



April 24, 2017

Brian G. Soublet  
Deputy Director and Chief Counsel  
California Department of Motor Vehicles  
Legal Affairs Division  
P.O. Box 932382, MS C-244  
Sacramento, CA 94232-3820

**Re: Tesla, Inc.'s Comments on the Proposed Rulemaking Action to Amend and Add Regulations Related to the Testing and Deployment of Autonomous Vehicles**

Dear Mr. Soublet:

Tesla, Inc. ("Tesla" or the "Company") is pleased to submit written comments to the California Department of Motor Vehicles (the "DMV" or the "Department") in response to the DMV's proposed rulemaking action to amend Article 3.7 related to the testing of an autonomous vehicle ("AV") and to add Article 3.8 related to the deployment of an AV (the "Rulemaking").<sup>1</sup> We commend the DMV for their work to implement the rules required by Senate Bill 1298 (Chapter 570; Statutes of 2012).

## **I. Background**

Tesla is the world's leading manufacturer of electric vehicles and is the largest manufacturing employer in California. All Tesla vehicles sold today come standard with advanced driver assistance safety features including automatic emergency braking, forward collision warning, and side collision warning. Tesla also offers optional Autopilot convenience features, including Traffic-Aware Cruise Control and Autosteer lane-keeping assistance. These features currently require the driver to remain engaged with the driving task, and are an example of SAE International ("SAE") Level 2 automation. All Tesla vehicles produced since October 2016 come standard with the sensing and computational hardware necessary for full self-driving capability. The Company will enable its vehicles' self-driving functionalities via over-the-air updates as we validate the features and receive any required regulatory approvals.

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<sup>1</sup> California Department of Motor Vehicles, Notice of Proposed Regulatory Action (March 10, 2017), [https://www.dmv.ca.gov/portal/wcm/connect/ac06ef6c-4704-43a4-999f-e92a08376828/avnoticeofproposedaction\\_31017.pdf?MOD=AJPERES](https://www.dmv.ca.gov/portal/wcm/connect/ac06ef6c-4704-43a4-999f-e92a08376828/avnoticeofproposedaction_31017.pdf?MOD=AJPERES); Initial Statement of Reasons (March 10, 2017), [https://www.dmv.ca.gov/portal/wcm/connect/7342a60f-4953-48e4-9372-51abe905913f/avinitialstatementofreasons\\_31017.pdf?MOD=AJPERES](https://www.dmv.ca.gov/portal/wcm/connect/7342a60f-4953-48e4-9372-51abe905913f/avinitialstatementofreasons_31017.pdf?MOD=AJPERES); and Express Terms (March 10, 2017), [https://www.dmv.ca.gov/portal/wcm/connect/caa2f466-fe0f-454a-a461-f5d7a079de49/avexpresssterms\\_31017.pdf?MOD=AJPERES](https://www.dmv.ca.gov/portal/wcm/connect/caa2f466-fe0f-454a-a461-f5d7a079de49/avexpresssterms_31017.pdf?MOD=AJPERES) (the "Express Terms").

## II. Comments

Tesla offers the following four comments on the DMV's Rulemaking, which will be elaborated upon: (1) Tesla supports the DMV's efforts to update and improve regulations related to AVs; (2) The DMV should remove the blanket prohibition against heavy AVs from the Rulemaking; (3) the Rulemaking should not mandate NHTSA's voluntary Safety Assessment; and (4) the DMV should not prohibit the sale of a production, non-autonomous vehicle on the basis of previous use as an autonomous test vehicle.

### **1. Tesla supports the DMV's efforts to update and improve regulations related to AVs.**

The DMV's Rulemaking greatly improves upon the current Article 3.7 related to the testing of AVs, as well as draft deployment proposals that the DMV released in December 2015 and September 2016. While Tesla prefers uniform federal oversight of AVs over patchwork state-by-state regulations, the Company recognizes that the DMV is required by state law to regulate the testing and deployment of AVs.<sup>2</sup> We also appreciate that the DMV's task in amending and adding to its current regulations was very difficult. With no precedent available anywhere, the DMV had to ensure that manufacturers tested and deployed AVs safely without stifling innovation. The Rulemaking clarifies definitional language, streamlines requirements for testing and deployment, and lays the framework that AVs will use to operate without a driver and one day serve citizens of communities who otherwise cannot drive themselves. In drafting this Rulemaking, the DMV also needed to reassure the public that manufacturers' testing and deployment of AVs will not compromise or otherwise endanger their safety. Tesla recognizes the progress that the DMV has made in amending and adding to its current regulations, and aims the rest of these comments at specific ways to further clarify and improve this Rulemaking.

### **2. The DMV should remove the blanket prohibition against heavy AVs from the Rulemaking.**

In the Express Terms, Section 227.28 preserves a blanket exclusion of all vehicles with a gross vehicle weight rating of more than 10,000 pounds from being approved for testing or deployment as AVs on public roads.<sup>3</sup> The DMV should remove this prohibition from the Rulemaking because it amounts to an indefinite statewide ban on any testing or deployment of heavy AVs, runs contrary to state legislative and federal intentions, does not promote safety, and stifles innovation.

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<sup>2</sup> CAL. VEH. CODE § 38750.

<sup>3</sup> Express Terms at § 227.28(a)(4).

- a. Section 227.28 creates an indefinite statewide ban on any testing or deployment of heavy AVs.

The first reference to an AV weight restriction appeared in May 2014 in the DMV's initial adoption of regulations related to testing AVs.<sup>4</sup> In response to public comments, the DMV explained that "the testing of commercial vehicles on public roads raises heightened safety and driver training and qualification issues that should be addressed by a separate rulemaking proceeding."<sup>5</sup> To date, the DMV has not expounded upon its concerns over safety, driver training, or qualification issues, other than to vaguely reference the "size and unique considerations" of heavy vehicles and to offer the promise that "the department will identify rules for these vehicles in a future regulatory package."<sup>6</sup>

Three years have passed since the DMV's introduction of weight restrictions. Despite promises of a separate rulemaking regarding commercial vehicles, the Department has not produced a first draft of such rulemaking and the blanket prohibition against heavy AVs still exists in the current regulations. As a result, the blanket prohibition on heavy AVs in the DMV's currently proposed Rulemaking amounts to an indefinite ban on any testing or deployment of heavy AVs in the state of California. Rather than unnecessarily create a separate rulemaking process, the DMV should remove the prohibition against heavy AVs from the Rulemaking.

- b. No regulatory reason exists for banning AV testing or deployment based on gross vehicle weight rating.

Tesla believes the restriction is inappropriate and is not in line with the intentions of the California State Legislature or NHTSA. Senate Bill 1298 enacted California Vehicle Code § 38750, the law which authorizes the DMV to issues regulations related to AVs. This law does not make mention of any weight restrictions or other special restrictions against commercial vehicles, or otherwise require the DMV to establish such restrictions. Similarly, the National Highway Traffic Safety Administration ("NHTSA" or the "Agency") avoided placing special restrictions on heavy trucks in the Model State Policy section of the Agency's recent Federal Automated Vehicles Policy (the "Policy").<sup>7</sup> The Rulemaking's discrimination against heavy AVs does not reflect legislative intent or federal policy to promote safe and rapid development and deployment of AVs.

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<sup>4</sup> See CAL. CODE REGS., tit. 13, § 227.52(a)(4) (2014) (excludes from approval for testing "a vehicle with a gross weight rating of 10,001 or more pounds").

<sup>5</sup> California Department of Motor Vehicles, Final Statement of Reasons (May 19, 2014), at 26-27, [https://www.dmv.ca.gov/portal/wcm/connect/70791ede-d798-4628-b3a9-764acebcb881/final\\_sor.pdf?MOD=AJPERES](https://www.dmv.ca.gov/portal/wcm/connect/70791ede-d798-4628-b3a9-764acebcb881/final_sor.pdf?MOD=AJPERES) (the "FSR"); see also FSR at 11, 21.

<sup>6</sup> California Department of Motor Vehicles, Invitation to Pre-Notice Public Discussions on Proposed Regulations: Autonomous Vehicles (September 30, 2016), at 2, [https://www.dmv.ca.gov/portal/wcm/connect/e12bbed6-f168-4fa3-bc09-4ca244c56ad0/av\\_workshopnotice\\_10192016.pdf?MOD=AJPERES](https://www.dmv.ca.gov/portal/wcm/connect/e12bbed6-f168-4fa3-bc09-4ca244c56ad0/av_workshopnotice_10192016.pdf?MOD=AJPERES).

<sup>7</sup> National Highway Traffic Safety Administration, Request for Comment on "Federal Automated Vehicles Policy," 81 Fed. Reg. 65703 (Sept. 23, 2016) (the "Policy").

- c. Banning AVs based on gross vehicle weight rating does not increase safety and stifles innovation.

In its current form, the Rulemaking creates an unnecessary double-standard for heavy vehicles. Neither an outright restriction nor a separate rulemaking for heavy vehicles is necessary or otherwise in the interest of safety and innovation. The Rulemaking proposes an extensive set of requirements related to testing, test drivers, and the deployment of AVs. Furthermore, concerns about hazardous cargo in AVs are already addressed in Section 227.28's restriction against vehicles described in Vehicle Code § 31309.<sup>8</sup> Tesla therefore finds no reason why this Rulemaking can safely and sufficiently regulate light-duty vehicles and their drivers, but not do the same for heavy vehicles and their drivers. The Rulemaking will allow a manufacturer to test and deploy an AV in virtually any operational design domain in the state, but will prohibit even the most mundane operations involving heavy vehicles, creating a double standard not supported by any facts.

As an example of how the blanket ban unnecessarily stifles innovation, consider the case of a parts-carrying heavy AV operating at a factory. Under the proposed Rulemaking, a company can test and operate a heavy AV to transport parts around a factory provided that the vehicle's route is entirely on private property. However, if the manufacturer's factory operations are located such that the heavy AV's route requires traveling on or crossing over a single public street, the heavy AV would no longer be able to be used, even with the full endorsement of local authorities.

Tesla firmly believes that the dynamic driving tasks and other "unique considerations"<sup>9</sup> for commercial vehicles are no more unique than the considerations and circumstances associated with the myriad of possible permitted uses of light AVs. In the absence of parity, this Rulemaking stifles the application of an important safety innovation to a broad class of California vehicles, and will force innovators in this space to leave the state. Instead, Tesla strongly encourages the DMV to assert its leadership on AVs and update the Rulemaking to remove the blanket ban on heavy AVs.

### **3. The Rulemaking should not mandate NHTSA's voluntary Safety Assessment.**

NHTSA's Policy explicitly states that the Safety Assessment requested in the Vehicle Performance Guidance is a voluntary submission that is not a necessary precursor to testing AVs on public roads or as part of a state's test program.<sup>10</sup> Notwithstanding, the DMV's Rulemaking requires manufacturers to submit a copy of their Safety Assessment to NHTSA as part of their application to test AVs that do

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<sup>8</sup> Express Terms at § 227.28(5).

<sup>9</sup> See *supra* note 6 and accompanying text.

<sup>10</sup> Policy, *supra* note 8, at 11: "This Guidance highlights important areas that manufacturers and other entities designing HAV systems should be considering and addressing as they design, test, and deploy HAVs. This Guidance is not mandatory. [. . .] This Guidance is not intended for States to codify as legal requirements for the development, design, manufacture, testing, and operation of automated vehicles."

not require a human driver<sup>11</sup> as well as their application to deploy AVs on public roads.<sup>12</sup> In doing so, the DMV inappropriately transfers federal regulatory authority to itself and contravenes the spirit of voluntary cooperation that NHTSA intended for with the Safety Assessment. Tesla instead believes that the DMV should strive for consistency with NHTSA's Policy and the Rulemaking should instead *request* (without imposing a requirement) for manufacturers to submit a Safety Assessment.

Tesla supports NHTSA's intent behind the Safety Assessment as an aid to monitor AVs,<sup>13</sup> and intends to submit a Safety Assessment to NHTSA. Tesla's comments to the DMV are therefore not a means of avoiding preparing and submitting a Safety Assessment. Rather, this is an issue of consistency between federal and state requirements and we do not believe states should contradict the spirit of cooperation on which NHTSA firmly established the Safety Assessment, particularly at this early stage of AV regulation and adoption.

**4. The DMV should not prohibit the sale of a production, non-autonomous vehicle on the basis of previous use as an autonomous test vehicle.**

Section 227.54 prohibits manufacturers from selling, transferring or disposing of an AV if the manufacturer used it for test purposes on public roads.<sup>14</sup> The manufacturer is only exempt if it sells the test AV to another manufacturer with a permit to test AVs in the state or obtains a non-repairable certificate and transfers the test AV to a salvager or institution for display or study.<sup>15</sup> This prohibition is presumably designed to protect consumers from purchasing vehicles that have prototype or non-production hardware and/or software.

This prohibition appears to have been written without consideration for vehicles that were used as autonomous test vehicles but contain only production hardware and, once loaded with production software, are indistinguishable from production vehicles. This is the case with many Tesla autonomous test vehicles. Because current Tesla vehicles come standard with the sensing and computational hardware necessary for full self-driving capability, Tesla only has to load software on the vehicles in order to make them capable of autonomous testing. Tesla can then return the vehicles to production condition by re-loading production software. However, if such a vehicle has participated in any AV testing on public roads in California, the Rulemaking would prevent Tesla from ever being able to re-sell the vehicle. This prohibition imposes a significant financial penalty for conducting AV testing in California equal to the full cost of the test vehicle, and therefore incentivizes Tesla and other auto manufacturers in the same situation to invest AV testing resources outside of California.

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<sup>11</sup> Express Terms at § 227.38(g).

<sup>12</sup> *Id.* at § 228.06(d).

<sup>13</sup> See Policy, *supra* note 8, at 15.

<sup>14</sup> CAL. CODE REGS., tit. 13, § 227.50 (2014).

<sup>15</sup> *Id.* at § 227.50(a)-(c).

In order to correct this oversight, we believe the DMV should either eliminate Section 227.54 from the Rulemaking or add another exemption to the section that will allow a manufacturer to sell former test AVs to consumers if, when sold, the vehicle's hardware and software are equivalent to a production vehicle. Specifically, we propose adding the following subsection (d) to Section 227.54, as shown below, or a similar exemption that reflects the same spirit:

**§227.54. Transfers of Interest or Title for an Autonomous Test Vehicle.**

No person shall offer for sale, sell, transfer, or dispose of an autonomous test vehicle, or major component parts for such a vehicle that has been used for testing purposes on public roads except as follows:

- (a) To a manufacturer holding a valid autonomous vehicle Manufacturer's Testing Permit or a Manufacturer's Testing Permit – Driverless Vehicles.
- (b) The manufacturer disposing of the vehicle has obtained a Nonrepairable Vehicle Certificate ensuring that the vehicle is not retitled or resold, and ownership of the vehicle is transferred to an auto dismantler.
- (c) Transfer of ownership to an educational or research institution or a museum where it would be appropriate for display or study.
- (d) At the point of sale, transfer, or disposal, the manufacturer's vehicle is equipped with hardware and software that are equivalent to hardware and software the manufacturer equipped on motor vehicles sold to the general public.

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Tesla appreciates this opportunity to share our comments on the proposed Rulemaking. If the DMV has any questions or comments regarding this submission, please feel free to contact me at 650.681.5590 or at [mschwall@tesla.com](mailto:mschwall@tesla.com).

Sincerely,



Matthew L. Schwall, Ph.D.  
*Director, Field Performance Engineering*