

ATTACHMENT B

California Environmental Protection Agency
AIR RESOURCES BOARD

PROPOSED SECOND 15-DAY MODIFICATIONS

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 2009 THROUGH 2017 MODEL ZERO-EMISSION VEHICLES AND HYBRID ELECTRIC VEHICLES, IN THE PASSENGER CAR, LIGHT-DUTY TRUCK AND MEDIUM-DUTY VEHICLE CLASSES

Adopted: December 17, 2008
Amended: December 2, 2009
Amended: March 22, 2012
Amended: December 6, 2012
Amended: [insert adoption date]

All other portions remain unchanged and are indicated by the symbol “* * * *” for reference.]

Note: This document shows the originally proposed changes to the preexisting language text in underline to indicate additions and ~~strikeout~~ to indicate deletions. The further proposed amendments that were subject to comment in the first 15-day Public Notice period are shown in double underline to indicate additions and ~~double strikeout~~ to show deletions. Text that has both single underline and ~~double strikeout~~ is additional text that staff proposed during the 45-day Public Notice period but proposed for retraction as part of the first 15-day Public Notice period. The further proposed amendments subject to comment under this Second 15-Day Notice of Modifications are shown in **bold double underline** to indicate additions and ~~**bold double strikeout**~~ to indicate deletions. Text that has both ~~**bold double underline and bold strikeout**~~ is additional text that staff proposed during the First 15-Day Notice period but is now proposed for retraction under this Second 15-Day Notice. All other portions remain unchanged and are indicated by the symbol “* * * *” for reference.

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C. Zero-Emission Vehicle Standards.

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4. Qualification for ZEV Multipliers and Credits.

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4.4 Credits for 2009 through 2017 Model Years ZEVs.

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(b) *Fast Refueling.* For purposes of subdivision C.4.4(a), a Model Year 2009 through 2017 ZEV, inclusive, shall be deemed a Type III, Type IV or Type V ZEV if it has the capability to accumulate at least 95 miles of UDDS range in 10 minutes or less, at least 190 miles of UDDS range in 15 minutes or less, or 285 miles of UDDS range in 15 minutes or less, respectively. The “fast refueling capability” requirement for a 2009 through 2017 model year Type III, IV, or V ZEV in subdivision C.4.4(a) will be considered met if the Type III ZEV has the capability to accumulate at least 95 miles of UDDS range in 10 minutes or less and the Type IV or V ZEV has the capability to accumulate at least 190 or 285 miles, respectively, in 15 minutes or less. For model year 2015 through 2017, qualifying for fast refueling by battery exchange is prohibited. For ZEVs that utilize more than one ZEV fuel, such as plug-in fuel cell vehicles, the Executive Officer may choose to waive these subdivision 1962.1(d)(5)(B) fast refueling requirements and base the amount of credit earned on UDDS ZEV range, as specified in subdivision C.4.4.(a).

For Model Years 2009 through 2014, inclusive, “capability to accumulate” means the ZEV’s refueling system has been demonstrated to the satisfaction of ARB’s Executive Officer as having the potential, with appropriate infrastructure or other equipment, to accumulate the miles required under this subdivision within the given time period for the claimed ZEV type. For Model Years 2015 through 2017, inclusive, “capability to accumulate” means the ZEV’s refueling system has been demonstrated to the satisfaction of ARB’s Executive Officer as actually accumulating the miles required under this subdivision within the given time period for the claimed ZEV type, based on actual fast refueling events. Examples of fast refueling events include any refueling of an electric vehicle that meets the time and mileage fueling criteria for a Type III, IV, or V ZEV, including the refueling of a hydrogen fuel cell vehicle or any swapping of the depleted battery pack in a battery electric vehicle with an equivalent or larger capacity, fully-charged battery pack. To receive fast refueling credits manufacturers must apply to ARB with the information and documentation as specified below.

(1.) Issuance of Fast Refueling Credits for Model Year 2015, 2016, and 2017 Type III, IV, and V ZEVs.

- a. To obtain fast refueling credits, the ZEV manufacturer must apply to ARB's Executive Officer for such credits. No credits shall be granted without Executive Officer approval of the application. Each application shall be specific to Type III, IV, or V ZEV vehicles of a single Model Year. Each application shall contain the documentation specified in subdivision 1962.1(d)(5)(B)2. No later than 15 days before submittal of the first application in a calendar year, the applicant shall provide written notice to the Executive Officer of its intent to conduct fast refueling for its Type III, IV, or V ZEVs in that calendar year.**
- b. Fast refueling capability shall be assigned to the number of Type III, IV, and V ZEVs of a given model year that have been fueled by an actual fast refueling event during the year.**
- A. The total number of a manufacturer's Type III ZEVs assigned the fast refueling capability for a given model year, based on actual fast refueling events, shall not exceed the manufacturer's total number of Type III ZEVs sold in California for that model year that are capable of fast refueling (i.e., the sum of those Type III ZEVs that were fueled with an actual fast refueling event and those Type III ZEVs that are able to be fast refueled but were not actually fueled using any fast refueling).**
- B. The provision in subdivision 1962.1(d)(5)(B)1.b.A. also applies to Type IV and V ZEVs in the same manner described for Type III ZEVs.**
- C. Only the first 25 fast refueling events performed on any individual Type III, IV, or V ZEV shall count towards the total number of fast refueling events.**
- D. The frequency at which fast refueling credits are issued shall be based on the frequency of records and documentation submitted to support a claim for fast refueling credits. For example, a manufacturer that submits records of fast refueling events on a monthly, quarterly, or yearly basis shall be issued fast refueling credits on the applicable monthly, quarterly, or yearly basis.**

(2.) Documentation of fast refueling ~~mileage and~~ events

- a. For each specific model year ~~vehicle~~ ZEV type for which a manufacturer claims fast refueling credits, the manufacturer must submit documentation of the total ~~fleet miles attributed to~~ **number of fast refueling events used to refuel the Type III, IV or V ZEVs in that model year. ~~in a 12 consecutive month period and total fleet miles in the same 12 month period.~~**
- b. To support a manufacturer's claimed number of ~~miles attributed to~~ fast refueling **events**, that manufacturer must provide documentation of each fast refueling event. For each **claimed fast refueling event**, the manufacturer ~~must provide documentation of~~ **shall document** the date of **the fast refueling event**, street address of the **fast refueling facility** used, and **the vehicle identification number of the vehicle that was fast refueled**. Fast refueling credit applicants shall retain this documentation for a minimum of three years from the date it was created and provide the documentation to ARB staff upon request within 3 business days.

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(2.) Calculation of fast refueling credits~~

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Fast refueling credits shall be calculated as follows:~~

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Fast refueling miles / total miles = M~~

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4 credits = ZEV credit per each Type III ZEV~~

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4 + (M) x (1 credit) = ZEV credit per each Type IV ZEV~~

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4 + (M) x (5 credits) = ZEV credit per each Type V ZEV~~

- (3.) The fast refueling data submission requirements in this ~~paragraph~~ **subdivision** ~~es~~ not apply to manufacturers of fuel cell electric vehicles **because such vehicles are already designed to be fast refueled at all times.**

(c) *ZEV Credits for 2009 through 2017 Model-Year ZEVs.* A 2009 through 2017 model-year ZEV, including a Type 1.5x and Type IIx, other than a NEV or Type 0, earns 1 ZEV credit when it is produced and delivered for sale in California. A 2009 through 2017 model-year ZEV earns additional credits based on the earliest year in which the ZEV is placed in service in California (not earlier than the ZEV's model year). The vehicle must be delivered for sale and placed in service in a Section 177 state or in California in order to earn the total credit amount. The total credit amount will be earned in the state (i.e. California or a Section 177 state) in which the vehicle was delivered for

sale. The following table identifies the total credits that a ZEV in each of the eight ZEV tiers will earn, including the credit not contingent on placement in service, if it is placed in service in the specified calendar year or by June 30 after the end of the specified calendar year. A vehicle is not eligible to receive credits if it is placed in service after December 31, five calendar years after the model year. For example, if a vehicle is produced in 2012, but does not get placed until January 1, 2018, the vehicle would no longer be eligible for ZEV credits.

<i>Total Credit Earned by ZEV Type and Model Year for Production and Delivery for Sale and for Placement</i>		
<i>Tier</i>	<i>Calendar Year in Which ZEV is Placed in Service</i>	
	2009-2011	2012 - 2017
NEV	0.30	0.30
Type 0	1	1
Type I	2	2
Type I.5	2.5	2.5
Type I.5x	n/a	2.5
Type II	3	3
Type IIx	n/a	3
Type III	4	4
Type IV	5	4 to 5 *
Type V	7	2012-2014: 7 2015-2017: 4 to 9 *

* As specified in subdivision C.4.4(b)

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