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Hubject Charge Yard Round 2 Comments

Additional submitted attachment is included below.

California Energy Commission
Dockets Office
1516 9th Street
Sacramento, CA 95814

RE Charging Interoperability and Collaboration Yard Funding Concept; Docket #22-EVI-06

Hubject is pleased to provide comments to the California Energy Commission (Commission) Charging Interoperability and Collaboration Yard Funding Concept (Charge Yard). We thank the Commission and staff for their time and continued consideration of the vital topic of interoperability conformance testing in the EV charging ecosystem.

Founded in 2012, Hubject's technology platforms support our partners to make EV charging reliable, accessible, and seamless for all EV drivers. To date, we have over 2,250 partners comprised of automotive OEMs, CSOs, EMSPs, and EVSE manufacturers across 63 countries. Our Intercharge platform is the largest global roaming platform for EV charging, providing a scalable, secure, and interoperable marketplace ecosystem for infrastructure and software providers. Intercharge connects over 1,000,000 charging points to over 400,000 EVs. In addition, Hubject supports the only operable ISO 15118-based Plug&Charge ecosystem and PKI (Public Key Infrastructure) in the world, launched in 2019 in North America. Hubject's North American headquarters is in Irvine, California.

The EV charging industry is reaching a critical inflection point due to historical levels of funding, ongoing state level activity, exponential growth in EV charging deployment, increase in EV volumes and a surge in new market entrants. These factors have highlighted the lingering and growing issues of interoperability, reliability, and network roaming in order for the industry to scale. While the predominant focus has been deploying the physical EV charging infrastructure, the importance of digital infrastructure required for reliable, secure, and seamless charging should not be underestimated.

Hubject is in full support of the Commission's Interoperability Statement, and we share the same vision of fostering broad interoperability where a driver can seamlessly charge at any charger, on any charging network, at any time. In order to foster the broad interoperability the Commission is seeking, Charge Yard will be imperative to conduct interoperability and conformance testing, and to support the development of neutral interoperability standards that industry can adopt.

In our prior comments in 2023, Hubject stated that ISO 15118-20 implementations are 3-5 years in the future, and that certification procedures can be developed to ensure conformance to the -20 standard. In 2024 and looking to the future, we continue to support proofs of concept and implementations of 15118-20. In addition, we continue to emphasize the importance of automotive OEMs to include charge controllers and battery management systems that support bidirectional charging through a full production implementation of 15118-20.

CEC Guiding Questions

How should CEC support testing MDHD applications at Charge Yard?

The CEC should support MDHD applications at Charge Yard, but light-duty vehicles should be the primary focus during Charge Yard's initial launch. MDHD will benefit from conducting interoperability and conformance testing at Charge Yard, however, many MDHD's are being operated by fleets that have different public/private use cases. Focusing on interoperability and conformance testing in the light-duty vehicle sector will begin to provide direct benefits to the public and drivers.

Does the required # of AC and DC chargers make sense and is the minimum number of chargers required from different manufacturers sufficient to establish a baseline for interoperability?

The makeup of five L2 EVSEs and six DCFC EVSEs across seven different manufacturers is sufficient to establish a baseline for testing. However, this should be considered the minimum and the Commission should be amendable to increasing the number of chargers required at Charge Yard as the eMobility ecosystem grows. With new entrants in eMobility, changing use cases, and shifting charging patterns, there needs to be flexibility to ensure we are getting an appropriate baseline for interoperability testing.

Should the Testing Tools be certified for conformance (e.g., CharIN CCTS)?

Hubject supports conformance certification of any testing tools used for interoperability testing across EVs, EVSEs, and digital backends in the charging ecosystem. In our own lab-based interoperability testing, we use simulators, workbenches, testing software and other tools to ensure conformance with industry standards such as ISO 15118-2, -4, and -5, DIN Spec 70121, IEC 61851-1/-23, and others. For the Charge Yard initiative, we similarly recommend conformance certification for testing equipment to ensure that industry-accepted standards are maintained.

Any other next generation technologies or advanced charging use case to consider testing?

We reiterate the importance of 15118-20 and the ongoing need for proofs of concept and overall implementation of the standard. With -20, new and innovative charging use cases and features will be possible, such as wireless power transfer, bi-directional power transfer, automated connection devices, Wi-Fi standardization, multiple contract signing, cross-signing, and more. Hubject strongly supports these advanced charging applications and is ready to collaborate and test with Charge Yard's charging stakeholders.

Any other data we should consider collecting?

As we communicated in our previous comments, Hubject believes that data collection is imperative for Charge Yard to ensure interoperability, learn best practices, and ensure a seamless charging experience.

We believe any data collected through the Charge Yard initiative should accomplish two important goals: benefit the EV charging ecosystem and maintain data privacy and confidentiality. Achieving these twin goals should be based on:

- Well-defined data sharing agreements between Charge Yard participants that clearly specify what types of data can be shared;
- Anonymization and aggregation of data shared by Charge Yard participants for public reporting purposes; and
- Strict privacy and confidentiality protections for Personally Identifiable Information (PII) if this data is in scope for any Charge Yard related activities.

From Hubject's perspective as a potential Charge Yard participant, we offer neutral and agnostic digital platforms for EV charging that do not capture, store, or transfer any PII at any point across the various links in the charging ecosystem, as defined in the CEC Interoperability Statement.

Are the proposed annual 3 on-site interoperability testing events realistic to achieve? In terms of funding?

We believe three annual on-site interoperability testing events are realistic and imperative to showcasing how California and the Commission are leading the way in the eMobility sector. We also

support the proposal of two annual non-testing events. We understand California is operating under budget constraints, but the ability for California to lead and showcase interoperability needs to be considered and incorporated in Charge Yard's budget.

Interoperability report on 10 EVs x 10 EVSE: is this realistic?

To achieve the Commission's vision of broad interoperability, conducting a report on 10 EVs and 10 EVSEs is imperative. Without conducting interoperability and conformance testing, there is no way to ensure the broad link interoperability the Commission is seeking will actually be achieved.

Is the maximum project award of \$3.5 million sufficient?

In the first iteration of the Charge Yard in 2023, we had stated that \$3 million would be an appropriate funding disbursement to commence the project. However, depending on the scope and size of the project, we anticipate it will require additional funding sources to keep it operational long-term

We believe Charge Yard needs to be an ongoing long-term initiative. The need for interoperability testing is high and demand will grow with EV market penetration. As mentioned above, we believe additional funding will be needed to keep it operational, but that funding will need to be self-sustainable, industry led, and not reliant on government support.

Is the match funding requirement reasonable?

Compared to other solicitations the Commission has recently released; a 50 percent funding requirement is high. We understand this is a larger solicitation and that requires stakeholders to buy in, but 50 percent threshold is too high for an industry in a nascent space. The complexity of Charge Yard attempting to bring together a large crosscut of stakeholders from across the eMobility ecosystem will also create challenges in addressing the current match requirements.

Hubject appreciates the opportunity to provide comments and thanks the Commission and its staff for their time and consideration. We look forward to continuing our engagement with the Commission to make EV charging easy, seamless, and equitable for all. Please feel free to contact me if you have any further questions.

Thanks – Brad Groters

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