

Distributed Energy Resource (DER) Hosting Capacity Methodology

System capacity limits must be calculated to determine if PUC Distribution can facilitate a Distributed Energy Resource (DER) connection to the distribution grid or to determine if a system enhancement is required. The methodology to support the calculation of the system capacity limit is outlined below.

1. Record of Existing Generation Connections.

- a. Establish a complete record of existing generation connections including the AC nameplate of the generator, the station number and the circuit number.

2. Understand Applicable Limits

- a. Determine the allowable generation at the distribution station and transmission station levels based on thermal limits:
 - i. 60% allowable reverse power flow based on transformer MVA nameplate rating
 - ii. Load flow at 80% power factor
 - iii. High confidence minimum load
- b. Determine feeder power flow thermal limit
- c. Short circuit capacity (SCC) fault levels must not exceed the lower of the station equipment ratings or the OEB Transmission System Code (TSC) limits as found in the Hydro One TIR.
 - i. The SCC calculations are calculated as follows: Available SCC = Equipment short circuit rating – Existing station short circuit contribution – DER short circuit contribution
- d. For generators with a capacity of <12kW, the thermal limits of the distribution pole top or pad mount transformer must be determined.

3. Determine Remaining Capacity

- a. Remaining Capacity = Available Capacity – Existing Connected Generation
- b. The lowest capacity limit value across all constraint categories in item 2 above represents the Available Capacity from the LDC perspective.