DOCKETED	
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Project Title:	Vehicle-Grid Integration
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Description:	N/A
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Docketed Date:	5/10/2024

Welcome

ISO 15118 Implementation Updates Workshop

We'll begin at **9:02 a.m.**

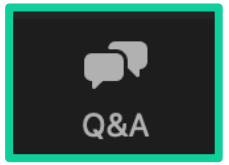
09:02 | Introduction and overview (CEC)
09:22 | EVerest (Joint Office)
09:42 | Conformance testing (CharIN)
10:02 | DC V2X with J2847/2 (SAE)
10:22 | DC V2X with ISO 15118-20 (EcoG)
10:42 | AC V2X with ISO 15118-20 (Vector)
11:02 | Plug and Charge Lite (Tesla)
11:22 | Public comment

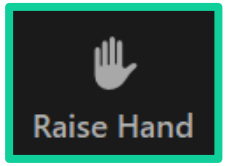
Estimated times. Q&A after each presentation.

Photo credit: Charlie Day

Housekeeping

- This workshop is being recorded. The workshop recording will be posted to the workshop event page.
- Enter written questions into the **Q&A box**
- Spoken questions are also welcome during the workshop





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Zoom: Click **Raise Hand** and we will enable your audio

Introduction and overview

Jeffrey Lu, CEC

ISO 15118 basics

Charging ecosystem general architecture (please reference the CEC's Interoperability Statement):

- Link A includes both the physical connector and underlying communication.
- International Organization for Standardization (ISO) 15118 is a commonly-used standard for the underlying communication across Link A.
- ISO 15118 may be used with a variety of physical connectors.

* **EV** = Electric Vehicle, **CSO** = Charging Station Operator, and **EMSP** = EMobility Service Provider.

Background and market status

CEC responsibilities include analysis of **state charging needs**

1

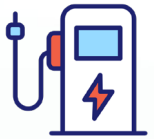
2-way **car-charger communication** needed for advanced functions

2

4

Plug and Charge requirements in programs and legislation

3



Rapid market implementation of ISO 15118 **Plug and Charge**

Image credits: Flaticon.com

Goals for today's workshop

1. Inform and support the industry's implementation of ISO 15118
2. Publicly present and discuss recent ISO 15118 developments
3. Seek industry feedback on near-term ISO 15118 priorities

J1772, CCS1, J3400 chargers should be ISO 15118 ready

The CEC's updated ISO 15118 recommendation (Feb 2024) advises that all chargers with J1772, Combined Charging System Type 1 (CCS1), and/or J3400 connectors be **ISO 15118 ready.**

An ISO 15118 ready charger is capable of all the following:

1. Powerline communication (PLC) as specified in ISO 15118-3.
2. Secure management and storage of keys and certificates.
3. Transport Layer Security (TLS) version 1.2. Support for TLS 1.3 also recommended.
4. Remote updates to enable ISO 15118 use cases. Cryptographic agility also recommended.
5. Connecting to a charging station management system.
6. Selecting the appropriate communication protocol requested by the EV.

CEC's updated recommendation also discusses implementation resources and options for flexibility

The recommendation highlights several items that may be useful as industry entities begin or continue ISO 15118 implementation:

- **Conformance testing** can verify compliance with the standard and support higher levels of interoperability.
- It may be worth investigating and discussing options for flexibility with respect to ISO 15118 **cybersecurity** requirements.
- **Software stacks**, including open-source ones, may ease implementation.
- PLC chip providers periodically push **firmware updates and other tools**.

Questions?

- Enter written questions into the **Q&A box**
- Spoken questions are also welcome!

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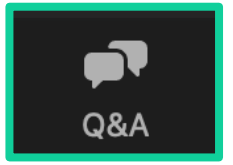
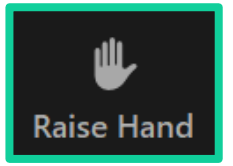
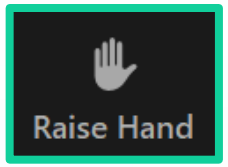




Guest presentations

Public comment

Comments may cover any ISO 15118 topic, including those from any of today's presentations. Raise your hand to speak. **Limit 2 minutes.**



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Thanks! Please let us know what you think

- **Submit electronic comments to docket 22-EVI-06**
  - Comments may cover any topic from any presenter
  - The CEC seeks feedback on ISO 15118 topics needing additional attention
- Commenting deadline is **5 p.m., Friday, May 31, 2024**
- Please see the workshop notice for alternate commenting methods

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Questions after the workshop? Reach out to jeffrey.lu@energy.ca.gov

THANKS FOR ATTENDING!