



October 17, 2022

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

Submitted via electronic submittal

Subject: Waste and Recycling Industry Comments on the Advanced Clean Fleets Rulemaking

Dear Chair Randolph,

On behalf of the Resource Recovery Coalition of California (Resource Coalition), we appreciate the opportunity to comment on the proposed Advanced Clean Fleet (ACF) regulations during the formal rulemaking period. Our members provide critical waste and recycling services throughout California and have led the state in recycling and organic waste management innovation.

Those who operate in the waste industry are essential service providers and unique implementers of SB 1383 (Lara, Statutes of 2016), California's new organic waste diversion regulation. As an industry, we want to ensure that the state's clean transportation and SB 1383 strategy exist in harmony, while we continue to protect the health and safety of our communities. Per staff's references to SB 1383 during the informal process, we understand that the California Air Resources Board (CARB) desires the same:

September 18, 2020, presentation, slide #57-58; seeks to evaluate potential synergies to meet SB 1383 goals

September 9, 2021, presentation, slide #54; questions how the rule interacts with SB 1383 organic waste diversion goals

Several Board members at recent public workshops and meetings have expressed interest in supporting in-state organic waste management and finding a better pathway in the proposed ACF regulations. Though we met on numerous occasions with CARB staff to discuss our concerns with the current regulatory proposal and have presented several options to harmonize the ACF effort with California's SB 1383 development goals, we have seen no changes to the regulatory text to support this transition. It is critical that ACF address the near-term opportunities of synchronizing with SB 1383.

More recently, at the June 24, 2022, CARB monthly meeting, Board members and staff spoke to the necessity of meeting our SB 1383 goals, and that achieving our organic waste reduction targets is one of the most effective ways to reduce methane emissions in California. To manage organic waste, staff said we need a big buildout that must happen quickly. As currently proposed, ACF does not offer a pathway of support to encourage this critical development.

Also, importantly, the regulations do not recognize the critical role of solid waste collection to the public health and safety of local communities, though emergency vehicles are excluded from this rulemaking. More than essential service providers, solid waste management practices exist to protect the health of



California's public by removing putrescible waste from communities in a safe and timely manner. It is vital that the regulations exempt solid waste collection or, at least, provide enough flexibility to ensure solid waste collection can continue, even in the face of a critical emergency.

In this document you will find our recommended redline changes to the proposed ACF regulations and general comments to support more feasible regulations. You will also find our response to erroneous comments made in staff's Initial Statement of Reasons (ISOR), followed by a summary of the unique position of the waste and recycling industry as it relates to these regulations.

Lastly, it is with deep regret that we share that the word on the street is that these regulations will fail as proposed. As on the ground practitioners and expected early adopters providing essential public health services, this is disheartening and begs the question, how will waste collection fleets making a good faith effort to meet the proposed regulations be protected as we navigate an incredibly difficult transition? We urge you to take careful consideration of how the exemption and extension process can be streamlined and be based on reasonable objective criteria, with special consideration given to early adopters who face the limitations of novel zero-emission vehicle (ZEV) technology, and the current cost and real-life challenges of building the necessary ZEV fueling infrastructure.

Comments and Redline Changes to Appendix A-2: High Priority and Federal Fleet Requirements

Many private waste collection fleets will fall under the Scope and Applicability of the proposed regulations in Section 2015, and the same issues impacting the private sector will also impact local governments deploying their own waste collection fleets. We also often work in public-private partnership, for example bringing food waste to local wastewater treatment plants to digest and generate renewable biofuel. We will explain in more detail later the unique role the waste and recycling industry plays in meeting California's organic waste diversion goals.

Page 6, Section 2015(b) "Emergency support vehicle"

It is unclear if these vehicles are exempt under the conditions of Section 2015.3(f)(2), or if this exemption only applies during the duration of a declared emergency event, as described in 2015.3(f)(1). Section 2015.2(e)(6) states fleet owners may purchase a new internal combustion engine (ICE) vehicle and exclude it from the ZEV milestone for up to 25% of the fleet if the vehicles are needed to provide emergency response services. These sections need more clarity and must take into consideration emergency preparedness and the limitations of early adopters, which cannot be expected to meet a 75% ZEV California fleet baseline.

Page 8, Section 2015(b) "Heavy front axle"

It is important to note, and will be described in greater detail later, that in most use cases, a Class 8 solid waste collection vehicle would meet the definition of heavy front axle. As described in Appendix H-2, page 29, waste collection vehicles are impacted by weight limitations, as well as battery placement in ZEV technology. It is unclear, because solid waste collection vehicles are excluded from front axle weight limits specified in subsection 35551.5.(b), if CARB staff believe this definition does not apply to these vehicles. Regardless, solid waste collection vehicles have significant payload concerns that are not addressed in this regulation per Government Code section 11343.3.



Page 9, Section 2015(b) "Milestone group 3"

Solid waste collection vehicles, given the definition of specialty vehicle, should fall under this milestone category.

Page 11, Section 2015(b) "Specialty vehicle"

In most use cases, a Class 8 solid waste collection vehicle would meet the definition of specialty vehicle, with a gross vehicle weight rating (GVWR) greater than 33,000 lbs. and with a heavy front axle.

Page 13, Section 2015(b) "Vehicle purchase"

A fleet owner must have placed an order "for immediate delivery," while page 92 of the ISOR acknowledges Class 4 and above vehicles "are typically manufactured in stages" and that "this process can take up to a year or more."

Page 14, Section 2015(e) "NZEV Flexibility"

Under several possible adjustments to align with SB 1383 provisions, this section could include near-zero-emissions vehicles (NZEVs) and ICE vehicles equipped with a powertrain certified at a 0.2g/bhb-hr NOx and fueling with renewable natural gas (RNG).

Page 17, Section 2015 (p) "ZEV Fleet Recognition"

As we have stated in previous comments, this section should be removed from the regulations because it offers no additional benefit, fails to focus on local deployment, and would unfairly recognize larger fleets over smaller, locally owned, and operated companies.

Page 18, Section 2015.1

It is critical that exemptions and extensions for fleet owners are simple and objective, especially as early adopters will face the most barriers to building out infrastructure and utilizing new ZEV technology.

Page 18-19, Section 2015.1(c)(3) "Infrastructure Construction Delay Extension"

For both model year schedule and the ZEV milestone approach, this extension is entirely insufficient and ignores the real-life implications of building new charging infrastructure and upgrading local grids to handle capacity. Fleets should not be held fully responsible for infrastructure development when the utilities are the determiner of when and how to upgrade local facilities. The delay under this extension must provide the ability to purchase a new ICE vehicle to continue operations when infrastructure is not yet available outside of the fleet owner's control.

Page 19, Section 2015.2 "High Priority and Federal Fleets ZEV Milestones Option"

We appreciate the inclusion that new ICE vehicles purchased pursuant to exemptions of sections 2015.3(b), 2015.3(e), and 2015.3(f)(2) do not need to waive their useful life provision for those vehicles. Still unclear is whether these vehicles are also excluded from the ZEV Milestone Calculation. We support that these vehicles are excluded from this calculation through their useful life.

Page 21 – 22, Section 2015.2(e)(2) "Daily Usage Exemption"

Add the following: Fleet owners shall receive a one-year exemption to purchase a new ICE vehicle and exclude from the ZEV milestone calculation of section 2015.2 if a new ZEV is available, but it cannot be placed anywhere in the California fleet while meeting the daily usage needs of any existing ICE vehicle in the fleet provided the criteria specified in section 2015.3(b) are met.



Page 22, Section 2015.2(e)(4) “Vehicle Delivery Delay Extension”

We appreciate the flexibility offered in this extension, so long as a fleet is making a new ZEV purchase one year in advance of the compliance date for the ICE vehicle being replaced. Similarly, we support a good faith provision in the Infrastructure Construction Delay Extension if fleets are working a year in advance of their compliance date to build the necessary infrastructure to fuel or charge their ZEV vehicles.

Page 22, Section 2015.2(e)(5) “ZEV Unavailability Exemption”

Like many industry stakeholders, we are very concerned about the Executive Officer (EO) having the sole discretion to determine when a vehicle is commercially available, especially since CARB staff have indicated that solid waste collection vehicles are currently commercially available when they are not. Furthermore, there is no distinction between front loader, side loader, rear loader, and transfer truck, all of which fall under the ISOR’s definition of solid waste collection vehicle. Just because one truck can be purchased and maybe even produced, does not mean that this technology is commercially available. We strongly support a more objective and transparent definition that considers, but is not limited to, vehicle cost, vehicle range, vehicle reliability, ability to perform necessary duties on a one-to-one replacement basis as compared to conventional vehicles, infrastructure availability, and the number of vehicle manufacturers and years in operation.

Page 22, Section 2015.2(e)(6) “Exemptions Pursuant to Declared Emergency Events”

While necessary, this section and how it relates to both the Backup Vehicle Extension and Mutual Aid Assistance is unclear and overly complicated. Those fleets operating essential public health services should have increased flexibility to operate available ICE vehicles in case of an emergency.

Page 23, Section 2015.3 High Priority and Federal Fleets Exemptions and Extensions

Strike and add the following: Fleet owners may claim or apply for the following exemptions or extensions ~~if the California fleet complies with the requirements that are in effect, and it would otherwise be impossible to comply with the next upcoming regulation requirement. Fleet owners requesting or utilizing any exemptions or extensions, and must~~ meet applicable reporting and recordkeeping requirements for each exemption or extension...

Page 23, Section 2015.3(a)(1) “Backup Vehicle Exemption”

To provide greater flexibility for our operations, change to: This vehicle is operated less than ~~1000~~ 5000 miles per year...

Page 23, Section 2015.3(b) “Daily Usage Exemption”

This critical exemption adds unnecessary expectations for fleets that may not be ready to move to a ZEV or NZEV that it is conditional on the fleet being at least 10 percent ZEV or NZEV. It also greatly limits the vehicle configuration that can be exempted if it is commercially available as an NZEV or hydrogen fuel cell vehicle. Again, the definition of commercially available becomes critical if, for example, there is a hydrogen fuel cell vehicle technically available, but nowhere available to fuel the vehicle. If a vehicle does not meet daily usage needs, especially for rural fleets, they should have the opportunity to apply for this exemption even if they are not at least 10 percent ZEV or NZEV.



Furthermore, range cannot be the sole determiner of granting this exemption when we know that ZEV ranges are for best-case scenario, flat roads, and moderate temperatures with less payload. We also know that batteries degrade quickly and often should be charged to 80% capacity, not 100%, to prolong battery life. Ranges should be twice what is needed for daily usage to perform necessary duties.

Finally, strike out the following in Section 2015.3(b)(5). ~~The explanation must include a description of why charging or fueling could not be managed during driver rest periods or breaks during the workday.~~ Drivers cannot be expected to charge or fuel vehicles during rest periods or breaks as that would void the break and does not align with California labor laws for rest periods.

Page 25, Section 2015.3(c) "Infrastructure Construction Delay Extension"

As described in a previous section, this extension is entirely inadequate, only providing one year of vehicle delivery delay for one year, one time, per project. If fleets are making a good faith effort to work with their local utilities to build the necessary infrastructure and are delayed for reasons outside of their control, this extension must be extended for the duration of the delay. Countless stakeholders have relayed real-life experience where upgrading transformers or utility connections can take years, at no fault of the fleet operator. Especially for early adopters, this is an essential extension that will protect fleets from potential enforcement when they are making a good faith effort. Instead, early years should focus on supporting fleets and working with the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC) to update facilities and provide reliable fueling infrastructure.

Page 25, Section 2015.3(d) "Vehicle Delivery Delay Extension"

We commend the simplicity of this extension, with clear instructions on how to claim the extension. Based on Section 2015.4(k), the EO would still determine whether to grant a fleet this extension, but it appears with the expectations outlined that any fleet could easily make this claim and be granted an extension, without the subjective opinion of the EO. All exemptions and extensions should model this example for ease of regulatory compliance and execution. There is, however, no provision to purchase an ICE vehicle if a new and immediate vehicle is necessary, which should be added, especially in the case of essential health service provider fleets, such as waste collection.

Page 26-27, Section 2015.3(e) "ZEV Unavailability Exemption"

As mentioned previously this list is at the sole discretion of the EO and does not take into consideration critical performance expectations or verified penetration of the commercial market for certain vehicle configurations.

Shockingly, it also appears that fleet owners must consider moving up a vehicle class if the vehicle they require is unavailable. Where is the consideration of the cost impacts and infrastructure necessary if fleets are forced to move up a vehicle class to meet the expectations of this regulation? In the case of solid waste collection vehicles, Class 8 is as high as we can go, and these trucks simply do not meet required duty cycles for average routes.

Page 28, Section 2015.3(f)(2) "Mutual Aid Assistance"

We remain confused as to how this section aligns with both the Backup Vehicle Exemption and the Declared Emergency Response. Once more, we are also frustrated that this section is conditional on a fleet being at least 75 percent ZEV. How does this protect early adopters who provide emergency support and are equally constrained by infrastructure and vehicle delivery delays?



Page 33, Section 2015.4(g) “Vehicle Delivery Delay Reporting”

Fleet owners utilizing the vehicle delivery delay extension have 30 calendar days to report the delivery of the newly added ZEV or NZEV and then must remove an ICE vehicle from the California fleet or designate it as backup. However, especially with fleets following the ZEV milestones approach, this may not always be necessary and should be stricken from this section: Fleet owners utilizing the vehicle delivery delay extension will have 30 calendar days to report the delivery of the newly added ZEV or NZEV ~~and to either remove the ICE vehicle from the California fleet or to designate it as a backup vehicle.~~

We will describe our unique sector in more detail below, but one critical concern is that we require deployable vehicles with reliable charging. If there are considerable delivery delays or infrastructure delays outside of our control, we need to be able to purchase a vehicle that can operate through its useful life. The extensions and exemptions currently drafted only allow an ICE vehicle to be purchased if it is on the ZEV unavailability list, or if you can obtain a daily mileage exemption. There is no pathway to make a purchase when delivery delays and infrastructure delays occur for an extended time.

Also, we need clarity when discussing percentage of ZEVs in a fleet. To simplify, it should be based on the ZEV Milestone Calculation of Section 2015.2(b), which permits backup vehicles, daily usage exempted vehicles, emergency support vehicles, and unavailable ZEV vehicles to be excluded the percentage calculation. Vehicles that might need to be purchased in the event of serious vehicle or infrastructure delays, should also be excluded.

Like most industry stakeholders, we strongly support an unavailability exemption when vehicle types are not commercially available for the appropriate application. The definition of commercial availability must have parameters that vehicles are sold in substantial quantities in the commercial marketplace and for the required duty-cycle to meet expected performance needs.

On page 4 of the recently released Standardized Regulatory Impact Assessment (SRIA), it states that four refuse models are currently commercially available, which is not an accurate representation of ZEV availability in the refuse market. While there are four manufacturers, Lion, BYD, Peterbilt, and Mack, with Class 8 refuse vehicles¹, these trucks are limited in availability, application, and performance. Furthermore, delivery of vehicles has stalled considerably, with manufacturers unable to provide products for placed orders.

When considering payload and range in the current ZEV refuse vehicle market, we conservatively estimate that two electric trucks are needed to replace one traditional refuse vehicle, especially for early adopters. Estimating that 15,000 refuse vehicles operate in California, and following the ZEV milestone phase-in as proposed, at least 1500 vehicles should be delivered by 2027. However, that number is more accurately represented at 3000 since ZEV refuse vehicles currently perform at a two-to-one ratio, or even less efficiently. The definition of commercial availability must consider how many manufacturers and vehicle units within a given vehicle type are available for purchase and delivery, as well as the performance capacity of those vehicles compared to an ICE vehicle. Infrastructure availability must also be a consideration.

¹ <https://globaldrivetozero.org/tools/zero-emission-technology-inventory/>



The amount of infrastructure necessary to charge heavy-duty vehicle fleets is unprecedented and will require extensive coordination between fleet operators and utility providers, as well as state support and facilitation. In many cases, the utility providers will be the unique determiner of whether a facility can sustain the power needed to charge a heavy-duty fleet.

We understand that CARB is coordinating with sister agencies like CEC and CPUC as we make the transition to fully zero-emission transportation. We cannot stress enough the need for reliable infrastructure to ensure that fleets can make this transition and continue to provide services. The infrastructure construction delay extension included in the draft informal regulatory text is a step in the right direction but is not sufficient to protect the fleets or the communities making the transition to zero-emission transportation.

At the June 23, 2022, CARB monthly meeting, Jill Sherman-Warne, a tribal representative on the Environmental Justice Advisory Committee (EJAC) described how she received a grant to install eight electric charging stations on tribal land, but that they are without power because they must replace two transformers to supply the chargers with the energy needed to utilize them. Instead, the chargers are sitting unused and vandalized. The simple lesson here is that infrastructure remains the most critical element of success and must be prioritized, not serve as a means of penalizing fleets and local communities who are making a good faith effort.

Comments Regarding the Initial Statement of Reasons (ISOR)

One of the biggest concerns facing regulated fleets is whether there will be sufficient infrastructure to fuel heavy-duty vehicles required to be purchased. Knowing the serious challenges and time delays we face today in updating local utilities to meet needed demand, it is difficult to come to the same infrastructure conclusions outlined in the ISOR. From our perspective, the document is brimming with desired and forecasted outcomes that are not grounded in reality.

In addition to the technology itself, the greatest costs in the beginning will be time. We have already heard from industry members who are being told they cannot get the power they require and will have to look at less charging capacity. Or that they will have to wait a considerable amount of time until the neighboring customers also require upgrades, and the utility can justify the investment. The reality is that working with the investor-owned utilities (IOUs), especially in the early years, will be time consuming and costly.

Aside from our infrastructure concerns, we remain adamant that this rulemaking should sync up with our short-lived climate pollutant (SLCP) reduction strategy and provide a short-term, mid-term, and long-term strategy to facilitate this transition. Page 110 of the ISOR speaks to the use of RNG from in-state organic sources and the desire to direct this material towards harder to decarbonize sectors. We need a reliable pathway for this material that does not rely on anticipated projections, and recognition that we achieve carbon negative reductions, by CARB's own life cycle analysis, when using RNG with the lowest emitting vehicle technology.

We are also frustrated how substantiated concerns from our industry have been portrayed in the ISOR. On page 110, the ISOR states, "Both waste and wastewater industries have claimed new source review



requirements are limiting RNG combustion at new onsite electricity generating units.” There is no disputing this limitation, in fact, CARB’s own August 2018 discussion paper, “Composting in California: Addressing Air Quality Permitting and Regulatory Issues for Expanding Infrastructure,” speaks to new source review limitations. This simply reinforces the fact that organic management has not holistically been considered by staff, even though it is a critical element of our SLCP reduction strategy.

Finally, page 258 of the ISOR is staff’s response to an early proposal from the waste and recycling industry to incorporate SB 1383 into the developing ACF. Unfortunately, this does not accurately capture the details of our request, nor our desire to focus on a short- and mid-term strategy as we make the transition to the harder to decarbonize sectors. The fact that staff estimates a potential of 90.6 billion cubic feet of in-state RNG and that half of California’s 15,000 solid waste collection vehicles are fueled by CNG, shows the potential in the near-term as we plan for reliable long-term management of organic waste. By CARB’s own life-cycle analysis, we can achieve carbon negative reductions when we fuel with in-state RNG in our collection fleets. We support the transition to ZEV but are asking for a transition plan for this valuable material and important methane mitigation effort under our SLCP strategy.

The ACF should be synchronized to meet our organic waste and SLCP reduction goals. SLCPs are at least ten times more damaging to the climate than carbon dioxide and reducing them will have the fastest impact on the climate crisis. Per the Scoping Plan Update, “Near-term [organic waste] diversion efforts are critical to avoid locking in future landfill [methane] emissions.”

The statewide SLCP reduction strategy and SB 1383 regulations require local government to procure product made from organic waste, including RNG. To meet this demand, the state continues to invest funds in organic waste recycling and other renewable energy infrastructure that produces RNG. Much of the existing RNG is currently being deployed in the transportation sector. While we support the state’s goal to electrify the transportation sector, there is a need for RNG to remain an option to fulfill local government procurement requirements and ultimately achieve the state’s SLCP reduction strategy. The ACF must incorporate a longer pathway for refuse vehicles fueling with in-state RNG to send a critical market signal to continue our SB 1383 infrastructure development.

Waste Collection is an Essential Public Health Service

If solid waste collection fleets are demonstrating a good faith effort to purchase heavy-duty ZEVs and build the necessary infrastructure, there should be clearer protections if progress outside of their control is not achieved. Furthermore, it must be considered that waste collection serves to protect community health and safety by keeping waste material from inappropriately accumulating and becoming a health hazard.

Like wastewater treatment plants, we provide a critical service of managing waste material that is produced by humans. Garbage, when left to rot in a landfill, produces potent methane emissions. Uncollected food waste sitting in a hot can for over a week produces volatile organic compounds and unpleasant odors. It can also attract flies, rodents, and other vectors, which is why California’s minimum standard for waste collection is every seven days. For waste collection operators, this means they are running refuse trucks every day to collect community waste, and fleet reliability is paramount.



Knowing that we can fuel, and purchase, collection vehicles is crucial to waste collection operations. Several provisions in this regulation give us concern and require changes to support a viable transition to fully ZEV fleets. If due to supply chain issues or IOU restrictions fleets cannot transition as quickly or as early as required, there need to be feasible extensions that support continued operations, especially in the case of public health issues like waste collection.

We kindly request that you consider our comments on the ACF rulemaking and how you will protect fleets making a good faith effort to meet this ambitious regulation. Though the SRIA projects considerable cost savings to California over time, there is no ignoring the lift required to meet this regulation, especially in the early years.

When waste and recycling fleets must purchase additional trucks to perform the same duty cycles as an ICE, that also means they need more infrastructure, more drivers, more insurance, more parking space, and other aspects that have not been fully considered in this regulation. In fact, the ISOR and SRIA both project idealistic outcomes that are not our current reality. The ISOR, for example, speaks to the grid hardening opportunities of bi-lateral charging when waste collection fleets cannot risk being without fuel and unable to perform collection agreements. Meanwhile, there appears to be a downplaying of the grid growth California needs to meet carbon neutrality goals: seven gigawatts of new power year over year for the next 22 years, with one gigawatt equivalent to one nuclear reactor or two average natural gas plants.

If this regulation does indeed fail, as anticipated, it is critical that good faith fleets be able to deploy vehicles and continue providing essential services to their communities. We thank you for your consideration of our comments and recommended changes and we look forward to reviewing the next iteration of regulatory text for the ACF rulemaking.

Sincerely,
Veronica Pardo

A handwritten signature in black ink that reads "Veronica Pardo". The signature is fluid and cursive, with the first name and last name clearly distinguishable.

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