

March 15, 2023

Submitted electronically via arb.ca.gov

California Air Resources Board 1001 | Street Sacramento, CA 95814

RE: Tesla comments on the February 22, 2023, Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard (LCFS)

Dear Ms. Laskowski and California Air Resources Board's (CARB) Transportation Fuels Branch Staff:

Tesla thanks CARB staff for the thoughtful consideration demonstrated in the February 22, 2023, LCFS workshop. Tesla continues to support increasing the stringency of the LCFS program beyond 30% by 2030¹ in order to accelerate benefits while supporting the clean fuel transition. Further, Tesla appreciates Staff's request for feedback on a short-term adjustment, a longer-term stringency trigger or acceleration mechanism, FCI proposals, and proposed EER adjustments thus far. Tesla respectfully submits the following comments in response.

Tesla continues to support an initial, short-term step-change in the compliance curve² along with an acceleration mechanism. We continue to believe that, as Staff noted on slide 25 of the February 22, 2023 presentation, "near-term step-down in compliance target stringency could strengthen near term price signal to support near-term investment." This adjustment could be in the form of a one-time acceleration method and/or through an ongoing CI acceleration mechanism, adjusted periodically. Tesla's preliminary modeling of ratchet mechanisms shows that a ratchet mechanism can help improve longer-term market stability but that it must be paired with both a step-change in 2024 as well as a stringent overall program target to be effective in rebalancing and stabilizing the credit market to support LCFS program goals. Our current analysis indicates that a step-change to stringency of at least 18% in 2024, paired with a compliance curve with a reduction of at least 30% in 2030 would be required to correct for the oversupply. Beyond that, and to Staff's guestion on whether the average credit price, credit to deficit ration or total credit bank would be a preferred trigger for an acceleration method, Tesla suggests that Staff consider presenting the options along with assumptions in a subsequent workshop. When considering a trigger and potential acceleration mechanism, assumptions about decisions on crop-based biofuels, renewable natural gas avoided methane crediting, and treatment of electric forklifts can have significant implications. A staff presentation, perhaps on 3-6 scenarios along with Staff preferred assumptions would provide stakeholders with an ability to recommend a trigger.

Medium-Heavy Duty (MHD) FCI draft credit qualifications and opportunities should be designed to encourage broad adoption. Taking lessons from the LDV LCFS FCI crediting structure, Tesla supports the inclusion of MHD FCI crediting opportunities to encourage investment in MHD charging. Basing the structure upon a minimum

¹ <u>https://www.arb.ca.gov/lists/com-attach/88-lcfs-wkshp-nov22-ws-W2IQZAExUzJVYQIz.pdf</u>

total allowance of 2.5% of previous quarter's deficits seems to be a reasonable starting place however; Tesla suggests that Staff consider higher deficits in order to attempt to accelerate MHD charging and adoption.

To encourage both MHD charging optimization and investment, at this time, Staff should follow the lead of the Federal Highway Administration (FHWA) and remove any connector qualification language. Today, there are several charging connector types used by MHD vehicles. However there is not a uniformly adopted existing MHD standard that allows for charging capacity over 350 kW. While CARB does include MCS as an option and the MCS recommendation is being put forward to standards bodies, there is no published open international standard expected until 2024/2025. As stated by CharlN, "[t]he standards are set to be published between 2024 and 2025 in ISO, IEC, and SAE with up to 4.5 MW."³ Charging over 350 kW is necessary to provide MHD users with fast charging and enable a variety of MHD vehicle use cases. In fact, in its recently filed Final Rule for the National Electric Vehicle Infrastructure Standards and Requirements, the FHWA, addressed this same issue and decided, "Not to broaden the applicability of this final rule to include minimum standards for MD/HD EV charging infrastructure primarily so as not to preempt the pace of the technological innovation."⁴ If the program were to move forward with the draft requirements, it would effectively be hurting early movers who would otherwise like to move forward prior to the adoption of a MHD standard. These early adopters should instead be encouraged/rewarded for taking on risk and putting in the engineering effort to drive the transition to zero emission goods movement as soon as possible.

Moreover, there are no similar charging connector qualification placed upon MHD HI FCI and should not be required of charging at this point in market growth. The FHWA did note that it "will continue to monitor the technological advancements in the MD/HD industry for consideration as to whether further regulation is needed to provide applicable minimum standards and requirements at a future date."⁵ Tesla supports CARB taking a similar approach for the MHD FCI program.

Additionally, to encourage the development of MHD charging, Staff should allow FCI crediting for fleet charging, not just public charging. MHD use cases and charging costs differ from LDV charging in several ways. For one, the cost to install MHD charging is significantly higher due to electricity capacity requirements and associated constraints on the electric grid that necessitate upgrades and add further costs onto MHD charging developers. Second, due in part to MHD vehicle availability, low initial charging utilization is likely. Finally, many of the larger fleets that will be the first adopters willing to take on the added cost and risk burdens of new products, are unlikely to invest in electric trucks that rely upon public charging infrastructure over which they are not in control. These customers are more likely to build onsite-charging infrastructure that supports out-and-back or hub-and-spoke duty cycles. On top of those foundations will come the public chargers and range extending in-route charging. Fleet FCI charging crediting opportunity would encourage fleet operators to accelerate investment in fleet charging corridors and to build out their charging capacity sooner to prepare for and accelerate the timelines for future adoption of electric trucks into their fleet, Tesla encourages Staff to include a fleet charging as a portion of MHD FCI crediting for these reasons.

Tesla supports maintaining current LDV FCI crediting mechanisms beyond 2025. The EV vast majority of the ZEV transition will take place beyond 2025. That point in time is precisely when CA should accelerate extensive investment in public charging. While NEVI funding will provide a portion of the charging needed to meet consumer needs, it will not suffice to convert the entire needs of LDV fleet. Staff should consider that ACCII's initial compliance year is MY 2026 and will only require 35% ZEV sales for that year. Converting the entirety of

³ See https://www.charin.global/news/how-to-prepare-for-the-megawatt-charging-system/

⁴ See, <u>https://www.federalregister.gov/documents/2023/02/28/2023-03500/national-electric-vehicle-infrastructure-standards-and-requirements</u> at page 12730.

⁵ Id. at 12731.

fleet sales, however, even under ACCII, will extend beyond 2035 and will require significantly more investment in LDV charging beyond 2026. The FCI pathway has helped drive charging investments along lower utilization routes. As more vehicles go electric, more routes and remote areas will need charging so that all possible destinations and routes can be done in electric vehicles. The FCI pathway is critical to enabling that outcome. However, Tesla agrees with the underlying initiative that encourages charging accessibility in disadvantaged communities and low-income areas. Consequently, Tesla encourages Staff to extend FCI crediting until at least 2030 and consider adding a crediting incentive when installed in low-income and disadvantaged communities.

In subsequent revisions, Tesla continues to encourage Staff to update EV EER methodology and consequently values to reflect current conditions.

Respectfully submitted,

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Thad Kurowski

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