California Council for Environmental and Economic Balance
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March 31, 2021

Mr. Tony Brasil, Branch Chief, Transportation and Clean Technology
Mr. Craig Duehring, Manager, In-Use Measures Control Section
California Air Resources Board
Submitted via zevfleet@arb.ca.gov

Re: Comments on Advanced Clean Fleets Proposed Regulation and Alternatives for the Environmental Analysis

Dear Tony and Craig,

On behalf of the California Council for Environmental and Economic Balance (CCEEB), we submit these comments on the Advanced Clean Fleets (ACF) proposed regulatory concepts, as presented by California Air Resources Board (CARB) staff during public workshops on March 2 and 4, 2021. As requested by staff, we are also recommending project alternatives for environmental analyses required under the California Environmental Quality Act (CEQA).

CCEEB supports long-term strategies to reduce transportation emissions, and is committed to California's air quality and climate change goals, including interim targets for attainment of air quality standards in the South Coast and San Joaquin Valley air basins in 2023, 2031, and 2037.

The challenge, however, is daunting, even if surmountable. The ACF rule would essentially redesign the entire statewide on-road goods movement system, the ramifications of which cannot be understated. CARB and its sister agencies will need to account for myriad economic and energy system complexities and interactions, including rollout of supportive infrastructure for fueling and charging, which are not yet incorporated into ACF regulatory concepts. Additionally, CARB along with the California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and the Governor's offices of Planning and Research (OPR) and Business and Economic Development (GO-Biz), will need to design coordinated programs that provide environmental certainty in the face of unclear and, as of today, unpredictable technological pathways to 2045 and beyond. To do so, these agencies—working in tandem—will need to be as creative and thoughtful in regulatory design as technology innovators are in advancing the clean energy, fuels, and vehicles of tomorrow. CCEEB

commits itself to working with the State agencies and Administration, as well as the Legislature, towards a successful regulatory program. The ACF rule is critical for both the economy and the environment, and we simply cannot afford to get it wrong. To that end, CARB should not confuse ease in rulemaking with ease in implementation; time taken now to develop a robust inter-agency approach will pay dividends in the end, whereas a rushed and siloed ZEV rule could fail as it has before.

With that in mind, our main points on the proposed regulatory concepts are shown below and further described in Appendix 1.

- All ACF workshops should include representatives from CARB, the CEC, the CPUC, and GO-Biz. Additionally, OPR staff should have standing invitations and be included in planning and facilitation on matters of direct interest and responsibility to them.
- CARB should communicate its rule development plans to stakeholders, particularly what topical work groups will be convened and the schedule for public meetings.
- CARB should allow vehicles to be in the state for a de-minimis period of time without being counted as part of an in-state fleet.
- Infrastructure for battery electric charging and hydrogen fueling should be at the heart of ACF and considered as part of the rulemaking, including who ultimately pays for projects. Moreover, the State cannot achieve its objectives without a new streamlined permitting process for ZEV fueling and charging sites.
- Vehicle availability will also be key to success, and determinations regarding what will be commercially available by when should be clear and time certain for fleets. Ideally, the State should establish an independent advisory body that can help guide CARB determinations.

In terms of analyses for CEQA, including assessment of alternatives, CCEEB has the following recommendations:

- Environmental and economic impact analyses should include infrastructure.
- CARB should rethink its “one-to-one” assumption regarding vehicle replacement.
- CARB should add “high-medium-low” assumptions to its emissions modeling for early year turnover rates to ZEVs.
- CARB should be explicit about its charging and fueling assumptions in terms of how much is expected to be done in depot vs. at public stations, showing changes over time.

For project alternatives, CARB should consider the following:

- A NOx-focused near-term alternative for early years that evaluates a clean combustion strategy using low-NOx vehicles.

- A Level playing field alternative that regulates private and federal fleets using a purchase mandate similar to the public sector, rather than an in-use fleet mandate that may conflict with SB 1 useful life requirements.
- A return-to-base alternative that focuses the ACF regulation to those fleets that can rely wholly on depot charging.
- A zero or near-zero carbon liquid fuels alternative that allows a compliance pathway for the most challenging fleets and vehicles that may find it the difficult or impossible to transition to a ZEV fleet by 2045.

Appendices to these comments expand on the points we make above, as well as offering additional insights, which we hope staff finds useful. We appreciate the opportunity to comment on this significant rulemaking and for staff's willingness to engage with CCEEB and its members.

Sincerely,

Janet Whittick
CCEEB Vice President

cc: Mr. Richard Corey, CARB
Dr. Sydney Vergis, CARB
Mr. Bill Quinn, CCEEB
Ms. Kendra Daijogo, The Gualco Group, Inc. and CCEEB Air Project Manager

Appendix 1: Detailed explanation of CCEEB's comments and concerns

ACF workshops should include representatives from CARB, CEC, CPUC, and GO-Biz.

CARB's proposal seeks to transform almost all California Class 2, 3, 7, and 8 vehicles to zero-emissions, with enormous consequence for fleets and the state economy. We rely on heavy- and medium-duty vehicles for nearly every facet of daily life, from delivery of food and medicine to the operation and maintenance of essential public services and emergency response. Transportation must run 24/7 even when power isn't available to homes and businesses. Ensuring the system as a whole continues to function is beyond the purview of CARB alone, and calls for a unified strategy that coordinates state agencies in joint action.

The ACF regulation is not simply a fleet rule; it requires new energy supplies and generation for vehicles now powered by liquid fuels, as well as distribution, charging, and fueling infrastructure to meet transportation demands reliably. Some of the issues that should to be considered jointly by State agencies include but are not limited to:

- Grid reliability and resource adequacy as new electricity loads are added to statewide demand, including not just vehicle charging, but also electrification of buildings, off-road engines, and other combustion sources. As part of this work, CARB, the CEC, and the CPUC should assess confidence in long-term demand forecasts.

- Behind-the-meter and front-of-meter costs for different charging schemes in different utility territories, including the impact of possible physical footprint constraints for onsite upgrades at depots. When utilities pay for front-of-meter costs, CARB should explain what impact this may have on ratepayers, and, when public funds are used, what the funding source is.

- Kilowatt-hour (kWh) costs with and without subsidies for charging and the structure of transportation rates, especially when time-of-use schemes are applied to different charging scenarios. As part of this work, CARB, the CEC, and the CPUC should assess confidence in long-term rate forecasts.

- Options for vehicles and fleets during electrical outages, such as public safety power shutoffs, brownouts, and blackouts. CARB should not expect transportation to come to a halt during disruptions to the grid.

- State of development for a statewide hydrogen distribution network as well as market forecasts for the cost of hydrogen and public funding needed to accelerate development of "The Hydrogen Highways." Even before EO N-79-20,

which set the targets the ACF rule is meant to hit, EO S-07-04[1] called on the State to provide access to hydrogen fuel to every Californian by 2010.

CARB cannot go alone. To succeed with its ZEV goals, CARB must have agency partners that can ensure reliable energy and infrastructure at reasonable costs to support fleets being asked to transition to ZEVs. A vehicle-only approach will not work. It is therefore critical that the CPUC and the CEC become active participants in the ACF process.

The State needs a streamlined permitting process for ZEV fueling and charging sites.

In addition to coordinated plans and programs, the State needs to pave the way for a significant and rapid expansion of ZEV fueling and charging sites, even in rural communities, so that commercial vehicles can continue to fuel both in-depot and away from home base. To meet the scale and timeframe proposed in the ACF rule, the state will need a way to streamline permitting of new projects. We urge CARB to explore options with responsible agencies, particularly the Governor's Office of Planning and Research, and make recommendations to the Legislature as appropriate.

CARB should also provide stakeholders and legislative leaders with information on how public funds are being prioritized to increase the number of public charging and fueling sites and how indirect and direct costs get passed through to taxpayers, rate payers, and fee-based programs.

Vehicle availability will be key to success; commercialization determinations should be clear and time certain for fleets developing transition plans.

Like CARB, we expect technology and commercialization of new vehicles to accelerate quickly. Individual fleets may not have the capacity to track rapidly evolving trends, and work to assess present and future commercial availability should not be required on a per vehicle basis. Rather, CCEEB strongly recommends that CARB develop a centralized approach that provides fleets with information on mid-term vehicle options that can be used to develop compliant fleet and facility transition plans. At a minimum, CARB should work commercial availability by vehicle class, not individual use cases.

To understand what is needed for fleet plans, CCEEB asks staff to assess rollout plans from CARB's Innovative Clean Transit (ICT) rule, explaining what time horizons transit agencies have taken to evaluate operations, assess vehicle options, and plan long-term purchase orders and installation of onsite infrastructure for depot charging and fueling. CARB can use lessons learned from ICT to develop detailed timelines and decision trees that other fleets can use as guides.

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[1] See E S-07-04 at https://www.library.ca.gov/Content/pdf/GovernmentPublications/executive-order-proclamation/4489-4492.pdf.

In terms of making determinations on what is or is not commercially available, CARB should be explicit about what timeframes apply, and structure the ACF regulation to maximize investment certainty. Again, ICT examples will aid in this work.

Finally, CCEEB strongly recommends that CARB or the Legislature establish an independent advisory body of experts that can oversee and guide commercialization determinations and help monitor the overall state of the ZEV market. CARB could look to the numerous advisory bodies it has convened for the cap-and-trade program as an example – in many ways, the economic scale and reach of the ACF regulation goes further and is more complex than cap and trade, and warrants equal if not greater attention and public scrutiny. Furthermore, CCEEB believes that an advisory body could provide some of the transparency that other stakeholders have called for, and minimize concerns that fleets are using confidential business information to "hide" investment decisions. It would also help alleviate concerns that fleets may have about dispute resolution should CARB staff and fleet managers disagree about what is or is not commercially available, including what process or criteria CARB uses to make its compliance determinations.

CARB should allow vehicles to operate for a de-minimis period of time before being counted as part of an in-state fleet.

Staff commented during the public workshops that a vehicle operating in California for even a single day would be counted as part of an in-state fleet. This would be problematic; there are many circumstances where such a rigid criterion would cause undue burden without commensurate environmental benefit. For example, a fleet with fifty vehicles in California that had any out of service for repairs would not be able to bring in replacement vehicles on a temporary basis. This is a particular problem for entities that depend on highly specialized work vehicles.

CARB should communicate its rule development plans, particularly what topical work groups will be convened and the schedule for public meetings.

At a minimum, and as soon as possible, CCEEB recommends that an interagency work group be formed to work with public stakeholders on infrastructure, with the intention of aligning the ACF rule to parallel efforts at the CEC, CPUC, and GO-Biz. Additional work groups should be formed to aid CARB's understanding of business models and operational needs of different sectors. There should also be a dedicated forum to consider the needs of emergency response vehicles and the safeguarding of essential public services and critical infrastructure during emergency events.

Appendix II: Analyses for CEQA, including assessment of alternatives

CCEEB makes the following recommendations:

- **Environmental and economic impact analyses should include infrastructure** assessments that align CARB assumptions on vehicle turnover and total ZEV fleet population by milestone years with forecasted changes to fuel consumption and electricity demand. Infrastructure development and the addition of non-combustion energy supplies for heavy-duty ZEVs are reasonably foreseeable outcomes of ACF adoption.

- **CARB must provide technical support for its "one-to-one" assumption** regarding the replacement of one heavy-duty diesel truck with one heavy-duty zero-emission truck, or rework its assumption. CCEEB finds the one-to-one assumption inconsistent with the experience of transit agencies under the Innovative Clean Transit rule, as well as studies on battery electric heavy-duty vehicles, such as the recent University of Southern California METRANS study done in partnership with UC Davis, the National Center for Sustainable Transportation, the US Department of Transportation, and CSU Long Beach.

- **CARB should add "high-medium-low" assumptions** to its emissions modeling for early year turnover rates to ZEVs. The single scenario provided seems to assume normal vehicle turnover in early years starting in 2024.[2] However, CCEEB believes there could be a significant "pre-buy" particularly for the more than 200,000 pre-2010 mode year heavy-duty vehicles that still need to come into compliance with the Truck and Bus rule. These vehicles represent roughly one-third of the total heavy-duty statewide fleet.

- **CARB should be explicit about its charging and fueling assumptions** in terms of how much is expected to be done in depot vs. at public stations, showing changes over time. This information should then be applied to implementation cost estimates, identifying what portion would be publicly or ratepayer funded vs. facility/fleet funded vs. funded by station owners and operators.

[2] This single scenario appears to come from the Mobile Source Strategy (MSS), a visioning model used as a top-down analysis of what it would take to reach long-term stretch goal sets by EO N-79-20, but which did not include consideration of market trends, cost, or technological feasibility. In presenting the MSS scenario, staff provided clarifications of its purpose and limitations, and indicated that separate, more detailed analyses would be conducted for Advanced Clean Fleets and any other subsequent rulemaking.

For project alternatives, asks CARB to consider all of the following:

- **A NOx-focused near-term alternative for early years** that evaluates a clean combustion strategy using low-NOx vehicles.

- **A Level playing field alternative** that regulates private and federal fleets using a purchase mandate similar to the public sector, rather than an in-use fleet mandate that may conflict with SB 1 useful life requirements.

- **A Return-to-base alternative** that focuses the ACF regulation to those fleets that can rely wholly on depot charging.

- **A zero or near-zero carbon liquid fuels alternative** that allows a compliance pathway for the most challenging fleets and vehicles that may find it the difficult or impossible to transition to a ZEV fleet by 2045.

Appendix III: Additional Comments on Rule Concepts

- Consideration of "emergency vehicles" should be expanded beyond what is specified in Vehicle Code 165[3] to include vehicle uses and types needed to protect essential public services during emergency events, as considered in the California Emergency Services Act. In addition, consideration should be given for private vehicles that are needed to protect the public in the event of private emergencies. This includes consideration of mutual aid policies, whether in terms of vehicles entering California or California vehicles being dispatched to assist other jurisdictions. Examples from recent wildfires demonstrate how important mutual aid is to the safety and well being of Californians and our environment.

- CCEEB would like to continue discussions to define "common ownership and control" and the role of subhaulers. This was a point of confusion in Section 2012 of the ACT regulation and reporting by "large entities," with many questions about definition unresolved. We hope that ACT reporting can help quickly clarify the definition, as we believe it could encompass a much larger universe of vehicles than are currently being presented in ACF discussions. This will have broad ramifications for implementation.

- CCEEB asks staff to provide its analysis of PM2.5 and greenhouse gas reductions from the ACF regulation in addition to information provided on NOx. Staff should also provide the detail it used to develop its scenario graphs so that the public may understand what assumptions were used in CARB calculations. This information should be released as soon as possible and not withheld until the staff report is released in October.

- Exemptions should be based on clear, specific criteria so that there will be little question whether or not one will be granted. This will give regulated entities certainty for budget and procurement planning, as well as providing transparency to public stakeholders and others tracking program implementation. Additionally, exemptions should be granted at least 18 months before the vehicle is meant to be purchased so that entities have adequate lead time for budgeting, bid processes, and vehicle build.

Insights from Fleet Managers

As part of our outreach to members, CCEEB received direct feedback from fleet managers and operators. We find these insights helpful in illustrating on-the-ground

[3] See https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=VEH&sectionNum=165.

implementation issues, and hope, even if outside the rule language, that CARB staff finds it useful as well. We believe it also underscores the value that could be derived from evaluation of early adopters in the Innovative Clean Transit program, and urge CARB staff to distill and communicate lessons learned to the public.

- User Acceptance and Training – anecdotal experience illustrates the importance of individual operators and crew, especially in early years as fleets transition and technologies rapidly evolve. For example, a battery incorrectly charged overnight means a vehicle or unit will be inoperable the next morning. Or a battery allowed to drain below the low-charge threshold will become useless until refurbished by the manufacturer, again adding to downtime. Or a driver's habits can negatively affect miles between charges, disrupting charging schedules and operations. And as technologies and operational duties change, training has to be redone each time. While these issues largely remain outside of the rule, they matter to fleet operators and managers. CCEEB asks CARB to work with the fleets to understand these issues and provide support and resources that can help ease transition hurdles and increase user acceptance.

- Maintenance Personnel: crews qualified to maintain gasoline, diesel, and natural gas fueled vehicles may not have the requisite skills for electric propulsion and high voltage systems. This may mean acquiring new personnel or retraining, especially in regards to safety protocols for working on or around high voltage or hydrogen systems. It will also influence user acceptance.

- Maintenance/Warranty Support: fleets depend on the service and support of original equipment manufacturers (OEMs), and warranties are not always fulfilled as written, an issue CARB has investigated at length in other programs. Failures result in further downtime, and may necessitate the purchase and use of backup vehicles, if that is even economically possible. Along with commercial availability and performance guarantees, fleets need ongoing warranty support.

- Parts Procurement: new supply chains may be needed, as electronics, control systems, motors, chargers, and other related equipment may not be readily available or easily obtainable for emerging technologies. This means cultivating new vendors, writing new specifications, and developing new testing and acceptance procedures to ensure that replacement parts are not substandard.

- Equipment Life: fleets have well-established expectations of equipment life and methods to extend it. This will not be known for new equipment, nor will fleets know the cost of maintenance, including decay, replacement, and responsible recycling and disposal of batteries over time, all of which make total cost of ownership uncertain.

- Unknown market trends and technology capabilities: Fleets are uncertain about rapidly evolving battery electric and fuel cell technologies, especially given CARB's proposed implementation timeframes. With either pathway, facility-specific design, permitting, and infrastructure installation would be a multi-year process, with no guarantees that purchased vehicles will be able to fuel and charge as planned, and no standardization of connections and equipment. Competition among multiple fleets transitioning at once adds to time concerns, and the robustness of estimates for infrastructure costs remains uncertain.

- Cost of operation: future costs of hydrogen and electricity are uncertain, making it difficult for fleets to assess cost of operation for ZEVs. Hydrogen supplies would need to be expanded to lower costs and avoid shortages. For electricity, rates may depend on time-of-use, with complicated pricing structures that may not align with operational needs. Fleets and facilities would also be subject to price fluctuations, which could raise costs significantly beyond their control.