

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Consider  
Alternative-Fueled Vehicle Programs,  
Tariffs, and Policies.

Rulemaking R.13-11-007  
(Filed November 14, 2013)

**OPENING COMMENTS OF EMETER, A SIEMENS BUSINESS ON ASSIGNED  
COMMISSIONER'S RULING SEEKING COMMENT ON VEHICLE-GRID  
INTEGRATION COMMUNICATION PROTOCOL WORKING GROUP ENERGY  
DIVISION STAFF REPORT**

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In accord with Assigned Commissioner Carla Peterman’s Ruling (Ruling) issued on February 23, 2018, eMeter, A Siemens Business (hereafter referred to as Siemens), submits these comments on the California Public Utilities Commission (Commission) Energy Division’s Staff Report on the Vehicle-Grid Integration (VGI) Communication Protocol Working Group (Staff Report) and recommends an Alternate Proposal for the Commission to consider.

**INTRODUCTION**

Siemens is a leading global provider of electric vehicle charging equipment having provided hardware for approximately 100,000 chargers worldwide and other transportation electrification products and services including grid integration. We have been an active participant in the VGI Communication Protocol Working Group.

**THE PURPOSE OF STANDARDS IS TO LOWER THE COST OF EV OWNERSHIP**

Siemens’s goal in Transport Electrification (TE) is to support policies and regulations that

- a) open and grow the TE market in a competitive, interoperable manner and;
- b) drive EV adoption by lowering the total cost of ownership and significantly enhancing the consumer experience in buying, owning, and operating an EV.

Utilization of open technical standards and payment options are critical means of achieving these two overarching goals. In this regard, wherever public funds (ratepayer or tax payer) are used to procure EV charging infrastructure, good public policy calls for such equipment to be standardized to ensure interoperability.

## **ON PROCESS**

### **THE WORKING GROUP DID NOT PRODUCE CONSENSUS, NOR DID IT CONSIDER KEY ELEMENTS IN ADOPTING STANDARDS**

Siemens was an active participant in the Working Group and commends Staff for the significant effort put into the process. However, the report fails to address key issues in developing and making recommendations, and therefore **Siemens can neither endorse the report as a whole, nor its recommendations.**

The four most important limitations are as follows:

- a. The report does not prioritize use cases. 77 use cases were considered; of which, perhaps three have immediate and substantial impact, as discussed in our recommended standards below. The report fails by attempting to undertake too much without prioritization.
- b. The report does not provide a legal or practical regulatory construct for how standards should be adopted, considering the Commission's jurisdiction. Most importantly, the Commission has no jurisdiction over automakers. The Commission regulates the utilities, who are procuring only EVSEs, make-ready components and grid integration equipment. In our opinion, the Commission should not be mandating any standards for EVSE as the Commission does not have the technical expertise specific to standards. In addition, the market is evolving rapidly and would be disadvantaged by being bound to the Commission's review and approval processes.
- c. The report reflects neither consensus, nor a structured, rational voting process. Standards (according to global best practices for standards development organizations), are normally adopted only when there is consensus or a structured, rational voting process. Such a voting process would be well publicized in advance and be limited to both active and qualified working group members and to companies with a direct stake (normally as buyers or sellers of a technology). In this case, if there were voting in the working group, automakers should not be voting on EVSE standards, nor should EVSE companies be voting on EV standards.

#### **Siemens, in particular, opposes the following recommendations:**

- a. ALL of the recommendations in Table 4<sup>1</sup>, except the first row (requiring either IEEE 802.11n or IEEE 802.3). Most of the recommendations are not standards at all, but instead are aspirational, very loosely defined goals such as "Field upgradable", "Sufficient processor power", or "hardware extensibility."
- b. Also within Table 4<sup>2</sup>, we oppose HomePlug Green PHY as a requirement.

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<sup>1</sup> Minimum Hardware Functionality Requirements for Level 2, AC, conductive, multi-user EVSEs to support the protocols necessary to enable VGI. Page 32

<sup>2</sup> ditto

- i. It adds approximately \$70 per EVSE in cost by requiring the addition of a powerline carrier module to the EVSE.
- ii. Its value has not been demonstrated to justify the cost addition
- iii. It has not been shown to be essential for the most important use cases (*see our recommendations*).

Importantly, no EVSE manufacturer has included HomePlug Green PHY in its products to date, which is a strong indication of the low value placed on this in the market. In contrast, almost all manufacturers have implemented OCPP, a strong indication of the high value placed on OCPP in the market.

## **RECOMMENDATIONS**

Siemens offers an Alternate Proposal of recommendations for the Commission to incentivize a smaller number of highest priority standards, but not require them nor make them mandatory.

Based on our global experience, our active participation in the Working Group and our perspective on market evolution, Siemens has developed an alternate set of recommendations to address the issues identified above. We request that our “Alternate Proposal” be included as an appendix to the report.

### **Siemens Alternate Proposal is as follows:**

1. The report’s recommendation should focus on minimum practical requirements for standards. By this, we mean,
  - focusing only on what the Commission has jurisdiction over – utility investments in charging infrastructure. The Commission has no jurisdiction over automakers.
  - focusing on the most important use cases over which the CPUC has jurisdiction. By doing so, the process will deliver the vast majority of the desired benefits from standards.
2. The Commission should promote and incentivize standards, but leave it to the utilities **(jointly)** to determine the specific standards that they will use. As part of this, the Commission can provide a list of **“promising standards to be considered”** by utilities in their procurement. This was the approach adopted by NIST for Smart Grid standards.

Once selected by the Joint Utilities, the Commission should then mandate that these standards be used where available and appropriate and that the three IOUs follow the same standards.

This approach has already been used by the Commission for consumer data access (Green Button).

3. The Commission’s incentivized standards should apply to any EVSE procured with ratepayer funds, either by utilities or via rebates or other incentives to customers or third parties. Again, the Commission has jurisdiction by virtue of approving the funding. **Also,**

**it is basic public policy that publicly-funded EVSE should meet standards to ensure interoperability and reduce risks of stranded assets.**

4. The Commission should adopt as promising standards only those that have been developed in open, transparent processes. Preferably, these standards have international acceptance.
5. The Commission should focus on the three most important use cases:
  - **Smart Charging**, which allows for consumers to take advantage of time-varying rates and for utilities to benefit from load management. The basic requirements for this use case are the ability to communicate remotely to the EVSE and to measure consumption in the EVSE. **OCPP and IEEE 2030.5 should be named as promising standards for general communications** between any entity and an EVSE. **OCPP is already implemented by most EVSE manufacturers and EVSPs.** In our opinion, there is no harm in naming IEEE 2030.5 even though it has not been implemented so far. The Commission should then allow the market to determine which of the two, if not both, should be used more widely. Both can control when charging occurs.

Similarly, **OpenADR should be named as a promising standard for load management communications**. Again, OpenADR is already widely adopted.

Also of note, the Florida PSC approved Duke's proposal to require OCPP and OpenADR in Duke's ratepayer-funded EV charging infrastructure program.<sup>3</sup>

**For consumption measurement, ANSI C12.20 and HB 44** should be named as promising standards for submetering. All smart chargers already have the capability for submetering; these two standards specify accuracy requirements (the former is +/- 0.2%, the latter +/- 1.0%). The market can determine which of the two makes the most sense.

- **Open Payment**, which would allow any EV user to charge and pay for charging at any public charging station. The report mentions this requirement on Page 17, but the Working Group did not address this requirement. **Here, we recommend credit card acceptance be named as a promising standard for open payment**. SB 454 addresses this topic but allows for options instead of credit card payment, meaning EV users may have to sign up for specific EV charging networks and potentially pay monthly subscription fees for use of different networks. **An open standard whereby any EV user can use a credit card at any public station (just as they do in a gas station today), would remove a significant barrier to EV adoption.** This is also good public policy since these charging infrastructures are being deployed by utilizing public funds.
- **DC Fast Charging**. While the other use cases do not require any communications between the EVSE and EV, DCFC does require such communications. Fortunately, ISO 15118 has been widely adopted already for this use case. **We support this recommendation in the report.**

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<sup>3</sup> Decision Document No. 09951-2017, November 20, 2017.

**The Commission should also consider the reconvening of the Working Group to address the limitations of the process and hence, the report. Should it choose to do so, then it is our recommendation that a neutral, third-party facilitator should lead the process and prepare the report. This facilitator should be an expert on standards and protocols with prior experience in having led such facilitated outcomes.**

**CONCLUSION**

We thank the Staff and the Commission for the opportunity to provide these comments and respectfully urge consideration of our Alternate Proposal.

Respectfully submitted,

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