

Distribution Generation Interconnection Requirements – for NET METERING

Addendum 2020

SaskPower's "34.5 kV and Below Generation Interconnection Requirements" document (aka "GIR") was issued in 2005. It does not reference or require adherence to IEEE STD 1547 which was a new Distributed Generation standard at the time. SaskPower's GIR was written to allow simple and safe integration of Distributed Energy Resources (DER) to a Distribution System that had none in existence at the time. DER technology has advanced significantly over the past 15 years, and the penetration of DER into SaskPower's Distribution System has increased to the point that no DER addition is "simple" anymore. The higher penetration of DER is causing foundational changes to how SaskPower must operate its Distribution System to continue to provide safe reliable power to its customers. The North American Utility industry is already dealing with the effects of higher DER penetration and is has moved to the exclusive use of Smart Inverter technology that meets IEEE STD 1547-2018 (the "2018" refers to revision to IEEE STD 1547 that occurred in March/2018). SaskPower will follow the industry best practise and do the same, and SaskPower's GIR document is being updated to include IEEE STD 1547-2018 requirements. The GIR revision will also align with SaskPower's Grid Modernization initiative and its requirements to move to a Provincial Distribution Control Centre with an integrated Distribution SCADA system.

The revised SaskPower GIR will be available by the end of 2021. In the meantime, the 2005 GIR on "www.saskPower.com" will act as a guide for DER proponents, along with knowledge that the following important parameters will change within the new GIR requirements:

- The Supplier's facilities shall adhere to the most recent version of IEEE STD 1547-2018, which was released in March/2018. The revised IEEE STD 1547-2018 contains enhanced requirements for DER Performance and Testing
- SaskPower requires monitoring of voltage, current, frequency, active power, reactive power, and power factor to meet IEEE STD 1547-2018 accuracy standards
- SaskPower requires the ability to remotely connect/disconnect the Supplier from the Distribution System and the ability to "cease to energize" the DER, as per IEEE STD 1547-2018. This is not the same as a Direct Transfer Trip function
- SaskPower requires the DER to be capable of different operating modes as per IEEE STD 1547-2018 regarding reactive power support, voltage support, frequency support, and limiting active power
- SaskPower requires the DER to ride-thru voltage and frequency excursions as per IEEE STD 1547-2018