directly for current cost estimates specific to their project.

Table 2: DER Project Variance Analysis (Two-Year Lookback: 2024-2025)

DER Group	Project No.	Project Type	Cost Estimate (\$)	Actual Cost (\$)	Variance (\$)	Variance %	Expansion Required	Notes
Group 1 - Micro ≤ 12 kW	—	—	—	—	—	—	—	No projects in past 2 years
Group 2 - Single-phase >12-30 kW	—	—	—	—	—	—	—	No projects in past 2 years
Group 3 - Three-phase >10-100 kW	—	—	—	—	—	—	—	No projects in past 2 years
Group 4 - >100-250 kW	—	—	—	—	—	—	—	No projects in past 2 years

SLHI has not completed any DER connection projects within the two-year lookback period (January 1, 2024 - December 31, 2025). This table will be updated as projects are completed. Last reviewed: May 1, 2026.

Common factors that can cause cost variances: Scope changes requested after construction commences; additional engineering required due to site-specific conditions; material and labour cost changes over multi-year projects; Hydro One upstream costs not confirmed at time of estimate; additional telemetry or protection requirements identified during detailed design.

Net Metering

Ontario Regulation 541/05 - Net Metering

Net Metering is a billing arrangement for eligible customers who generate their own electricity. If your DER exports more electricity to the SLHI grid than you consume in a billing period, you receive a credit on your bill. Credits can be carried forward for up to 10 months. Net Metering is available for renewable generation only (solar PV, wind, micro-hydro, biomass, biogas).

Net Metering customers follow the standard DER connection process above. The maximum project size for Net Metering is 500 kW.

How billing works

- You receive a credit for energy exported, up to the value of energy consumed from the grid in the same period
- Excess credits carry forward up to 10 months
- Unused credits are cleared at the Account Clearing Month
- HST applies to gross supply, not net supply

Metering requirements

- Bi-directional meter required (records energy in both directions)
- Two-register meter if average peak demand < 50 kW
- Four-quadrant interval meter if demand is 50–500 kW
- Customer pays incremental metering upgrade costs

To apply, download and complete the DER connection application form (see Forms section below) and email it to info@siouxlookouthydro.com.

Forms & Applications

Updated May 1, 2026

Note: Updated OEB CIA Application forms (Appendix C and D of the DSC) reflecting the 12 kW threshold and the term "non-exporting" are posted on the [OEB's DSC website](#) effective May 1, 2026. SLHI will provide the current applicable form upon request.

Micro-Embedded DER (\leq 12 kW)

- Preliminary Consultation Information Request (PCIR) — contact SLHI
- Simplified CIA Application — contact SLHI for current form
- Micro-Embedded Generation Connection Agreement (DSC Appendix E)

Small / Mid-Sized DER ($>$ 12 kW)

- Preliminary Consultation Information Request (PCIR) — contact SLHI
- Form B - CIA Application — available on OEB DSC website or from SLHI
- Connection Agreement for Small and Mid-Sized DERs (DSC Appendix E)

All forms can be submitted by email to info@siouxlookouthydro.com or by mail to the address below.

DER Connection Inquiries

Sioux Lookout Hydro Inc. · 25 Fifth Avenue, PO Box 908, Sioux Lookout, ON P8T 1B3

📞 [\(807\) 737-3800](tel:8077373800)

📄 [Conditions of Service \(Appendix Q\)](#)

✉️ info@siouxlookouthydro.com 🗺️ [Capacity Map](#)