

**1. Bulletin ID #:** B-01-DT-10-20.R1

**2. Reference Document:** "Technical Interconnection Requirements (TIR) for Distributed Generation Micro Generation & Small Generation, 3-phase, less than 30 kW", *DT-10-20 R1*, April 1, and all preceding versions. The original document published as DT-10-20 R0 in 2010.

**3. Type:** Modification of Section 5.3.2 System Requirements

**4. Release date:** June 1, 2022

**5. Effective date:** June 1, 2022

**6. Affected Section of The TIR:**

Section 5.3.2: Microgeneration (10 kW or less) System Requirements

## **7. Existing Requirement**

### **5.3.2 System Requirements**

i) The total generation to be interconnected to a distribution system circuit line section, including the proposed generator, will not exceed 7% of the annual line section peak load. Line section peak load refers to the section of line to which the DG connection is proposed, including all downstream line on the same phase(s) and the line upstream to the nearest automatic reclosing protective device (normally a single-phase line recloser). The total generation excludes generators that cannot export power from a customer's site. To meet this requirement, supply station capacity upgrades may be required and anti-islanding concerns due to cumulative generation will need to be addressed.

## **8. Modified Requirement**

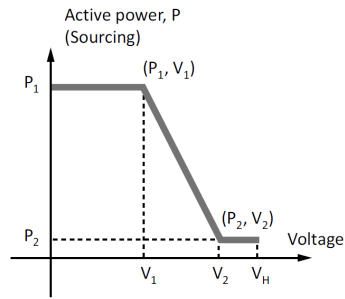
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(a) Line sections where the total generation, including the proposed generator exceeds 7% of the annual line section peak load may be considered for connection with additional requirements including:

1. Inverters must be UL1741SA (or later) certified or CSA 22.3 No. 9:20.
2. Smart inverter settings may be subject to Hydro One review and approval.
3. Prior to connection the facility must be capable of power factor set-point changes (ie. field adjustable) at all times.

## P(V) characteristics



$V_H$ : Voltage upper limit for DER continuous operation

Source: CSA C22.3 NO. 9:20

## Volt-watt parameter settings for DER settings

<b>P(V) parameters</b>	<b>HONI default parameter values for DER systems</b>
V1	1.051 p.u.
P1	Rated Power
V2	1.061 p.u.
P2	0 kW
Open loop response time	10 sec

### **9. Background and Reason**

The 7% rule for micro-DER facilities was established based on industry islanding risk criteria and concurrently to limit the incidence of voltage, power quality and thermal issues that may arise through excessive DER penetration. Through experience over the past several years, the 7% rule and the underlying reasoning have been validated. Moving forward, based on this validation and in combination with recognizing the new capabilities of smart inverter technologies, Hydro One is looking to leverage these technologies to increase micro-DER penetration while maintaining the same level of reliability and operability.