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Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento CA 95812

Submitted Electronically: http://www.arb.ca.gov/lispub/comm/bclist.php

RE: **Proposed Advanced Clean Trucks Regulation**

Dear Chair Nichols and Members of the Board:

The American Trucking Associations (ATA) would like to thank you for the opportunity to comment on the proposed Advanced Clean Trucks Regulation. We would like to acknowledge the efforts of your staff to meet with us to discuss the rulemaking.

Overview

ATA member companies are actively participating in the development, piloting and demonstration of alternative fuel and electric-drive capable vehicles. These companies anticipate these technologies advancing to full commercialization whereby they are cost- and operationally-competitive with traditional internal combustion engines and fuels.

The rule, as proposed, is extremely ambitious. CARB estimates that electric and plug-in hybrid electric cars made up 7.8% of new light-duty sales in 2018[1]. Achieving up to 50% of Class 4-8 vocational and 15% of Class 2b-3/Class 7-8 tractors new sales as electric-drive capable by 2030 will require technology to advance at a pace we have not seen in the light-duty market, where such vehicles have already been commercialized and whose performance expectations are dramatically lower.

Therefore, we urge CARB and the truck manufacturers to work together to foster the advancement of these technologies while harmonizing with CARB and EPA's holistic strategy for heavy-duty trucks and creating incentives to accelerate the commercial development and support for electric-drive capable vehicles. In addition, the Board should recognize the ancillary challenges associated with this rulemaking and make efforts to overcome and/or minimize these challenges, including:

- The likelihood of a low response rate for reporting;
- Additional purchase costs which can more than double the cost of new vehicles;
- More than $8 billion of additional infrastructure deployment needs;
- A steep learning curve for vehicle service and support;
- A secondary market which has not been developed; and
- Concerns about range, reliability and acceptance.

[1] https://ww2.arb.ca.gov/news/sales-electric-cars-breaking-records-california

ATA member companies stand ready to help the Board better understand these challenges and work towards solutions that will further advance the development and deployment of electric-drive capable vehicles. Specific recommendations and challenges are discussed below.

Large Entity Reporting

We would like to support the California Chamber of Commerce coalition comments on the Large Entity Reporting requirements and state that we share their concerns especially pertaining to the need for additional streamlining and clarity surrounding enforcement. We recommend removing Class 8 interstate trucks from reporting and clarifying the outreach and enforcement provisions.

1) The reporting requirements need to be streamlined and should exclude Class 8 trucks registered with the International Registration Plan.

Trucks are registered with the International Registration Plan in order to travel freely among multiple states and/or provinces. As shown in Table 1, IRP-registered trucks that visit California but are not registered in California average from 80,000 to 120,000 miles annually while IRP-trucks registered in California (and travel beyond the state's borders) average from 70,000 to 100,000 miles annually. In comparison, the average usage estimates for battery-electric heavy-duty vehicles receiving funding under the HVIP program is 12,000 miles annually. For the battery-electric drayage trucks receiving funding through the Advance Technology and Demonstration Projects, usage is estimated at 60,000 miles per year.

Table 1. Annual Usage Assumptions

Vehicle Type	Miles/Year
Medium, Heavy-Duty Battery Electric Vehicle[1]	12,000
Heavy, Heavy-Duty Battery Electric Vehicle[1]	12,000
Battery Electric Drayage Truck[1]	60,000
Class 7 – 8 CA IRP[2]	~70,000 – ~100,000
Class 7 – 8 Non-CA IRP[2]	~80,000 - ~120,000

1. California Air Resources Board, *Proposed Fiscal Year 2019-20 Funding Plan for Clean Transportation Incentives For Low Carbon Transportation Investments and the Air Quality Improvement Program, Appendix A: Emission Reductions Quantification Methodology*, pp. A-30 & A-38 (September 20, 2019).
2. California Air Resources Board, *EMFAC202x, An Update to California On-road Mobile Source Emissions Inventory*, Presentation Slide 58 (October 2, 2019).

In addition to range requirements that extend beyond those of the current portfolio of electric vehicles, Class 8 IRP-registered trucks operate at the highest end of allowable vehicle weights, 33,001 to 80,000 lbs. These factors, combined with the need for a nationwide refueling network, make Class 8 IRP-registered trucks unlikely candidates for the state's initial electrification efforts. Excluding these trucks from the reporting requirements will help to reduce the reporting burden and refocus the reporting efforts on vehicles that are more likely candidates for near-term electrification.

2) Procedural aspects of the Large Entity Reporting need to be clarified.

The regulation and staff report do not address how notification and enforcement of the Large Entity Reporting will be conducted. A prior reporting rulemaking for cold storage facilities resulted in an

estimated response rate of less than 3%.[2,3] More recently, a voluntary effort to collect California truck travel data resulted in a reported response rate of 5%.[4] Given these traditionally low reporting response rates, the agency needs to disclose how large entities, many of which do not currently interact with the Board, will be notified of the new reporting requirements.

The likelihood of a low response rate makes it essential the Board identify how enforcement will be conducted and the level of fines that will be associated with non-reporting and/or misreporting. The reporting requirements have the potential to create compliance disparities among the targeted reporting entities. The Board and affected entities need to understand the extent of enforcement resources that will be devoted to the reporting requirements (and possibly away from actual emissions violations) and how the agency's limited enforcement resources will be impacted.

Additional challenges need to be addressed to further advance the electric truck market.

ATA member companies are in the initial stages of evaluating and understanding the role electric trucks may play in their businesses. To date, the availability of electric trucks has been limited. For example, in its 10 years of operation, HVIP has issued 1,777 vouchers for battery electric trucks (class 2b-8). Only 461 (26%) of these trucks have been delivered as of the recent release of the AQIP report.[5] Despite this limited experience, the industry recognizes many of the same challenges that have recently been identified in the Board's Heavy-Duty Investment Strategy. These challenges extend well beyond the sales focus of the Advanced Clean Truck rulemaking and will require additional actions to advance the electric truck market to the levels envisioned by the state. These challenges, as noted in the Investment Plan, include:

Purchase Cost

Perhaps the most recognized barrier to the deployment of advanced technology vehicles is their higher cost compared to their conventional counterparts. For novel, more complicated, or lower volume vehicles, the incremental cost can be even more exaggerated. The cost to purchase and deploy an advanced technology vehicle is greater than just the incremental cost. Fleets pay increased sales tax on a more expensive vehicle and face other costs associated with new technologies, such as training and adapting to new maintenance procedures. In some cases, as shown in Table 2 which illustrates the average voucher cost for battery-electric trucks for FY 2019-2020 for HVIP, the additional purchase cost can more than double the price of a new vehicle.

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[2] California Air Resources Board, *Revised Staff Report: Initial Statement of Reasons for Proposed Rulemaking Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate*, "it is estimated that 2,705 California facilities will be subject to the reporting requirement," p. VIII-12 (October 28, 2003).

[3] California Air Resources Board, *Staff Report: Initial Statement of Reasons for Proposed Rulemaking 2011 Amendments for the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate*, "A total of 80 facilities submitted facility reports." p. B-2 (October 28, 2003).

[4] Eastern Research Group, Inc., *Heavy-Duty Vehicle Accrual Rates - Final Report*, California Air Resources Board (June 14, 2019).

[5] California Air Resources Board, *Proposed Fiscal Year 2019-20 Funding Plan for Clean Transportation Incentives For Low Carbon Transportation Investments and the Air Quality Improvement Program,* p. D-68 (September 20, 2019).

Table 2. HVIP (FY 19-20) Average Incentive Cost[6]

Vehicle Class	Supported Technology	Cost per Technology
Medium Heavy-Duty	Battery Electric	$90,000
Heavy Heavy-Duty		$150,000

Infrastructure

The high costs of infrastructure as an important barrier — particularly for zero-emission technologies — as is the cost of hydrogen and electricity. Fleets face uncertainty on charging connection standards, which complicates deployment timing and future fleet expansion. Scaling infrastructure raises more problems with available space and the extensive subterranean work required. Once infrastructure is in, fleets in many parts of the state have uncertain electricity costs and fuel cell fleets are forced to absorb very high hydrogen costs.

CARB's analysis of the value of the infrastructure needed to support the commercial vehicles deployed with HVIP incentives is presented in Table 3. Extrapolating the average cost per vehicle ($34,904) from this analysis to the more than 232,000 zero-emission vehicles expected to be operating on California roadways as a result of the ACT regulation equates to more than $8 billion of additional infrastructure deployment needs.[7] It is likely that this figure will ultimately be much higher as the cited cost estimates tend to be from smaller scale, more cost-effective projects not requiring significant upstream or on-site changes (e.g. on-site storage or back-up generation).

Table 3. HVIP-Associated Infrastructure Valuation[8]

Vehicle (Class)	Technology	# Vouchers Issued	Average Cost per Vehicle for Infrastructure[a]	Estimated Value of Infrastructure Needed
Truck (2B – 3)	Battery Electric	111	$25,000[b]	$2,775,000
Truck (4 - 5)		1,278	$25,000[b]	$31,950,000
Truck (6 -7)		256	$52,500[c]	$13,400,000
Truck (8)		132	$105,000[d]	$13,860,000
Totals		1,777		$61,985,000

[a] Includes charger/equipment, installation, construction, and utility upgrades.
[b] Pacific Gas & Electric. A.17-01-020 Electric Vehicle Infrastructure and Education Senate Bill 350 Transportation Electrification Program Application Prepared Testimony.
[c] Class 6-7 trucks are assumed to use the same infrastructure as a class 8 truck but would be able to share the charger with another class 6-7 truck; as a result, their infrastructure costs are half that of a class 8 truck.
[d] CARB. Innovative Clean Transit Rulemaking, Initial Statement of Reasons. Charging needs for class 8 are assumed to be similar to those for transit bus.

[6] Ibid, p. A-34.
[7] California Air Resources Board, *Public Hearing to Consider the Proposed Advanced Clean Trucks Regulation Staff Report: Initial Statement of Reasons, Appendix F: Emissions Inventory Methods and Results for the Proposed Advanced Clean Trucks Regulation*, p. 7 (October 22, 2019).
[8] California Air Resources Board, *Proposed Fiscal Year 2019-20 Funding Plan for Clean Transportation Incentives For Low Carbon Transportation Investments and the Air Quality Improvement Program,* p. D-69 (September 20, 2019).

Furthermore, the trucking industry has a well-established understanding of existing fueling suppliers. Increasing utility interaction as electric-capable vehicles scale to the levels envisioned in the ACT rulemaking will result in identification of potential misalignments between utility policy and regulation and fleet operations. Ensuring that the policy discussions occur to work through these issues will be vital to the ultimate success of the ACT.

Service and Support

Beyond deploying vehicles and infrastructure, fleets are tasked with maintaining their vehicles. Advanced technology vehicles present a steep learning curve and fleet managers are finding a dearth of qualified technicians.

Secondary Market

In the trucking space, many companies count on a secondary market to recuperate value from the vehicle. A large portion of the industry counts on these cheaper vehicles for their operations. Secondary markets are not yet developed for zero-emission trucks.

Range Anxiety, Reliability and Consumer Confidence

Addressing range anxiety, reliability and making users more comfortable with new technology is critical to breaking into new market segments that are generally more hesitant.

We appreciate the Board's consideration of our recommendations and the many challenges associated with the deployment of electric-drive capable commercial vehicles. We look forward to continuing to work with CARB staff and the Board as we move through this rulemaking.

Respectfully,

Michael Tunnell
Director, Energy and Environmental Affairs
American Trucking Associations