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Consolidated VGI Roadmap Update Public Comment

Consolidated comment from Hubject Inc., loTecha, LUCID Motors, and Porsche AG

Additional submitted attachment is included below.

September 21, 2018

California Energy Commission
Docket No. 18-MISC-04
1516 Ninth Street
Sacramento, CA 95814

The following companies would like to submit these consolidated comments.
Companies:

Hubject Inc. | IoTecha | LUCID Motors | Porsche AG

Consolidated Comments:
Hubject Inc., IoTecha, LUCID Motors and Porsche AG appreciate the opportunity to provide input on the California Vehicle-Grid Integration (VGI) Roadmap Update. We commend the State of California, Energy Commission, Air Resources Board, Public Utilities Commission, and Independent Service Operator for their dedication to increasing electric vehicle (EV) adoption.

We fully support the goal to advance communication and hardware technology standardization and interoperability through solving T2.1.1 and T2.2.1. We agree there should be standardization for vehicle charging in order to prepare charging stations for advanced interoperability capabilities that include smart charging benefits and utilizing EVs as grid resources. Therefore, we encourage the inclusion of ISO/IEC 15118 as the standardized protocol in order to maximize all vehicle-to-grid (V2G) capabilities between EVSEs and EVs. Including ISO/IEC 15118 will enable Plug & Charge capabilities resulting in an easy and seamless charging experience for the EV driver through a mature and secure protocol. ISO/IEC 15118 will also help enable bi-directional electricity flow and inductive charging, which paves the way towards future autonomous charging. With many of the largest global automotive OEMs and EVSE manufacturers already developing the ISO/IEC 15118 standard into their vehicles and equipment, we recommend the Energy Commission use ISO/IEC 15118 as the communication standard for AC, DC and wireless charging and consider retrofitting existing stations with the standard.

ISO/IEC 15118 with Combined Charging System (CCS) is the technology of choice for 16 out 20 of the top automotive brands who have joined CharIN e.V. initiative which promotes an interoperable ecosystem for AC and DC charging. At last week's ISO/IEC 15118 testing symposium in Detroit, there were seven electric vehicle automakers such as: BMW of North America, Ford Motor Company, General Motors (2 EVs), Hyundai American Technical Center Inc., Karma, Mercedes-Benz R&D NA, Inc., and Volkswagen Group of America, Inc. that participated and tested physical vehicles. Ten EVSE manufacturers were also present with physical equipment to test ISO/IEC 15118 compatibility: ABB, Broadband Telcom Power, ChargePoint, Coritech Services Inc./EcoG GmbH, ECS, IES, IoTecha Corp, Neusoft Reachauto, Paired Power, Inc., and Rectifier Technologies Pacific Pty Ltd. In addition, the time for automotive OEMs to bring a vehicle to market can take years with technology and standards choices being made at least 4-6 years in advance. To allow these technologies and standards to appear in the production models of today we must enable the market now. As evidenced by this symposium and testing event and real-life deployments, ISO/IEC 15118 is a reality in the US market that should be a part of the State's VGI Roadmap.

In addition, in order to comprehensively enhance the consumer experience, we believe that interoperability of EV charging is essential to eliminate range anxiety as well as the hassle and need for

EV drivers to register for various service providers and use multiple RFID cards and mobile apps to access and pay for charging. The Open InterCharge Protocol (OICP) could be used to enable this seamless experience for EV drivers; it is the most commonly-used and inclusive interoperability protocol worldwide. Thus, we support problem/issue C2.2 and C2.3 and believe it is imperative to simplify the EV charging station access and payment process in order to reduce range anxiety and encourage EV adoption.

We thank you for your consideration and look forward to continuing to work with the Energy Commission to make EV charging easy and accessible for everyone. Please feel free to contact us if you have any questions.