DOCKETED	
Docket Number:	22-EVI-04
Project Title:	Electric Vehicle Charging Infrastructure Reliability
TN #:	247432
Document Title:	FLO EV Charging Supplemental Comments on CEC's Reliability Workshop
Description:	N/A
Filer:	System
Organization:	Cory Bullis
Submitter Role:	Public
Submission Date:	11/11/2022 4:45:48 PM
Docketed Date:	11/14/2022

Comment Received From: Cory Bullis
Submitted On: 11/11/2022
Docket Number: 22-EVI-04

FLO EV Charging Supplemental Comments

Additional submitted attachment is included below.

November 11, 2022

Mr. Dustin Schell
Air Resources Engineer
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
Docket: 22–EVI–04

Re: FLO EV Charging's Supplemental Comment Letter on the CEC's Reliability Workshop regarding OCPP data reporting

Dear Mr. Schell,

In addition to the electric vehicle service provider coalition letter FLO EV Charging ("FLO") signed onto and submitted to this docket, we also offer this supplemental comment letter to provide additional technical guidance related to using Open Charge Point Protocol (OCPP) to track overall EV charger reliability.

OCPP can track many data points related to the charger, including its operative status, whether payment was authorized or rejected, and whether the charger successfully initiated a charge. In aggregate, across a collection of data points, OCPP can provide the CEC insights into charger reliability, including the payment terminal's reliability.

In concept, FLO supports requiring recordkeeping of OCPP data points and sharing with the CEC as requested. However, the CEC will find that these data are incomplete, inconsistent, and will require the CEC conduct significant analysis that still includes some degree of inference and deduction to make conclusions related to reliability. Some of these limitations include but are not limited to:

- OCPP version 1.6 has very limited default error codes. Manufacturers must implement their own custom codes and share mapping tables with the backend to create human readable messages. The CEC would need to require EVSE manufacturers to share their custom codes if they wanted to analyze the messages. In addition, the station must be configured to share the data with the backend. The newest version of OCPP, 2.0.1, can provide more standardized monitoring features using the Device Model but version 2.0.1 implementation remains nascent.

- OCPP messages are a combination of requests and responses: the station requests authorization to start a charging session but does not manage the payment transaction itself. The messages indicate whether a payment was authorized or rejected. If rejected, the backend (not OCPP) will typically record whether this was due to limitations with the customer's account (i.e. not enough funds remaining in the account, credit card has expired, etc.). However, if payment authorization was declined, and it was not due to a limitation with the customer's account, it doesn't necessarily say why it was declined. Additionally, the station operator's backend is not necessarily the party that authorizes the payment; it can be a roaming partner or a credit card payment company. In these cases, it's logical to conclude the error is related to a software, hardware, or communications error, but the more specific cause of failure will ultimately be unknown.

- Finally, if the authorization request was accepted by the backend, but the charger fails to start a charge, the CEC can deduce that the payment system was not the reason for failure, but rather something related to the charger itself. Even then, it may still not be clear why the charger failed to start. In many cases, failure to start a charge is a result of miscommunication between the charger and the cloud or the charger and the vehicle. In these instances, it is extremely difficult for the charging provider to pinpoint whether the issue comes from their side or if it comes from somewhere else (i.e. failure with the vehicle, failure with the WiFi network, etc.).

FLO shares this information ultimately to provide insights that while requiring OCPP data collection and reporting can be valuable and helpful, it won't immediately help the CEC understand any and all reasons for charger or payment terminal failure.

Thank you for your consideration,

[electronically submitted]

Cory Bullis
Public Affairs Director, US
FLO EV Charging