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Submitted via Electronic Mail

Lynne Cayting
Maine Department of Environmental Protection
Bureau of Air Quality
17 State House Station
Augusta, Maine 04333

RE: Comment on Chapter 128, Advanced Clean Trucks Program

Dear Ms. Cayting,

Tesla, Inc. (Tesla) submits the following comments in response to Maine's Department of Environmental Protection Routine Technical Rulemaking on Chapter 128, Advanced Clean Truck Program proposal.

Introduction

Tesla's mission is to accelerate the world's transition to sustainable energy. Moreover, Tesla believes the world will not be able to solve the climate change crisis without directly reducing air pollutant emissions—including carbon dioxide (CO2) and other GHGs—from the transportation and power sectors.

To accomplish its mission, Tesla designs, develops, manufactures, and sells high-performance fully electric vehicles and energy generation and storage systems, and installs, and maintains such systems. Tesla currently produces and sells four fully electric, zero emissions vehicles (ZEVs): The Model S sedan, the Model X sport utility vehicle (SUV), the Model 3 sedan, and the Model Y mid-sized SUV. Tesla is also planning to launch a medium duty pickup truck, the Cybertruck, and a Class 8 heavy-duty vehicle, the Tesla Semi. With two models with ranges of 300 and 500 miles respectively, the Tesla Semi will demonstrate that an all-electric truck can meet virtually any truck duty cycle when paired with the megawatt charging system that Tesla and the industry is developing. We anticipate the base prices to start at $150,000 and $180,000 for the 300 and 500-mile range variants respectively.[1]

Tesla is pleased to submit this letter in strong support of Maine adopting the Advanced Clean Truck (ACT) Rule. This rule will play an invaluable role in ensuring sustained and systematic progress in transitioning Maine's medium and heavy-duty vehicles to zero emission technologies. Such a transition is fundamental to the state's goals for reducing its contributions to climate change, improving air quality, increasing the adoption of electric vehicles, and enhancing public health and quality of life. The "Maine Won't Wait" Climate Action Plan highlighted the importance of Maine aggressively decarbonizing its

[1] https://www.tesla.com/semi

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transportation sector which makes up 54% of the state's greenhouse gas emissions.[2] The Climate Action Plan calls for 12% of new heavy-duty vehicle sales to be zero-emission vehicles by 2025, increasing to 55% by 2030 and finally 100% by 2050.[3] In order to have any chance of meeting these goals, truck operators in Maine will have to have access to the newest models of zero emissions trucks in all classes on the market and the ACT is the key regulatory tool to make sure that these advanced vehicles are available to Maine's truck operators. Rather than push sales out of the state, the ACT rule will encourage electric truck manufacturers to focus more time, energy, and resources on selling trucks to operators in the state. This will not only help to accelerate the adoption of these trucks but will ensure that there is ample supply of electric trucks of all classes available for truck operators in Maine. And of course, most importantly, this effort will reduce harmful tailpipe emissions in the state significantly. Given the emissions profile of diesel trucks, the ACT will have a dramatic positive impact both on reducing GHG emissions and criteria air pollution, particularly in disadvantaged and low-income communities that traditional have borne the brunt of diesel pollution and adverse climate impacts. As one of the first states to adopt the rule, Maine would be among the first to realize the enormous benefits from the deployment of medium and heavy duty zero emission vehicles.

We appreciate and support Governor Mills's signing of the multi-state memorandum of understanding (MOU) with 14 other states and the District of Columbia to zero-out emissions from new medium- and heavy-duty trucks and buses by 2050. The Rhodium Group in a recent analysis found that the MOU "would reduce US oil demand by 138 to 144 million barrels cumulatively by 2035, depending on the pace of future economic recovery. Its impact grows substantially over time as the stock of medium and heavy-duty trucks turns over, resulting in a cumulative reduction of 709 to 740 million barrels by 2045. If the MOU were expanded nationally, the impact would increase six-fold."[4] This reduced oil demand would lead to drastic reductions in GHG emissions from the transportation sector. "The current MOU could reduce 277 to 289 MMT CO2 by 2045, on a cumulative basis, and reduce annual GHG emissions from medium and heavy-duty trucks by 11 MMT or 1% of US truck emissions in 2035, and 35 MMT or 2% of total US truck emissions in 2045. Expanding the MOU nationally has the potential to completely transform the US medium and heavy-duty fleet, which would be more than half electric by 2045. This would result in an estimated 1.8 to 1.9 billion metric tons of cumulative emissions reductions by 2045, and annual GHG emission reductions of 70 MMT or 5% of US truck emissions in 2035, climbing to 252 MMT or an 18% reduction in US truck emissions in 2045, relative to the baseline."[5] While the MOU is important, it will do nothing to reduce emissions unless the signatories to the MOU actually

[2] https://www.maine.gov/future/sites/maine.gov.future/files/inline-files/MaineWontWait_December2020.pdf
[3] Id. at 107.
[4] https://rhg.com/research/states-zero-emission-vehicles/
[5] *Ibid.*

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enact the recommended actions found therein. The ACT Rule is an essential step forward to seeing actual emissions reductions in Maine.

Tesla offers the following additional comments regarding both supply and demand of zero emission trucks.

Consumer Demand for Zero Emission Medium and Heavy-Duty Vehicles is Strong
The ACT rule is 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. Tesla estimates that the time to recoup the investment in a Tesla Semi, given the operational savings it provides customers compared to a conventional class 8 truck, will be approximately two to three years (class 8 diesel trucks have a 15 year average lifetime). With the per mile operational costs being so much cheaper than diesel trucks, economic minded operators will maximize the use of their electric trucks and quickly expand the number of electric trucks in their fleets.

The Availability of Zero Emission Medium and Heavy-Duty Vehicles is Expanding
Tesla is not alone in its efforts to manufacture electrified medium and heavy-duty vehicles, with several other major manufacturers announcing plans to make zero emission Class 8 trucks.[6][7] A similar picture emerges in the context of electric pick-up trucks, with a number of major legacy and new automakers unveiling plans to manufacture electric pick-up trucks.[8][9] Tesla anticipates that most – if not all – of these offerings would fall within the Class 2b-3 class. According to a recent report from CalStart,[10] last year there were 95 models of zero emission medium and heavy-duty vehicle models in commercial production, and that number is set to increase by nearly 78% to 169 models by the end of this year.

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[6] "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
[7] "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
[8] *Id.*
[9] https://www.ford.com/trucks/f150/f150-lightning/2022/
[10] https://calstart.org/zero-emission-model-numbers-expected-double-2023/

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Strong consumer demand helps drive investments from vehicle manufacturers. Yet, strong regulations that set a clear direction for industry, such as the ACT rule, accelerate the pace of innovation and ensure the industry makes these vehicles available to consumers. As has been the case with the ZEV regulations on light-duty vehicles, EV model availability and supply is significantly more robust in states that adopted the ZEV rule, than in those that did not. In a similar vein, states that adopt the ACT should see more electric trucks models available to operators in those states compared to those states that do not put a regulatory scheme in place. With growing demand and wide availability, supported by a strong regulatory framework, the broader industry could easily exceed the targets in the rule, giving momentum towards meeting state emission reduction goals.

Conclusion

For all the reasons discussed herein, Tesla strongly supports the adoption of the Advanced Clean Truck Rule in Maine. It is critical that other states quickly join California in enacting manufacturer sales targets for medium and heavy duty zero emission trucks. This action is both timely and appropriate given the current trends in the market and will support Maine's goals for transportation electrification.

Respectfully submitted November 13, 2021.

Zachary Kahn
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