

Statement on Holy Cross Energy (HCE) Requirements for Generators with Smart Inverter Interface (revised May 2022)

After July 1, 2019 Smart Inverter installations connecting to the HCE distribution system are expected to comply fully with IEEE 1547-2018 Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems as well as California Electric Rule 21. The specific Smart Inverter functions and settings listed below will be mandatory for all new inverter installations. Future modifications to these functions and settings may be required and will be communicated to the Smart Inverter owner as needed. Direct communication capability with the Smart Inverter may also be required as specified by HCE. HCE also retains the right and authority to require these functions be enabled on exiting installations with the capabilities available if needed for distribution system support.

Dynamic Volt/VAR Operations

The Smart Inverter shall be capable of operating dynamically within a power factor range of +/- 0.85 PF for all system sizes, down to 20% of rated active power. The default shall always be to activate this Volt/VAR capability. This dynamic Volt/VAR capability shall also be capable of being deactivated in accordance with HCE instructions.

The Smart Inverter shall also be capable of providing dynamic reactive power compensation and dynamic Volt/VAR operation within the following constraints:

- The Smart Inverter shall be able to consume reactive power in response to an increase in line voltage and produce reactive power in response to a decrease in line voltage.
- The reactive power shall be per the range irrespective of real power production, but the maximum reactive power provided to the system shall be as determined by HCE.

Dynamic Volt/VAR Default Settings

- The Volt/VAR curve of the unit(s) must be set in the “On” position with the default settings shown below.
- Vref = 1.0 PU (100%)
- Open Loop Response Time for Volt/VAR operation should be set to five (5) seconds

Voltage Setpoint	Voltage Value	Reactive Setpoint	Reactive Value	Operation
V1	93.0%	Q1	30%	Reactive Power Injection
V2	96.7%	Q2	0	Unity Power Factor
V3	103.3%	Q3	0	Unity Power Factor
V4	106.0%	Q4	30%	Reactive Power Absorption

