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Joint Utility-Automaker Comments on CEC Docket No. 17-IEPR-12: Joint Agency Staff Workshop on the Review of the Actions and Status of State-level Energy Roadmaps

Additional submitted attachment is included below.

June 27, 2017

California Energy Commission
Docket Office, MS-4
Re: Docket No. 17-IEPR-12
1516 Ninth Street
Sacramento, CA 95814-5512
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Re: Joint Utility-Automaker Comments on the California Energy Commission Docket No. 17-IEPR-12: Joint Agency Staff Workshop on the Review of the Actions and Status of State-level Energy Roadmaps

Dear Commissioners:

On June 13, 2017, the California Energy Commission (Energy Commission) jointly conducted a workshop with staff from the California Public Utilities Commission (CPUC) and the California Independent System Operator (CAISO) as part of the 2017 Integrated Energy Policy Report (IEPR) (“the Workshop”). Southern California Edison Company (SCE) submits this Joint Comment Letter for itself and on behalf of Honda Motors Company, BMW North America, California Electric Transportation Coalition (CalETC), Ford Motor Company, Honda R&D Americas, Inc., Pacific Gas & Electric Company, and Southern California Public Power Authority (the “Joint-Utility and Automaker Parties”). The Joint Utility-Automaker Parties appreciate the opportunity to comment.

The Joint Utility-Automaker Parties specifically focus these comments on the Vehicle-Grid Integration Roadmap (VGI Roadmap) presented at the Workshop. Since the VGI Roadmap was developed in 2013 there have been many developments, which warrant updates to the plan. In these comments, the Joint Utility-Automaker Parties set forth several recommendations for updating the VGI roadmap. In particular, the Joint Parties recommend two high priority action items be funded:

1. Estimating at a high level the near-term potential monetary value for various types of VGI for light-duty battery electric vehicles (EVs) and plug-in hybrid EVs (PHEVs) in various charging market segments, and in promising use-cases with near-term market potential; and,
2. Conducting large-scale, multi-year real-world demonstrations to validate the above VGI value estimates, understand customers’ experience and satisfaction, and better understand the pros, cons, and general feasibility of implementing the demonstration /VGI use-case.

The Joint Utility-Automaker Parties expand on these and other recommendations in these comments.

A. Changes Since 2013 Warrant Updates to the VGI Plan

Since the VGI Roadmap was developed, many substantive changes have occurred relating to VGI, which warrant updates to the VGI Roadmap. Among these are the following:

- Investor-owned utilities (IOUs) proposed large-scale charging infrastructure and market education programs¹ which were approved by the CPUC in 2016;
- Senate Bill (SB) 350 (Chaptered in 2015) directed the IOUs to propose transportation electrification (TE) programs and investments, including charging infrastructure investments, to meet many long-term state environmental requirements and goals;
- In compliance with CPUC orders, PG&E, SCE, and SDG&E filed applications with the CPUC for specific TE programs and investments, in line with SB 350 directives, in January 2017;
- The CAISO and Energy Commission have made progress on several VGI action items, as shown at the June 13 workshop;
- Charging station developers have continued to innovate and add VGI features to their charging stations and networks;
- Communication protocols and charging standards have evolved and improved;
- Automakers and utilities nationwide have worked together through an EPRI-led collaboration to develop the Open VGI Protocol (OVGIP) to better enable VGI implementation; and,
- Many new types of battery EVs and PHEVs are coming to market which will impact the development of charging segments. For example, The California Air Resources Board (CARB) staff predicts that over 25 long range EVs and over 25 long range PHEVs are coming in model years 2018 to 2021 (in addition to the current models).²

The environmental benefits of increasing the amount of BEVs and PHEVs on the road is substantial and well documented. The transportation sector— including refineries—makes up about half of the greenhouse gas (GHG) emissions in California, 80 percent of the NOx

¹ Over \$200 million in programs and investments were approved.

² Long range BEVs defined as over 200 miles range. Long range PHEVs defined as having over 20 to 150 miles electric range equivalent (including what CARB calls TZEVs and BEVx). See California's Advanced Clean Cars Midterm Review: Summary Report for the Technical Analysis of the Light Duty Vehicle Standards at ES-7, ES-41, and ES-58. Available at https://www.arb.ca.gov/msprog/acc/mtr/acc_mtr_finalreport_full.pdf.

emissions, and 95 percent of diesel particulate matter.³ Considering that EVs have over 70 percent fewer emissions when compared to a gasoline or diesel vehicles,⁴ EVs substantially reduce emissions and VGI programs can further optimize these reductions.

The current VGI working group will develop recommendations regarding both communication protocols (Deliverables 1 and 2) and other policy and market education efforts that are needed for VGI (Deliverable 3). However, this current VGI working group effort led by CPUC, CARB, CEC, CAISO and Governor's Office on Business and Economic Development staff will not be able to get to many actions identified in the VGI roadmap.

B. Recommendations

- We recommend that the CEC provide funding to update the VGI roadmap in 2018 through a working group process based on the CEC's 2013 effort on the VGI roadmap. In addition, the CEC should not only involve the agencies and stakeholders from the 2013 effort but add additional agencies such as CARB, USDOE, and GO-BIZ as well as other interested parties from the non-profit and private sectors.
- Specifically we recommend this new 2018 process should update the VGI roadmap to:
 - Update and organize the remaining action items with clear assignments to agencies (including funding responsibilities)
 - Specifically task the CEC to quickly fund (in a stakeholder collaborative process) the remaining analytical tasks in the current VGI roadmap (at least with high-level estimates) including, but not limited to
 - confirm VGI electric system impacts,
 - refine VGI use cases,
 - determine VGI value,
 - confirm VGI market potential (by type or category)
 - formulate VGI business models,
 - develop and refine policy and program/product eligibility or technical requirements,

³ The transportation sector is responsible for 36 percent of California's GHG emissions, nearly half of GHG emissions when you also consider the refining of oil into gasoline and diesel fuels in California, more than 80 percent of NOx, and over 90 percent of diesel particulates. See CARB's California GHG Emission Inventory– 2016 Edition, available at <https://www.arb.ca.gov/cc/inventory/data/data.htm>; CARB's Mobile Source Strategy, p. 20, available at <https://www.arb.ca.gov/planning/sip/2016sip/2016mobsr.pdf>; and CARB's California GHG Inventory for 2000-2014, available at https://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_2000-14.pdf.

⁴ See Public Utilities Code section 740.12. For some of the investor-owned utilities the benefit is about 80 percent less.

- clarify settlement processes,
- define verification and conflict resolution protocols, and
- define signals and messaging
- Specifically task the CEC to fund large-scale multi-year demonstration projects starting in 2018 to validate the value proposition and other high-level estimates listed above, understand the customer experience / satisfaction with VGI demonstrations and gain real world data on the pros, cons, and general feasibility of implementing promising VGI use cases through demonstrations. These demonstrations will also
 - Remove some of the early business case risk for automakers and charging station and network providers especially
 - Allow stakeholders to improve their products and business cases based on real-world data in the public-domain
 - Improve the understanding and prioritization of VGI architecture, applied communications technologies and protocols, and benefits to utility customers, site hosts and EV drivers.
- Specifically task the CPUC and CEC to fund or require market surveys with customer/drivers in order to determine if they really want to bid into wholesale energy markets versus how many just want an opportunity to save as much money as possible on their own charging.
- Consider reorganizing action items into focus areas or priority areas similar (but not identical to) what was done in the Storage roadmap⁵
- Show all the accomplishments by the agencies, and the private sector (2014-2017) regarding VGI roadmap action items
- Update the appendixes on timelines, policies, reference information, standards, and terms
- Develop an on-going stakeholder process to continually improve EV data not only to meet VGI goals but the various state goals to accelerate EV adoption. For example much data exists from utilities, automakers, national labs, charging station developers and other sources, and soon even more data should be available. Yet much basic information (e.g., charging station market data, daily and annual kWh usage by make and model, load shapes in different charging market segments) is not in the public domain or not well understood. An on-going voluntary stakeholder process is the preferred place to start rather than developing new data collection regulations. And improved EV data collection will allow new VGI and EV adoption policies to be informed by all this emerging data rather than just rely on hypotheses.

⁵ Storage roadmap focus areas: Expanding revenue opportunities, reducing costs of integrating and connecting to the grid and streamlining and spelling out policies and processes to increase certainty. Storage roadmap priority areas: Planning, procurement, rate treatment, interconnection and market participation.

- Add the recommendations (due in October 2017) from the VGI working group and any additional recommendations from a VGI roadmap update process in 2018.

The Joint Utility-Automaker Parties appreciate the Joint Agencies' consideration of these comments and looks forward to its continuing collaboration with the Energy Commission and stakeholders.

Very truly yours,

Ryan Harty, American Honda Motors Company

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