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October 29, 2021

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Submitted Electronically to acf-comments-ws

RE: Advanced Clean Fleets Proposed Draft Regulation Language and Total Cost of Ownership Discussion Document, September 9, 2021 Versions

The California Council for Environmental and Economic Balance (CCEEB) appreciates the opportunity to comment on the California Air Resources Board (CARB) September 9, 2021 version of the proposed draft Advanced Clean Fleets (ACF) regulation and accompanying Total Cost of Ownership (TCO) discussion document. CCEEB represents a number of directly affected organizations and sectors, including some of the state's largest public and private fleet owners, electrical and natural gas utilities, electrical generators, liquid fuel refineries, hydrogen project developers, providers of essential public services, goods movement, and many of the workers responsible for constructing and maintaining the state's transportation and energy infrastructure.

In addition to our core regulatory and legislative work, CCEEB has also facilitated a special dialogue this past year to explore infrastructure challenges related to the transition of medium- and heavy-duty transportation to zero-emission systems. Through this work, CCEEB has been able to engage with a broader group of end users, energy providers, early technology adopters, and researchers, and our comments here reflect many of the lessons learned from the dialogue. CCEEB believes firmly in the value of dialogue and perspective sharing, and has been encouraged by the level of thoughtful public discourse at the recent CARB workshops and work group meetings. We strongly encourage CARB to continue with regular public meetings for exploratory discussions with all stakeholders, as we feel this is the most efficient and effective way to engage and foster cross-sector learning.

In terms of the draft rule language and TCO document, our three main points are as follows:

- **Focus on commercialization.** As currently envisioned, the ACF rule requires each fleet to assess what ZEV options are commercially available for purchase every year. When unavailable, as will often be the case in early years of the program, the fleet must petition

CARB on a vehicle-by-vehicle basis for "exemptions," a lengthy administrative process that involves documenting attempts by the fleet to purchase (often non-existent) vehicles. This creates a mountain of unnecessary paperwork for the fleet, the original equipment manufacturers (OEMs), vendors, and CARB staff, all of which must be exhaustively repeated for each vehicle in every fleet. Instead, CCEEB strongly urges CARB to develop a process by which it can convene an independent panel of fleet and automotive experts in order to make commercialization determinations by vehicle type and duty cycle, updating its list on an annual basis as more models become available and road ready. Fleets can use this guidance to plan vehicle purchases without needing to reinvent the wheel each and every time. Such a shift in program design would also enable greater transparency and oversight, since determinations and the rationale supporting them would be open for scrutiny by OEMs, decision makers, researchers, and interested public.

- **Infrastructure is as critical as vehicle availability, and must be aligned with ACF milestones.** The combined Advanced Clean Trucks-Advanced Clean Fleets (ACT-ACF) framework will transform our state's entire energy, transportation, and goods movement systems, amounting to one of the biggest infrastructure buildouts in California's history. By putting forward its bold vision, CARB must accept its role as the hub in the wheel; vehicle mandates alone cannot wish this transformation into reality. The ACT-ACF program must be explicitly aligned with infrastructure readiness—including periodic check-ins and "tune-ups" of the program as needed—in coordination and consultation with the California Energy Commission, the Public Utilities Commission, and the California Transportation Commission. CARB should also lead efforts with its partner agencies to assess the costs of developing needed infrastructure, which extend far beyond compliance costs for fleets and facilities, significant even as these are. For example, CARB should assess public costs to tax- and ratepayers, including potential opportunity costs from adding significant new electrical loads, which will require increased development of renewable generation and transportation and distribution infrastructure.

- **ACF should allow for multi-technology approaches that maximize clean air and public health benefits while still reaching state climate and carbon neutrality goals.** CCEEB is still assessing how the proposed rule would influence fleet mixes over time, as well as the impact this would have on in-state mobile source emissions. For now, we reference recent work done by the University of California, Riverside, [1] and Ramboll US Consulting, Inc.,[2] which shows the clean air benefits that can be gained through a more inclusive and comprehensive strategy that includes faster turnover of legacy diesel vehicles and greater penetration of

[1] See Arun S.K. Raju, et. al., *Achieving NOx and Greenhouse gas emissions goals in California's Heavy-Duty transportation sector*, Transportation Research Part D: Transport and Environment, Volume 97, 2021, 102881, ISSN 1361-9209, https://doi.org/10.1016/j.trd.2021.102881. (Accessed via https://www.sciencedirect.com/science/article/pii/S1361920921001826 in September, 2021)

[2] See the Ramboll US Consulting, Inc. report, "Multi-technology Pathways to Achieve California's Air Quality and Greenhouse Gas Goals: Heavy-Heavy-Duty Truck Case Study," February 1, 2021, prepared for the Western States Petroleum Association, https://www.wspa.org/wp-content/uploads/Multi-technology-Truck-Emission-Reduction-Scenarios-White-Paper-FINAL.pdf#page=1.

renewable natural gas and other emission reduction technologies, while still achieving the state's climate targets. This alternate approach also aligns well with SB 1383 goals to reduce short-lived climate pollutants and local air emissions from waste treatment, as well as helping to accelerate clean air and climate technologies for heavy-heavy-duty vehicles and other vehicles where duty cycles would otherwise delay transition from diesel engines. At a minimum, we ask CARB to include a multi-technology option as part of its alternatives assessment, and show potential emissions reductions for NOx, PM2.5, and GHG for all options for years 2028, 2031, 2037, and 2045.

What follows is a more detailed discussion of the draft rule and accompanying Total Cost of Ownership (TCO) Discussion Document. We have organized our comments using the following general topic areas:

- Commercialization determinations and exemptions
- Infrastructure readiness, aligning timelines with the ACF rule
- Preparing for emergency events, response and recovery
- Assessing costs, including Total Cost of Ownership
- Other issues

Commercialization Determinations and Exemptions

"Exemptions" by Any Other Name – how exemptions aren't really exemptions

CARB proposes three sets of true exemptions in the rule for vehicles that will never be subject to it, such as emergency vehicles and vehicles covered under other rules.[3] For everything else, what is called an "exemption" is really a vehicle that cannot be purchased at any price during the compliance year, meaning the fleet has no means to comply. Put another way, the rule, at that moment in time, is technologically *in*feasible. Determining technological feasibility is the responsibility of the regulating agency. For technology *forcing* rules, where this may not be known in advance, CARB must develop an ongoing and public process by which technological feasibility and cost effectiveness can be established over time, consistent with its directive under Executive Order N-79-20,[4] as well as Health & Safety Code (H&SC) requirements.[5]

[3] § 95691(c) for Drayage Fleets, § 95692(c) for High Priority and Federal Fleets and § 956993(c) for Public Fleets.

[4] From EO N-79-20: "Medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the State towards the target of 100 percent of the fleet transitioning to zero-emission vehicles by 2045 *everywhere feasible* and for all drayage trucks to be zero-emission by 2035." "In implementing this Paragraph, the State Air Resources Board shall act consistently with *technological feasibility and cost-effectiveness*." [*Emphasis* added.]

[5] See H&SC Division 26. Air Resources, Part 5. Vehicular Air Pollution Control, Chapter 1. General Provisions, § 43013(a): "The state board shall adopt and implement motor vehicle emission standards, in-use performance standards, and motor vehicle fuel specifications for the control of air contaminants and sources of air pollution which the state board has found to be necessary, *cost effective, and technologically feasible*, to carry out the purposes of this division, unless preempted by federal law." See also Part 4. Greenhouse Gas Emissions

CCEEB is further concerned by the time it will take OEMs and vendors to respond to a multitude of bid requests, especially in early years when it is clear no vehicles are available and the task is merely so fleets can prove the negative to CARB. To resolve these and other related shortcomings in the proposed rule, CCEEB strongly urges CARB to establish an independent panel of automotive industry and fleet experts that can make annual commercialization determinations. In addition to providing certainty and guidance to fleet purchasing plans and helping CARB fulfill its regulatory requirements, an independent panel would also greatly improve transparency, since public stakeholders would have an opportunity to provide input and review the panel's proposed technology evaluations. Under the exemption process alone, much of this information—and CARB's decision-making rationale—would not be public, as it would fall under staff discretion and confidential business information protections.

When evaluating commercial availability, technological feasibility, and cost effectiveness, CARB should track the availability of vehicle components as a leading indicator, particularly batteries and semiconductors. CCEEB notes that the worldwide shortage in semiconductors has as much to do with growing demand for electronics as it does with pandemic-related supply chain disruptions, and as such, could be a persistent constraint to ZEV production. In 2021 alone, this shortage cost the automotive industry 7.7 million units of lost production and $210 billion in revenue.[6]

Other Issues Related to § 95692.2 and Exemptions for High Priority and Federal Fleets

General Process Issues

- **Ensure timeliness and fairness of exemption decisions.** Currently, the proposed draft rule only envisions granting exemptions annually,[7] making it extremely difficult for a fleet to know if it has actually met its compliance milestones. Instead, CCEEB strongly recommends that CARB process exemption applications as soon as received, so that fleets have certainty as they structure funding and purchasing needed to meet ACF requirements. If CARB fails to act on an application within 30-days of receipt, the application should be deemed approved and the exemption granted – the fleet would then have six months to complete purchase of the vehicle or else would need to

Reductions. § 38560: "The state board shall adopt rules and regulations in an open public process to achieve the maximum *technologically feasible and cost-effective* greenhouse gas emission reductions from sources or categories of sources, subject to the criteria and schedules set forth in this part." [*Emphasis* added.]

[6] See CNBC reporting, "Chip shortage expected to cost auto industry $210 billion in revenue in 2021" posted on September 23, 2021 at https://www.cnbc.com/2021/09/23/chip-shortage-expected-to-cost-auto-industry-210-billion-in-2021.html and "The global chip shortage is continuing to wreak havoc for the car giants," posted on October 28, 2021 at https://www.cnbc.com/2021/10/28/chip-shortage-continues-to-wreak-havoc-on-vw-and-stellantis.html.

[7] § 95692.2(a) specifies that exemption approvals occur annually for backup vehicles. However, parts (b) and (c) covering daily mileage and emergency vehicles, respectively, do not indicate whether exemptions would be made annually or on some other cycle. We assume it is annual, but recommend that this be clarified in the rule.

resubmit its application. We believe this would not only better align with fleet purchasing cycles and timelines, but also help CARB staff even out administrative burden. We note that nothing in this recommendation changes the actual volume of applications being processed, it merely avoids an annual administrative bottleneck.

- **Include a process step by which a fleet could appeal a decision made by CARB**, for example, by clarifying information that demonstrates its duty cycle, range requirements, or power loads, or by submitting additional information to verify that no qualifying bids were received. CCEEB believes this lends itself to fair due process and would help avoid disputes between fleets and CARB that may otherwise arise.

- **Clarify criteria for evaluating exemption requests.** CARB must describe in the rule what criteria it will use to evaluate bid requests issued by fleets, including what chassis and technical specifications would be deemed acceptable. The need for such clarity is evident: at the public fleet workshop on October 6, staff stated they could deny a daily mileage exemption if they disagreed with the fleet about what range a vehicle would need to meet. This is a concern; fleets need certainty and should not be left to guess what could be subjective staff decisions later during implementation.
    - In reviewing acceptable ranges in bid requests, CARB must account for the difference between nominal ranges, as marketed by manufacturers and vendors, and actual ranges when a vehicle is put into use. Experience of transit agencies underscore the importance of this distinction.

- **Fleets should be able to reject bids from unreliable or unsuitable vendors.** CARB should include criteria or factors by which a fleet could reasonably reject a bid and not require fleets to purchase vehicles at any cost and under any circumstance. Some factors to consider include exorbitant costs, suitability of use, unproven technology or lack of adequate warranty that covers day-to-day operations, readiness of service support networks and supply chains, and delivery schedules that are uncertain or extend too far into the future.[8] Fleets are particularly concerned about being forced to purchase from unproven vendors or OEMs—CARB needs to establish criteria by which the reliability of a vendor could be evaluated, e.g., capitalization of the company or other financial guarantee of its ability to meet warranty requirements, and proven history of reliability serving commercial fleets.

- **An exemption or extension is needed for infrastructure delays.** Fleets acting in good faith and with all due diligence may still face delays due to a lack of needed infrastructure, whether in depot or at public stations. CARB should not require fleets to purchase vehicles they cannot fuel or charge.

[8] Delivery delays should be expected and factored into the rule design. For example, The Wall Street Journal recently reported that deliveries of Tesla's semi heavy-duty freight truck have been further pushed to 2023, four years past the original due date of 2019. See https://www.wsj.com/articles/tesla-poised-for-record-quarterly-earnings-on-supply-chain-resilience-11634722200?mod=djemlogistics_h.

Backup Vehicle Exemption

- **Exclude miles accrued when the vehicle is serving as a "backup" to a ZEV.** CCEEB believes more flexibility is warranted so that fleets may accelerate the transition to ZEVs without concerns that a ZEV won't meet irregular or infrequent duty cycles, or during times when a ZEV may be out of service for repairs.[9] Alternately, CARB could allow fleets to apply for an extension or reinstatement of the backup vehicle's exemption if certain conditions are met and documented. CARB should be careful not to place an entire fleet into non-compliance because a single backup vehicle had to be used more than 1,000 miles due to unforeseen failures with its ZEV counterparts.

- **Allow out-of-state vehicles to be brought into California as backup vehicles** if all other conditions are met, e.g., in-state mileage limits are maintained. CARB should allow out-of-state vehicles to apply for the backup vehicle exemption when they are first brought into the state. Similarly, CARB should not count miles operated out-of-state, in situations where a California-based vehicle is needed in other areas for emergency response or other specialty uses. For some locations, it may be easier to deploy vehicles between states rather than relocating in-state, especially for specialty use vehicles that need to respond quickly to outages or emergencies not covered under § 95692.6(c).

Daily Mileage Exemption

- **Remove the "10 percent of existing" limitation**. First, if a ZEV cannot meet the duty cycle of a vehicle it is meant to replace, a fleet should not be expected to wait to purchase a ZEV at some unknown, future date as technology develops. Furthermore, for fleets that are mainly comprised of Class 7 and 8 vehicles or specialty vehicles, this requirement could be impossible to meet in early years, leaving a fleet with no compliance options.

- **Retitle section to be "Daily Mileage *and Power Load* Exemption"** to make clear that CARB is allowing this exemption to cover situations where energy demands exceed the capability of commercially available ZEVs. CCEEB appreciates and supports inclusion of § 95692.2(b)(6) and believes that retitling the section helps clarify its intent. Additionally, CCEEB asks staff to clarify what energy use data would be needed to substantiate an exemption application under (b)(6), noting that fleets will need certainty in the rule in order to evaluate and implement its requirements. As currently written, it is unclear how staff would apply this subsection.

- **3-in-30 isn't consistent with 1-to-1 replacement.** § 95692.2(b)(4) requires a fleet to document that it has evaluated "all commercially available ZEVs" and none meet its

[9] Given current supply chain problems, and the small market for ZEV parts and services, there is a real possibility that repairs and parts replacement could face significant delays.

operational needs for at least three days during a 30-day consecutive period. First, CCEEB believes that it is administratively burdensome and unnecessary to have each fleet, each year, try to determine which vehicles are commercially available. Again, we recommend that an independent panel make these determinations on an annual basis; fleets can use this list for their bid request. Second, we believe the "3-in-30" policy is inconsistent with CARB's "1-to-1" replacement principle; if a ZEV cannot meet the duty cycle for even a single day, then it isn't a 1-to-1 replacement. That is, if a ZEV cannot meet the duty cycle or range for even a single day, then the fleet will need more than one vehicle for replacement purposes. CCEEB asks staff to work with us and other stakeholders to explore other options to the "3-in-30" and consider how this section could interact with backup vehicle exemptions more effectively.

Emergency Response Exemption

NOTE: these comments apply equally to § 95693.2 covering Public Fleet Exemptions, which has similar requirements.

- **Extend Applicability to all Providers of Essential Public Services.** CARB allows for emergency response in support of electricity, natural gas, water, and wastewater services, but does not cover many other providers of essential public services, such as telecommunications providers and police departments. CCEEB strongly recommends that CARB use its existing definition of "providers of essential public services"[10] or "PEPS," as a starting point for ACF applicability for the emergency response exemption. Additionally, CCEEB asks CARB to add transportation infrastructure repair and cleanup, hazardous waste response and cleanup, logistical support needed for emergency responders, and Cal OES-certified news media to its lists of emergency responders.

- **75% threshold is unnecessary and unworkable in early years**. § 95692.2(c)(2) prevents a fleet from getting an emergency response vehicle exemption until 75 percent of vehicles with the same the body type are already ZEVs. This seems unworkable in early years, as no ZEVs could be available, meaning a fleet would not be able to meet either the ZEV milestone or the alternative compliance requirements. At a minimum, CCEEB asks staff to explain how it derived the 75 percent threshold, but our overall recommendation is that it be removed as we do not see what purpose it serves.

- **Consider allowing PEPS to self-certify exemptions** for a certain percentage of emergency response vehicles. This would help streamline administrative review.

[10] § 2452(n) of the Portable Engine Registration Program regulation defines "essential public service" as "a service provided to the general public to protect the public health and safety or the environment." In subsection (hh), it then defines who is a "Provider of Essential Public Service" or "PEPS," including 24 categories of service, most of which are omitted from ACF applicability. See https://ww2.arb.ca.gov/sites/default/files/2020-03/PERP_Reg_12.5.18R.pdf.

Alternately, PEPS could attest each year that all vehicles that can be transitioned to ZEVs are doing so.

- **Fleets won't know where or when emergencies will happen, only that they will.** § 95692.2(c)(3) requires a fleet to demonstrate that public fueling or charging infrastructure is not available in areas to be served during an emergency. This presupposes that fleets have location and duration information across a range of future, unknown, emergency events. Moreover, CARB does not indicate what information would be needed to make an approvable demonstration, e.g., how large of a geographic area should be considered; how many hours or days would a vehicle be dispatched before it could return to depot; what fueling or charging technology is needed for each vehicle; does the station have compatible equipment, in working order, and with adequate supplies; even if mobile fuelers are available, would there be enough supply to support all emergency response vehicles? CCEEB asks staff to continue to hold public discussions with emergency responders, utilities, agencies, and other PEPS to better understand what will be needed during an emergency event. It is useful to keep in mind that emergency responders will be competing with other transportation end users, which could further limit their ability to fuel or charge.

- **Allow out-of-state vehicles to remain onsite for the entire duration of an emergency.** § 95692.6(c) limits mutual aid from out-of-state vehicles during a declared emergency to 30 days, and only then with records of dispatch kept inside the vehicle. CCEEB believes this is an unnecessary time limit, and that the exemption should instead last at least until the emergency declaration has ended, but ideally until the needed repair and restoration of critical infrastructure and essential public services is complete, especially if in-state equipment or capacity was destroyed during the emergency. CARB should not expect mutual aid and emergency response vehicles to leave because an arbitrary deadline expired. Second, CCEEB notes that records of dispatch may not be available to every driver and vehicle, and that maintaining those records during an emergency can be impractical. Additionally, we discuss later in our comments a need to reconsider what constitutes an emergency event, which often involves incidents that fall short of an emergency decree but still immediately jeopardize public safety.

- **Clarify that a vehicle qualifying for an exemption will retain its exemption for its minimum useful life**, as defined by the rule.

Infrastructure Readiness, Align with Rule Design

EO-N-79-20 directs CARB to work with the California Energy Commission (CEC), the Public Utilities Commission (PUC), and other state agencies to accelerate the deployment of affordable fueling and charging options for ZEVs. CARB also has a responsibility for ensuring the

cost effectiveness of its rule, which will depend in large part on infrastructure development to support ZEV charging and hydrogen fueling – without infrastructure, a ZEV will be "yard art" as one commenter put it. This rollout will transform California's energy, transportation, and goods movement systems, and is why the ACT-ACF program is "too big to fail."

- **CCEEB strongly supports the convening of a public interagency work group** on infrastructure. CARB may wish to organize discussions around high level themes, e.g., charging and grid reliability, hydrogen supply and distribution, permit streamlining, and public station infrastructure. These discussions should inform rule design, including ways that ACF requirements and schedules can be adjusted as needed to stay aligned with the realities of infrastructure deployment. For example, if a fleet can show that infrastructure delays prevent it from meeting compliance targets, despite good faith efforts, then some compliance flexibility should be made available.

- **CARB should allow flexibility for as many technologies as possible.** Unfortunately, the Scoping Plan revision is running in parallel to, and not ahead of, the ACF rulemaking. Because of this, and as we have heard from staff at public meetings, CARB is uncertain about the "best use" of renewable natural gas and hydrogen, which could impact decisions about the availability of these energy systems for transportation. To help address this planning disconnect, CCEEB recommends that the ACF rule be open to as many technology pathways as possible, with the understanding that all options will be needed, to some degree, to achieve to carbon neutrality.

- **Connect fleets with utilities and energy providers to better plan charging and fueling.** Fleets, utilities, and energy providers lack a mechanism to share and coordinate early plans for charging and hydrogen fueling infrastructure. This delays rollout and leaves entities guessing as to where to best locate resources. CCEEB recommends that CARB spearhead efforts to develop a data sharing portal or other data sharing mechanism outside of the regulation but in support of it. In addition to where fleets are domiciled, CARB should share information on expected routes to inform public station upgrades and investments. As a starting point, CCEEB recommends that CARB form a work group on public charging and fueling to evaluate fleet data reported under its Advanced Clean Trucks rule, or assign this task to the infrastructure work group. ACT data can then be compared to CEC analysis of grid capacity and hydrogen distribution plans. The work group can then explore what additional or more granular information can be safely shared among fleets, utilities and energy partners. These discussions could also help ground-truth and refine agency forecasting and demand models, as well as efforts to streamline and quicken high priority infrastructure projects.

- **Recognize the pivotal role of public stations to *all* fleets.** In its Total Cost of Ownership (TCO) discussion document, CARB assumes that only Class 8 sleeper cabs will rely on public station charging and fueling, and that all other vehicles will charge or fuel in

depot.[11] CCEEB disagrees, especially given the long operating hours and dispersed routes of many fleets, or the fact that some fleets rely on leased parking spaces and cannot install needed charging or fueling infrastructure. In these cases, ZEVs may not only be impractical, but also infeasible. CARB will need to consider what initial flexibility should be given to fleets either wholly or largely dependent on public stations until such time as public infrastructure can catch up to CARB's fleet transition schedules. Additionally, CARB must incorporate the needs of all fleets in its assessment of public fueling and charging, and identify potential barriers that may delay infrastructure, e.g., the need to make a business case for private sector investments; timeliness for project permitting and funding; siting and physical footprint limitations at existing stations; safety issues and worker retraining; and siting to ensure the optimal location of resources for future and growing fleet needs.

- **Support California Transportation Commission planning**. With the recent passage of SB 671 (Gonzalez, 2021)[12], CCEEB sees immediate opportunity for CARB to support and coordinate with the California Transportation Commission (CTC), as it develops the Clean Freight Corridor Efficiency Assessment and identification of needed medium- and heavy-duty charging and hydrogen fueling infrastructure. Here again, we see value in CARB sharing ACT reported fleet data and its analysis of fleet volumes, locations, and potential energy demands. It may also have staff expertise and other resources it could lend towards this important effort at the CTC.

Emergency Events, Response and Recovery

Understand What Is an Emergency and What Happens During One

CCEEB asks CARB to run scenarios with public stakeholders and fellow agencies, including the Office of Emergency Services, the Certified Unified Public Agencies (CUPAs) and CUPA Forum Board, CalFire, and the Federal Emergency Management Agency, to consider what would happen to the transportation system at large during a widespread catastrophe, such as an earthquake or terrorist attack. Contingency plans should be developed to address unfortunate but ultimately foreseeable conditions, such as what would happen if the grid goes down for an extended period of time. This broader framework for emergency planning could help spur system resiliency, like the placement of microgrids in strategic locations to support essential transportation services, logistical support, and goods movement. Contingency planning can also help fleets prepare in depot and other onsite infrastructure upgrades that complement and leverage investments made to support fleet turnover. For example, a fleet may decide to invest in additional energy storage or hydrogen fueling capacity onsite to support facility operations or add to local community resiliency and emergency response capacity. The proposed infrastructure work group could be a good place to start these discussions.

[11] See CARB's *Draft Advanced Clean Fleets Total Cost of Ownership Discussion Document, September 9, 2021*, page 29: "All vehicles in this analysis other than the Class 8 sleeper cab are assumed to use depot charging."
[12] See https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB671 for bill text.

Separately, we ask CARB to consider emergency response related to more localized incidents that fall short of a government decree but still immediately jeopardize public safety and welfare. For example, during the recent "bomb cyclone," which caused widespread flooding, power outages, and mudslides, no emergency declaration was issued.[13] However, utilities and other PEPS across the state had nearly all vehicular resources deployed in emergency response to maintain critical infrastructure and services, and to reopen roads and transportation corridors damaged by the historic storm.

Other Issues with the Draft Rule

§ 95691(d) Drayage Truck Requirements and Compliance Deadlines

In Phase 2 beginning in 2035, all drayage trucks must have zero emission power trains. This means that vehicles purchased before November 1, 2023 and still within the useful life will no longer be able to operate as drayage trucks. CCEEB notes that this creates stranded assets and is concerned about negative economic impacts to owner-operators and other small fleets that cannot absorb high compliance costs. CCEEB asks CARB to work with these fleets to explore financial assistance opportunities that can help pay for upgrades to zero emission power trains. CARB may also need to address challenges smaller fleets have in optimizing time-of-use utility rate structures, and factor that into its cost impact analysis.

§ 95692(a)(2) & (3) Priority and Federal Fleets, Scope and Applicability

Fleets with 50 or more "vehicles" are subject to the rule. First, CCEEB asks staff to clarify that the applicability requirement extends to any vehicle *nationwide* and not just those operating in California. Furthermore, we ask CARB to clarify that only vehicles with a gross vehicle weight rating over 8,500 pounds count towards applicable fleet numbers. Finally, CCEEB asks CARB to analyze potential Commerce Clause issues raised by subjecting vehicles outside of California to ACF applicability requirements, as well as requirements to hire ACF compliant fleets if one or both parties are based outside of California.

§ 95692(b)(18) Definition of "Fleet"

> *(18) "Fleet" means one or more vehicles owned by an entity and includes rental or leased vehicles that are considered owned by the fleet owner.*

Please clarify what is it means to be "considered owned" and by whom.

[13]See NPR reporting, "A historic storm brings heavy rain, flooding and mud flows to Northern California," (October 24, 2021) as an example of the scale and scope of emergency response that could be needed even short of a governor's declaration. Accessed at https://www.npr.org/2021/10/24/1048862514/powerful-storm-brings-heavy-rain-flooding-and-mud-flows-to-northern-california on October 29, 2021.

§ 95692(b)(39) Definition of "Specialty vehicle"

Consider including in the definition a vehicle that has a specialty use in addition to the vehicle-specific qualifiers, e.g., a vehicle that always operates in rural, off-road conditions that requires four-wheel drive, or one that has unique railings or equipment configurations.

§ 95692.1(c) Alternative Compliance Requirement

Please clarify that a fleet may switch from the alternative compliance option to ZEV fleet milestones, by its own choosing, once it has enough ZEVs.

§ 95692.1(g) Non-Compliant Fleet Requirements

Please clarify whether or not a fleet that complied with this section would be deemed compliant with the rule overall, and as such, not subject to penalty or notice of violation. More generally, CCEEB asks that CARB add a section to the rule that explains under what circumstances or conditions a violation could be imposed, and whether penalties would be assessed per fleet, per vehicle, per annual reporting cycle, or by day. For example, in other *annual* reporting programs, CARB assesses *daily* violations for the same paperwork error. Finally, CCEEB asks that CARB explicitly state in the rule that any and all enforcement notifications will be sent to the mailing address, as reported by the fleet. We are finding that CARB notifications are being sent to corporate physical addresses or DMV registration addresses, which may delay the timely receipt by responsible parties within the organization, and could result in paperwork violations through no fault of the regulated entity. This problem will only be exacerbated as CARB reaches further up corporate chains of command in its applicability requirements.

§ 95692.1(d) Vehicle Exemptions

> *Vehicle Exemptions. A fleet owner whose fleet is in compliance may utilize exemptions or extensions if they are otherwise unable to meet the requirements of section 95692.1(a) through (c) for all vehicles in the fleet. The exemption or extension may only be granted by CARB if the fleet would remain in compliance by using it.*

CCEEB recommends that this section be revised to remove the circular logic.

§ 95693 (b)(18) Definition of "Near-Zero Emissions Vehicle" for Public Fleets

CCEEB believes the definition of NZEVs for M-HDVs is misleading as it suggests these vehicles either exist today or are likely to be produced in meaningful volumes in the near future. While OEMs have been developing some hybrid models, these appear to be primarily focused on replacing PTO loads, not drive trains. Additionally, we think it is unlikely that OEMs will invest in research and development for technologies that CARB then invalidates starting in 2035. In Appendix A to our comments, we include technology status snapshots drawn from the CARB Appendix D: Long-Term Heavy-Duty Investment Strategy, which seem to suggest that NZEVs

offer little additional flexibility over ZEV counterparts.[14] We would like to discuss with staff what is intended by including this definition of NZEVs and how NZEV requirements are meant to work in practice as a means of providing compliance flexibility in early years of the program. For now, we note that aftermarket retrofits are different than upfitting new vehicles, and may void vehicle warranties.

Section 95693.1 Public Fleets, ZEV Purchase Requirements

As previously discussed, CCEEB believes the "prove the negative" process for seeking vehicle exemptions when no ZEVs or NZEVs are commercially available is problematic, and that instead a commercialization determination process is warranted. For public fleet requirements, we are further concerned that fleets are expected to purchase ZEVs at any cost, with no compliance flexibility for cases where raising public capital to cover higher costs takes additional time, or where the limited number of qualified bidders slows down purchase orders. While costs can be passed through to ratepayers, CARB should be mindful that ratepayers are underwriting many costs from the transition to carbon neutrality, and that this has regressive economic impacts on ratepayers. Finally, CCEEB finds it problematic that if an agency has to cancel an order, then its ZEV compliance accounting will show a deficit, even in cases where the OEM or supplier was at fault, e.g., faulty vehicle/recall, production delay, etc. We believe that CARB can address these issues by working with affected fleets to improve this section of the rule language.

§ 95694 100 Percent Medium- and Heavy-Duty Zero-Emission Vehicle Sales

CCEEB disagree with inserting this new production and sales requirement into the fleet rule rather than amending the Advanced Clean Trucks rule. Also, if fleets are allowed to purchase non-ZEVs until 2042, but none can be offered for sale, then fleets have an de facto limit of 2040, not 2042. At a minimum, CARB should move the 100 sales requirement to 2042 to be consistent with fleet requirements.

Assessing TCO and Comments on the Discussion Draft

- CARB aggregates costs for diesel and natural gas vehicles together as "combustion-powered technologies," using values for diesel vehicles in most cases. We disagree with this approach, as the costs for these engine technologies are different. For example, natural gas vehicles do not have diesel particulate filters and other diesel controls,

[14] Appendix D provides some explanation as to why heavy-duty hybrid electric vehicles have been slow to commercialization: "Little progress is being seen in HEV drayage and heavy regional delivery truck applications. Plug-in hybrid electric (PHEV) and extended range series-electric designs remain in the demonstration or early pilot stage. The rapid emergence of BEV technology and stringent emission certification testing has slowed some HEV development even though HEV architectures are the backbone of FCEVs. Emerging test requirements for low emission engines that can meet emission levels in all operating regimes may make future combustion engine-based hybrids more feasible." Page D-59. While Appendix D indicates that hybrid systems are making some progress in medium-duty delivery and electric power takeoff applications, the former is about on par with BEV counterparts and the latter isn't eligible under the ACF definition. As such, even where NZEVs may be available, the actual advantage to fleets remains unclear.

which reduces repair and maintenance costs. If more data is needed on natural gas engines, CARB should solicit a request for information.

- CARB assumes that ZEVs will have 25 percent lower maintenance costs as compared to gasoline and diesel. This is based on analysis of four cited studies, the details of which CCEEB is still reviewing. However, we note that the CARB literature review of transit bus maintenance costs included only one direct comparison of a battery electric bus to a conventional counterpart, and even then it found, "[t]he study shows there is a maintenance cost saving for a new battery electric bus compared to a new CNG bus in its first year of operation. The study period was not long enough to have any brake relines or other repair cost information and *does not answer questions about long-term maintenance costs*."[15] Other data used in the CARB literature review are for diesel hybrids, which are not analogous to the BEVs and FCEVs anticipated under ACF. The next two studies cited, from the Electrification Coalition and Propfe, B. et. al., only look at light-duty vehicles, including plug-in hybrids, and as such, we believe, are not suitable for extrapolating costs to heavy-duty vehicles. As CARB and other researchers gain experience from medium- and heavy-duty (M-HDV) pilot demonstrations, and as more MHD-ZEVs become road tested, better data will be available. Until then, we believe CARB should be cautious overstating vehicle maintenance savings and, instead, seek additional data sources specific to MHD-ZEVs.

- CARB assumes that ZEVs will travel the same distance as "combustion-powered counterparts" and that fleets will turnover vehicles on one-to-one (1:1) basis, i.e., each retired diesel or natural gas vehicle will be replaced by a single ZEV. First, we do not agree that daily average mileage is representative of what is needed for 1:1 replacement, as it ignores a number of typical duty cycles, for example (1) energy demand from power-takeoff vehicles that can have low mileage but long engine run times and loads, (2) vehicles whose daily range varies so that the maximum range is far higher than the average, (3) vehicles that operate in remote locations and off-road requiring 4x4 transmissions, and (4) vehicles already operating near the weight limit, where the additional weight of battery packs will reduce hauling loads.

- Second, if CARB really assumed a 1:1 replacement, it would not have put forward the concept of a "backup vehicle" to be used in times when a ZEV cannot meet the duty cycle. Indeed, the very idea of a backup vehicle means that it will *not* be a 1:1 replacement. This should be factored into CARB's TCO analysis. More generally, we ask CARB to work with fleets to better understand duty cycles by vehicle type.

- It is unlikely that fleets will be able to make 1:1 replacements, so other associated costs will also be higher, e.g. parking and maintenance costs for a larger fleet of vehicles.

[15] California Air Resources Board, Literature Review on Transit Bus Maintenance Cost (web link: https://www.arb.ca.gov/regact/2018/ict2018/appg.pdfhttps://www.arb.ca.gov/msprog/bus/maintenance_cost.pdf, accessed September 2021), page 22.

- CARB estimates for depot chargers seem to be in line with real world expectations. However, its analysis appears to ignore civil work, such as changes to building and site footprints and upgrades to power lines and electrical systems. These costs are significant and must be factored into onsite infrastructure estimates.

- CARB does not assess costs for in depot hydrogen fueling, despite having preliminary data from its Innovative Clean Transit program and pilot projects. If more data is needed, CCEEB asks CARB to issue a request for information or work with research partners to develop reliable cost estimates.

- Although not directly assessed in the TCO discussion document, the availability of vehicle and infrastructure incentives has played a critical role in the early adoption and deployment of ZEVs, and will likely remain an important factor driving accelerated transition of fleets to zero-emission technologies. As part of the ACF rulemaking, CCEEB asks CARB to initiate discussions with stakeholders and agency partners on how incentives programs may need to be reshaped to support the rapid rollout of ZEVs. For example, statutory changes may be needed for funding eligibility – the timing is ripe, as legislative discussions will soon turn to AB 8 and AB 617 reauthorization for core mobile source incentive programs.

We hope these detailed comments are helpful to CARB staff as it considers both the rulemaking process and proposed regulatory framework for Advanced Clean Fleets. While clearly much work and public discussion is needed to refine and develop the rule concepts, we believe that CARB has the full support and commitment of stakeholders across the spectrum of interests, all of whom wish to see the rule succeed. Whether for its environmental or economic impact, ACF is "too big to fail." There is no question about California moving forward with its ZEV goals; rather, it's a question of how best to align transformative actions across the state's transportation, energy, and goods movement systems in ways that benefit all. We thank staff for considering our comments. Should you wish to follow-up with CCEEB, please contact Janet Whittick at janetw@cceeb.org or (415) 512-7890 ext. 111.

Sincerely,

Bill Quinn, CCEEB President and CEO

Janet Whittick, CCEEB Vice President

cc: Mr. Richard Corey, CARB Executive Officer
Mr. Craig Segall, CARB Deputy Executive Officer for Mobile Sources and Incentives
Dr. Sydney Vergis, CARB Mobile Source Control Division Chief
Mr. Tony Brasil, CARB Transportation and Clean Technology Branch Chief
Members of the CCEEB Air Project and Transportation Energy Task Force

Appendix A: Comparing ZEV and NZEV Technology Status

The following figures are from the CARB Fiscal Year 2021-22 Funding Plan, Appendix D: Long-Term Heavy-Duty Investment Strategy Including Fiscal Year 2020-21 Three-Year Recommendations for Low Carbon Transportation Investments.
https://ww2.arb.ca.gov/sites/default/files/2021-10/fy21-22_fundingplan_appendix_d.pdf

Figure 11: On-Road Hybrid Electric Vehicles Technology Status Snapshot, page D-58

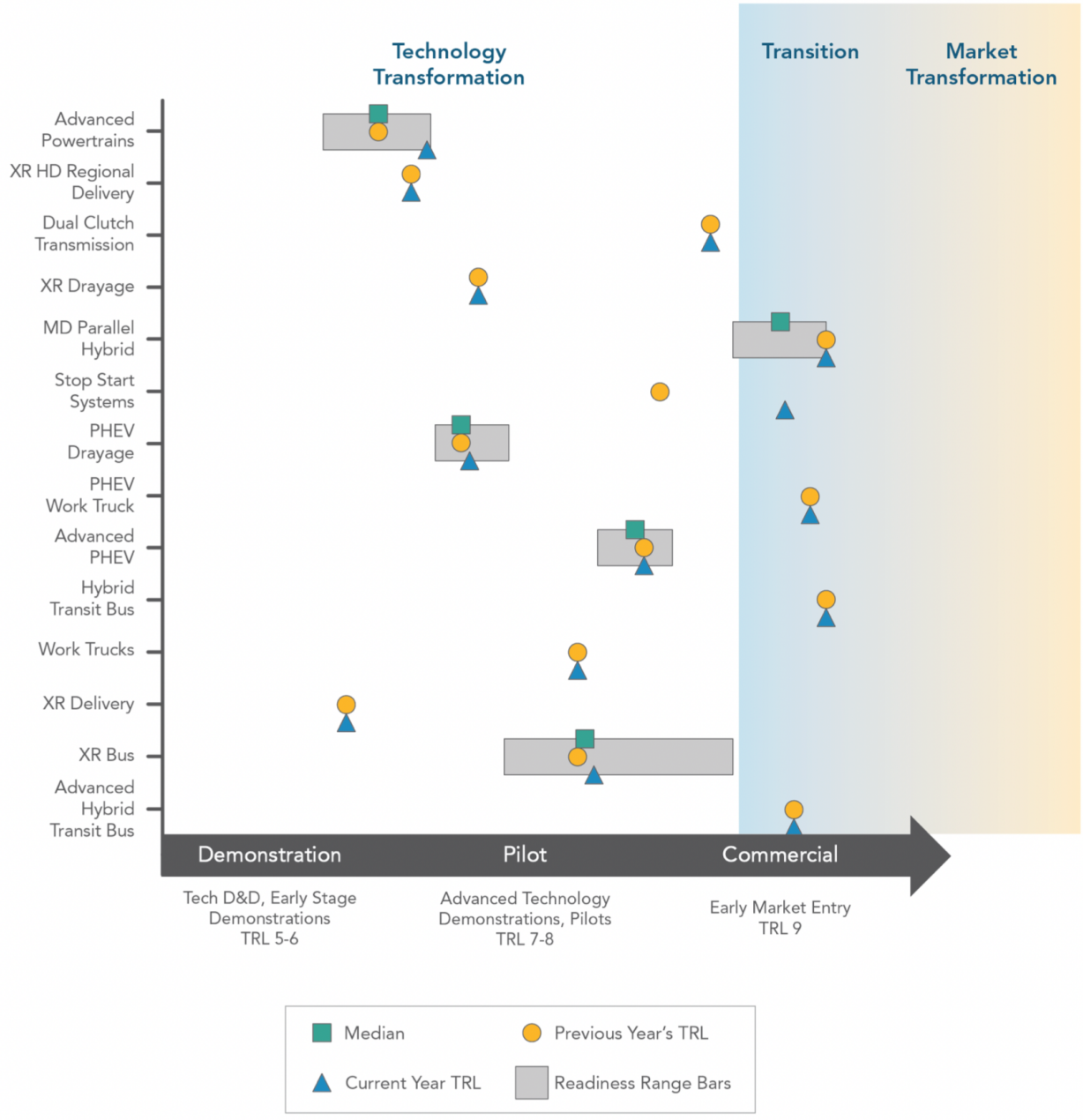

Figure 9: On-Road Fuel Cell Electric Vehicles Technology Status Snapshot, page D-52

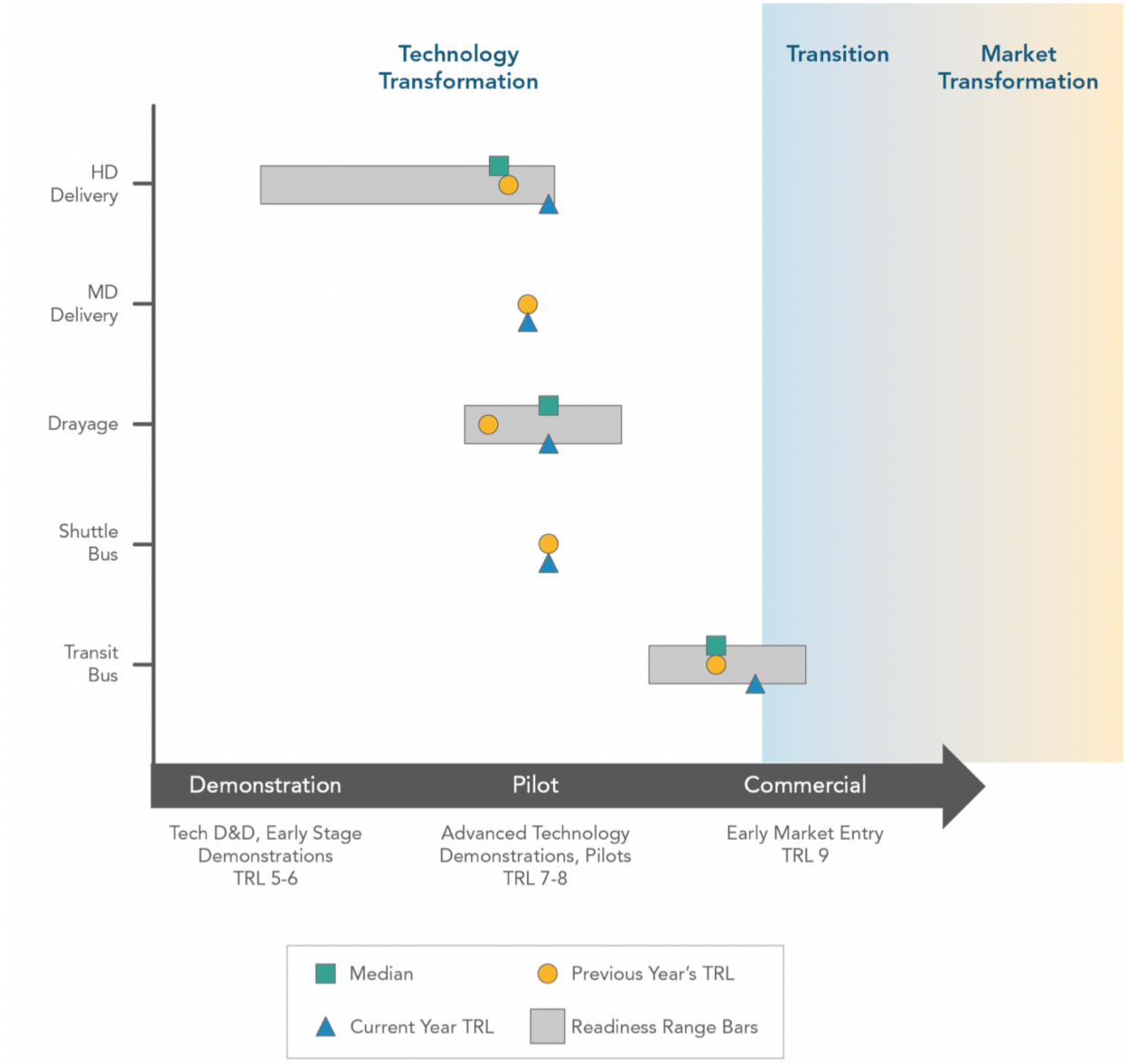

Figure 7: On-Road Battery Electric Vehicle Technology Status Snapshot, page D-44