

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

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

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

**COMMENTS OF OXYGEN INITIATIVE ON ASSIGNED
COMMISSIONER'S RULING ON VEHICLE-GRID
INTEGRATION COMMUNICATION PROTOCOL WORKING
GROUP ENERGY DIVISION STAFF REPORT**

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I. Introduction

Oxygen Initiative appreciates the opportunity to provide comments on the recommendations of the VGI Working Group.

II. Background

Oxygen Initiative's mission is to accelerate revolution-scale adoption of plug-in electric vehicles (PEVs) by:

- simplifying the consumer refueling experience while
- enabling grid-friendly smart charging

The company currently operates a CEC demonstration project at UC San Diego of 26 AC Level 2 charging stations that employ the standard. Currently, over 80 ISO 15118 vehicles are on campus and using these charging stations.

III. Comments on the recommendations of the VGI Working Group

A. The VGI Working Group Process

As a participant in the Working Group, Oxygen Initiative employees engaged with the various parties in a process that was at times productive and, at others, dysfunctional. This was unsurprising as the same dynamic had existed outside the

Working Group for years. All were respectful of each other, but trenchant positions remained. Those positions were aligned with prior efforts shown in the Table 1 below:

Table 1

During the VGI Working Group's WebEx on the October 30th 2017, the automakers gave the following feedback regarding their short to medium term planning for implementing VGI charging technology which was closely echoed by the EVSE manufacturers.

Automaker	AC	DC	Wireless
BMW	ISO15118	ISO15118	ISO15118
Fiat Chrysler	SEP2.0	ISO15118	ISO15118
Ford	ISO15118	ISO15118	ISO15118
GM	No high level comms	DIN/ISO15118	Telematics
Honda	TBD	DIN/ISO15118	TBD
Lucid	ISO15118	ISO15118	-
Mercedes-Benz	ISO15118	ISO15118	ISO15118
Nissan	Telematics	ChaDeMo	TBD
Porsche	ISO15118	ISO15118	ISO15118
Audi	ISO15118	ISO15118	ISO15118
VW	ISO15118	ISO15118	ISO15118

Table 1: Overview of Automaker's short to medium term planning
 Source: <http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442455245>

The Working Group also experienced ‘scope creep’ during the process and expanded beyond the group’s original charter to identify the communications standard that would exist between the electric vehicle and the charging station in order to point to Rule 21 as the guiding principal in selection of the VGI protocol. Again, these were debates that existed before with the same trenchant opinions. EV’s and charging stations, it should be noted, are outside the scope of Rule 21. Further, given the

distributed energy resource (DER) model of ISO 15118, DER certification and dispatch is fully support by the ISO 15118 protocol.

B. Concerns about the recommendation:

The group, unable to build consensus among participants, sought common ground. The common ingredient in the physical layer was the use of HomePlug GreenPHY Power-line Carrier (PLC) to connect the vehicle with charging station via the power cable. Some parties argued that this would avoid lock-out of the selection of a standard later by the market. Oxygen Initiative argues that this fails to deliver the market signal to automakers needed for their product planning. Given our conversations with several automakers on this topic, we are certain this is true. Further, the recommendation holds open an even worse potential outcome, installation of both ISO 15118 and SEP 2 on the same station. The idea would be that OEMs could go their own way on PLC-based protocols. This would lead to massive increases in production costs for charging station providers and manufacturers. Connecting the station ‘client’ to the backend software in the cloud already has considerable complexity as each brand of station connects to the software client differently. Doubling the type of connection would:

- more than double the complexity of the stations
- lead to production delays of potentially years
- increase costs
- delay VGI-enabled vehicle rollouts

Efforts were made during the process by parties supporting SEP 2 to assert that the competing VGI standard, SEP 2.0 or IEEE 2030.5, supports use cases that ISO 15118 does not. This was an example of how dysfunctional the dialogue had become. All use cases identified in the Working Group are supported by ISO 15118.

IV. Conclusion

It continues to be our opinion that California must join the international community here. The list of automakers implementing ISO 15118 includes the vast majority of them. No automaker that wishes to continue down the road with telematics will be negatively impacted by its use in charging stations.

Respectfully submitted,
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