



Grid Supportive Utility-Interactive Inverter Qualification Requirements

March 12, 2018

All qualified advanced inverters that are published on Hawaiian Electric's qualified equipment listings must be formally certified to perform the Grid Support Utility Interactive Inverter functions in Underwriters Laboratories Standard 1741, Supplement A ("UL-1741 SA"), using the applicable utility Source Requirements Document ("SRD") at the time of the Interconnection application and Tariff Rule No. 14H¹, effective February 20, 2018.

Formal qualification requires inverter manufacturers to submit "Certificates of Compliance" from UL or a nationally recognized testing laboratory ("NRTL") and have completed an Appendix A: Grid Support Utility Interactive Inverter Worksheet to Hawaiian Electric. The Certificates of Compliance must indicate certification to UL 1741 SA using the applicable SRD, and list the appropriate firmware version, country code, or applicable configuration that was tested and certified by UL or the NRTL.

The links to the current SRD version, Appendix A: Grid Support Utility Interactive Inverter Worksheet and Customer Self Supply Qualification Form are provided below and should be filled out completely and returned to DER-Qualify@hawaiianelectric.com:

Description	Forms
Current SRD version	SRD-UL-1741-SA-V1.1.PDF
Appendix A: Grid Support Utility Interactive Inverter Worksheet	Appendix A GSUI Worksheet.xlsx
Customer Self Supply Qualification Form	Form No PSX-2018-Rule 22.docx

Until an applicable test standard for Transient Overvoltage ("TrOV-2") has been formally adopted by UL or IEEE², all inverter manufacturers must continue to use the Companies' existing TrOV-2 test procedures and submit raw data for test runs for compliance verification. Information on TrOV-2 load rejection testing and submission of raw data to Hawaiian Electric can be found at the links below:

[Appendix I – TrOV-2 Qualification](#)

- [Attachment A – LRO Test Procedure](#)
- [Attachment B – Equipment List](#)
- [Attachment C – Sample Raw Data File](#)

¹ Filed with the Commission under Docket No. 2014-0192 – Instituting a Proceeding to Investigate Distributed Energy Resource Policies on February 20, 2018.

² Institute of Electrical and Electronics Engineers.



- [Attachment D – Sample of Report Data requirements and Format](#)
- [Attachment E- Sample Waveforms](#)
- [Attachment F- Transient Overvoltage Guidelines](#)

Inverter manufacturers, who have questions on the qualification process, can submit their questions to DER-Qualify@hawaiianelectric.com.