

Submission to the Electricity Authority: Integrating hosting capacity into small-scale distributed generation connections

Eric Pyle, solarcity, 29th November 2019

Q1-6

We support accurate incorporation of standards into the electricity code.

Q7 Concerns about arbitrary limits on the amount of DER connected to the network

While we support the incorporation of the latest standards into the electricity code we caution that incorporation of a standard into the code should not impact the integrity of the standard. Standards are developed through rigorous processes. It would undermine the standard setting process if when standards are incorporated into the Code the standard is adjusted.

As an example, it appears the draft of the Code attempts to introduce some conditions over and above the latest 4777 standards. In particular: 4777.1:2016 uses the following wording: "The hard limit (export limit) of an export control function may apply to an IES (inverter)[...]greater than 30kVA." The code should be clear on the fact that this limit is not applicable for systems <30kVA. Currently the draft of the code is not sufficiently clear on this point.

We have concerns about lines companies arbitrarily setting limits on the amount of distributed energy that can be connected to the power system. In particular, we are concerned about the following proposed part of the code: *"(c) has an export power limit at the ICP of the distributed generator that meets the maximum export power, if any, specified by the distributor in its connection and operation standards."*

We would like to see:

- Robust and transparent methodologies for calculating the amount of distributed generation that can be connected.
- A mechanism for challenging decisions made by lines companies on distributed generation limits.

Our views are based on the variable approach to distributed generation connections across lines companies that we have experienced over recent years. We are aware of two lines companies that have recently set solar export limits that from our perspective have no transparency or justification. In addition, the volt-var control on inverters meeting 4777.2:2015 in effect puts a limit in place in relation to voltage rise.

Proposal for a technical workshop

We suggest a technical workshop to work through setting limits, how modern inverters work and can support networks, identifying and communicating network congestion issues. We suggest that the Electricity Authority leads this workshop together with the Electricity Engineers Association.

Background on solarcity

solarcity has installed more solar systems than any other company in New Zealand in its 38 years of existence. We are one of the largest domestic solar installers in New Zealand. We own and operate a fleet of thousands of household solar and battery systems in New Zealand.