APPENDIX C
PROPOSED

California Environmental Protection Agency
AIR RESOURCES BOARD

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 2018 AND SUBSEQUENT MODEL ZERO-EMISSION VEHICLES AND HYBRID ELECTRIC VEHICLES, IN THE PASSENGER CAR, LIGHT-DUTY TRUCK AND MEDIUM-DUTY VEHICLE CLASSES

Adopted: March 22, 2012
Amended: December 6, 2012
Amended May 30, 2014
Amended: [insert amendment date]

Note: The proposed amendments to this document are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions compared to the test procedures as last amended, May 30, 2014. Existing intervening text that is not amended in this rulemaking is indicated by "* * * * *".

*****

C. Zero-Emission Vehicle Standards.

*****

2. Percentage ZEV Requirements

2.1 General Percentage ZEV Requirement.

(a) *Basic Requirement.* The minimum percentage ZEV requirement for each manufacturer is listed in the table below as the percentage of the PCs and LDT1s, and LDT2s to the extent required by subdivision C.2.2(c), produced by the manufacturer and delivered for sale in California that must be ZEVs, subject to the conditions in subdivision C.2.2. The ZEV requirement will be based on the annual NMOG production report for the appropriate model year.

~~Model Year~~	~~Credit Percentage Requirement~~
~~2018~~	~~4.5%~~
~~2019~~	~~7.0%~~
~~2020~~	~~9.5%~~
~~2021~~	~~12.0%~~
~~2022~~	~~14.5%~~
~~2023~~	~~17.0%~~
~~2024~~	~~19.5%~~
~~2025 and subsequent~~	~~22.0%~~

<u>*Model Year*</u>	<u>*Credit Percentage Requirement*</u>	
	<u>*LVM*</u>	<u>*IVM*</u>
<u>2018</u>	<u>4.5%</u>	<u>2.9%</u>
<u>2019</u>	<u>7.0%</u>	<u>3.8%</u>
<u>2020</u>	<u>9.5%</u>	<u>4.7%</u>
<u>2021</u>	<u>12.0%</u>	<u>5.6%</u>
<u>2022</u>	<u>14.5%</u>	<u>6.5%</u>
<u>2023</u>	<u>17.0%</u>	<u>7.4%</u>
<u>2024</u>	<u>19.5%</u>	<u>8.3%</u>
<u>2025</u>	<u>22.0%</u>	<u>9.2%</u>
<u>2026 and subsequent</u>	<u>22.0%</u>	<u>22.0%</u>

*****

2.7 Changes in Small Volume, Independent Low Volume, and Intermediate Volume Manufacturer Status <u>in 2018 and subsequent model years</u>.

(a) *Increases in California Production Volume.* ~~In~~For 2018 and subsequent model years, if a small volume manufacturer's average California production volume exceeds 4,500 units of new PCs, LDTs, and MDVs based on the average number of vehicles produced and delivered for sale for the three previous consecutive model years (i.e., total production volume exceeds 13,500 vehicles in a three-year period), for three consecutive averages, the manufacturer shall no longer be treated as a small volume manufacturer, and must comply with the ZEV requirements for intermediate volume manufacturers beginning with the next model year after the last model year of the third consecutive average. For example, if (a small volume) Manufacturer A exceeds 4,500 PCs, LDTs, and MDVs for their 2018 – 2020, 2019 – 2021, and 2020 – 2022 model year averages, Manufacturer A would be subject to intermediate volume requirements starting in 2023 model year.

For 2018 and subsequent model years, if~~If~~ an intermediate volume manufacturer's average California production volume exceeds 20,000 units of new PCs, LDTs, and MDVs in a given model year based on the average number of vehicles produced and delivered for sale ~~for~~ in the ~~three~~ five~~previous~~ consecutive sets of three model ~~years~~year averages immediately prior to that model year (i.e., total production volume exceeds 60,000 vehicles in ~~a~~ each of five consecutive three-year periods), ~~for three consecutive averages,~~ the manufacturer shall no longer be treated as an intermediate volume manufacturer and shall comply with the ZEV requirements for large volume manufacturers beginning with the next model year after the last model year of the third consecutive average. For example, if (an intermediate volume) Manufacturer B exceeds 20,000 PCs, LDTs, and MDVs for its 2016 - 2018, 2017 - 2019, 2018 – 2020, 2019 – 2021, and 2020 – 2022 average, Manufacturer B would be subject to large volume manufacturer requirements starting in the 2023 model year.

If, in the 2018 or 2019 fiscal year, an intermediate volume manufacturer would otherwise be subject to the requirements for a large volume manufacturer based on California production volume, and if the intermediate volume manufacturer's average annual global revenues for that fiscal year, based upon the immediately prior and consecutive three fiscal years, is no greater than 40 billion dollars, then that manufacturer will continue to be considered an intermediate volume manufacturer conditional upon the manufacturer submitting to the Executive Officer, in writing, a report that demonstrates the types and numbers of ZEVs and TZEVs the manufacturer will deliver to California subsequent to the 2020 fiscal year to meet the requirements specified in subdivision C 2.1(a).

Any new requirement described in ~~the~~ this subdivision will begin with the next model year after the last model year of the third or fifth consecutive average when a manufacturer ceases to be a small or intermediate volume manufacturer respectively in 2018 or subsequent years due to the aggregation requirements in majority ownership situations.

*****

4.5 Credits for 2018 and Subsequent Model Years.

*****

(e)

(1) ~~*Provisions for 2018 through 2025 Model Years*~~*Counting Specified ZEVs Placed in a Section 177 State and in California.* Large volume manufacturers and intermediate volume manufacturers with credits earned from hydrogen fuel cell vehicles that are certified to the California ZEV standards applicable for the ZEV's model year, delivered for sale and placed in service in California or in a Section 177 state, may be counted towards compliance in California and in all Section 177 states with the percentage ZEV requirements in subdivision C.2. The credits earned are multiplied by the ratio of a manufacturer's applicable production volume for a model year, as specified in subdivision C.2.1(b), in the state receiving credit to the manufacturer's applicable production volume as specified in subdivision C.2.1(b), for the same model year in California (hereafter, "proportional value"). Credits generated from ZEV placement in a Section 177 state will be earned at the proportional value in the Section 177 state, and earned in California at the full value specified in subdivision C.4.5(a).

(~~1~~2) *Optional Section 177 State Compliance Path.*

(A) *Additional ZEV Requirements for Intermediate Volume Manufacturers.* Intermediate volume manufacturers that elect the optional Section 177 state compliance path must generate additional 2012 and subsequent model year ZEV credits, including no more than 50% Type 1.5x and Type IIx vehicle credits and excluding all TZEV, NEV, Type 0 ZEV credits, and transportation system credits, in each Section 177 state to fulfill the following percentage requirements of their sales volume determined under subdivision C.2.1(b):

Intermediate Volume Manufacturers

Model Years	*Additional Section 177 State ZEV Requirements*
Two model years prior to compliance with LVM requirements	0.75%
One model year prior to compliance with LVM requirements	1.50%

Subdivision C.4.5(e)(1) shall not apply to any ZEV credits used to meet an intermediate volume manufacturer's additional ZEV requirements for the appropriate model years as described in the table above under this subdivision C.4.5(e)(2)(A).

(B) *ZEV and TZEV Percentages for Intermediate Volume Manufacturers*. Intermediate volume manufacturers that have fully complied with the optional Section

177 state compliance path requirements in subdvision 1962.1(d)(5)(E)3 or intend to comply or have fully complied with requirements in subdivision C.4.5(e)(2)(A) are allowed to meet their total ZEV percentage requirements specified in subdivision C.2 in each section 177 state by utilizing subdivisions C.4.5(e)(2)(A)i. and ii., below.

i. ***Trading and Transferring ZEV and TZEV Credits within West Region Pool and East Region Pool.*** Intermediate volume manufacturers may trade or transfer 2012 and subsequent model year ZEV and TZEV credits within the West Region pool to meet the requirements in subdivision C.4.5(e)(2)(A), and will incur no premium on their credit values. For example, for a manufacturer to make up a 2020 model year shortfall of 100 credits in State X, the manufacturer may transfer 100 (2018 through 2020 model year) ZEV credits from State Y, within the West Region pool. Intermediate volume manufacturers may trade or transfer 2012 and subsequent model year ZEV and TZEV credits within the East Region pool to meet the requirements in subdivision C.2, and will incur no premium on their credit values. For example, for a manufacturer to make up a 2020 model year shortfall of 100 credits in State W, the manufacturer may transfer 100 (2018 through 2020 model year) ZEV credits from State Z, within the East Region pool.

ii. ***Trading and Transferring ZEV and TZEV Credits between the West Region Pool and East Region Pool****.* Intermediate volume manufacturers may trade or transfer 2012 and subsequent model year ZEV and TZEV credits to meet the requirements in subdivision C.2. between the West Region pool and the East Region pool; however, any credits traded will incur a premium of 30% of their value. For example, in order for a manufacturer to make up a 2020 model year shortfall of 100 credits in the West Region Pool, the manufacturer may transfer 130 (2018 through 2020 model year) credits from the East Region Pool. No credits may be traded or transferred to the East Region pool or West Region pool from a manufacturer's California ZEV bank, or from the East Region pool or West Region pool to a manufacturer's California ZEV bank.

(C) *Reduced ZEV and TZEV Percentages for Large Volume Manufacturers.* Large volume manufacturers ~~and intermediate volume manufacturers~~ that have fully complied with the optional Section 177 state compliance path requirements in subdivision 1962.1(d)(5)(E)3. are allowed to meet ZEV percentage requirements and optional TZEV percentages reduced from the minimum ZEV floor percentages and TZEV percentages in subdivision C.2.2(e) in each Section 177 state equal to the following percentages of their sales volume determined under subdivision 1962.2(b)(1)(B):

ZEVs

Model Year	2018	2019	2020	2021

Existing Minimum ZEV Floor	2.00%	4.00%	6.00%	8.00%
Section 177 State Adjustment for Optional Compliance Path	62.5%	75%	87.5%	100%
Minimum Section 177 State ZEV Requirement	1.25%	3.00%	5.25%	8.00%

TZEVs

Model Year	2018	2019	2020	2021
Existing TZEV Percentage	2.50%	3.00%	3.50%	4.00%
Section 177 State Adjustment for Optional Compliance Path	90.00%	100%	100%	100%
New Section 177 State TZEV Percentage	2.25%	3.00%	3.50%	4.00%

Total Percent Requirement

Model Year	2018	2019	2020	2021
New Total Section 177 State Optional Requirements~~[1]~~	3.50%	6.00%	8.75%	12.00%

~~[1] Intermediate volume manufacturers may meet these new total Section 177 State optional requirements entirely with TZEV credits.~~

~~1~~i. *Trading and Transferring ZEV and TZEV Credits within West Region Pool and East Region Pool.* Manufacturers that have fully complied with the optional Section 177 state compliance path requirements in subdivision 1962.1(d)(5)(E)3. may trade or transfer 2012 and subsequent model year ZEV and TZEV credits within the West Region pool to meet the requirements in subdivision C.4.5(e)(~~1~~2)(~~A~~C) and will incur no premium on their credit values. For example, for a manufacturer to make up a 2019 model year shortfall of 100 credits in State X, the manufacturer may transfer 100 (2012 through 2019 model year) ZEV credits from State Y, within the West Region pool. Manufacturers that have fully complied with the optional Section 177 state compliance path requirements in subdivision 1962.1(d)(5)(E)3. may trade or transfer 2012 and subsequent model year ZEV and TZEV credits within the East Region pool to meet the same model year requirements in subdivision C.4.5(e)(~~1~~2)(~~A~~C), and will incur no premium on their credit values. For example, for a manufacturer to make up a 2019 model year shortfall of 100 credits in State W, the manufacturer may transfer 100 (2012 through 2019 model year) ZEV credits from State Z, within the East Region pool.

~~2~~ii. *Trading and Transferring ZEV and TZEV Credits between the West Region Pool and the East Region Pool.* Manufacturers that have fully complied with the optional Section 177 state compliance path requirements in subdivision 1962.1(d)(5)(E)3. may trade or transfer 2012 and subsequent model year ZEV and TZEV credits to meet the same model year requirements in subdivision C.4.5(e)(~~1~~2)(~~A~~C) between the West Region pool and the East Region pool; however, any credits traded will incur a premium of 30% of their value. For example, in order for a manufacturer to make up a 2019 model year shortfall of 100 credits in the West Region Pool, the manufacturer may transfer 130 (2012 through 2019 model year) credits from the East Region Pool. No credits may be traded or transferred to the East Region pool or West Region pool from a manufacturer's California ZEV bank, or from the East Region pool or West Region pool to a manufacturer's California ZEV bank.

(~~B~~D) *Reporting Requirements.* On an annual basis, by May 1st of the calendar year following the close of a model year, each manufacturer that elects the optional Section 177 state compliance path under subdivision 1962.1(d)(5)(E)3. shall submit, in writing, to the Executive Officer and each Section 177 state a report, including an itemized list, that demonstrates the manufacturer has met the requirements of subdivisions C.4.5(e)(~~1~~2)(B) and (~~A~~C) within the East Region pool and within the West Region pool. The itemized list shall include the following:

1. The manufacturer's total applicable volume of PCs and LDTs delivered for sale in each Section 177 state within the regional pool, as determined under subdivision C.2.1(b).

2. Make, model, ~~,~~credit earned, and Section 177 state where delivery for sale of TZEVs and ZEV occurred and to meet manufacturer's requirements under subdivision C.4.5(e)(~~1~~2)(A), (B), and (C).

(~~C~~E) *Right to Request Vehicle Identification Numbers.* Upon request by the Executive officer~~,~~ or a Section 177 state, each manufacturer that elects the optional Section 177 state compliance path under subdivision 1962.1(d)(5)(E)3. or subdivision C.4.5(e)(2) shall provide the vehicle identifications numbers in the report required by subdivision C.4.5(e)(3)(~~B~~D).

(~~D~~F) *Failure to Meet Optional Section 177 State Compliance Path Requirements.* A large volume manufacturer that elects the optional Section 177 state compliance path subdivision under 1962.1(d)(5)(E)3. and does not meet the modified percentages in subdivision C.4.5(e)(~~1~~2)(~~A~~C) in a model year or make up their deficit within the specified time and with the specified credits allowed by subdivision C.7.7(a) in all Section 177 states of the applicable pool, shall be treated as subject to the total ZEV percentage requirements in section C.2 for all future model years in each Section 177 state, and–the pooling provisions in subdivision C.4.5(e)(~~1~~2)(~~A~~C) shall not apply. Any future transfers of ZEV or TZEV credits between Section 177 states will be prohibited.

An intermediate volume manufacturer that elects the optional Section 177 state compliance path under subdivision 1962.1(d)(5)(E)3. or subdivision C.4.5(e)(2) but delivers fewer ZEVs than required under subdivision C.4.5(e)(2)(A) shall make up the deficit by the end of the second model year in which the manufacturer is complying as an large volume manufacturer. For example, an intermediate volume manufacturer that becomes subject to large volume manufacturer requirements in 2019 model year must deliver the number of ZEVs required by subdivision C.4.5(e)(2)(A) by June 30, 2021. The pooling provisions in subdivision C.4.5(e)(2)(A). shall not apply to an intermediate volume manufacturer that fails to provide the required amount of ZEVs under subdivision C.4.5(e)(2)(A). In that case, any future transfers of ZEV or TZEV credits within or between Section 177 states will be prohibited.

Penalties shall be calculated separately by each Section 177 state where a manufacturer fails to make up the ZEV deficits within the specified time and with the credits allowed by subdivision C.7.7(a).

(~~E~~G) The provisions of section C shall apply to a manufacturer electing the optional Section 177 state compliance path, except as specifically modified by this subdivision C.4.5(e)(~~1~~2).

*****

7. Generation and Use of ZEV Credits; Calculation of Penalties

*****

7.7 Requirement to Make Up a ZEV Deficit.

(a) *General*. A manufacturer that produces and delivers for sale in California fewer ZEVs than required to meet their ZEV credit obligation, in a given model year shall submit a plan to the Executive Officer demonstrating how the manufacturer will make up the deficit ~~by the next~~ ~~model year~~ ~~by submitting to the Executive Officer~~ with a commensurate amount of ZEV credits. The Executive Officer will approve a plan allowing up to three model years to make up the deficit. In the case where no ZEV was produced and delivered for sale in California in the model year, the Executive Officer will approve no more than one year to make up the deficit. The amount of ZEV credits required to be submitted shall be calculated by [i] adding the number of credits from ZEVs produced and delivered for sale in California by the manufacturer for the model year to the number of credits from TZEVs produced and delivered for sale in California by the manufacturer for the model year (for a LVM, not to exceed that permitted under subdivision C.2.2), and [ii] subtracting that total from the number of credits required to be produced and delivered for sale in California by the manufacturer for the model year. BEVx, TZEV, NEV, or converted AT PZEV and PZEV credits are not allowed to be used to fulfill a manufacturer’s ZEV deficit; only credits from ZEVs may be used to fulfill a large volume manufacturer's ZEV deficit. Intermediate volume manufacturers may only use ZEV and TZEV credits to fulfill a manufacturer’s ZEV deficit.