May 28, 2020

California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Proposed Amendments to the Proposed Advanced Clean Truck Regulation

Dear Board Members and Staff

Introduction

The Volvo Group appreciates the opportunity to comment on the Advanced Clean Trucks (ACT) proposal by the California Air Resources Board. We support CARB's interest in reducing greenhouse gas and NOx emissions in the state of California as well as the desire to accelerate the introduction of Heavy-Duty Zero Emission Vehicles (HD ZEVs) in the marketplace as a means of achieving its goals. With the launch of the CARB-funded Volvo LIGHTS project, we have announced our intention to bring ZE trucks to the market and intend to honor that commitment despite the negative market consequences we've experienced in the wake of the COVID-19 pandemic.

However, as noted in our comments to the Initial Statement of Reasons and Regulation order as presented to the Board in December[1], we continue to fear that the rule as proposed in the 15-day notice will undermine the realization of these goals, resulting in negative economic and environmental impacts for the state of California.

In order to maximize the potential for the ACT rule to be successful the Volvo Group requests the following necessary modifications:

- Purchase incentives must be available at the levels necessary to meet annual sales volume requirements. Incentives for infrastructure and actual infrastructure installations must also match the volume requirements. Manufacturers should not be held non-compliant for not reaching vehicle sales totals beyond those for which vehicle incentive funding and charging infrastructure is available.

- CARB should revert to its original strategy that the manufacturer sales mandate be considered a "floor," while the forthcoming fleet purchase mandates are the goal.

- CARB needs to minimize risk to manufacturers based on their sales mixes in California by reducing penetration levels and allowing for credit movement into the tractor category.

[1] https://www.arb.ca.gov/lists/com-attach/74-act2019-WjtXMgZzWFQCZ1I9.docx u

- Time to make up annual credit deficits should align with the three year interval in the Heavy-Duty Greenhouse Gas regulation. .

The Volvo Group believes these corrections are fundamental to the ACT's success.

Allowances for volume requirements exceeding infrastructure and purchase incentive investment and deployment

The Volvo Group believes that there will be significant challenges in California's move to develop a self-sustaining HD ZEV market that leads to full electrification of freight and goods movement by 2045. Issues of particular concern include:

- build-out of sufficient charging infrastructure to meet the required annual mandated sales volume, and
- higher total cost of operation (TCO) for ZEVs relative to ICE-powered vehicles based on actual fleet in-use data and including infrastructure costs.

Given the long lead times seen in infrastructure installation (prior to the pandemic shutdowns) and the near instantaneous over-subscription of the FY19-20 HVIP funds, the Volvo Group believes a provision must be included in the ACT to exempt manufacturers from mandated sales that exceed infrastructure build-out and purchase incentive availability. Purchase incentives must be available until such time as HD ZEV actual in-use total costs of operation have reached parity with ICE-powered vehicles. Additionally, since ZEV vehicles cannot operate without infrastructure investment, it must be included in the TCO calculation.

Technical corrections

The Volvo Group recommends the following changes in order to provide OEMs a level playing field and the possibility of meeting the ACT requirements without dependence on the purchase of credits which could prove extremely limited. All three recommendations will be necessary to mitigate the significant risk faced by regulated manufacturers.

<u>Required sales percentages could threaten overall business viability for OEMs in California</u>

Heavy-duty vehicle manufacturers with low market share in segments that are better suited for electrification face higher risk of non-compliance with the ACT rule. Increasing sales requirements further increases this risk. For example, approximately 90% of California sales for the Volvo Group's Volvo and Mack truck brands are Class 7 and 8 tractors, of which nearly 80% are long-haul tractors unsuitable for electrification. Since long-haul vehicles have little chance of being ZEVs in the early years after the regulation's adoption, the Volvo Group would need to sell 100% of its California regional haul tractors as ZEVs by 2027. Since other products may also be less suited for electrification, the company could face the need to restrict its long-haul sales in California, and make it an uncompetitive market for the Volvo Group.

For this reason, the Volvo Group requests that CARB revert back to the strategy verbalized by CARB Heavy Duty Diesel Implementation Branch Chief Tony Brasil at the August 2019 Workshop, that the ACT rule percentages would serve as a “floor,” with the corresponding fleet rules representing ARB’s goal. This strategy would be in line with the ACT’s originally stated purpose of bringing large HD manufacturers into the zero-emission truck market and the fleet rule’s intention of maximizing the number of ZEVs deployed.

<u>Restrictions against credit movement into tractor category should be removed</u>
Even at the levels in the March proposal, it would be necessary to allow for movement of credits into the tractor category to make up possible deficits.

While it is understood that CARB wants to ensure a smooth transition to ZEV tractors beginning in 2024 and growing significantly over time, the current lack of feasibility for ZEVs in trucks driving longer daily ranges makes this challenging for an OEM like Volvo whose product mix leans heavily towards fleets requiring longer daily ranges. To address this Volvo has suggested CARB adopt a strategy which would cap credit movement into the tractor category at 90% in 2024 and decrease over time such that in model year 2031 the manufacturer would be required to sell their full tractor ZEV requirement. The proposed strategy would still allow OEMs with a very small number of tractor sales in CA to transfer in enough credits to cover an end of year deficit of 10 tractors from model year 2031.

<u>Time to make up annual deficits must be extended</u>
The ACT currently aligns with the CARB LD ZEV rule and provides one year to make up an annual credit deficit. Due to the cyclical nature of the trucking business and the potential for unforeseen drastic reductions in heavy duty vehicle sales from year to year, the Volvo Group urges CARB to provide additional time to make up annual credit deficits by aligning with the Heavy-Duty Greenhouse Gas regulation’s timeframe of three years.

When this proposal was previously suggested, CARB staff expressed fears that it would delay manufacturers’ commercial ZEV introductions by three years. Nevertheless, the Volvo Group maintains that the large number of commercial ZEV demonstrations and product launches announced over the last two years mitigates this concern.

In response to CARB’s concern, the Volvo Group proposed an alternative allowing a one year makeup period from model years 2024 through 2026, and then allowing for three years from model year 2027; yet this proposal was also rejected. At a minimum, this proposal would mitigate some of the risk to manufacturers in the later years as volume requirements increase.

The Volvo Group reiterates its request to align the ACT model year deficit makeup period with the HD Greenhouse Gas regulation, preferably for three years, but at a minimum beginning in 2027.

Support for EMA comments

The Volvo Group supports the comments of the Truck and Engine Manufacturers' Association (EMA) except where they expressly conflict with this document.

About the Volvo Group

The Volvo Group is one of the world's leading manufacturers of trucks, buses, construction equipment and marine and industrial engines. The Group also provides complete solutions for financing and service. The Volvo Group, which employs some 100,000 people worldwide, has production facilities in 19 countries and sells products in more than 190 markets. In the United States, the Volvo Group employs more than 12,000 people and has eleven manufacturing plants in six states.

In California, the Volvo Group and its dealers employ more than 1,000 people with locations in Mountain View, Costa Mesa, Corona, Haywood, Fontana, Oakland, West Sacramento, Stockton, Fresno, Redding, Paso Robles, Bakersfield and La Mirada. The Volvo Group is the only major truck manufacturer that produces all of its vehicles for the North American market in the U.S.

Respectfully Submitted,

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