



Siemens is pleased to provide these comments in accordance with the VGI working group notes from the meeting on October 30, 2017. Siemens is one of the leading EVSE providers globally, including in the U.S., China and Europe.

Our comments are as follows:

1. The proposal says these requirements should apply to any SB350-funded chargers. We strongly recommend that the requirements apply to ANY publicly funded chargers, be that ratepayer or taxpayer funds.
2. The proposal's goal is to have chargers deployed that are VGI capable. Communications capability of the hardware is the focus of the proposal but is only one element. In our view, "VGI-capable" also means that the chargers must have metering capability. This is needed to verify response to charging commands and price signals, as well as to give users the ability to manage charging intelligently (generally via smart apps). The metering capability need not be used for billing, though it is preferred that the accuracy be sufficient to allow for billing should the CPUC decide to allow the EVSE meter to be used for billing (as is being done in the current sub-metering pilot).
3. The proposal includes a table of hardware criteria (page 2 of the "Draft Proposal for Next Steps" dated October 27, 2017). We have the following comments on the criteria:
 - a. The third column / second row of the table states: "WiFi and Ethernet connection." This should be "Wi-Fi **OR** Ethernet connection." Similarly, the second column / second row states: "IEEE 802.11n compliant hardware, IEEE 802.3 compliant hardware." Again, this should be **"or"**, not a comma
 - b. The inference is that all EVSEs must meet these requirements individually. No mention is made of a topology which employs multiple EVSEs in a single installation. In this scenario, only one EVSE should have to meet these requirements with the allowance that the other EVSE may be "daisy chained" using ANY method, provided they utilize the same Wi-Fi/Ethernet connection. The reason is that costs can be reduced significantly using the daisy-chain approach.



- c. We have the following comments on the specific questions listed on page 1 of the October 30th meeting notes and request for comments (note: we have answered the questions with a focus on the communications capability):

Q: Would requiring the hardware with the previous criteria encourage scaled EVSP and OEM charging investments that provide VGI capability?

- *Yes, from the perspective of Siemens, an EVSE provider.*

Q: How could hardware change over time, given design innovations and new use cases?

- *We recommend modular communications hardware. Modular communications allows for changes, such as advances in WiFi technology, through simple replacement of a module.*

Q: Do today's commercial EVSEs meet the proposed hardware functions?

- *Siemens perspective is that 15118 has not yet been widely adopted among Level 2 AC EVSE products available in the United States.*

Q: Can VGI software be implemented within the proposed hardware?

- *Firmware upgrades in the EVSE could accommodate new use cases. This could include cybersecurity enhancements, such as new authentication methods or security keys.*

Q: Will the hardware proposal assist in vehicle/EVSE/utility connectivity across California?

- *Yes.*

Q: How can utilities and regulators best ensure that EVSEs which include the proposed hardware are functional with grid-integrated vehicle charging?

- *We recommend three strategies.*
 - *First, adopt open protocols. A single protocol should not be chosen by regulators. Instead, regulators should require that one or more protocols be supported from among protocols that have been adopted as a standard by an open, industry-*



wide standards body (e.g. IEEE, IEC, ANSI, NEMA, etc.) Three examples that should qualify today for EVSE are OCPP, OpenADR, and SEP 2.0.

- *Second, allow for manufacturer self-certification of compliance with the standards as one option.*
- *Third, require that hardware have the capability to receive and implement over-the-air updates to the firmware in the EVSE. This is consistent with the requirement widely adopted for smart meters.*

Thank you for the opportunity to comment.