

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

Order Instituting Rulemaking to Continue the
Development of Rates and Infrastructure for
Vehicle Electrification.

Rulemaking 18-12-006
(Filed December 13, 2018)

**OPENING COMMENTS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
ON SECTIONS 7 AND 8 (SAFETY, TECHNOLOGY, AND STANDARDS) OF THE
TRANSPORTATION ELECTRIFICATION FRAMEWORK**

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Dated: July 14, 2020

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I. Introduction

Pursuant to Rule 14.6 of the Commission’s Rules of Practice and Procedure and Administrative Law Judge Doherty’s July 2, 2020 e-mail ruling, the California Independent System Operator Corporation (“CAISO”) hereby provides its opening comments on Energy Division Staff’s draft Transportation Electrification Framework (“TEF”) proposal. Specifically, these comments address sections seven (Safety) and eight (Technology and Standards). The CAISO agrees with Staff’s proposal that “IOU TE infrastructure requirements should be consistent with minimum requirements of other public agencies” to ensure “consistency in overcoming technology challenges.”¹ Toward those goals, the CAISO suggests data points vehicle-to-grid (“V2G”) electric vehicles (“EVs”) and their supply equipment (“EVSE”) should provide to ensure the CAISO and other agencies can forecast their energy demands accurately.

II. Comments on Section 8

Questions 6 and 6(b): How should V2G electric vehicles, which can serve power back onto the grid, be forecasted differently than load-only EVs in IOU planning processes?

Short-term forecasting is one of the most critical tools in maintaining reliability on a daily basis. The CAISO and California utilities go to great lengths to ensure they can accurately predict each day’s energy demand. This requires accounting for demand schedules, customer load profiles, weather patterns, behind-the-meter solar production,

¹ TEF, p. 77.

behind-the-meter solar actuals, and myriad other data points. As EVs and EVSE proliferate in California and the West, they will become another important data point in short-term forecasting for the CAISO and utilities. This is especially the case for V2G EVs, which will have more dynamic load profiles than other EVs. EV data also will provide transparency to transmission and distribution planners as they design new facilities.

The CAISO recommends that the Commission ensure grid operators and utilities have sufficient meaningful data to forecast EV demand on a daily basis. The CAISO recommends that IOU TEF plans require the following data points for EVs, EVSE, and V2G EVs, each disaggregated down *at least* to the zip code level:

- Charging load and discharging energy capacity (MW)
- Interval-beginning instantaneous charging demand and discharging level (updated every five minutes)
- EVSE Capacity (MW)
- Number of EVSE chargers grouped by charging rate (kV/charger level)
- Consumer price for charging or discharging (\$/kWh or \$/MWh on a five-minute basis or as temporally granular as the utility's rate)²

The CAISO also recommends that this data be made available publically, similar to how the Commission established <https://www.californiadgstats.ca.gov/> for distributed generation data. Access to such data regarding EVs and EVSE would significantly enhance the CAISO's short-term forecasting abilities, understanding of flow impacts for planning future transmission facilities, and reliability efforts.

The CAISO also supports the Commission's efforts to support V2G EVs and EVSE. Staff notes that "external communication capabilities can enable several potential features including, but not limited to, VGI capabilities."³ External communication capabilities coupled with charge control capabilities also enable these resources to participate in retail and wholesale markets as demand response resources, dispatchable load, or conventional supply

² Knowing the rates the customer sees helps predict how it will respond.

³ TEF, p. 80.

resources. Grid operators can then send price signals, dispatch chargers, and provide market compensation, ultimately benefiting consumers, developers, and the grid.

Respectfully submitted,

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