



May 10, 2024

California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

## **RE: ChargePoint Comments on Proposed Verification of EV Charging Under the LCFS**

Thank you for the opportunity to submit comments on the proposed amendments to the Low Carbon Fuel Standard (LCFS) issued on December 19, 2023 and expanded upon in the April 10 workshop.

### **About ChargePoint**

Since 2007, ChargePoint has been committed to making it easy for businesses and drivers to go electric with one of the largest electric vehicle (EV) charging networks and a comprehensive portfolio of charging solutions. ChargePoint's cloud subscription platform and software defined charging hardware is designed internally and includes options for every charging scenario from home and multifamily to workplace, parking, hospitality, retail, corridor, and fleets of all kinds.

### **Summary of comments**

- CARB should leverage the existing CTEP certification program and Division of Measurement Standards (DMS) regulations for EVSE under the LCFS verification program to establish and ensure EVSE accuracy. The accuracy and load test tolerance requirements under CTEP are more stringent than MRR and these are well established industry standards that the EVSE industry is already moving towards.
- Verifying the accuracy of an EV charging station and embedded meter (together henceforth referred to as "EVSE") based on that EVSE's use case (i.e., whether that EVSE financially charges for charging or not) will unnecessarily penalize EVSE that do not financially charge for charging because internal meters, as defined by the Mandatory Greenhouse Gas Regulation (MRR), face additional calibration requirements which will add significant cost. The accuracy of EVSE does not depend on whether or not that EVSE financially charges for charging.
- The calibration requirements, as proposed by MRR for EVSE deemed as "internal meters", are problematic for tens of thousands of EVSE across California. ChargePoint's EVSE meters themselves are sealed and unalterable once they leave the factory, rendering them impossible (and unnecessary) to calibrate in the field. If CARB moves forward with the proposed calibration requirements, it may result in the disqualification of tens of thousands of EV charging stations from the LCFS program and/or levy significant new administrative cost on the industry, quite possibly to the point where reporting entities drop out of the program altogether.



## **Verification of EV Charging Stations, Assumed Meter Accuracy, and Calibration**

If CARB believes that on-road electricity reports must undergo third-party verification under the amended regulation due to largescale risk of misreporting, CARB should lean on existing standards and regulations when designing verification so as not to “reinvent the wheel”. The charging industry has worked hard over the years with various federal and state (including California) standards-setting bodies and agencies to come together around an industry standard governing meter accuracy and consumer protection that is robust, effective, and scalable.

There is an existing framework to assess and verify EV charger accuracy established in California. The Division of Measurement Standards (DMS) under the California Department of Food and Agriculture enforces the accuracy of commercial weighing and measuring devices. Since 2019, DMS regulations have adopted sections of the National Institute of Standards and Technology (NIST) Handbook 44, which specifies the accuracy requirements, testing procedures, and other specifications that charging equipment must meet to be used for a commercial purpose in California.<sup>1</sup> These standards are codified in the California Code of Regulations (CCR) under Title 4, Division 9.<sup>2</sup>

DMS requires that chargers used for a commercial purpose receive California Type Evaluation Program (CTEP) certification. CTEP is essentially certification that an EVSE make and model has demonstrated the specifications established by NIST Handbook 44 and adopted by DMS. CTEP mandates Accuracy Class 2.0 for alternating current (AC) Level 2 charging, and Accuracy Class 5.0 for direct current fast charging (DCFC). Class 2.0 means an accuracy threshold of +/- 1% off the manufacturing line and 2% in the field; Class 5.0 means an accuracy threshold of 2.5% off the manufacturing line and 5% in the field. CTEP also requires accuracy testing at various loads (referred to as “load test tolerances”). *Note that these accuracy requirements are stricter than those listed in MRR (+/- 5%) thus would result in more accurate reporting under the LCFS, if adopted.* ChargePoint is proud of our leadership to be one of the first manufacturers to receive CTEP certification in California.

CARB’s proposal to draw on the MRR regulations to define how EVSE meters must be verified ignores this work and does not acknowledge the differences between EV charging and conventional liquid and gaseous fueling. First, there are many use cases in EV charging where the EVSE operator does not financially charge for charging. Common use cases include multifamily charging, where property owners/developers will offer free EV charging to tenants as an added benefit, and dedicated fleet charging. Fleets typically don’t charge their own drivers to charge their vehicles since the infrastructure and vehicles are typically owned and operated by the same entity (and the drivers are employed by that same entity).

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<sup>1</sup> NIST Handbook 44 establishes the standards for Electric Vehicle Fueling Systems in Section 3.40. Handbook 44 is available at: <https://www.nist.gov/publications/specifications-tolerances-and-other-technical-requirements-weighing-and-measuring-15>

<sup>2</sup> A summary of the DMS regulations related to EVSE is available at: [https://www.cdfa.ca.gov/dms/pdfs/CA\\_EVSE\\_Regulation\\_Reference\\_Document.pdf](https://www.cdfa.ca.gov/dms/pdfs/CA_EVSE_Regulation_Reference_Document.pdf)



Retail charging is another common example whereby retail store owners may offer customers free charging to encourage more customers to visit their stores. Under CARB's current verification proposal, these EVSE would be treated as internal meters which must meet additional calibration requirements to participate in the LCFS program. Which brings us to the second critical difference between EV charging meters and conventional liquid and gaseous fuel meters.

The MRR regulations require that internal meters are calibrated on a regular basis, which may be at the manufacturers' recommended frequency but regardless must happen at least every five years. This requirement presents a significant challenge for charging devices that do not qualify as financial transaction meters, such as fleet chargers or chargers dispensing electricity for free, because many charging stations models are not able to be calibrated.

ChargePoint, a manufacturer of EV charging station hardware and software, calibrates each device's meter in the factory. Calibration is achieved using special firmware on the device, which is deleted entirely from the device after calibration is complete. This process is done such that the embedded meters used in ChargePoint devices are unalterable. This approach is consistent with NIST Handbook 44 and DMS regulations, which does not set specifications for charging stations to be recalibrated. While ChargePoint cannot speak to the manufacturing processes of other EVSE manufacturers, it is our understanding that it is relatively common across the industry for devices not to allow for calibration or alterability in the field. This is a strategy both to reduce the cost of charger maintenance and to prevent tampering. While the regulations and standards governing EVSE device accuracy are relatively nascent, we are confident that our process results in accurate devices. This process for calibration and accuracy is consistently applied to all ChargePoint products regardless of whether the charger is used to facilitate financial transactions or not.

ChargePoint is concerned that the requirement for internal meters to be calibrated sets an impossible standard for many devices that will be classified as "internal meters" by the MRR regulation to meet. We believe the negative impact of trying to squeeze charging stations into the existing MRR framework will be significant on business and customers, especially fleet chargers. We also expect that if unaddressed, this issue will create implementation difficulty for CARB and/or third-party verifiers, which may lead to a significant disruption in the LCFS program.

If CARB implements the verification rules as proposed that reference MRR, this could result in the disqualification of tens of thousands of EV charging stations from the LCFS program and/or significant additional verification costs on the industry.

### **ChargePoint Proposal**

In addition to allowing reporting entities to prove accuracy via meeting the definition of a 'financial' meter or an 'internal' meter under MRR, CARB should allow reporting entities to



demonstrate accuracy of EVSE via CTEP certification. As detailed above, CTEP's accuracy and load test tolerance requirements are more stringent than MRR and therefore would ensure accurate reporting under the LCFS (even more accurate than CARB is currently requiring under MRR). Additionally, for reasons stated above, the EV charging industry is already galvanizing around CTEP so were CARB to leverage CTEP certification under the LCFS it would lower administrative costs on the industry. The CTEP certification is based on NIST Handbook 44, so CARB should accept CTEP as it provides NIST-level assurance that the EVSE meter is accurate.

The use case of the charging station (financial meter vs internal meter, as defined under MRR) does not impact meter accuracy. EVSE OEMs sell the same EVSE make/model into multiple use cases, so verifying meter accuracy based on the use case does not make sense. By demonstrating that an EVSE make/model has achieved CTEP certification ensures that that EVSE is technically accurate, which is what matters most for accuracy. To be clear, for EVSE make/models that are not CTEP certified, our proposal is not that these make/models would be ineligible under the LCFS; the reporting entities may still verify accuracy via the 'financial' or 'internal' meter frameworks.

## **Conclusion**

ChargePoint would welcome the opportunity to meet with the CARB team to further discuss this issue or provide additional written comments/clarifications as needed. We urge the CARB team to consider the importance of designing an LCFS verification scheme that is workable for the charging industry: in 2023, there have been nearly 1.5 million credits issued for non-residential EV charging under the program, and this number is rapidly increasing. If verification is not feasible for the industry, it could strand a significant % of these credits and hamstring the industry going forward at a time when this segment is critical to achieving California's long-term decarbonization goals.

Respectfully,

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