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From: Joseph Mendelson
Sent: Fri 11/10/2017 6:21:06 PM
Subject: Tesla MTE Comments
Tesla Final MTE Reconsideration Comments 10.5.17.pdf

Hi Samantha & Brittany –

Thanks for meeting with us as part of the NCAT group last week. As promised, I wanted to follow up by sending a copy of Tesla's comments filed as part of the reconsideration of the Mid-Term Evaluation.

Happy to discuss any aspect of the comments as interested.

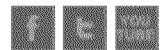
My best,

Joe

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October 5, 2017

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Submitted electronically via the Federal e-Rulemaking Portal at:

<http://www.regulations.gov>

Docket ID No. EPA-HQ-OAR-2015-0827

Docket ID No. NHTSA 2016-0068

To Whom It May Concern:

Pursuant to the Department of Transportation, National Highway Traffic Safety Administration (DOT or NHTSA) and Environmental Protection Agency's (EPA) "Request for Comment on Reconsideration of the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles; Request for Comment on Model Year 2021 Greenhouse Gas Emissions Standards," 82 *Federal Register* 39551 (August 21, 2017), Tesla submits the following comments. These comments supplement Tesla's previously submitted comments of November 11, 2016.¹

Tesla believes the current greenhouse gas and fuel economy standards (Light-Duty Standards) are a bare minimum and can easily be met with only small increases in the efficiency of fossil fuel engines. As the EPA's January 2017 "Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation" (January 2017 MTE) properly concluded, a thorough analysis of existing vehicle technologies "remains consistent with the key conclusions reached in the 2012 FRM: there are multiple compliance paths based chiefly on deployment of advanced gasoline engine technologies with minimal needed penetration of strong hybrid or full electric vehicles, projected per vehicle costs are lower than in the 2012 FRM, and the cost of the lower emitting technology is fully paid back by the associated fuel savings."² This conclusion remains consistent with recent technological developments and automotive industry trends.

The January MTE also found "that very low levels of strong hybrids and electric vehicles (both plug-in hybrid electric vehicles (PHEV) and electric vehicles (EV)) will be needed to meet the standards."³

¹ Tesla also incorporates by reference comments submitted by the National Coalition for Advanced Transportation.

² See [January MTE Review](#) at 23-24.

³ See [January MTE Review](#) at 7.

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Since this conclusion was reached, it has become even clearer that the U.S. and world auto markets stand on the verge of significant electrification, and new electric vehicle developments make the existing standards look pathetically low.

As described below, Tesla's performance in the marketplace has shown that consumers want electric vehicles and choose them over vehicles in the same vehicle class. This consumer demand is driving significant new investment in domestic EV manufacturing. As the leading domestic manufacturer of advanced electric vehicles and batteries, Tesla has shown that investment in a new manufacturing ecosystem of supply chain, components, and infrastructure supporting the electrification of the light-duty vehicle sector yields significant downstream economic benefits to the country.

Stronger standards are necessary to support continued job growth, to save lives, and to ensure that automakers make investments in a cleaner transportation future for America. Nothing in the record supports EPA and DOT weakening the current standards. Ultimately, advances in electric vehicle technology compel the agencies to strengthen the existing Light-Duty Standards in EPA and NHTSA's reconsideration. Moreover, there is no basis in law or in fact for EPA to have revoked its Final Determination on the Mid-Term Evaluation or that warrants reconsidering its findings. Indeed, as EPA's regulations make plain, EPA may only depart from its existing regulatory approach if there is a compelling reason to do so.

Regulatory certainty in these standards has contributed to billions of dollars in investments by Tesla and many other companies involved in clean transportation. Given this investment, EPA and DOT must present a "more substantial justification" for changing course – particularly with respect to the suggestion that the agencies may open the 2021 standards – something for which there simply is no basis.⁴ Manufacturers continue to depend upon and benefit from One National Program, as recognized in the Mid-Term Evaluation criteria and the threat of EPA and DOT's departure from that would create needless investment uncertainty.

I. Strong Standards Promote Significant Investment in Domestic Manufacturing and Job Creation

a. *Tesla's Direct Investment in Manufacturing*

The determination and long-term implementation of the current Light-Duty Standards has driven significant new investment in domestic manufacturing of new and innovative vehicles. Tesla is the perfect example of how the standards have created a stable environment to invest in new domestic automobile technologies and innovations, demonstrating American technological and manufacturing leadership. Since 2008, Tesla has made over \$6.0B of total capital investment in the U.S. In 2016 alone, Tesla made \$2.5B in direct investment in the U.S., excluding new investments around its solar installation and manufacturing business. This investment has supported significant new job growth within the automotive sector exemplified by Tesla's growth to over 29,000 employees in the U.S. with an annual payroll of over \$2.0B.

b. *The Impacts of Tesla's Manufacturing Supply Chain*

Tesla's direct investment is only part of the equation. Tesla's manufacturing provides significant other economic benefits to the country. Its vehicle manufacturing supports a significant number of other businesses and their accompanying workforces. Adding in its supply chain, Tesla has created close

to 80,000 direct and indirect jobs. In 2016, Tesla used 337 U.S. suppliers with a total spend of over \$1.3B.⁵ Halfway through 2017, it has used 341 U.S. suppliers with an accumulated spend of \$643M.

c. Tesla's Investment in New U.S. Charging Infrastructure Continues to Rapidly Expand

The economic value of the Light-Duty Standards goes well beyond investment in the U.S. electric vehicle manufacturing sector and supply chain. Tesla's significant infrastructure investment, development, and deployment have provided additional substantial economic benefits accompanying compliance with the Light-Duty Standards.

Tesla has outspent the rest of the auto industry combined on charging infrastructure. Since 2012, Tesla has invested heavily in siting, building, and operating electric vehicle charging infrastructure. In 2013, Tesla had 8 Supercharger Stations in North America. As of September 2017, this global network has grown to include over 1,000 Supercharger Stations with more than 6,500 individual chargers. It also includes a network of more than 9,000 Destination Charging connectors that replicate the convenience of home charging by providing hotels, resorts, and restaurants with Tesla Wall Connectors. In North America, Tesla plans to increase the number of Superchargers by 150 percent, and in California alone we'll add more than 1,000 Superchargers by the end of 2018.

II. Since the Completion of the January 2017 Mid-term Evaluation, Tesla Continues to Expand and Hit Milestones that Support Widespread Consumer Acceptance of Electric Vehicles

Consumer acceptance of electric vehicles continues to grow rapidly. As the International Energy Agency has found, the number of electric vehicles on the road has grown to 2 million in 2016 after being virtually non-existent just five years ago.⁶ Tesla's performance in the U.S. marketplace demonstrates how rapid consumer adoption is occurring.

a. Tesla's Model S Sales Directly Demonstrate Consumer Preference for Electric Vehicles

Tesla's sales figures provide a real-world demonstration of consumer acceptance and preference for electric vehicles over comparable internal combustion vehicles. Tesla vehicles are the most advanced cars on the road. They are safe, reliable, efficient, and high-performing with groundbreaking technology and styling. The marketplace has responded accordingly. In 2015, Tesla delivered over 25,000 Model S sedans giving it a 25% share of the U.S. premium sedan market. Consumer preference grew in 2016 as Tesla's U.S. sales of its Model S sedan jumped 59 percent over 2015 and increased the company's sales lead in the U.S. large luxury car market. In 2016, Tesla accounted for almost 33% of all sales in the segment.⁷ In 2017, consumer preference for electrification has only continued as Tesla's Model S has outsold the Mercedes S-Class, Porsche Panamera, and BMW 6/7 Series combined in the U.S.⁸

b. Tesla's Model 3 Deliveries and Reservations Show Huge Consumer Demand for Mid-Priced Electric Vehicles

⁵ The numbers represent the supply chain on for the Model S and Model X. The data does not include Tesla Energy, Supercharger, W242, and other aspects of the Tesla supply chain. The data also only reflects about 65% of our supply base, as the remainder did not respond to our internal requests for information. Thus, the actual numbers are significantly greater.

⁶ See, Bloomberg, [Electric Car Sales Are Surging, IEA Reports](#) (June 7, 2017).

⁷ See, Bloomberg, [Tesla Dominates U.S. Luxury Sedan Sales](#) (October 12, 2016).

⁸ See, Electrek, [Tesla's Model S outsells Mercedes S-Class, Porsche Panamera, and BMW 6/7 Series combined in the US](#) (May 26, 2017).

In late July 2017, Tesla began delivery of its Model 3 vehicle. This vehicle has already won wide praise for the ability to deliver high performance within the price range of the average car purchase.⁹

Since its introduction, Tesla's Model 3 demand and reservations have continued to grow. In its November 2016 MTE comments, Tesla reported 373,000 reservations. Again exemplifying consumer preference for electric vehicles, as of Tesla's last public disclosure on August 2, 2017, Tesla Model 3 reservations had grown to about 455,000 – all for a car that customers had never even seen or driven.

III. The Advanced Battery Manufacturing that Has Started at Tesla's Gigafactory 1 Is Driving Down Battery Costs and Creating Significant Direct and Indirect Economic Benefits

Tesla's success in the marketplace not only shows consumer preference for electric vehicles, it has allowed Tesla to continue to invest heavily in research and development. These investments have allowed Tesla to make significant advances in advanced battery manufacturing and realize reductions in overall battery costs.

Since the last MTE Tesla comment submission, Tesla's Gigafactory 1 has started domestic production of advanced lithium-ion batteries. By 2020, Gigafactory 1 will reach full capacity and, well before then, it will produce more lithium-ion batteries annually than were produced worldwide in 2013.

Bringing battery cell production to the U.S. allows Tesla to create thousands of American jobs. In 2017 alone, Tesla and Panasonic will hire several thousand local employees, and at peak production, Gigafactory 1 will directly employ 6,500 people and indirectly create between 20,000 to 30,000 additional jobs in the surrounding regions.¹⁰ Moreover, the ramp up of the facility will continue to significantly reduce the price of batteries.

Tesla has already experienced rapid decreases in battery costs. Today's Model 3 vehicle has a battery with volume manufacturing cost around a quarter that of the 2009 Tesla Roadster. Coinciding with the dramatic price decrease, the performance of Tesla's batteries has improved significantly. For example, the battery peak power density (kW/kg) of the Model 3 has improved by 77% over that of the Tesla Roadster.

* * *

In conclusion, as the EPA and NHTSA reassess the January 2017 MTE Review, Tesla urges the agencies to consider the significant new developments in the electrification of the light-duty vehicle sector. These new advances support the implementation of stronger greenhouse gas and fuel economy standards that will lower our dependence on foreign energy sources, reduce dangerous carbon pollution, and provide health-related benefits from significant reductions in tailpipe air pollution. And, as Tesla exemplifies, continual improvement in the stringency of the standards will drive significant new, long-term investment in domestic manufacturing, the deployment of critical infrastructure, and the creation of jobs.

The sizeable technological, manufacturing, and consumer acceptance developments described in these Comments demonstrate that electric vehicle technology is at an inflection point. EPA and DOT's actions threaten to create regulatory uncertainty precisely at the time when business most

⁹ See e.g. WIRED, [The Tesla Model 3 is More Than an Electric Car – It's a Landmark in Automotive History](#) (July 28, 2017).

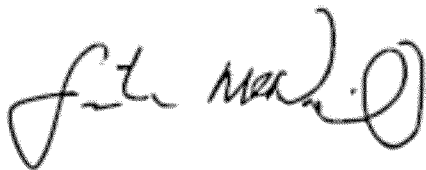
¹⁰ See e.g., Tesla, [Battery Cell Production Begins at the Gigafactory](#) (January 4, 2017).

needs predictability, certainty, and clarity as companies continue to make substantial research and product development investments.

As the above information demonstrates, there is significant consumer demand for electric vehicles, and electric vehicles are providing major contributions to the national economy. Accordingly, at a bare minimum the current Light-Duty Standards ought to be retained, and EPA and DOT ought to give significant consideration to increasing the stringency of those standards.

Please let us know if there is other information Tesla can provide that would be helpful to your reconsideration of the Mid-Term Evaluation. Tesla thanks you for your consideration of these additional comments and looks forward to an opportunity to meet with the agencies regarding these matters.

Sincerely,

A handwritten signature in black ink, appearing to read "Jon McNeil". The signature is written in a cursive style with a large, stylized initial "J" and a circular flourish at the end.

Jon McNeil
President
Tesla, Inc.