

Feeder Capacity for Distributed Generator Connections

Hydro One Networks is committed to working with all generation proponents to ensure assessments of their proposals and integration of projects into the distribution system are done in a timely, consistent and fair manner. Processes may be amended as required to accommodate changing circumstances, including Ontario Energy Board and Ontario Power Authority direction.

A Distribution feeder's capacity for new generation has two components:

The first component is an upper limit based on system operability, and depends on system voltage. These limits are found in Hydro One's [Technical Interconnection Requirements](#) (TIR) document.

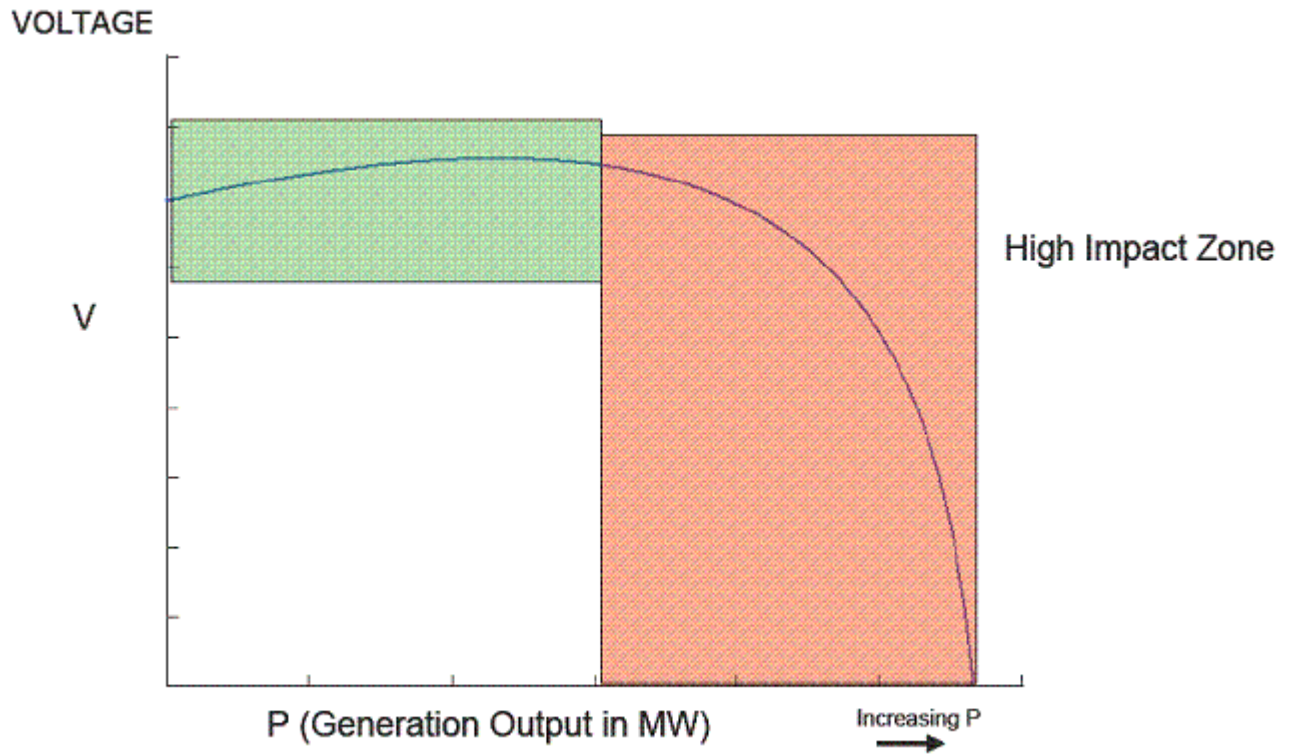
The second component is a result of recent experience of unacceptable feeder voltage regulation and power quality issues when there is a large amount of generation connected at a distance from the supply station.

A feeder's capacity limitation, for all sections of a feeder, is based on the conductor size, voltage of the feeder, system strength and distance from the Hydro One supply station to the Generator's Point of Common Coupling (PCC). The feeder limitation applies to all Distributed Generators connected or connecting to the feeder, and considers the rated output capacity of each Distributed Generator. Any single Distributed Generator connection and its specific point of connection can affect the capacity available for all sections of the feeder.

The feeder limitation allocates available capacity for each section of the feeder and adjusts this available capacity based on the impact of other Distributed Generators connected or connecting to the feeder.

Note: OPA FIT applications received after Feb 8, 2010 must pass the distance limitation criteria during the Distribution Availability Test.

P-V Profile for Generation Connections on Long Feeders



As illustrated above, with a significant amount of generation at the end of a feeder, a slight variation in generation output will result in a significant variation in voltage.