



August 8, 2022

Ms. Cheryl Laskowski
Chief, Transportation Fuels Branch
California Air Resources Board
1001 I Street,
Sacramento, CA 95814

RE: e-Mission Control Comments on July 7, 2022 CARB LCFS Workshop

Dear Ms. Laskowski,

Energy Mission Control, Inc. (e-Mission Control, eMC) appreciates the opportunity to comment on the proposed Low Carbon Fuel Standard (LCFS) Public Workshop and proposed changes to the program. e-Mission Control is a Sacramento-based technology company that helps facilitate participation in the LCFS, as well as in Oregon's Clean Fuels Program, and shortly, Washington's Clean Fuel Standard, for hundreds of small- and medium-sized businesses operating electric material handling equipment, cargo handling equipment, electric refrigeration units, and on-road light, medium, and heavy-duty vehicles. Building upon nearly two decades of clean-transportation industry and public funding experience, eMC has developed a comprehensive and streamlined software platform that eliminates many of the administrative roadblocks that traditionally preclude small fleets from opting into clean fuel programs and allows them to take clear, affirmative, and immediate steps to reinvest in the electrification of their goods movement and material handling operations.

We offer support, additional background on typical industry practice, information on the current state of affairs on electric off-road vehicle and equipment fleet participation, and a series of suggested alternatives or improvements on the current regulation language and amendment proposals:

e-Mission Control strongly supports the adoption of a 2030 30% carbon intensity reduction target. The urgency to address climate change has only grown more immediate and we support the California Air Resources Board (CARB) taking continued bold and aggressive action toward mitigating emissions in the transportation sector. With the already-overperforming LCFS program currently at a 9.36% reduction in CI vs the 8.75% target, any steps that can be taken to reduce the transportation pool carbon intensity in addition to what may naturally already occur should be pursued. Considering the current rate of adoption of low-carbon fuels, the expeditious deployment of zero-emission light- and heavy-duty vehicles, and alignment needs of Executive Order N-79-20, CARB should, at minimum, consider a 30% 2030 adjustment to the CI standard.

e-Mission Control does not support utilizing interim five-year CI targets between 2030 and 2045 and supports a solid, singular 2045 target. In alignment with our comments above, we believe that CARB should be as aggressive as is feasible in its efforts to combat climate change. Interim five-year CI targets

will only serve to undermine, instabilize, and stall badly-needed investment in low-carbon projects and technology deployments. As is common in the renewable biofuel industry, confidence in the long-term prospects of the LCFS program (often financially obligated with forward-contract terms with risk attributed) are paramount in ensuring that capital is made available from investment groups familiar with clean technology deployment timelines. This process is becoming mirrored with medium-heavy-duty (MHD) zero-emission battery-electric infrastructure projects (i.e. MHD DC fast-charge infrastructure) where the certainty to buy down capital cost pursuant on long-term credit generation opportunity is important. Interim CI targets, especially with five-year time horizons, adds too much uncertainty when evaluating technology deployments that may have 10+ year lifespans.

e-Mission Control strongly does not support the idea of “phase-outs” of electrified vehicles and equipment, regardless of their commercialization status. As has long been established, the LCFS is meant to incentivize the adoption and use of low-, zero-, and negative-carbon fuels, and any policy within the program that facilitates this goal should be supported. e-Mission Control currently represents many hundreds of small and medium-sized fleets, all of whom are operating some mix of equipment and vehicle types. For example, a small company may operate a few forklifts and a number of light-duty cars as part of their general operation. Simultaneously, a large company may operate hundreds of forklifts, thousands of refrigeration units, dozens of light and heavy duty vehicles, several off-road pieces of equipment (i.e. yard trucks or rail car movers), and a host of other transportation technologies. In our experience, **none** are entirely zero-emission across their operation. The LCFS program should holistically support fleets of all types, mixes, and sizes, and, as there is no prohibition on spending of funds generated from one technology (i.e. forklifts) on another (i.e. converting TRU’s to hybrid eTRU’s), CARB should continue incentivizing zero-emission technologies until entire fleets, not specific technologies, are entirely zero-emission.

Additionally, considering specific technologies for a phase-out simply based on the equipment total cost of ownership or commercialization readiness becomes an extremely slippery slope. In addition to forklifts, total cost of ownership analysis for light-duty vehicles¹, shore power², hybrid eTRU’s³, natural gas Class 8 trucks, and soon, heavy-duty vehicles⁴, all regularly show a net benefit, even without incentive from the LCFS. This trend will continue as manufacturing becomes more effective, supplies become more readily available, and efficiencies and storage capacities increase substantially over the next five to ten years. We believe that the argument for equipment-specific total cost of ownership exclusion, if based on the concept of additionality (whereby a key decision maker would have made the decision to electrify a certain piece of equipment anyway, even without the LCFS), should be fleet-focused, and not equipment-focused. As mentioned above, being equipment-focused is a short-sighted perspective considering the volume and mix of equipment at any one company, and is

¹ https://ww2.arb.ca.gov/sites/default/files/2020-06/190225tco_ADA.pdf

² https://theicct.org/sites/default/files/publications/ICCT-WCtr_ShorePower_201512a.pdf

³ <https://www.safeconnectsystems.com/the-ultimate-user-guide-to-etru/six-steps-to-convert-to-etru/> & <https://www.mass.gov/doc/etru-grant-brochure/download>

⁴ https://ww2.arb.ca.gov/sites/default/files/2020-06/190225tco_ADA.pdf

entirely juxtaposed with the intention of the LCFS. For example, the question should not be, “Will a fleet operator purchase a forklift even without the LCFS value?” but instead should be, “Without the funds that an electric forklift would generate from the LCFS, would that fleet operator have upgraded vehicles or equipment on site that does not have a beneficial TCO?” If “No” is the response to the second question, then no equipment, regardless of commercialization or TCO, should be excluded from the LCFS.

Also, while it is not in CARB’s jurisdiction to consider other states or geographies developing clean fuel programs/standards, CARB should note that much of California’s LCFS regulatory language is often heavily utilized in the deployment of other programs (i.e WA and OR both use much of the FSE definition, EER values, and much more). In the same way that the localized emission reductions from out-of-state renewable fuels imported into the state are seen outside of California (i.e. methane avoidance in Iowa is counted toward the CA transportation CI score average), CARB should consider the implications of regulatory change influencing other agencies considering adoption of similar programs. Excluding technologies now will set a bad precedent, intentional or otherwise, for states that need to lean on the CARB LCFS regulatory language for success, and worse, heavily influence greenhouse gas emission reduction in areas that do not have wide adoption of electrified vehicles and equipment.

Regarding forklifts specifically, e-Mission Control strongly does not support the phase out of zero-emission forklifts. At only a 40% market adoption of electric forklifts, there is still a significant amount of equipment that needs to be transitioned to a zero-emission fuel source. This 40% is also primarily indoor, warehouse-type operations. The adoption rate for outdoor and heavy-lift applications is much lower, closer to 0%. As mentioned in the paragraphs above, many of the companies we facilitate LCFS access for have mixed fleets and rely on the funds from their LCFS participation to expedite the continued conversion of their forklifts and to work towards full conversion of their on- and off-road fleets. e-Mission Control supports the continued use of the Calculated Methodology used for forklift energy consumption, though technical revisions could be considered to ensure data accuracy and integrity. To date, telematic deployments are still cost-prohibitive on a per-unit/battery level to be installed just for purposes of LCFS participation, have difficulty with data access and transfer within confined warehouse operations, and may not be appropriate across mixed OEM fleets.

e-Mission Control supports the concept of developing a stand-alone MHD ZEV refueling infrastructure provision. The current FCI concept has shown incredible success with over 2,400 DC fast chargers deployed at over 350 locations throughout the state. However, light-duty-focused entities, namely Tesla, are dominating the FCI credit generation landscape. Currently Tesla represents 34% of applications, 43% of FSE ID’s attributed to DC fast charger sites, and 70% of charging ports currently deployed. We laud Tesla and others such as EVgo and ChargePoint for their investment and proliferation of DCFC installations, however as electrification expands into larger commercial class vehicle deployments, especially Class 6-8, the need for a stand-alone infrastructure crediting program becomes apparent. As with the current FCI provision, a 2.5% crediting limit vs. deficit generation is appropriate to guard against massive unforeseen deployment leveraging the new MHD ZEV infrastructure crediting opportunity. Additionally, we support the requirement that MHD FCI-credited projects remain available to

non-“Private Access Fueling Facilities,” however, we do suggest CARB clarify the usage and accessibility requirements for DCFC installed at common truck-stop locations and the implications therein. Major DCFC installations throughout the I-5 corridor are already very congested with light-duty vehicle drivers, especially during peak drive hours, and it does not behoove truck-stop operators to clog their operations with light-duty vehicles when attempting to service heavy-duty vehicle drivers.

e-Mission Control supports the inclusion of other equipment types, though we suggest CARB establish EER values for GSE and agriculture equipment. During the July 7 workshop, CARB mentioned that staff is considering the inclusion or addition of zero-emission applications for rail, agricultural equipment, commercial harbor craft and airport GSE under the Tier 2 EER-adjusted CI pathway application process. new equipment usage types through an EER-adjusted Tier 2 pathway. We highlight that these application opportunities are already present under the current regulation and any pathway applicant may submit an EER-adjusted Tier 2 pathway application. Using other studies, such as the CAC’s EER RFP⁵, CARB should consider the additions of these equipment types to Table 5, significantly improving the likelihood of LCFS participation of these new technologies and would route badly needed funding toward fleets considering deployment..

Other administrative opportunities for improvement:

We suggest the first reporting entity and credit generator for eTRU’s be the entity that makes facility and equipment use decisions, operates the equipment, and pays utility costs, i.e. the “Fleet Operator”.

As the current regulation is written, the “fleet owner” is the credit generator and is applicable to both over-the-road dry-box style containers as well as the “shipping container” style units.

In practice, shipping container eTRU’s are often moved from the ship then plugged in on-site akin to shore-powering a vessel before they are unloaded/loaded and sailed out again. Operationally, these eTRU’s are moved at the same frequency and with the same global footprint as typical dry-box shipping containers. They are exclusively owned by shipping lines and leasing companies but plugged in by distribution facilities and terminal operators. As a container arrives, it is plugged in, then may never see that same facility again after it leaves. Any single container is typically only on site for no more than seven days. These facilities have the capability to independently meter electricity consumption to just the eTRU’s, but can’t track to which eTRU, on a per-serial-number basis.

Importantly, there are many facilities state-wide that have no or very little infrastructure in place to directly plug-in eTRU’s on-site. These facilities must rely on diesel gensets to power the electrical componentry of the eTRU’s. Facilities that have opted to green their operations by installing associated electrical infrastructure have spent millions of dollars to do so and are also the entities paying utility

⁵ <https://www.oregon.gov/deq/rulemaking/Documents/CFP2022EWcacStudy.pdf>



costs. This industry example is the perfect candidate for the LCFS program to lessen the use of diesel fuel in thousands of gensets and increase penetration of grid-connected eTRU's.

We suggest that the first fuel reporting entity be the "fleet operator" and to redefine the FSE as the meter monitoring energy consumption to the eTRU.

e-Mission Control thanks the DEQ for the opportunity to comment and participate in the amendment process and looks forward to working with the DEQ on future improvements that facilitate the transition of Oregon's transportation fuel pool toward a more sustainable and decarbonized future.

Sincerely,

Energy Mission Control, Inc.

CC: Todd Trauman, CEO
Colby Green, Director of Business Development
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