California Public Utilities Commission - Energy Division Staff

Temporary Submetering Performance and Data Communication Requirements for

IOU/MDMA Plug-In Electric Vehicle Submetering Pilots, Phase 1

1. Physical Location, Identification, and Security of Submeter

- **Location.** The submeter must be located at any fixed point between the primary utility electric meter and the electric vehicle supply equipment (EVSE) coupler. Any EVSE containing an embedded submeter must indicate that it contains a metering device.

- **Identification.** A submeter must be labelled with a unique serial number for identification.

- **Security.** A meter system shall be designed and constructed so that metrological components are adequately protected from environmental conditions likely to be detrimental to accuracy. Components shall be designed to prevent undetected access to adjustment mechanisms and terminal blocks by providing for application of a physical security seal or an Audit Trail.

- **Security from Tampering.** During Phase 1 of the submetering pilot, no sealing requirements will be placed on the submeter, regardless of whether remote configuration is feasible. MDMAs and/or EVSPs should document how they physically prevent submeters from tampering. No means shall be provided by which any measured electricity can be diverted from the measuring device.

2. Accuracy and Measurement

- **Accuracy.** The submeter must maintain accuracy of +/- 5% during the first Phase of the pilot. The term 'accuracy' is equivalent to the same term used in the ANSI C-12 standard. The Submeter Meter Data Management Agent (MDMA-S) is responsible for describing how they estimate the level of accuracy of submeters prior to pilot installation.

- **Interval of Measurement.** The submeter shall have the capability to measure energy consumption in time intervals equal to the interval used by the utility, but submeters are not be required to measure time in intervals smaller than 15 minutes. A Submeter MDMA-S has the option to measure in less than 15-minute time periods if they choose to do so. Regardless of the submeter's measurement interval, the MDMA-S must report energy consumption data in time intervals consistent with those used by the utility.

- **Standard Synchronization.** The submeter shall be synchronized to the same time used by utility meters in order to maintain billing consistency with measurements from the primary utility meter. The submeter's time should be synchronized to the United States time standard as defined by the National Institute of Standards and Technology or within three minutes of the time used by the utility.

- **Unit of Measurement.** The submeter must measure electricity data to the nearest Watt-hour (Wh) for each time period and must be time-stamped to indicate the time of the energy consumption.

- **Submeter and MDMA Storage of Data.** The device memory should retain information on the quantity of electricity consumed during a loss of external power. Values indicated or stored in memory shall not be affected by electrical, mechanical or temperature variations, radio-frequency interference, power failure, or any other environmental influences to the extent that accuracy is impaired per UL 2594. Memory shall be nonvolatile or backed up in a network.

- **Utility storage of Data.** Watt-hour data accumulated and indicated shall be retained by the utility consistent with the same data storage requirements applicable to customer billing data.

3. Safety

- **Safety.** All submeters should be included as part of devices that meet UL safety requirements. If the submeter is a stand-alone device, that device must meet UL safety requirements.

4. Informing Customers about Submeter Data

- **MDMA Responsibilities.** There is no requirement for the submeter device to visually display data. Customers should be informed of this requirement by the EVSP or MDMA-S. MDMAs must make data available to customers through a web-based or mobile phone application and by request.

- **Utility Responsibilities.** Utilities are required to report submeter data through the customer's monthly bill. The utility is not required to report this usage data through their customer web tools. A utility may opt to report data to customers online.

- **Terms Subject to Modification after Pilot Term.** Customers should be informed that the pilot is temporary and that the requirements may change after the end of the first pilot phase.

5. Transfer of Submeter Data from Submeter MDMAs to Utilities

- **Customer Submeter and Account Identification.** The MDMA must communicate the submeter serial number to the customer's utility as part of the customer enrollment in submetering services. This serial number shall be included in the monthly data communication in order to associate the submeter with the correct customer account.

- **Minimum Transfer Requirement.** Utilities shall implement a simple means of receiving data that allows any qualified EVSP or MDMA-S to submit data to the utility. Each utility shall make available a standard format for the MDMA to submit meter data via electronic spreadsheet. The form should allow the MDMA-S to submit all of its data through a single spreadsheet to the appropriate utility contact.

- **Alternative Transfer Option.** Utilities are encouraged to explore additional meter transfer protocols that involve the use of 'Green Button' elements or other data transfer protocols that allow the utility to efficiently receive data from the MDMA-S. These options may be offered to EVSPs as an alternative to the basic spreadsheet submission option, but cannot be required as the only data transfer method.

- **Transfer Deadlines.** MDMA-Ss must report data for a given billing period no later than three business days after the end of the billing period. Utilities should provide advance communication of these monthly deadlines to the MDMA-S to the extent that billing periods are known prior to the start of the Pilot Terms.