August 27, 2024

Chair Liane Randolph and Board Members
California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

Re: Proposed 15-day Change Amendments to the Low Carbon Fuel Standard Regulation

Submitted to https://ww2.arb.ca.gov/applications/public-comments

Dear Chair Randolph and Honorable Board Members:

Thank you for the opportunity to comment on ARB's Proposed 15-Day Changes to the proposed amendments. ChargePoint appreciates the ongoing work of the California Air Resources Board (ARB) Staff to manage and amend the LCFS to help advance investment in low carbon fuels and infrastructure in California. While we do have specific concerns with how the Proposed 15-Day Changes treats verification of on-road EV charging, we otherwise support the package and appreciate ARB's ongoing work on this important policy. The LCFS has been and remains an important tool for decarbonization, and we applaud the ARB for continuing to hone this important policy.

**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**

- Provide an alternative path for verification of Quarterly Fuel Transaction Reports (QFTRs) for on-road EV charging that: 1) relies on third-party certifications to ensure accurate metering and 2) uses a desktop review to verify reporting without requiring site visits
- Recommend re-classifying all multi-family chargers as non-residential, regardless of parking space designation.
- Recommend strengthening Automatic Acceleration Mechanism (AAM) and allowing earlier implementation.
- Strongly support ARB's proposed changes to the heavy-duty FCI pathway
- Strongly support CARB's decision to increase the near-term step-down to 9% starting in 2025 and the discretion given to the Executive Officer to make future changes to supply eligibility, but share concerns of others that these amendments alone may not address the more fundamental problem of oversupply

Verification of on-road EV charging

The 15-day changes continue to impose a verification process designed for liquid/gaseous fuels to EV charging. ChargePoint has had several meetings with ARB staff over the summer during which we have discussed the shortcomings of relying on the current approach without considering how different a use case EV charging is and implored staff to allow for an alternative process that recognizes several key differences between EV chargers and other kinds of fuels. Most notably, we have discussed with staff that a verification process for EV charging does not benefit from site visits or re-calibration requirements, and how removing these from the proposal and allowing an alternative, desktop-based approach, would prevent significant and unnecessary costs being borne onto the industry. We cannot stress this enough.

Fuel supplied in the form of electricity takes a fundamentally different path from production to use than conventional liquid fuels. Liquid fuels originate from a set of relatively few, large sources, which produce and deliver large quantities of fuel in California that can be tracked with metering at the production sources. By contrast, electricity is produced from a distributed set of grid-connected resources and only becomes a transportation fuel when dispensed via a charging station. The relevant metering that records electricity used for transportation is therefore not restricted to a set of large facilities but is instead spread across hundreds of thousands of individual charging stations spanning the state.

To reflect the fundamental differences in fuel supply dynamics and efficiently provide reasonable certainty about volumes reported in quarterly fuel transaction reports (QFTRs), ARB should provide an alternative set of verification requirements for EV charging reporting that considers the differing risks and realities of EV charging, while at the same time leverages existing industry standards. This alternative does not need to completely replace the existing verification structure for EV charging QFTRs but can serve as another verification option for reporting entities. For the alternative verification path, we recommend that ARB:

1) *Leverage existing industry certifications to establish charging meter accuracy, which also removes any calibration requirements*.

   The fundamental purpose of verification is to confirm that claims of electricity reported matches the amount of fuel that has actually been dispensed. For liquid fuels, tampering with a flow meter may lead to misreports of actual fuel dispensed. By contrast, the embedded meters within EV chargers are regulated by state and national specification programs that provide assurances that the meter accuracy data generated directly by chargers.

   The California Type Evaluation Program (CTEP) and the National Type Evaluation Program (NTEP) both provide accuracy certifications for metering in EV charging products. The certification thresholds for accuracy are derived from the California Code of Regulations[1] and the National Institute of Standards and Technology (NIST) Handbook 44, which

[1] CCR Title 4 Division 9 Chapter 1, Sections 4000, 4001, and 4002.11. See: https://www.cdfa.ca.gov/dms/pdfs/CA_EVSE_Regulation_Reference_Document.pdf

publishes accuracy requirements for EV charging equipment.[2] Chargers certified by CTEP are certified to have:

- Level 2 – 1% in factory, 2% in the field
- Level 3 – 2.5% in factory, 5% in the field[3]

Both CTEP and NTEP have accuracy thresholds that are equivalent to or are stricter than the +/-5% accuracy threshold that CARB is proposing. Furthermore, the California Department of Food and Agriculture's (CDFA) Division of Measurement Standards (DMS) already uses C/NTEP as a certification standard for ensuring accuracy in commercial EV chargers. County Weights and Measures offices are tasked with enforcing compliance with these standards via registration and field testing. Given that there is an existing regulatory framework for enforcing accuracy standards in EV charging, reviewing meter accuracy via site visits within LCFS would be duplicative.

For charging use-cases that fall outside of DMS jurisdiction, such as private fleet charging, many of these devices' make/model will still very likely be C/NTEP certified, and reporting entities will be able to demonstrate this via certifications. For example, a ChargePoint CP6000 series charger – which is NTEP certified - used for private fleet charging in L.A. is the same from a meter accuracy standpoint as another CP6000 unit used for commercial charging in San Diego.[4] For the minority of charging station make/models that have not obtained C/NTEP certification, these stations should be allowed to demonstrate accuracy via independent testing. Given that the specification the device is built to is the same regardless of use case (fleet, commercial, or private), for purposes of determining charging data accuracy within LCFS, it does not make sense to differentiate verification of meter accuracy by use case.

Perhaps most importantly, embedded electricity meters within EV chargers are fundamentally different devices than flow meters and are not subject to the same wear, corrosion, and accumulation of residue that can cause inaccuracy or drift in liquid or gaseous meters. Many EV charging stations, including ChargePoint's devices, are calibrated in the factory, sealed, and unalterable in a manner that makes recalibration impossible specifically to preserve the meter's accuracy and guard against tampering. Taken together, this means that applying requirements to recalibrate could necessitate a complete device replacement and add immense cost of compliance for program participants without reducing the risk of misreporting. Some charging operators/providers may drop out of the LCFS altogether rather than replacing devices.

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[2] NIST Handbook 44 establishes the standards for Electric Vehicle Fueling Systems in Section 3.40. Handbook 44 (2024) is available at: https://www.nist.gov/publications/specifications-tolerances-and-other-technical-requirements-weighing-and-measuring-15

[3] The specifications for DC devices receiving NTEP certification are slightly different and will become more stringent in 2025. Recent changes to NIST Handbook 44 will allow for tolerance of 5% in the factory and in the field for DC devices installed before January 1, 2025, with enforcement starting January 1, 2028. DC devices installed after January 1, 2025, will be expected to meet tolerances of 1% in factory and 2% in the field starting that date.

[4] DMS oversees accuracy for devices used for a commercial purpose, i.e., an exchange that involves the sale of goods. See California Business and Professions Code § 12500

**There is an existing and robust regulatory framework to ensure charging devices are accurate, which renders in-person visits to confirm meter accuracy duplicative and unnecessary. To the extent that ARB intends to verify the meter accuracy of chargers within LCFS verification, ARB should leverage existing metering certification standards and allow chargers holding CTEP, NTEP, or verified accuracy equivalency to be deemed accurate for all devices of a certified make/model– rather than expecting meter accuracy to be verified via in-person site visits via recalibration requirements for each individual device. Charging devices installed before the effective date of DMS regulation should be eligible to provide data to demonstrate their accuracy applicable to all devices of the same model.**

2) *Use a desktop review to ensure reporting integrity and remove the requirement for site visits for verification of Quarterly Fuel Transactions Reports (QFTRs) for entities reporting on-road EV charging*.

With the accuracy of electricity metering for chargers established, verification for EV charging reporting should be focused on a review of data produced by charging meters rather than the meters themselves. For EV charging, a comprehensive review of data management and handling procedures does not require in-person site visits.

Site visits are intended to provide verifiers with an opportunity to see a fuel production facility, assess its metering, and determine if there is reasonable risk that the facility is not accurately or truthfully reporting fuel quantities. This makes sense when a reporting entity is reporting fuel that comes from a small handful of facilities, or even one facility, and a verifier can travel to a few locations and verify large fuel quantities reported by the entity. However, for EV charging, there is not one or even a small handful of facilities – there are hundreds or thousands. Given the number of locations, a site visit to EV charging "facilities" is impractical, as it would require verifiers to travel to specific EV charging stations dispersed across the state. Aside from being an added cost on a nascent industry, which may even erase all value earned under the program for some smaller reporting entities, visiting a handful of EV charging sites is not an effective way to assess the material risks of misreporting.

Any altering of data from a particular charging station is likely to occur once the data has been transmitted electronically, not at the site of the charging station, and would thus seemingly be addressed by a visit to a "central records location." However, the central records location for most EV charging network operators is likely to be interpreted as their primary office space, which will likely lack any physical fueling records. The records for EV charging networks are all maintained electronically, mostly in cloud-based storage where the closest thing to a records location would likely be a data center with little connection to the operations of the EV company.

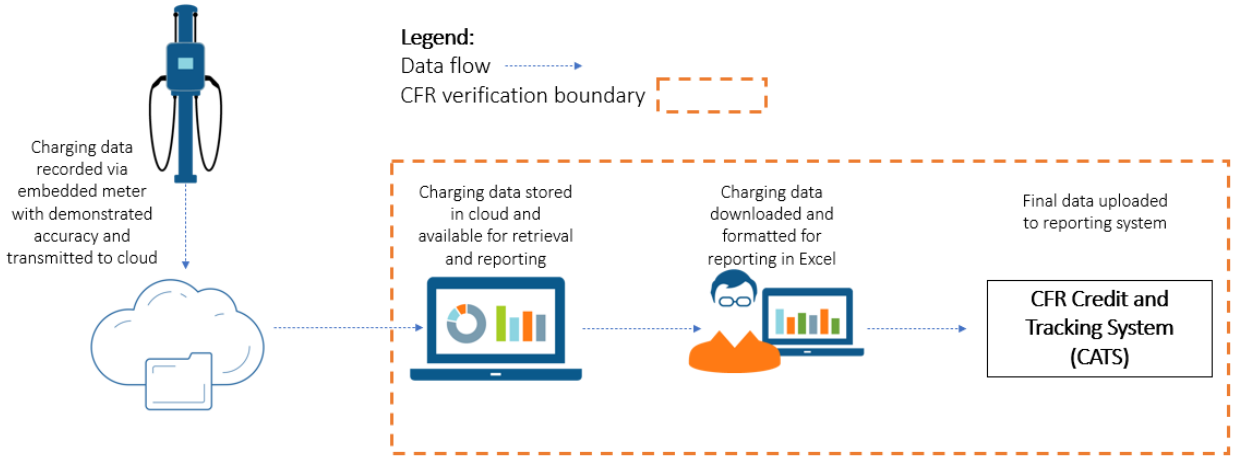


*Figure 1 Block diagram outlining Canada's Clean Fuel Regulation reporting process*

Rather than require site visits to facilities (chargers) or records locations (offices), verifiers can conduct interviews with key personnel, review IT schematics, quality control protocols, network-level certifications, trace raw metered data from inception to reporting, and gain a reasonable degree of confidence in reported charging data all via a desktop review. The orange dotted box in Figure 1 above illustrates how the scope of a desktop review can focus on appropriate data handling and management. Verifiers can also assess the security of data transmission from the station to the cloud, as the Canada CFR requires.

**Site visits do not reasonably address the risks of misreporting, so EV charging should be exempt from site visit requirements. Data produced by chargers with meters demonstrated to be accurate by device type can then be reviewed by verifiers under a desktop/remote approach.**

*Summary*

With charging meter accuracy able to be demonstrated by established certification standards and data integrity demonstrated by desktop reviews of charging data management, on-road EV charging QFTRs can be reasonably verified without a need for meter calibrations or site visits. Verifiers may assess two primary areas:

- Proof of product level C/NTEP or similar certification across the set of chargers being used for reporting to demonstrate data *accuracy*
- Management and data handling procedures for reporting electricity quantities to demonstrate data *integrity*

Both items combined ensure that data is accurate, untampered with, and properly reported.

Credit generation at multi-family residences

ChargePoint fully supports the proposal to allow multi-family housing to be classified as non-residential charging if parking spaces are not dedicated or restricted as this will help catalyze more investment in multifamily charging. **However, we recommend that parking spaces that are dedicated/restricted also be categorized as non-residential charging, which would allow the station owner to claim credits from these stations as well.** We see two issues with continuing to treat dedicated/restricted parking spaces as residential:

1) *Determining whether parking spaces are dedicated/restricted poses immense tracking challenges.*

   Parking spaces may not have static dedicated/restricted classifications. Property owners could conceivably change their parking arrangement, which would then require a reallocation of credit generation rights under the current proposal. Furthermore, parking space use cases – in the context of EV charging – are generally not tracked or recorded in any scalable way that would allow for ready determination of classification by individual parking space, and any classification will likely be self-reported. This creates a large issue with verifying the status of parking spaces. Classifying all multi-family charging as non-residential would relieve this tracking burden, ultimately providing for better uptake in the multi-family space, which is an area critically in need of charging infrastructure investment.

2) *Regardless of parking configuration, the property owner/developer is likely to be the entity financing and owning/operating the stations.*

   Multi-family units are often rental units, so residents typically would not directly participate in the purchase of stations. Given that the property developer/owner is the entity that will bear the cost, the most effective way to incentivize station installation is to provide LCFS value directly to those property developers/owners. Arbitrarily deciding whether to provide value to a property owner based on their parking configuration choice seems like an irrelevant issue and would slow down the installation of stations at multi-family units. Furthermore, even in multi-family housing where the members own their units, the process for installing EV chargers requires coordination across common areas and in some cases collective payment for the system. Given this coordination, the homeowners associations will typically be involved in developing and potentially financing some or all of the project. In this case, the homeowner's association or the owners are the critical entity for making station installation happen, so they should see the benefit from LCFS revenues to drive investment.

**To address these two issues, we propose that CARB remove the dedicated/restricted delineation and instead classifies all charging at multi-family housing, regardless of parking configuration, as non-residential.**

By allowing multifamily station owners (i.e., property owners and developers) to claim credits for chargers regardless of difficult to determine parking restrictions, it will better align the benefits of

the LCFS with the cost of multifamily EV charging and help unlock critical new financing for this segment in need of investment.

Fast Charging Infrastructure (FCI) Credits

We would like to specifically thank ARB for taking the time over the summer to work with the charging industry on honing the FCI pathways, specifically the heavy-duty (HD) pathway. This being a new pathway with several critical differences than the existing light-duty (LD) FCI pathway, we appreciate how ARB collaborated with industry and took a thoughtful approach to the HD pathway that in the end is more workable and will result in faster HD electrification.

For the proposed light and medium duty (LMD) FCI pathway, we support how ARB combined light and medium duty into one pathway, separate from HD, which better matches the differences in use cases. We also appreciate how ARB accommodated shared public/private sites within the pathway, as we see more of the market trending towards this model.

Automatic Acceleration Mechanism (AAM)

ChargePoint supports the proposal to establish the AAM but recommends that CARB make the mechanism stronger. As proposed, the AAM would not have been triggered in any of the years after the 2018 amendments. These years include 2022, a year when the credit market price declined by ~50%. The AAM should be designed specifically to counteract this type of negative price movement, so a mechanism that would not have reacted in 2022 is not strong enough. **To strengthen the mechanism, we recommend that ARB amend the first condition of the AAM to be reached when the credit bank to average quarterly deficit ratio is greater than 2.5.** With this update the AAM would have been triggered in 2022 but not any of the other years following the 2018 amendments. Since these other years saw price increases or modest declines, the new threshold suggests a balanced mechanism that reacts only to large price decreases.

**Furthermore, we recommend that the AAM be allowed to trigger starting in 2026 based on 2025 data.** The AAM is based on aggregate market data and can be operationalized immediately without needing to wait for the impact of other amendments to occur. Also, the market price continues to remain at low levels and the credit bank continues to build. If the AAM were in place currently, it would have been activated based on 2023 data with the current triggering conditions, so evidently the market is in a state that would benefit from AAM activation as soon as possible.

Near and long-term solutions to address the oversupply in the credit market

We strongly support ARB's decision to increase the stringency of the CI curve by 9% starting in 2025 to slow the growth of the bank and help support low carbon fuel suppliers in California and would even suggest ARB increase the step-down by as much as 12%. We also support ARB's proposal to give the Executive Officer greater discretion in the future to limit or adjust the use of certain pathways should California's transportation market evolve or new information answers important land use change questions regarding biofuels. This discretion should help streamline future changes to the program without rulemaking should they be necessary. In the interim, time will tell if

the amendments in the 15-Day Proposal will be sufficient to restore balance to the credit market. Recent research into earlier proposed amendments to the LCFS by UC Davis concludes that even with more stringent short term CI targets, renewable diesel will continue to dominate credit supply and crowd out investment in zero and near-zero carbon technologies[5]. These findings are supported by research by the International Council on Clean Transportation[6]. ARB's proposed percentage-based cap on soybean and canola-based biomass-based diesel (between the Summary of Proposed Modifications and the proposed regulatory text, it is unclear if the 20% limit applies to only *virgin* soy and canola-oil or all soy and canola), while a good first step, may not have its intended effect if non-soy and canola feedstocks continue to supply more renewable diesel, as they have in recent years (CARB LCFS data on biomass-based diesel feedstocks). The precipitous decline in credit prices has affected investment in electrification; it has made infrastructure financing more difficult and pushed out investment in fleet electrification. While we support ARB's proposal to increase program stringency in the short-term and believe this will have a positive effect on electrification investment, it remains to be seen if these amendments will address the more fundamental issue of oversupply in the long run.

**Conclusion**

In conclusion, with the exception of the proposed language on verification of on-road EV charging, ChargePoint supports the 15-Day Proposal and thanks staff for all the hard work put into this rulemaking. We oppose the current framework for verifying EV charging on the grounds that certain aspects are redundant, and if approved, will either result in significant and unnecessary costs to the industry, or a drop in EV charging-participation under the LCFS. We again urge ARB to allow for an alternative approach, similar to what we have proposed here, that is better suited to the EV charging use case. We stand ready to work with staff to clarify our recommendations or help think through implementation challenges. Please feel free to reach out for a discussion or if you have any questions.

Thank you,

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[5] Colin Murphy and Jin Wook Ro. "Updated Fuel Portfolio Scenario Modeling to Inform 2024 (California) Low Carbon Fuel Standard Rulemaking". University of California Davis Policy Institute for Energy, Environment, and Economy. February 2024.
[6] O'Malley, J. et al. "Setting a Lipids Fuel Cap Under the California Low Carbon Fuel Standard". International Council on Clean Transportation. August 2022.