

<b>DOCKETED</b>	
<b>Docket Number:</b>	18-MISC-04
<b>Project Title:</b>	Vehicle Grid Integration Roadmap Update
<b>TN #:</b>	225935
<b>Document Title:</b>	Consolidated comments from IEC VGI standardization (IEC TC69 JWG 11 and WG9) project in JP
<b>Description:</b>	N/A
<b>Filer:</b>	System
<b>Organization:</b>	Yasuo Matsunaga/Japan Automobile Research Institute
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	11/21/2018 2:20:31 AM
<b>Docketed Date:</b>	11/21/2018

*Comment Received From: Yasuo Matsunaga*  
*Submitted On: 11/21/2018*  
*Docket Number: 18-MISC-04*

**Consolidated comments from IEC VGI standardization (IEC TC69 JWG 11 and WG9) project in JP**

*Additional submitted attachment is included below.*



November 21, 2018

California Energy Commission  
1516 9<sup>th</sup> Street  
Sacramento, CA 95815

Re: Energy Commission Presentation for VGI Roadmap Update Workshop

Japan Automobile Research Institute (JARI<sup>1</sup>) appreciates the opportunity to provide feedback on the Vehicle-Grid Integration (VGI) Roadmap Update prepared and presented by the California Energy Commission (CEC) during the two-day workshop held on October 29<sup>th</sup> and 30<sup>th</sup>, to which the leader of the Japanese mirror committee of IEC TC69<sup>2</sup> Joint Working Group 11<sup>3</sup> in JARI attended.

JARI fully support the Energy Commission's efforts to update the VGI Roadmap for further promotion of VGI. We agree that the roadmap update plays an important role in identifying issues and coordinating different stakeholders for further integration of plug-in electric vehicles into the grid.

We have sought the industrial experts of international standardization in the Japanese mirror committee of IEC TC69 JWG 11 with the support of JISC, for their comments on the VGI Roadmap Update presented at the workshop on October 29<sup>th</sup> and 30<sup>th</sup> (from Yasuo Matsunaga, Tetsu Yamada, Tatsuji Tanaka and Tetsuo Otani). We respectfully submit our consolidated comments, particularly regarding the discussion question presented at the workshop: "What standards and methods of communication need to be considered in VGI programs?"

- We strongly suggest a technology-neutral approach to define functional requirements and let the market decide which technology to be implemented. This is especially true for a nascent technology like VGI, of which wide-scale, commercial promotion has not been realized in the United States. Therefore, we strongly suggest that the Energy Commission does not mandate or eliminate any specific protocol standards for VGI infrastructure at this point.
- Mandating a specific technology may hamper future possible innovations for VGI technologies, and hinder promotion of VGI. At this nascent stage, innovation in VGI technology should not be restricted, but instead it should be fostered, by leaving various options on the table.
  - IEC 63110, which is currently being updated, aims to enable the market to choose the best solution, by defining

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<sup>1</sup> Japan Automobile Research Institute (JARI) is a public-interest organization for automotive testing and research activities. As member of JISC of Japan Industrial Standards Committee (JISC), Japan's national standardization body, we are responsible for contribution in setting international standards in the electromobility sector, in collaboration with a broad spectrum of industries, such as the energy, electric machinery and information-telecommunication industries. We have been engaged in pioneering research projects and activities to promote next-generation vehicles.

<sup>2</sup> IEC TC 69: Electric road vehicles and electric industrial trucks

<sup>3</sup> JWG 11: Management of electric vehicles charging and discharging infrastructures

requirements instead of mandating a specific technology. The requirements to be defined in IEC 63110 are planned to cover the functions of existing standards such as OCPP 2.0 and ISO 15118.

- Requirements for Vehicle-Grid Integration (e.g. AC V2X, DC V2X, load management, etc.) are not defined in the edition 1.0 of ISO 15118, and the edition 2.0 has not been published at this point.
- Eliminating an existing established technology may hinder the promotion of VGI, as it can take years for developing technologies to be commercialized.
  - At this point, from a global perspective, CAN-based communication is an established technology that has a track record of large-scale pilot projects and commercial products with bidirectional capabilities (e.g. Vehicle-to-Home units sold in Japan).
  - It has been proven from the past experiences that commercialization of a technology can take years; for example, CHAdeMO took approximately three years to establish a truly standardized multi-vender interoperability communication, and it will take approximately five years for the edition 2.0 of ISO 15118 to be published after its first presentation of edition 1.0 in 2014.
- Therefore, to reiterate, we believe that mandating or eliminating any specific protocol standards at this nascent stage of VGI technology is not beneficial for VGI promotion; such approaches may hinder future innovations or may fail to take advantage of the existing established technologies.

We appreciate your consideration of our comments, and we look forward to continuing working with the CEC staff and other agencies to effectively integrate electric vehicles into the grid.

Sincerely,

Yasuo Matsunaga

Project Leader of IEC TC69 JWG 11 and WG9 in Japanese Mirror Committee

Japan Automobile Research Institute (JARI)

This document is consolidated comments of the following experts:

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