



May 22, 2014

Richard Corey, Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Comments to Proposed Amendments to Section 1962.1, Title 13, California Code of Regulations

Dear Mr. Corey:

I am writing you to share Tesla Motors, Inc.'s comments to the California Air Resources Board ("ARB") staff proposed amendments to the fast refueling provision of the Zero Emission Vehicle ("ZEV") mandate pertaining to battery swap. The amendments contained in the second notice dated May 8, 2014 are a significant improvement over the first notice, which we appreciate. However, we believe several important clarifications are still needed, and suggest further amendments that will help encourage the development of a robust battery swap network.

We believe staff should modify the current proposal to clarify the credit-earning process and ensure the amendments do not unfairly restrict a manufacturer's ability to earn credits for legitimate use of fast refueling technology. These modifications are justified in that they will encourage the use of fast refueling technologies in ZEVs such as Tesla's battery electric vehicles ("BEVs"), thereby furthering directly and indirectly the goals of the ZEV mandate. Directly, the use of fast refueling technologies such as battery swap will increase pure electric vehicle miles travelled by providing a means of quickly replenishing pack energy. Indirectly, a variety of refueling options will demonstrate the versatility of long range BEVs such as the Tesla Model S, encouraging greater customer adoption and thereby reducing the number of traditional internal combustion vehicles on the road. Both these direct and indirect effects will increase total electric miles travelled, supplanting vehicle miles otherwise achieved through polluting technologies.

I. Manufacturers should be able to earn credits across multiple calendar years

Proposed section 1962.1(d)(5)(B)(1)(b) states that fast refueling capability will be assigned to a given model year based on the total number of fast refueling events performed "during the year". This language appears to establish that, for a given model year, a manufacturer only has one calendar year in which to earn credits for fast refueling. However, such limits do not further the goal of increasing ZEV miles over the entire useful life of a ZEV. All fast refueling events constitute "use" and increase total electric miles travelled. Therefore, no time restrictions should be placed on the ability to count these events. There is clearly an incentive for manufacturers to promote the use of fast refueling technology as soon as possible, as credits are not earned until after the events are performed.

II. All fast refueling events should count toward a manufacturer's total

Proposed section 1962.1(d)(5)(B)(1)(b)(C) establishes that only the first twenty five fast refueling events performed on an individual ZEV will count toward the manufacturer's total. This restriction unfairly removes credit for all fast refueling events occurring after the individual vehicle cap is reached. We believe that the "in use" requirement should be considered satisfied whenever electric miles are enabled by a fast refueling event, and that no arbitrary limits should be placed on the number of eligible fast refueling events per vehicle. Therefore, within a given model year it should not matter which vehicles are performing the fast refueling events, since each event increases the number of electric miles travelled regardless of which ZEV is utilizing the capability. Moreover, it is likely that the majority of battery swap electric miles will result from high-frequency applications such as livery fleet use. These high-frequency use cases fulfill the goals of the ZEV mandate and have the potential to offset large amounts of CO2 emissions. With this in mind, we encourage ARB to revise its language to count fast refueling events on a vehicle-neutral basis.

III. All ZEVs utilizing fast refueling stations in California should count toward a manufacturer's total number of fast refueling events

Section 1962.1(d)(5)(B)(1)(b) states that the fast refueling event count is segmented based on the model year of the vehicles performing the events. We would like ARB to confirm that in practice the total event count will not be limited to vehicles that were originally delivered and placed into service in California. For example, if a vehicle of a given model year was originally placed in Nevada but travels to California and uses battery swap infrastructure in California, the manufacturer should be able to count this fast refueling event toward its total. This approach is justified as a battery swap performed in California leads to electric miles in the state and clearly demonstrates that the fast refueling infrastructure is "in use".

IV. ARB should establish a threshold for full model year qualification

We believe that ARB should create an incentive for manufacturer's to develop a comprehensive network of fast refueling stations by adding a utilization target whereby the entire fleet qualifies for fast refueling credits. Under this scenario a manufacturer would still receive credit for each fast refueling event as currently proposed, however, if a manufacturer achieves the target utilization level with its fast refueling infrastructure ARB would issue a revised executive order qualifying the entire model year for fast refueling credits. For example, if a manufacturer performs MY2017 fast refueling events equal to 20% of its total MY2017 California fleet, the manufacturer should receive an executive order classifying the MY2017 fleet as eligible for fast refueling credits. This creates an incentive for manufacturers to achieve a high level of adoption of the technology. In order to avoid "double counting" of credits under this approach, ARB should continue to enforce the maximum ZEV credit ceiling as described in section 1962.1(d)(5)(B)(1)(b)(A). Given the wide range of convenient refueling options available to BEV owners, as well as the relatively narrow use case that battery swap addresses, we believe that the 20% threshold for MY2017 would represent a successful implementation of swap technology. By comparison, Tesla's Supercharger network is considered widely successful given its availability and use during long-distance travel. However, these charging events represent only a small portion of the total charging events performed by our customers. This is not due to a lack of utility, but rather the fact that the majority of customer travel is for

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short distances where home charging is the preferred refueling method. Regardless, these Supercharger stations make a positive impact on the environment and further the goal of increasing EV adoption by assuring consumers that Tesla's long-range EVs can satisfy 100% of their driving needs. Implementing the threshold for full model year qualification will greatly encourage investments in battery swap technology and infrastructure, and will help strengthen the case for consumer adoption of BEVs.

Thank you for considering our comments. We are ready to meet with you to further discuss and address any questions you may have.

Sincerely,

A handwritten signature in blue ink that reads "James C. Chen". The signature is fluid and cursive, with a long horizontal stroke at the end.

James Chen, Vice President of Regulatory Affairs
and Associate General Counsel