May 28, 2020

Clerk of the Board
California Air Resources Board (CARB)
1001 I Street
Sacramento, CA 95814

**Re: Support for a Strengthened Advanced Clean Truck Rule**

Chair Nichols and Members of the Board:

Tesla is pleased to submit this letter in support of the proposed revisions that strengthen the Advanced Clean Truck (ACT) Rule. This rule will play an invaluable role in ensuring sustained and systematic progress in transitioning California's medium and heavy-duty vehicles to zero emission technologies. Such a transition is fundamental to the state's goals of reducing its contributions to climate change, improving air quality, and enhancing public health and the quality of life for all Californians.

We appreciate CARB Staff's thoughtful consideration of the issues we raised in comments submitted last December. In particular, we want to underscore our support for the proposed increase in the stringency of the compliance obligation generally, as well as for the elimination of the exemption previously extended to Class 2b-3 pickup trucks under which manufacturers of these vehicles would have no compliance obligation until Model Year 2027. Staff's revised targets are achievable and set an important signal for industry and consumers.

We fully expect that CARB will face considerable pressure from those arguing that these rules, as modified, go too far too soon. Tesla offers these comments as a counterweight to the various arguments that we can anticipate detractors making, none of which hold up under any reasonable scrutiny. We also request additional enhancements that should be incorporated into the final rule to ensure its success.

**Consumer Demand for Zero Emission Medium and Heavy-Duty Vehicles is Strong**

The revisions to the ACT rule, including the removal of the exemption of Class 2b-3 pickup trucks from any obligation until Model Year 2027, and the more stringent and extended compliance schedule more generally, are reasonable given the level of demand that can be observed in the marketplace. On the heavy-duty side, since unveiling the Tesla Semi in late 2017, a significant number of fleets with substantial freight needs have placed reservations for the truck, indicating broad industry demand for heavy-duty electric vehicles. These fleets will be deploying the Tesla Semi in a wide range of applications, including but not limited to: manufacturing, retail, grocery and food distribution, package delivery, dedicated trucking, rental services, intermodal, drayage, and other applications. Companies with operations

throughout North America representing every major trucking sector and category of the economy have reserved the Tesla Semi, ranging from food service to logistics to retail.

The reason for this strong interest is clear – the economics of electrified heavy-duty vehicles are incredibly compelling for end-users. We estimate that the time to recoup the investment in a Tesla Semi, given the operational savings it will provide customers compared to a conventional class 8 truck, will be approximately two to three years. Tesla further notes that complementary programs, like the Low Carbon Fuel Standard, further enhance the economics of zero emission heavy-duty vehicles by reducing fueling costs relative to a conventional diesel vehicle.

Tesla has also seen strong interest in electric pickup trucks. Within the week after unveiling the Tesla Cybertruck, Tesla received more than 250,000 pre-orders, which continue to grow. With an expected towing capacity of 7,500 – 14,000 lbs, Tesla anticipates that the Cybertruck will qualify as a Class 2b-3 medium-duty vehicle. We currently expect production of the Cybertruck to begin in 2021. There has also been considerable reported interest in offerings of other manufacturers in this vehicle category.[1]

**The Availability of Zero Emission Medium and Heavy-Duty Vehicles is Expanding**

Tesla currently anticipates Tesla Semi showing up on California roads in 2021. However, as mentioned, Tesla is not alone in its efforts to manufacturer electrified medium and heavy-duty vehicles, with several other major manufacturers announcing plans to make zero emission Class 8 trucks.[2,3]

A similar picture emerges in the context of electric pick-up trucks, with a number of major and new automakers unveiling plans to manufacture these vehicles.[4] Tesla anticipates that most – if not all – of these offerings would fall within the Class 2b-3 class.

Strong consumer demand helps drive investments from auto manufacturers; however, strong regulations that set a clear direction for industry, such as the Zero Emission Vehicle (ZEV) mandates, accelerate the pace of innovation and ensure the industry actually makes these vehicles available to consumers. With growing demand and wide availability, supported by a strong regulatory framework, the broader industry could easily exceed the targets in the rule.

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[1] "Seven Future Electric Pickups Trucks. Maybe." John Voelcker, Charged, May 13, 2020. https://chargedevs.com/features/seven-future-electric-pickup-trucks-maybe/

[2] "8 electric truck and van companies to watch in 2020" Shane Downing, GreenBiz, January 13, 2020. https://www.greenbiz.com/article/8-electric-truck-and-van-companies-watch-2020

[3] "Big Rigs Begin to Trade Diesel for Electric Motors", Susan Carpenter, New York Times, March 19, 2020; https://www.nytimes.com/2020/03/19/business/electric-semi-trucks-big-rigs.html

[4] "Top 10 Most Anticipated Electric Pickup Trucks Presented by Fully Charged", Mark Kane, InsideEVs, May 27, 2020. https://insideevs.com/news/425646/top10-most-anticipated-pickup-trucks-fully-charged/?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+InsideEvs+%28Inside+EVs%29

**Significant Efforts are Underway to Deploy Necessary Charging Infrastructure**

California has recognized that investment in charging infrastructure will be a key component to achieving the state's ZEV targets. These investments are necessary in the light, medium and heavy-duty sector. Currently, there are a number of efforts underway in the state to expand infrastructure access for medium and heavy-duty vehicles. This includes investment via the investor-owned utilities' medium and heavy-duty infrastructure programs, which will provide over $686 million in funding over the next five years.[5] Additionally, in its draft FY 2020-23 Clean Transportation Program investment plan update, the California Energy Commission (CEC) has identified $134.8 million in funding for medium and heavy-duty infrastructure.[6] In April 2020, the CEC also released a draft concept for a $50 million Block Grant for Medium- and Heavy-Duty Zero-Emission Vehicle Infrastructure Incentive Projects.[7] Finally, under the CA Beneficiary Mitigation Plan for the VW Settlement Funds per Appendix D, infrastructure funding for heavy-duty vehicles is incorporated in the total funding amount. The total funding for Zero-Emission Class 8 Freight and Port Drayage Trucks is $90 million and funding in the first year will be up to $200,000 per truck.[8] These efforts are just a few examples of the state's strong commitment to providing the infrastructure necessary to serve medium and heavy-duty EVs over the next several years.

**The COVID-19 Crisis Underscores the Need to Transition Away from Fossil Fuels**

The coronavirus pandemic and its disproportionate impacts on vulnerable communities highlights the profound public health interest that underpins the state's efforts to transition away from fossil fuels. Emissions from vehicles, including medium and heavy-duty vehicles, disproportionately fall on low income communities and communities of color.[9] This in turn contributes to health outcomes that are demonstrably worse for these communities. These adverse health outcomes have been further compounded by the current pandemic, given the clear evidence that those with underlying health conditions are particularly vulnerable to the

[5] PG&E is authorized to spend $236 million, SCE is authorized to spend $343 million and SDG&E is authorized to spend $107 million on charging infrastructure for medium and heavy-duty.
[6] 2020-2023 Investment Plan Update for the Clean Transportation Program, Draft Staff Report, March 2020. Available at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-ALT-01
[7] https://www.energy.ca.gov/event/webinar/2020-04/staff-webinar-discuss-two-draft-solicitation-concepts-heavy-duty-zero
[8] Beneficiary Mitigation Plan, June 2018, p.16, p.24. Available at: https://ww2.arb.ca.gov/sites/default/files/2018-07/bmp_june2018.pdf
[9] "Inequitable Exposure to Air Pollution from Vehicles in California"; Union of Concerned Scientists; January 28, 2019. https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019

virus.[10,11,12] While some will seek to use the current crisis as a pretext to delay or to scale back action, if anything it reinforces the case for aggressive, immediate action to improve public health.

**Minor Adjustments to the Current Draft Can Increase the Rule's Effectiveness and Impact**

In addition to maintaining the increased stringency of the proposed rule, Tesla recommends the following modifications or clarifications to the current draft to increase the rule's impact and effectiveness.

1. Per Section 1963.5(a)(4), the penalty calculation divides a manufacturer's outstanding deficit by two, effectively halving the financial impact of non-compliance. In other words, a manufacturer has half the financial incentive to comply with this rule. To maintain the stringency and the integrity of the standards, the penalty must be based on the manufacturer's actual outstanding deficit. Staff should also clarify that paying the penalty does not supplant the requirement to satisfy the compliance obligation with credits.
2. In Section 1963.3(c)(2), Staff has revised the credit retirement order to preference Near-zero-emission vehicle (NZEV) credits over ZEV credits for different weight class groups. There should be no preferential treatment for NZEV credits when the emissions profile of these vehicles are actually worse than that of ZEVs. This change increases complexity, which often leads to market distortions. Manufacturers should have flexibility to retire either ZEV or NZEV credits within the relevant weight class groups. If Staff's intent is to limit the timeframe that NZEV credits can be used, modifying the expiration date of NZEV credits would be a more effective approach.
3. Tesla supports provisions to prevent double counting of Class 2b-3 ZEV and NZEV vehicles for crediting under the ACT and California's light-duty ZEV program (13 CCR section 1962.2), and Tesla supports ongoing credit generation throughout the model year in the ACT (defined as "when a new on-road vehicle is sold to the ultimate purchaser in California" in Section 1963.2(a)). Tesla would appreciate clarification that manufacturers have the flexibility to choose the program in which to generate credits throughout the year. Manufacturers would then confirm the final vehicles through the annual declaration process outlined in Section 1963.4(c).

For all of the reasons discussed herein, Tesla strongly supports the proposed revisions to strengthen the Advanced Clean Truck Rule. It is both timely and appropriate given the current

[10] "People Who are at Higher Risk for Severe Illness" Centers for Disease Control, https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html

[11] "Low-Income and Communities of Color at Higher Risk of Serious Illness if Infected with Coronavirus"; Wyatt Koma, Samantha Artiga, Tricia Neuman, Gary Claxton, Matthew Rae, Jennifer Kates, and Josh Michaud; Kaiser Family Foundation; May 7, 2020. https://www.kff.org/coronavirus-covid-19/issue-brief/low-income-and-communities-of-color-at-higher-risk-of-serious-illness-if-infected-with-coronavirus/

[12] "Coronavirus Compounds Challenges for Low-Income Communities and Communities of Color"; Federal Reserve Bank of San Francisco; April 24, 2020. https://www.frbsf.org/our-district/about/sf-fed-blog/covid19-coronavirus-low-income-disproportionate-impact-communities-color/

trends in the market. Tesla appreciates CARB's leadership in this area, something that is critically needed not only for California, but for the rest of the country as well, given the fundamental role the state plays in driving adoption of more stringent emission standards nationally and globally. It is critical that CARB maintains strong targets and minimizes off-ramps that weaken the rule's impact in California and in other states that adopt similar rules to spur the development, adoption and availability of zero-emission medium and heavy-duty vehicles.

Thank you for your consideration.

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