DOCKETED	
Docket Number:	22-EVI-06
Project Title:	Vehicle-Grid Integration
TN #:	269474
Document Title:	AMPECO comments on Plug & Charge and roaming considerations
Description:	N/A
Filer:	System
Organization:	AMPECO
Submitter Role:	Public
Submission Date:	4/14/2026 4:07:38 AM
Docketed Date:	4/14/2026

Comment Received From: AMPECO
Submitted On: 4/14/2026
Docket Number: 22-EVI-06

AMPECO comments on Plug&Charge and roaming considerations

Additional submitted attachment is included below.

Feedback on Plug & Charge and Roaming Concepts Workshop

Prepared by: Ivelina Kadiri, PhD
Organisation: AMPECO
Re: Docket 22-EVI-06
Contact: regulatory@ampeco.com

Submitted via Docket 22-EVI-06
Re: Plug & Charge and Roaming Concepts Workshop – Public Comment

To the California Energy Commission:

We respectfully submit the following comments in response to the conceptual regulatory framework presented at the March 25, 2026 workshop on Plug & Charge and Roaming.

On the Proposed ISO 15118-2 Minimum

Generally, AMPECO supports the CEC's objective of promoting the Plug & Charge functionality for EV charging. However, we urge CEC to give careful consideration to the current state and trajectory of ISO 15118-2 before codifying it as a mandatory baseline.

ISO 15118-2:2014 is a first-generation standard that is currently in active revision. ISO/DIS 15118-2 — the 2nd edition — is presently in the enquiry phase with ISO members (ISO standard ref: 91330; see https://www.iso.org/standard/55366.html). The new DIS introduces a revised message structure and extends support for wireless charging, bidirectional energy transfer, and automated connection devices (ACD).

Mandating a standard that is imminently to be replaced creates significant regulatory risk. ISO/DIS 15118-2 (2nd edition) is currently in the enquiry phase with

ISO members and is expected to be published within months. Any regulation adopted today that references ISO 15118-2:2014/2016 by version would effectively require re-compliance shortly after adoption, imposing duplicative costs on charging network operators and hardware manufacturers. The Commission should therefore either reference the standard in a version-neutral manner — requiring compliance with the then-current published version and its successors — or align the compliance deadline with the publication of the 2nd edition, providing the industry with a single, stable compliance target from the outset.

Furthermore, there is an active cybersecurity concern with the current edition. A man-in-the-middle vulnerability has been identified in the SLAC protocol implementation under ISO 15118-2 (CVE-2025-12357, CVSS v3 score: 6.3 Medium), as documented in CISA ICS Advisory ICSA-25-303-01 (last revised March 17, 2026) -https://www.cisa.gov/news-events/ics-advisories/icsa-25-303-01 .

As remediation, ISO recommends implementing TLS in accordance with ISO 15118-20 — a requirement that does not exist under ISO 15118-2, where TLS use is recommended but not mandated. In our view, mandating ISO 15118-2 without a defined transition timeline to ISO 15118-20 would institutionalize a known security gap in California's public charging infrastructure.

Industry Readiness for ISO 15118-20

The industry is not presently prepared for a mandated transition to ISO 15118-20. While ISO 15118-20:2022 represents a significant architectural improvement — introducing mandatory TLS 1.3, cryptographic agility, bidirectional charging support, and a more sophisticated PKI — its ecosystem readiness is materially limited. Many AC chargers currently on the market, particularly those built on low-cost microcontrollers, lack the hardware necessary to support ISO 15118-20. Compliance requires PLC modems for high-level communication, AFE circuits, Linux-based application processors, and secure boot infrastructure. These are not firmware upgrades; they require hardware redesign. Requiring ISO 15118-20 compliance in the near term would impose costs and timelines that the market

cannot absorb without significant risk of non-compliance or superficial implementation.

Relevance of the European Union Regulatory Framework

The Commission may find it instructive to consider the approach adopted by the European Union under the Alternative Fuels Infrastructure Regulation (AFIR) Delegated Acts, published June 24, 2025. The EU has adopted a sequenced, tiered mandate:

- Publicly accessible AC and DC charging points installed or renovated from January 8, 2026 must comply with ISO 15118-2:2016 (along with Parts 1, 3, 4, and 5).
- ISO 15118-20:2022 compliance is not required until January 1, 2027, and only for new or renovated installations from that date forward. The standard is only required in cases where bidirectional charging is facilitated. Moreover, there are no specific requirements to vehicle OEMs regarding ISO 15118-20:2022 which impedes multi-vendor interoperability.
- Where Plug & Charge services are offered, both ISO 15118-2 and ISO 15118-20 must be supported concurrently from January 1, 2027 to ensure backward compatibility.

Notably, the EU mandate was established before ISO/DIS 15118-2 entered the enquiry phase. California has the opportunity to incorporate this development into its regulatory design from the outset, avoiding the need to revisit the mandate when the 2nd edition is published.

This tiered approach reflects a pragmatic recognition that the installed base and supplier ecosystem cannot simultaneously migrate to a second-generation standard. However, the EU framework also exposes a structural gap: under AFIR, OEMs are not required to incorporate ISO 15118-20 into new vehicle design and manufacturing, with retrofitting of existing models permitted only where technically feasible. The European Automotive Omnibus Package seeks to address this. AMPECO, as a member of industry associations across Europe (ChargeUp Europe, E-Mobility Europe) supports the upcoming proposal to adopt a delegated

act making ISO 15118-20 mandatory for OEMs under the Type-Approval Regulation. This vehicle-side gap underscores why a premature ISO 15118-20 infrastructure mandate would be ineffective in isolation — the vehicle ecosystem is not subject to a parallel obligation. For ISO 15118-20 to deliver its intended interoperability and smart charging benefits, ecosystem-wide coordination across charging infrastructure, vehicles, and backend systems is essential.

California would benefit from adopting a similarly phased framework, while taking note of this vehicle-side coordination gap and structuring any ISO 15118-20 compliance timeline accordingly.

On OCPI 2.3.0 for Roaming

We support the principle of mandating OCPI 2.3.0 for major Charging Network Providers. OCPI 2.3.0 introduces meaningful improvements relevant to the California market, including tax-aware pricing structures and vehicle type support.

We believe that migration tools and documentation towards version 2.3.0 will simplify work for operators. Additionally, EVRF is working on conformance tests for 2.3.0 to be available later in 2026 while certification work is also ongoing.

We appreciate the Commission's continued engagement with industry stakeholders on these critical interoperability questions and remain available for further discussion.

Respectfully submitted,

AMPECO Regulatory Team