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Re: **SP³ Metering Schematic and SP³ Advanced Inverter Functionality Supplement to Utility Interconnection Standard**

The Fort Collins Utilities' Solar Power Purchase Program (SP³) is intended to accommodate the delivery of renewable energy directly to the City's distribution grid. The delivered energy is purchased directly by Utilities. This summary outlines the inverter and metering requirements necessary to effectively accomplish the tracking and contractual payments for energy from SP³ projects interconnecting to Fort Collins Utilities' electric distribution system.

For all SP³ projects, Utilities is requiring that the customer design their generating facility for the inclusion of a smart inverter defined as follows: an inverter that performs functions that, when activated, can autonomously contribute to grid support during excursions from normal operating voltage and frequency system conditions by providing: dynamic reactive/real power support, voltage and frequency ride-through, ramp rate controls, communication systems with ability to accept external commands and other functions.

Because Utilities' billing systems can support only one meter per Service Delivery Point (SDP), SP³ installations must be connected directly to Utilities' electric grid (i.e., not on the customer side of the utility billing meter). All parallel generation projects must also comply with the requirements in the Utilities *Electric Service Standards* (ESS) and the Fort Collins Utilities *Interconnection Standards For Generating Facilities (GF) Connected To The Fort Collins Distribution System*.

Utilities personnel will work on the metering equipment and the distribution system to which the generating facility is connected. Therefore, the following requirement from our *Interconnection Standards for Generating Facilities (GF) Connected to the Fort Collins Distribution System* is particularly important.

- Section 3.2 of the Interconnection Standards, which requires that “*Each GF installation must include a manually operated, lockable, disconnect switch with a visual break. The disconnect switch must be visible and accessible at all times by FCU personnel to allow the GF to be disconnected safely during maintenance or outage conditions. In the case of a PV system this disconnect switch must be located next to the FCU electric meter.*” Note that, if self-contained metering is employed, the cold sequence disconnect defined in section 8.2.9.2 of the Electric Service Standards can also be used as the lockable, accessible disconnect switch.

For further explanation on the technical requirements, contact Chad Stanley (970-221-6392), Kraig Bader (970-416-2481), or Adam Bromley (970-221-6673).

TYPICAL SP3 ONE-LINE INVERTER CONNECTED GENERATOR BELOW 1000KW

