USA RENEWABLE ENERGY

The Honorable Liane Randolph
Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95814

October 17, 2022

RE: Draft Advanced Clean Fleets Regulation

Dear Chair Randolph:

The **42 undersigned organizations** represent multiple industries and many stakeholders who are leaders in the effort to achieve climate change and clean air goals. We urge adoption of an Advanced Clean Fleets (ACF) regulation ("Draft ACF) that provides flexibility, minimizes undue burdens on fleet owners, and maximizes near-term NOx and greenhouse gas emissions reductions by prioritizing low NOx trucks over diesel truck purchases that emit up to 10 times more harmful emissions. We support the rule's intent but believe the Draft ACF requires further modification as it does not prevent the purchase of new or used diesel trucks that meet the minimum standards. Our comments below are intended to be constructive by providing key amendments that strengthen the regulation to better achieve the state's climate and air pollution goals.

Please consider the following comments during this formal comment period which were largely provided to CARB throughout the informal rulemaking process. Please note that the proposed redline amendments have not previously been submitted.

ZEV Unavailability Exemption

We highly question the Draft ACF's general approach or assumption that medium- and heavy-duty Zero Emission Vehicles (ZEVs) will be available on January 1, 2024 in *all classes* of vehicles, for all duty-cycles, for all commercial sectors, and for all geographic regions of the State. We understand this is an assumption based on the prospect of technology advancement, yet staff has not produced any analysis that supports such a conclusion.

Further, inflationary impacts, lack of needed component materials and processing capacity, and serious supply chain and chip shortage issues have stalled expanded production of ZEVs, especially medium- and heavy-duty versions still in the development stage. Rather, staff has taken an "all-in position" with a limited allowance of exemptions that will require a regulated party to demonstrably show that it is not technologically feasible to purchase a MD or HD ZEV. This equates to a reverse rulemaking, whereby regulated entitles are required to prove technological infeasibility AFTER rule adoption, rather than CARB determining technology feasibility PRIOR to adoption.

We agree that a ZEV Unavailability Exemption is necessary, in part because heavy-duty ZEVs are not expected to become broadly commercially available for at least another decade or more. In fact, the requirement that all new vehicle purchases must be a ZEV or Near-Zero Emission Vehicle (NZEV, as defined in the Draft ACF) beginning January 1, 2024, does not align with even the low compliance percentage in the first five years of the Advanced Clean Trucks Regulation for heavy-duty trucks sold to be a ZEV or NZEV. The requirement also does not align with the

Omnibus Regulation which requires engines to meet a 0.02g NOx standard starting with model year 2027, nor the draft Scoping Plan which supports continued incentives for biofuels in the Low Carbon Fuel Standard. It also is not in alignment with requirements under SB 1383 to reduce Short-lived Climate Pollutants and divert 75% of organic waste from landfills by 2025.

Limiting exemption considerations to a lack of ZEV or NZEV powertrain ignores the operational needs of the trucking industry and fleet owners and omits other important considerations such as vehicle cost, scale, range, one-to-one replacement, available infrastructure, charging times, wheelbase range, after-sales support, payload capacity, weight limit, technician capability, parts availability, network refueling, etc. Does CARB plan to consider how these various barriers to market may impact the transformation from internal combustion engines (ICE) to ZEVs/NZEVs? How many models can operate up to 500 to 650 miles and in what production volumes? What steps is CARB taking to ensure that many of the startup ZEV/NZEV manufacturers are financially stable and can deliver on warranty commitments that they make to their customers?

One-to-One Replacement

While exemptions in the Draft ACF will be based on a limited number of factors, replacement vehicles should be able to perform the same duty cycles without requiring significant changes to operations. When assessing the availability of vehicles, staff must conduct a detailed analysis of whether a conventional vehicle can be replaced by a ZEV or NZEV on a one-to-one basis. Los Angeles County Metropolitan Transportation Authority found that converting its fleet to plug-in battery electric buses would require an 18 percent larger fleet. Additionally, Metrans conducted an analysis of drayage operations and found that a fleet of 19 drayage trucks would have to be expanded by 70% to complete the same work if replaced with plug-in battery electric trucks.

Proposed Amendment No.1 to Improve Draft ACF

A safety net to deploy the cleanest technologies: we urge CARB to include a “Pull Forward” of the Omnibus Regulation’s more stringent 2027 model year engine standard. This would require fleets using the “ZEV Unavailability Exemption” to evaluate and purchase vehicles certified to the 2027 0.02g NOx Omnibus standard during the calendar years 2024-2026. This creates a “safety net” where zero-emission products aren’t available or applicable, and reinforces CARB’s inherent support of their Omnibus regulation.

Proposed Amendment No. 2 to Improve Draft ACF

Recognize early adopters: allow all early adopter fleets, especially “SB 1383 fleets,” to postpone ZEV/NZEV purchases until 2040. Fleets that invested early either by rule or at the urging of air agencies, should get their investment and actions recognized. This supports CARB’s short-lived climate pollutant strategy.

“Commercial Availability” Not Defined and Inadequate Process

The Draft ACF does not define “commercial availability” and therefore limits an exemption to a “vehicle configuration [that] is not commercially available with a ZEV or NZEV powertrain at the time the ICEV is purchased.”

The definition of “commercially available” will be critical to the regulation and, therefore, needs to be objective with transparent criteria and reflect “viability” as well. A truck with a 150 mile range may be available on the market but it may not be “viable,” for example, if it weighs 6,000 lbs. more than the base vehicle, has different truck specifications otherwise deemed necessary for a specific application, has a different wheelbase than what is required, or requires equipment to be added to the back of the truck (different size boxes/van bodies; anything driven by a PTO, which does not exist yet for EVs; etc.) “Commercial viability” is just as important as “commercial availability,” especially relative to such a low baseline standard in the Draft ACF as a ZEV or NZEV powertrain.

In addition to including the variables mentioned above, if CARB is serious about adopting a definition of “commercial availability,” we urge an amendment that uses the same definition as the United State Department of Energy[1] in its “Technology Readiness Assessment Guide.” This includes a “Technical Readiness Level (TRL)” screening analysis that should be used to determine technical maturity and the readiness of each type of technology for the market, taking a technology neutral approach across all sectors. TRL 9 is the highest ranking and considers whether a vehicle is fully tested, available, capable and commercially ready. Even when a technology reaches TRL 9, the DOE then applies a whole range of other screening criteria that speak to “viability.” In fact, the California Energy Commission uses this system to decide whether a particular technology is commercially mature or not, such as whether projects are in the research and development, development, or deployment phase under the Electricity Program Investment Charge program.

In addition to the need for a definition, the Draft ACF states that exemptions are to be made only by the Executive Officer who has authority to add and remove eligible vehicles from the list based on limited and unrealistic criteria and without a transparent public process. Vehicles added or removed from the list are for limited reasons and do not consider the criteria we suggested above and do not take into consideration the needs of fleet owners and the trucking industry. This opaque process limited to the discretion of one individual will wreak havoc on the state’s businesses and overall economy and is another reason why the TRL process should be used for evaluating exemptions under the proposed rule.

Exemptions and the exemption process should be standardized and identical for both public and private fleets, and drayage vehicles.

Proposed Amendment No. 3 to Improve Draft ACF

In addition to using the TRL screening analysis and viability variables for evaluation, the regulation should include “Zero-emission Powertrain” Certification (ZEPCert), as found in the Advanced Clean Trucks regulation, as a basic requirement to determine commercial readiness. This promotes the development of effective and reliable heavy-duty electric and fuel cell vehicles,

[1] United States Department of Energy, “Technology Readiness Assessment Guide,” Home — DOE Directives, Guidance, and Delegations

increases consumer confidence in HD zero-emission technology, protects consumers purchasing vehicles as part of future technology-forcing zero-emission measures, and protects California's incentive investments in zero-emission technology.

The regulation should remove the executive officer as the determinant of "commercial readiness" and create an independent "Blue Ribbon" advisory committee, utilizing the criteria above to determine the status of technology development and deployment.

Additional Important Issues

While our three proposed amendments are provided above, please consider these additional important concerns:

Infrastructure

Current and future electricity supply issues highlight long-term concerns about reliability and affordability associated with the Draft ACF. Beyond these system-level challenges, fleets may need to work with local utilities and other partners to install vehicle chargers. These projects can suffer their own delays when there is a lack of local distribution capacity. For example, last November the CEC stated that 76 percent of Southern California Edison circuits and 69 percent of San Diego Gas & Electric circuits have less than a megawatt of capacity available, meaning that utility upgrades would be needed before MHD-ZEV charging could be installed.

Many of the fleets impacted by the Draft ACF do not currently have charging infrastructure in place to support the ZEV/NZEV deployments and there is no public-access charging solution currently available for MD/HD electric trucks. Even if a fleet can identify a truck that will meet their operational needs, they will not be able to operate the electric truck for at least 9 months based on the infrastructure build timelines laid out by the State's major electric utilities. ***According to 3 main Investor-Owned Utilities in the State, electric charging infrastructure development timelines range between 9 to 16 Months.***

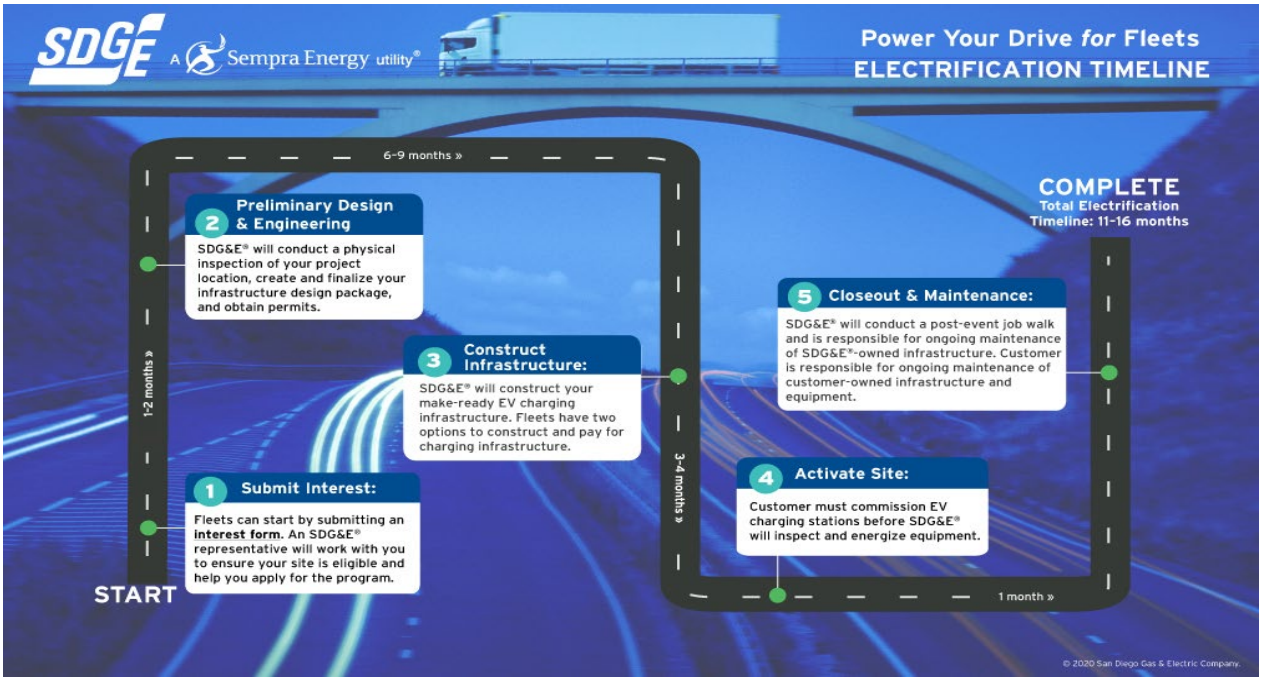
Conversely, for example, if a fleet wants to purchase new low NOx compressed natural gas (CNG) trucks that operate on renewable natural gas (RNG), they could buy a truck today and fuel it at the extensive public access fueling network already in place in California and across the country. This would eliminate the need to continue using diesel trucks which emit greater emissions in the near-term. Having charging infrastructure already in place for a deployed technology is essential and should be a principal element to the ACF regulation. Please consider:

PG&E: 9-13 Months[2]

Following the completion of the ZEV Fleet program application, the ZEV Fleet electrification process, from design to execution, takes approximately 9 to 13 months. This timeline also assumes that the upstream infrastructure to deliver the electrical power is available.

[2] https://www.pge.com/pge_global/common/pdfs/solar-and-vehicles/clean-vehicles/ev-fleet-program/EVFleet_Guide_ElectrificationProcess.pdf

SDGE: 11-16 Months[3]



Page A-2-25 of the Draft ACF for "High Priority and Federal Fleet Requirements" provides for an "Infrastructure Construction Delay Extension" and states that, "A fleet owner may apply for this extension if they experience construction delays beyond their control on a project to purchase ZEVs and install ZEV charging or fueling stations. The Executive Officer will grant a single extension per project to delay the vehicle delivery for one year if they determine the fleet owner satisfies the criteria for the delay, based on the information submitted below and the exercise of good engineering judgment."

It is likely that such a delay will take longer than one year, per IOU timeline estimates. Compounding this problem is that the fleet owner will still need to make a capital expenditure to order ZEV(s) or NZEV(s) that they cannot use for an extended period. Tying up precious and limited capital on an asset that cannot be used will likely be detrimental to many California businesses.

In addition, this process leads to uncertainty while the Executive Officer decides on the exemption delay request and burdens the fleet owner with unnecessary paperwork and engagement with the utility. Furthermore, the Draft ACF does not provide any relief if an infrastructure project takes more than one year. The fleet owner may have to shut down operations because they could not use their new ZEV/NZEV after the conclusion of the one-year exemption.

There is a stark disconnect between what stakeholders conveyed at a series of workshops in early 2022 concerning infrastructure and what is required in the Draft ACF. It appears that few of those concerns were taken into consideration or incorporated into the updated Draft ACF. In addition, at the April 2022 Board meeting, several board members expressed concern about the reality of infrastructure including development and availability. Furthermore, the Draft ACF regulation is not tied to any funding mechanism to build the required fleet infrastructure, thereby

[3] https://www.sdge.com/business/electric-vehicles/power-your-drive-for-fleets#works

forcing the regulation as an unfunded mandate on fleet owners, subject to the limitations of existing state incentive programs. We urge a transparent, quantitative process whereby extensions are not granted at the whim of the Executive Officer but based on a set of empirical and standardized criteria.

It is also important to convey that outreach for this regulation is lacking. As we work with our fleet partners, CARB has not been successful in their outreach efforts to engage stakeholders and affected parties. Considering the size, scope, and unprecedented nature of this proposed regulation, this coalition recommends that CARB post on their website a list of those entities for which CARB believes will be subject to the ACF rule.

Senate Bill 1 Protection of Useful Life

The Draft ACF requires the relinquishment of useful life rights as established in statute via Senate Bill 1 (2017) if the Milestones Option is chosen by a covered fleet. The Legislature intended, in part, to preclude CARB from requiring, via potential future regulations, commercial vehicle retirement, replacement, retrofit, or repower until 13 years or 800,000 miles with a maximum of 18 years from the model year the engine and emission control system are first certified. The provision in the Draft ACF appears to be an end-run around this statutory right and should be deleted from the regulation. The cleanest available technology must be allowed to operate at its useful life while the market develops and matures for ZEVs and NZEVs. The artificial compliance percentage deadlines may prove too optimistic and unrealistic for these emerging technologies, and early retirement of the next cleanest technologies will be a lost opportunity for emissions reductions if diesel is allowed to proliferate.

Key New Well-to-Wheels Study for All Transportation Fuels

A significant new study[4] sponsored by the Argonne National Laboratory, the Joint Research Center and the European Commission, concluded that battery electric and hydrogen (other than hydrogen made from renewable natural gas), have the worst greenhouse gas emissions while RNG has the lowest with negative carbon intensity values. This conclusion was made after the study was a well-to-wheels (WTW) analysis for all transportation fuels applying both U.S. and European Union forms of well-to-wheel measurement.

More specifically, the study finds that “in both the U.S. and E.U. markets, waste-streams-to-energy technologies, such as CNG production via AD of wet waste resources, offer the biggest opportunities to reduce WTW GHG emissions.” The study goes on to state that “timely, deep decarbonization of the transportation sector requires a mix of low-carbon, renewable energy and powertrain technologies that could scale up collectively.”

This study is another that begs the question of why some California policymakers continue to only consider tailpipe and not full lifecycle emissions reductions. Failing to do so demonstrates a perverse desire to favor one strategy over another. The Low Carbon Fuel Standard is the most effective tool that California has to eliminating greenhouse gas emissions from the transportation sector. It would not, however, be nearly as effective if it did not consider a full lifecycle assessment. The proposed ACF also should be no different and include a full lifecycle analysis

[4] “Decarbonization potential of on-road fuels and powertrains in the European Union and the United States: a well-to-wheels assessment,” Sustainable Energy and Fuels, September 2022

of various strategies to inform us on how this rule will curb climate change and provide greater confidence in the rule to its stakeholders.

Low NOx Vehicles Operated on Renewable Fuels Must Be Included

The Draft ACF as currently written supports new diesel purchases if ZEVs and NZEVs (as defined) are not available which is counter to the state's goals of eliminating harmful diesel exhaust known to cause cancer, reproductive harm and identified as the number one source of NOx pollution in our extreme non-attainment regions (South Coast and San Joaquin Valley). This is especially important for the beginning timeline of the ACF regulation because most exemptions will be granted due to the lack of HD ZEV availability, resulting in significant diesel truck purchases during this transitional period.

We support both ZEV and near-zero technologies to help meet the state's criteria air pollutant and greenhouse gas emissions goals. We want to see an effective Final ACF regulation adopted by CARB, but it must be reasonable and address near-term emissions reductions that continue to impact California communities' health daily.

This regulation should be focused on how to motivate fleets to adopt HD ZEVs in good faith while recognizing the need for near-term flexibility. Absent commercially available HD ZEVs, the Draft ACF should be amended to include a strategy to incentivize vehicles with a low NOx engine operated on renewable fuels that significantly reduces carbon intensity and NOx.

For example, the average carbon intensity value for all RNG sold and used for transportation in California for 2021 was -33.36 based on CARB data. This is the lowest carbon fuel for heavy-duty transportation available under the Low Carbon Fuel Standard. RNG use combined with low NOx 0.02g engines in heavy-duty transportation should be encouraged and be a core strategy to achieve the purpose of the regulation when ZEV and NZEV options are not commercially available. If only new vehicles can be ZEVs/NZEVs after January 1, 2024 – the near-term – and not low NOx, these vehicles will use only fuels that carry on average a positive carbon intensity versus a negative carbon intensity on average with RNG.

Therefore, considering the above discussion, we again present amendment recommendations as the easiest path to a flexible regulation focused on near-term emissions reductions and a prevention of diesel truck proliferation.

Thank you for your time and consideration of our comments. We endeavor to be collaborative partners with CARB to ensure an effective and reasonable regulation that delivers real and measurable criteria air pollutant and greenhouse gas reductions.

Sincerely,

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