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Comment Received From: Heather Lin Submitted On: 9/11/2018 Docket Number: 18-MISC-04

Goal T2.4.1 is broad, involves multiple actors and protocols, and could be more effectively reached by dividing it in two goals

Additional submitted attachment is included below.



September 10, 2018

California Energy Commission Docket Office, MS-4 Docket No. 18-MISC-04 1516 Ninth Street Sacramento, CA 95814 docket@energy.ca.gov

RE: Goal T2.4.1 is broad, involves multiple actors and protocols, and could be more effectively reached by dividing it into two separate "Problems/Issues"

Andromeda Power wishes to thank the California Energy Commission (CEC) for being a leader in the growing international recognition that greenhouse gas emissions are changing the climate and for their multiple programs to advance clean transportation and protect the environment.

The mission of Andromeda Power is to make the world's smart mobility a practical opportunity for everyone. Creating solutions for optimal fast charging anytime, anywhere, from any energy source.

Andromeda Power (facility in Long Beach, California) has designed and produced lightweight and compact fast chargers (CHAdeMO, CCS, and J1772) for EV since 2012. ORCA Mobile is on wheels, ORCA Inceptive is transportable onboard an EV. These fast chargers are certified and operate on network up to 50 kW. ORCA Incisive is capable of V1G Demand Response.

As the Commission finalizes the VGI Roadmap including V2G, we respectfully suggest that the Commission splits the T2.4.1 goal into two separate "Problem/Issue".

The goal T2.4.1 (Integrated solutions providing advanced communication and control functions that connect the PEV and/or charger with grid operators are needed to reduce implementation costs.) is broad and involves multiple actors (Power Utility, Aggregator, Asset, EV User, and Building/Facility Manager) having different business goals.

It is Andromeda Power's opinion that the goal T2.4.1 could be more effectively reached by dividing it into two separate "Problems/Issues" as follows:

 T2.4.1.a Lack of VGI Building Energy Management System (VGI-BEMS) technology capable of Advanced Demand Response (ADR) that integrates EV with the Building microgrid (behind the meter, including loads, photovoltaic, and energy storage) and the Energy Management System. VGI-BEMS enables coordinated scheduling of energy flows in the Building/Facility considering the onsite needs of the loads and of the EV Users in terms of target charge level and scheduling. The VGI-BEMS technology should integrate/control building loads (including HVAC and charging EV) and energy



storage (including discharging EV) with the PV's Smart Inverter implementing *Peak Power Limiting Function* and *Coordinated Charge/Discharge Management Function* of Rule 21, Phase 3.

 T2.4.1.b Lack of VGI-Gateway technology capable of ADR communication with Power Utility, Aggregator, and VGI-BEMS by means of communication protocols recommended by VGI-WG (OpenADR 2.0b, OCPP 2.0, and IEE2030.5).

The above T2.4.1a/b goals simplify, facilitate, and accelerate the implementation of VGI business. In fact, the two separate technical goals (VGI-BEMS and VGI-Gateway) focus on two independent business areas involved with the VGI. The first goal deals with the Building/Facility microgrid operation. The second goal deals with the Grid Operators' operation and business interests.

The principal business benefit enabled by the two-goal approach is to simplify the connection/control of microgrids with/from the grid.

We thank you for your consideration of this comment and look forward to continuing to work with the Energy Commission to make the world's smart mobility a practical opportunity for everyone.

Sincerely,

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