

APPENDIX A-1

PROPOSED REGULATION ORDER

Zero Emission Vehicle Regulation: 2009 through 2017 Model Years

Title 13, California Code of Regulations

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**Appendix A-1
PROPOSED REGULATION ORDER**

Amend section 1962.1, title 13, California Code of Regulation (CCR), to read as follows:

[Note: Set forth below are the 2012 amendments to the California zero emission vehicle (ZEV) regulation. The text of the amendments is shown in underline to indicate additions and ~~strikeout~~ to indicate deletions, compared to the preexisting regulatory language.]

§ 1962.1 Zero-Emission Vehicle Standards for 2009 and Subsequent through 2017 Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.

(a) ZEV Emission Standard. The Executive Officer shall certify new 2009 ~~and subsequent~~ through 2017 model year passenger cars, light-duty trucks and medium-duty vehicles as ZEVs if the vehicles produce zero exhaust emissions of any criteria pollutant (or precursor pollutant) under any and all possible operational modes and conditions.

(b) Percentage ZEV Requirements.

(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 ~~section~~ subdivision (b)(1)(C), produced by the manufacturer and delivered for sale in California that must be ZEVs, subject to the conditions in this ~~section~~ subdivision 1962.1(b). The ZEV requirement will be based on the annual NMOG production report for the appropriate model year.

<i>Model Years</i>	<i>Minimum ZEV Requirement</i>
2009 through 2011	11 %
2012 through 2014	12 %
2015 through 2017	14 %
2018 and subsequent	16 %

(B) Calculating the Number of Vehicles to Which the Percentage ZEV Requirement is Applied. For purposes of calculating a manufacturer's requirement in subdivision 1962.1(b)(1) for model years 2009 through 2017, a manufacturer may use a three year average method or same model year method, as described below in sections 1. and 2. A manufacturer may switch methods on an annual basis. This production averaging is used to determine ZEV requirements specified in subdivision 1962.1 (b)(1)(A) only, and has no effect on a manufacturer's size determination, specified in section 1900. In applying the ZEV requirement, a PC, LDT1, or LDT2, that is produced

by one manufacturer (e.g., Manufacturer A), but is marketed in California by another manufacturer (e.g., Manufacturer B) under the other manufacturer's (Manufacturer B) nameplate, shall be treated as having been produced by the marketing manufacturer (Manufacturer B).

1. For the 2009 through 2011 model years, a manufacturer's production volume of PCs and LDT1s, and LDT2s as applicable, produced and delivered for sale in California will be based on the three-year average of the manufacturer's volume of PCs and LDT1s, and LDT2s as applicable, produced and delivered for sale in California in the 2003 through 2005 model years. As an alternative to the three-year averaging of prior year production described above, a manufacturer may elect to base its ZEV obligation on the number of PCs and LDT1s, and LDT2s, as applicable, produced by the manufacturer and delivered for sale in California that same model year.

2. For 2012 and subsequent through 2017 model years, a manufacturer's production volume for the given model year will be based on the three-year average of the manufacturer's volume of PCs and LDT1s, and LDT2s, as applicable, produced and delivered for sale in California in the prior fourth, fifth and sixth model year (for example, 2013 model year ZEV requirements will be based on California production volume of PCs and LDT1s, and LDT2s as applicable, for the 2007 to 2009 model years, and 2014 model year ZEV requirements will be based on California production volume of PCs and LDTs, for the 2008 to 2010 model years). ~~This production averaging is used to determine ZEV requirements only, and has no effect on a manufacturer's size determination. As an alternative to the three-year averaging of prior year production described above, a manufacturer may elect to base its ZEV obligation on the number of PCs and LDT1s, and LDT2s, as applicable, produced by the manufacturer and delivered for sale in California that same model year. For 2012 and subsequent model years, a manufacturer may, on an annual basis, select either the three-year average or the same model-year calculation method. In applying the ZEV requirement, a PC, LDT1, or LDT2 as applicable, that is produced by one manufacturer (e.g., Manufacturer A), but is marketed in California by another manufacturer (e.g., Manufacturer B) under the other manufacturer's (Manufacturer B) nameplate, shall be treated as having been produced by the marketing manufacturer (Manufacturer B).~~

(C) Phase-in of ZEV Requirements for LDT2s. Beginning with the ZEV requirements for the 2009 model year, a manufacturer's LDT2 production shall be included in determining the manufacturer's overall ZEV requirement under section subdivision (b)(1)(A) in the increasing percentages shown in the table below.

2009	2010	2011	2012+
51%	68%	85%	100%

(D) Exclusion of ZEVs in Determining a Manufacturer's Sales Volume. In calculating, for purposes of section subdivisions 1962.1(b)(1)(B) and

1962.1(b)(1)(C), the volume of PCs, LDT1s, and LDT2s that a manufacturer has produced and delivered for sale in California, the manufacturer shall exclude the number of ZEVs produced by the manufacturer, or by a subsidiary in which that the manufacturer has a greater than 50 percent ownership interest, and delivered for sale in California.

(2) Requirements for Large Volume Manufacturers.

(A) Primary Requirements for Large Volume Manufacturers through Model Year 2011.

In the 2009 through 2011 model years, a manufacturer must meet at least 22.5 percent of its ZEV requirement with ZEVs or ZEV credits generated by such vehicles, and at least another 22.5 percent with ZEVs, AT PZEVs, or credits generated by such vehicles. The remainder of the manufacturer's ZEV requirement may be met using PZEVs or credits generated by such vehicles.

(B) Alternative Requirements for Large Volume Manufacturers through Model Year 2011.

1. Minimum Floor for Production of Type III ZEVs.

a. [Reserved].

b. Requirement for the 2009-2011 Model Years. A manufacturer electing the alternative compliance requirements during model years 2009 through 2011 must produce ZEV credits equal to 0.82 percent of the manufacturer's average annual California sales of PCs and LDT1s, and LDT2s, as applicable, over the three year period from model years 2003 through 2005, ~~through~~ through production, delivery for sale, and placement in service of ZEVs, other than NEVs and Type 0 ZEVs, using the credit substitution ratios for each ZEV Type compared to a Type III prescribed in the table below, or submit an equivalent number of credits generated by such vehicles.

ZEV Types	Credit Substitution Ratio Compared To A Type III ZEV
Type I	2
Type I.5	1.6
Type II	1.33
Type IV	0.8
Type V	0.57

i. Manufacturers may use credits generated by 1997-2003 model year ZEVs that qualify for an extended service multiplier under sections subdivision 1962.1(f) for a year during calendar years 2009-2011, provided that 33 years of such a multiplier will equal 4 ZEV credits.

c. *[Reserved]*.

d. *[Reserved]*.

e. *[Reserved]*.

f. **Exclusion of Additional Credits for Transportation Systems.**

Any additional credits for transportation systems generated in accordance with ~~section~~subdivision 1962.1(g)(5) shall not be counted towards compliance with this ~~section~~subdivision 1962.1(b)(2)(B)1.b.

g. **Carry-over of Excess Credits.**

ZEV credits generated from excess production in model years 2005 through 2008 may be carried forward and applied to the 2009 through 2011 minimum floor requirement specified in ~~section~~subdivision 1962.1(b)(2)(B)1.b. provided that the value of these carryover credits shall be based on the model year in which the credits are used. Beginning with the 2012 model year, these credits may no longer be used to meet the ZEV requirement specified in subdivision 1962.1(b)(2)(B)1.b.; they may be used as ~~Enhanced AT PZEV~~TZEV, AT PZEV, or PZEV credits. ZEV credits earned in model year 2009 ~~and subsequent~~through 2011 would be allowed to be carried forward for two years for application to the ZEV requirement. For example, ZEV credit earned in the 2010 model year would retain full flexibility through the 2012 model year. Starting 2013 model year, ~~at which time that credit could only be used as Enhanced AT PZEV~~TZEV, AT PZEV, or PZEV credits, and could not be used to satisfy the ZEV credit obligation, which may only be satisfied with credit generated from ZEVs.

h. **Failure to Meet Requirement for Production of ZEVs.**

A manufacturer that, after electing the alternative requirements in ~~section~~subdivision 1962.1(b)(2)(B) for any model year from 2009 through 2011, fails to meet the requirement in ~~section~~subdivision 1962.1(b)(2)(B)1.b. by the end of the 2011 model year, shall be treated as subject to the primary requirements in ~~section~~subdivision 1962.1(b)(2)(A) for the 2009 through 2011 model years.

i. **Rounding Convention.**

The number of ZEVs needed for a manufacturer under ~~section~~subdivision 1962.1(b)(2)(B)1.b. shall be rounded to the nearest whole number.

2. **Compliance with Percentage ZEV Requirements.**

In the 2009 through 2011 model years, a manufacturer electing the alternative compliance requirements in a given model year must meet at least 45 percent of its ZEV requirement for that model year with ZEVs, AT PZEVs, ~~or Enhanced AT PZEVs~~TZEVs, or credits generated from such vehicles. ZEV credits generated for compliance with the alternative requirements during any given model year will be applied to the 45 percent which may be met with ZEVs, AT PZEVs, ~~Enhanced AT PZEVs~~TZEVs, or credits

generated from such vehicles, but not PZEVs. The remainder of the manufacturer's ZEV requirement may be met using PZEVs or credits generated from such vehicles.

3. Sunset of Alternative Requirements after the 2011 Model Year.

The alternative requirements in ~~section~~subdivision 1962.1(b)(2)(B) are not available after the 2011 model year.

(C) Election of the Primary or Alternative Requirements for Large Volume Manufacturers for the 2009 through 2011 Model Years. A manufacturer shall be subject to the primary ZEV requirements for the 2009 model year unless it notifies the Executive Officer in writing prior to the start of the 2009 model year that it is electing to be subject to the alternative compliance requirements for that model year. Thereafter, a manufacturer shall be subject to the same compliance option as applied in the previous model year unless it notifies the Executive Officer in writing prior to the start of a new model year that it is electing to switch to the other compliance option for that new model year. However, a manufacturer that has previously elected the primary ZEV requirements for one or more of the 2009 through 2011 model years may prior to the end of the 2011 model year elect the alternative compliance requirements for the 2009 through 2011 model years upon a demonstration that it has complied with all of the applicable requirements for that period in ~~section~~subdivision 1962.1(b)(2)(B)1.b.

(D) Requirements for Large Volume Manufacturers in Model Years 2012 through 2017.

1. 2012 through 2014 Requirements. On an annual basis, a manufacturer must meet the total ZEV obligation with ~~ZEVs or~~ ZEV credits generated by such vehicles, excluding credits generated by NEVs and Type 0 ZEVs equal to at least 0.79% of its annual sales, using either production volume determination method described in ~~section~~subdivision 1962.1(b)(1)(B). No more than 50% of the total obligation may be met with credits generated from PZEVs. No more than 75% of the total obligation may be met with credits generated from AT PZEVs. No more than 93.4% may be met with ~~Enhanced AT PZEVs~~ credits generated from TZEVs, Type 0 ZEVs, and NEVs, as limited in ~~section~~subdivision 1962.1(g)(6). The entire ~~requirement~~ obligation may be met solely with credits generated from ZEVs.

2. 2015 through 2017 Requirements. On an annual basis, a manufacturer must meet the total ZEV obligation with ~~ZEVs or~~ ZEV credits generated by such vehicles, excluding credits generated by NEVs and Type 0 ZEVs, equal to at least 3% of its annual sales, using either production volume determination method described in ~~section~~subdivision 1962.1(b)(1)(B). No more than 42.8% of the total obligation may be met with credits generated from PZEVs. No more than 57.1% of the total obligation may be met with credits generated from AT PZEVs. No more than 78.5% may be met with ~~Enhanced AT PZEVs~~ credits generated from TZEVs, Type 0 ZEVs, and NEVs, as limited in ~~section~~subdivision 1962.1(g)(6). The entire ~~requirement~~ obligation may be met solely with credits generated from ZEVs.

3. The following table enumerates a manufacturer's annual percentage obligation for the 2012 though 2017 model years if the manufacturer produces the minimum number of credits required to meet its ZEV obligation and the maximum percentage for the ~~Enhanced AT PZEV~~ TZEV, AT PZEV, and PZEV categories.

<i>Model Years</i>	<i>Total ZEV Percent Requirement</i>	<i>Minimum ZEV floor</i>	<i>Enhanced AT PZEVs, TZEVs, Type 0s, or NEVs</i>	<i>AT PZEVs</i>	<i>PZEVs</i>
2012 – 2014	12	0.79	2.21	3.0	6.0
2015 – 2017	14	3.0	3.0	2.0	6.0

4. Use of Additional Credits for Transportation Systems. Any additional credits for transportation systems generated from ZEVs in accordance with ~~sections~~ subdivision 1962.1(g)(5) may be used to meet up to one tenth of the portion of the ZEV obligation which must be met with ZEVs, specified in ~~sections~~ subdivision 1962.1(b)(2)(D).

(E) ~~[Reserved]. Requirements for Large Volume Manufacturers in Model Year 2018 and Subsequent.~~

~~In the 2018 and subsequent model years, a manufacturer must meet a ZEV total percent requirement of 16 percent. The maximum portion of a manufacturer's percentage ZEV requirement that may be satisfied by PZEVs that are not Enhanced AT PZEVs or AT PZEVs, or credits generated by such vehicles, is limited to 6 percent of the manufacturer's applicable California PC, LDT1, and LDT2 production volume; Enhanced AT PZEVs and AT PZEVs or credits generated by such vehicles may be used either alone or in combination, to meet up to one-half of the manufacturer's remaining ZEV requirement.~~

(3) Requirements for Intermediate Volume Manufacturers. ~~In~~ For 2009 and through 2017 ~~subsequent~~ model years, an intermediate volume manufacturer may meet its ZEV requirement with up to 100 percent PZEVs or credits generated by such vehicles. For 2015 through 2017 model years, the overall credit percentage requirement for an intermediate volume manufacturer will be 12% instead of 14%.

(4) Requirements for Small Volume Manufacturers and Independent Low Volume Manufacturers. A small volume manufacturer or an independent low volume manufacturer is not required to meet the percentage ZEV requirements. However, a small volume manufacturer or an independent low volume manufacturer may earn and market credits for the ZEVs, TZEVs, AT PZEVs, or PZEVs it produces and delivers for sale in California.

(5) ~~Counting ZEVs and PZEVs in Fleet Average NMOG Calculations.~~ ~~For the purposes of calculating a manufacturer's fleet average NMOG value and NMOG credits under sections 1961(b) and (c), a vehicle certified as a ZEV is counted as one ZEV, and a PZEV is counted as one SULEV certified to the 150,000 mile standards regardless of any ZEV or PZEV multipliers.~~ **[Reserved].**

(6) ~~[Reserved].~~

(7) Changes in Small Volume, Independent Low Volume, and Intermediate Volume Manufacturer Status.

(A) Increases in California Production Volume. In 2009 and ~~subsequent~~ through 2017 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, or if an independent low volume manufacturer's average California production volume exceeds 10,000 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, the manufacturer shall no longer be treated as a small volume, or independent low volume manufacturer, as applicable, and shall comply with the ZEV requirements for intermediate volume manufacturers, as applicable, beginning with the sixth model year after the last of the three consecutive model years.

If an intermediate volume manufacturer's average California production volume exceeds 60,000 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 180,000 vehicles in a three-year period), the manufacturer shall no longer be treated as an intermediate volume manufacturer and shall, beginning with the sixth model year after the last of the three consecutive model-years, or in model year 2018 (whichever occurs first), comply with all ZEV requirements for LVMs.

Requirements will begin in the fourth model year, or in model year 2018 (whichever occurs first) rather than the sixth model year when a manufacturer ceases to be a small or ~~intermediate-independent low~~ volume manufacturer in 2003 or subsequent years due to the aggregation requirements in majority ownership situations, except that if the majority ownership in the manufacturer was acquired prior to the 2001 model year, the manufacturer must comply with the stepped-up ZEV requirements starting in the 2010 model year. Requirements will begin in the fourth model year, or in model year 2018 (whichever occurs first) rather than the sixth model year when a manufacturer ceases to be an intermediate volume manufacturer in 2003 or subsequent years due to the aggregation requirements in majority ownership situation.

(B) Decreases in California Production Volume. If a manufacturer's average California production volume falls below 4,500, 10,000, or 60,000 units of new PCs, LDTs, and MDVs, ~~as applicable~~, based on the average number of vehicles produced and delivered for sale for the three previous consecutive model years, the manufacturer shall be treated as a small volume, independent low volume, or intermediate volume manufacturer, as applicable, and shall be subject to the requirements for a small volume, independent low volume, or intermediate volume manufacturer beginning with the next model year.

(C) Calculating California Production Volume in Change of Ownership Situations. Where a manufacturer experiences a change in ownership in a particular model year, the change will affect application of the aggregation requirements on the manufacturer starting with the next model year. When a manufacturer is simultaneously producing two model years of vehicles at the time of a change of ownership, the basis of determining next model year must be the earlier model year. The manufacturer's small, independent low, or intermediate volume

manufacturer status for the next model year shall be based on the average California production volume in the three previous consecutive model years of those manufacturers whose production volumes must be aggregated for that next model year. For example, where a change of ownership during the 2010 calendar year occurs and the manufacturer is producing both 2010 and 2011 model year vehicles results in a requirement that the production volume of Manufacturer A be aggregated with the production volume of Manufacturer B, Manufacturer A's status for the 2011 model year will be based on the production volumes of Manufacturers A and B in the 2008-2010 model years. Where the production volume of Manufacturer A must be aggregated with the production volumes of Manufacturers B and C for the 2010 model year, and during that model year a change in ownership eliminates the requirement that Manufacturer B's production volume be aggregated with Manufacturer A's, Manufacturer A's status for the 2011 model year will be based on the production volumes of Manufacturers A and C in the 2008-2010 model years. In either case, the lead time provisions in sections subdivisions 1962.1(b)(7)(A) and (B) will apply.

(c) Partial ZEV Allowance Vehicles (PZEVs).

(1) Introduction. This section subdivision 1962.1(c) sets forth the criteria for identifying vehicles delivered for sale in California as PZEVs. The PZEV is a vehicle that cannot be certified as a ZEV but qualifies for a PZEV allowance of at least 0.2.

(2) Baseline PZEV Allowance. In order for a vehicle to be eligible to receive a PZEV allowance, the manufacturer must demonstrate compliance with all of the following requirements. A qualifying vehicle will receive a baseline PZEV allowance of 0.2.

(A) SULEV Standards. For 2009 through 2014 model years, Ccertify the vehicle to the 150,000-mile SULEV exhaust emission standards for PCs and LDTs in section subdivision 1961(a)(1). Bi-fuel, fuel-flexible and dual-fuel vehicles must certify to the applicable 150,000-mile SULEV exhaust emission standards when operating on both fuels. For 2015 through 2017 model years, certify the vehicle to the 150,000-mile SULEV 20 or 30 exhaust emission standards for PCs and LDTs in subdivision 1961.2(a)(1). Bi-fuel, fuel flexible and dual-fuel vehicles must certify to the applicable 150,000-mile SULEV 20 or 30 exhaust emission standards when operating on both fuels;

(B) Evaporative Emissions. For 2009 through 2014 model years, Ccertify the vehicle to the evaporative emission standards in section subdivision 1976(b)(1)(E) (zero-fuel evaporative emissions standards). For 2015 through 2017 model years, certify the vehicle to the evaporative emission standards in subdivision 1976(b)(1)(G);

(C) OBD. Certify that the vehicle will meet the applicable on-board diagnostic requirements in sections 1968.1 or 1968.2, as applicable, for 150,000 miles; and

(D) Extended Warranty. Extend the performance and defects warranty period set forth in ~~section~~subdivision 2037(b)(2) and 2038(b)(2) to 15 years or 150,000 miles, whichever occurs first except that the time period is to be 10 years for a zero-emission energy storage device used for traction power (such as a battery, ultracapacitor, or other electric storage device).

(3) Zero-Emission VMT PZEV Allowance.

(A) Calculation of Zero-Emission VMT Allowance. A vehicle that meets the requirements of ~~section~~subdivision 1962.1(c)(2) and has zero-emission vehicle miles traveled (“VMT”) capability will generate an additional zero-emission VMT PZEV allowance calculated as follows:

<i>Range</i>	<i>Zero-emission VMT Allowance</i>
$EAER_u < 10$ miles	0.0
$EAER_u \geq 10$ miles to 40 miles and $R_{cda} = 10$ miles to 40 miles	$EAER_u \times (1 - UF_{R_{cda}})/11.028$
$R_{cda} \geq EAER_u > 40$ miles	$EAER_{u40}/29.63$ $(EAER_{u40}) \times [1 - (UF_{40} * R_{cda}/EAER_u)]/$ 11.028 Where, UF_{40} = utility factor at 40 miles $EAER_{u40}$ = 40 miles

A vehicle cannot generate more than 1.39 zero-emission VMT PZEV allowances.

The urban equivalent all-electric range ($EAER_u$) and urban charge depletion range actual (R_{cda}) shall be determined in accordance with section F.12 and F.5.5, respectively, of the “California Exhaust Emission Standards and Test Procedures for 2009 and Subsequent Model Zero-Emission Vehicles, and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium Duty Vehicle Classes,” incorporated by reference in section 1962.1(h). The utility factor (UF) based on the charge depletion range actual (urban cycle) (R_{cda}) shall be determined according to Section 4.5.2 Equation 5 and the “Fleet UF” Utility Factor Equation Coefficients in Section 4.5.2, Table 3 of SAE J2841 March 2009.

~~**(B) Alternative Procedures.** As an alternative to determining the zero-emission VMT allowance in accordance with the preceding section 1962.1(c)(3)(A), a manufacturer may submit for Executive Officer approval an~~

~~alternative procedure for determining the zero-emission VMT potential of the vehicle as a percent of total VMT, along with an engineering evaluation that adequately substantiates the zero-emission VMT determination. For example, an alternative procedure may provide that a vehicle with zero emissions of one regulated pollutant (e.g., NOx) and not another (e.g., NMOG) will qualify for a zero-emission VMT allowance of 1.5.~~

~~(C) [Reserved].~~

(4) PZEV Allowance for Advanced ZEV Componentry. A vehicle that meets the requirements of ~~section~~subdivision 1962.1(c)(2) may qualify for an advanced componentry PZEV allowance as provided in this section 1962.1(c)(4).

(A) Use of High Pressure Gaseous Fuel or Hydrogen Storage System. A vehicle equipped with a high pressure gaseous fuel storage system capable of refueling at 3600 pounds per square inch or more and operating exclusively on this gaseous fuel shall qualify for an advanced componentry PZEV allowance of 0.2. A vehicle capable of operating exclusively on hydrogen stored in a high pressure system capable of refueling at 5000 pounds per square inch or more, stored in nongaseous form, or at cryogenic temperatures, shall instead qualify for an advanced componentry PZEV allowance of 0.3.

(B) Use of a Qualifying HEV Electric Drive System.

1. Classification of HEVs. HEVs qualifying for additional advanced componentry PZEV allowance or allowances that may be used in the AT PZEV category are classified in one of ~~five~~four types of HEVs based on the criteria in the following table.

<i>Characteristics</i>	<i>Type C</i>	<i>Type D</i>	<i>Type E</i>	<i>Type F</i>	<i>Type G</i>
Electric Drive System Peak Power Output	≥ 10 kW	≥ 10 kW	≥ 50 kW	Zero-Emission VMT allowance; ≥ 10 mile all-electric range (UDDS drive cycle) <u>range</u>	Zero-Emission VMT allowance; ≥ 10 mile all-electric range (US06 drive cycle) <u>range</u>
Traction Drive System Voltage	≤ 60 Volts	≥ 60 Volts	≥ 60 volts	≥ 60 volts	≥ 60 volts
Traction Drive Boost	Yes	Yes	Yes	Yes	Yes
Regenerative Braking	Yes	Yes	Yes	Yes	Yes
Idle Start/Stop	Yes	Yes	Yes	Yes	Yes

2. ***[Reserved]***

3. ***[Reserved]***

4. ***[Reserved] Type C HEVs.*** A PZEV that the manufacturer demonstrates to the reasonable satisfaction of the Executive Officer meets all of the criteria for a Type C HEV, and that is equipped with an advanced traction energy storage system — such as lithium ion batteries, nickel metal-hydride batteries, ultracapacitors, or other similar systems — with a design lifetime of at least 10 years, qualifies for an additional advanced componentry allowance of 0.2 in the 2009 through 2011 model years, 0.15 in the 2012 through 2014 model years, and 0.1 in the 2015 and subsequent model years.

5. ***Type D HEVs.*** A PZEV that the manufacturer demonstrates to the reasonable satisfaction of the Executive Officer meets all of the criteria for a Type D HEV qualifies for an additional advanced componentry allowance of 0.4 in the 2009 through 2011 model years, 0.35 in the 2012 through 2014 model years, and 0.25 in the 2015 and subsequent model years through 2017 model years.

6. ***Type E HEVs.*** A PZEV that the manufacturer demonstrates to the reasonable satisfaction of the Executive Officer meets all of the criteria for a Type E HEV qualifies for an additional advanced componentry allowance of 0.5 in the 2009 through 2011 model years, 0.45 in the 2012 through 2014 model years, and 0.35 in the 2015 and subsequent through 2017 model years.

7. Type F HEVs. A PZEV that the manufacturer demonstrates to the reasonable satisfaction of the Executive Officer meets all of the criteria for a Type F HEV, including achieving 10 miles or more of all-electric UDDS range, qualifies for an additional advanced componentry allowance of 0.72 in the 2009 through 2011 model years, 0.67 in the 2012 through 2014 model years, and 0.57 in the 2015 and subsequent through 2017 model years.

8. Type G HEVs. A PZEV that the manufacturer demonstrates to the reasonable satisfaction of the Executive Officer meets all of the criteria for a Type G HEV, including achieving 10 miles or more of all-electric US06 range, qualifies for an additional advanced componentry allowance of 0.95 in the 2009 through 2011 model years, 0.9 in the 2012 through 2014 model years, and 0.8 in the 2015 and subsequent through 2017 model years.

9. Severability. In the event that all or part of ~~section subdivision~~ 1962.1(c)(4)(B)1. - 8. is found invalid, the remainder of section 1962.1, ~~including the remainder of section 1962.1(c)(4)(B)1. - 8. if any,~~ remains in full force and effect.

(5) PZEV Allowance for Low Fuel-Cycle Emissions. A vehicle that makes exclusive use of fuel(s) with very low fuel-cycle emissions shall receive a PZEV allowance of 0.3. In order to receive the PZEV low fuel-cycle emissions allowance, a manufacturer must demonstrate to the Executive Officer, using peer-reviewed studies or other relevant information, that NMOG emissions associated with the fuel(s) used by the vehicle (on a grams/mile basis) are lower than or equal to 0.01 grams/mile. Fuel-cycle emissions must be calculated based on near-term production methods and infrastructure assumptions, and the uncertainty in the results must be quantified.

(6) Calculation of PZEV Allowance.

(A) Calculation of Combined PZEV Allowance for a Vehicle. The combined PZEV allowance for a qualifying vehicle in a particular model year is the sum of the PZEV allowances listed in this ~~section subdivision~~ 1962.1(c)(6), multiplied by any PZEV introduction phase-in multiplier listed in ~~section subdivision~~ 1962.1(c)(7), subject to the caps in ~~section subdivision~~ 1962.1(c)(6)(B).

1. Baseline PZEV Allowance. The baseline PZEV allowance of 0.2 for vehicles meeting the criteria in ~~section subdivision~~ 1962.1(c)(2);

2. Zero-Emission VMT PZEV Allowance. The zero-emission VMT PZEV allowance, if any, determined in accordance with ~~section subdivision~~ 1962.1(c)(3);

3. Advanced Componentry PZEV Allowance. The advanced ZEV componentry PZEV allowance, if any, determined in accordance with ~~section subdivision~~ 1962.1(c)(4); and

4. **Fuel-Cycle Emissions PZEV Allowance.** The fuel-cycle emissions PZEV allowance, if any, determined in accordance with ~~section~~subdivision 1962.1(c)(5).

(B) **Caps on the Value of an AT PZEV Allowance.**

1. **Cap for 2009 and ~~Subsequent~~through 2017 Model- Year Vehicles.** The maximum value an AT PZEV may earn before phase-in multipliers, including the baseline PZEV allowance, is 3.0.

2. **[Reserved].**

(7) **PZEV Multipliers.**

(A) **[Reserved].**

(B) **Introduction Phase-In Multiplier for PZEVs That Earn a Zero-Emission VMT Allowance.** Each 2009 through 2011 model year PZEV that earns a zero-emission VMT allowance under section 1962.1(c)(3) and is sold to a California motorist or is leased for three or more years to a California motorist who is given the option to purchase or re-lease the vehicle for two years or more at the end of the first lease term, qualifies for a phase-in multiplier of 1.25. This subdivision 1962.1 (c)(7)(B) multiplier will no longer be available after model year 2011.

(d) **Qualification for ZEV Multipliers and Credits.**

(1) **[Reserved].**

(2) **[Reserved].**

(3) **[Reserved].**

(4) **[Reserved].**

(5) **~~ZEV Credits for 2009 and Subsequent~~through 2017 Model Years ZEVs.**

(A) **ZEV Tiers for Credit Calculations.** ~~ZEV eC~~redits from a particular ZEV are based on the assignment of a given ZEV into one of the following eight ZEV tiers:

<i>ZEV Tier</i>	<i>UDDS ZEV Range (miles)</i>	<i>Fast Refueling Capability</i>
NEV	No minimum	N/A
Type 0	< 50	N/A
Type I	≥ 50, <75	N/A
Type I.5	≥ 75, <100	N/A
Type II	≥ 100	N/A
Type III	≥ 100	Must be capable of replacing 95 miles (UDDS ZEV range) in ≤ 10 minutes per section 1962.1(d)(5)(B)
	≥ 200	N/A
Type IV	≥ 200	Must be capable of replacing 190 miles (UDDS ZEV range) in ≤ 15 minutes per section 1962.1(d)(5)(B)
Type V	≥ 300	Must be capable of replacing 285 miles (UDDS ZEV range) in ≤ 15 minutes per section 1962.1(d)(5)(B)

Type I.5x and Type IIx vehicles are defined in subdivision 1962.1(d)(5)(G) and (i)(10).

(B) Fast Refueling. The “fast refueling capability” requirement for a 2009 and subsequent through 2017 model year Type III, IV, or V ZEV in ~~section~~ subdivision 1962(d)(5)(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 ZEVs that utilize more than one ZEV fuel, such as plug-in fuel cell vehicles, the Executive Officer may choose to waive these ~~section~~ subdivision 1962.1(d)(5)(B) fast refueling requirements and base the amount of credit earned on UDDS ZEV range, as specified in ~~section~~ subdivision 1962.1(d)(5)(A).

(C) ZEV Credits for 2009 and Subsequent through 2017 Model Year ZEVs. A 2009 and subsequent through 2017 model-year ZEV, including a Type I.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 and subsequent 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 the same state (i.e California) in order to earn the total credit amount. 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>	
	<u>2009-2017</u> ₁	<u>2012 - 2017</u> ₂₀₁₈₊
NEV	0.30	0.30
Type 0	1	1
Type I	2	2
Type I.5	2.5	2.5
<u>Type I.5x</u>	<u>n/a</u>	<u>2.5</u>
Type II	3	3
<u>Type IIx</u>	<u>n/a</u>	<u>3</u>
Type III	4	3 <u>4</u>
Type IV	5	3 <u>5</u>
Type V	7	3 <u>2012-2014: 7</u> <u>2015-2017: 9</u>

(D) Multiplier for Certain ZEVs. 2009 through 2011 model-year ZEVs, excluding NEVs or Type 0 ZEVs, shall qualify for a multiplier of 1.25 if it is either sold to a motorist or is leased for three or more years to a motorist who is given the option to purchase or re-lease the vehicle for two years or more at the end of the first lease term. This subdivision 1962.1 (d)(5)(D) multiplier will no longer be available after model year 2011.

(E) Counting Specified ZEVs Placed in a Section 177 State and in California.

1. Provisions for 2009 Model Year.

§1962.1
A-1-16

a. Manufacturers with a ZEV requirement producing ZEVs, excluding NEVs and Type 0 ZEVs, that are either certified to the California ZEV standards or approved as part of an advanced technology demonstration program and are placed in service in a section 177 state, may be counted towards compliance with the California percentage ZEV requirements in ~~section~~subdivision 1962.1(b), including the requirements in ~~section~~subdivision 1962.1(b)(2)(B), as if they were delivered for sale and placed in service in California.

b. Manufacturers with a ZEV requirement producing ZEVs, excluding NEVs and Type 0 ZEVs, that are certified to the California ZEV standards or approved as part of an advanced technology demonstration program and are placed in service in California may be counted towards the percentage ZEV requirements of any section 177 state, including requirements based on ~~section~~subdivision 1962.1(b)(2)(B).

2. Provisions for 2010 through 2017 Model Years. Manufacturers with a ZEV requirement producing Specified model-year ZEVs, including Type I.5x and Type IIx vehicles, excluding NEVs and Type 0 ZEVs, that are either certified to the California ZEV standards applicable for the ZEV's model year or approved as part of an advanced technology demonstration program and are 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 ~~section~~subdivision 1962.1(b), provided that the credits are multiplied by the ratio of an LVM's manufacturer's applicable production volume for a model year, as specified in ~~section~~subdivision 1962.1(b)(1)(B), in the state receiving credit to the LVM's manufacturer's applicable production volume (hereafter, "proportional value"), as specified in section 1962.1(b)(1)(B), for the same model year in California. Credits generated 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 ~~section~~subdivision 1962.1(d)(5)(C). However, credits generated by 2010 and 2011 model-year vehicles produced, delivered for sale, and placed in service or as part of an advanced technology demonstration program in California to meet the any section 177 state's requirements that implement ~~section~~subdivision 1962.1(b)(2)(B) are exempt from proportional value, with the number of credits exempted from proportional value allowed being limited to the number of credits needed to satisfy a manufacturer's section 177 state's requirements that implement ~~section~~subdivision 1962.1(b)(2)(B)1.b. The table below specifies the qualifying model years for each ZEV type that may be counted towards compliance in all section 177 states.

<i>Vehicle Type</i>	<i>Model Years:</i>
Type I, I.5, or II ZEV	2009 – 2014 <u>2017</u>
Type III, IV, or V ZEV	2009 – 2017
<u>Type I.5x or Type IIx</u>	<u>2012 – 2017</u>

(F) **NEVs.** Beginning in 2010 model year, to be eligible for the credit amount in ~~section~~subdivision 1962.1(d)(5)(C), NEVs must meet the following specifications and requirements in this ~~section~~subdivision 1962.1(d)(5)(F):

1. **Specifications.** A 2010 through 2017 ~~and subsequent~~ model year NEV earns credit when it meets all the following specifications:

a. **Acceleration.** The vehicle has a 0-20 mph acceleration of 6.0 seconds or less when operating with a payload of 332 pounds and starting with the battery at a 50% state of charge.

b. **Top Speed.** The vehicle has a minimum top speed of 20 mph when operating with a payload of 332 pounds and starting with the battery at a 50% state of charge. The vehicle's top speed shall not exceed 25 mph when tested in accordance with 49 CFR 571.500 (68 FR 43972, July 25, 2003).

c. **Constant Speed Range.** The vehicle has a minimum 25-mile range when operating at constant top speed with a payload of 332 pounds and starting with the battery at 100% state of charge.

2. **Battery Requirement.** A 2010 through 2017 ~~and subsequent~~ model year NEV must be equipped with one or more sealed, maintenance-free batteries.

3. **Warranty Requirement.** A 2010 through 2017 ~~and subsequent~~ model year NEV drive train, including battery packs, must be covered for a period of at least 24 months. ~~At least~~The first 6 months of the first 12 months of the NEV warranty period must be covered by a full warranty; ~~the remainder of the first 12 months and all of the second 12 months of the~~remaining warranty period may be optional extended warranties (available for purchase) and may be prorated. If the extended warranty is prorated, the percentage of the battery pack's original value to be covered or refunded must be at least as high as the percentage of the prorated coverage period still remaining. For the purpose of this computation, the age of the battery pack must be expressed in intervals no larger than three months. Alternatively, a manufacturer may cover 50 percent of the original value of the battery pack for the full period of the extended warranty.

4. Prior to allowance approval, the Executive Officer may request that the manufacturer provide copies of representative vehicle and battery warranties.

5. **NEV Charging Requirements.** Model year 2014 through 2017 NEVs must meet charging connection standard portion of the requirements specified in subdivision 1962.3(c)(2).

(G) Type I.5x and Type IIx Vehicles. Beginning in 2012 model year, to be eligible for the credit amount in subdivision 1962.1(d)(5)(C), Type I.5x and Type IIx vehicles must meet the following specifications and requirements:

1. PZEV Requirements. Type I.5x and Type IIx vehicles must meet all PZEV requirements, specified in subdivision 1962.1(c)(2)(A) through (D).

2. Type G Requirements. Type I.5x and Type IIx vehicles must meet the requirements for Type G advanced componentry allowance, specified in subdivision 1962.1(c)(4)(B).

3. APU Operation. The vehicle's UDDS range after the APU first starts and enters "charge sustaining hybrid operation" must be less than or equal to the vehicle's UDDS all-electric test range prior to APU start. The vehicle's APU cannot start under any user-selectable driving mode unless the energy storage system used for traction power is fully depleted.

4. Minimum Zero Emission Range Requirements.

<u>Vehicle Category</u>	<u>Zero Emission UDDS Range</u>
Type I.5x	≥ 75 miles, < 100 miles
Type IIx	≥ 100 miles

(e) [Reserved].

(f) Extended Service Multiplier for 1997-2003 Model Year ZEVs and PZEVs With ≥ 10 Mile Zero-Emission Range. Except in the case of a NEV, an additional ZEV or PZEV multiplier will be earned by the manufacturer of a 1997 through 2003 model year ZEV, or PZEV with ≥ 10 mile zero-emission range for each full year it is registered for operation on public roads in California beyond its first three years of service, in the 2009 through 2011 calendar years. For additional years of service starting earlier than April 24, 2003, the manufacturer will receive 0.1 times the ZEV credit that would be earned by the vehicle if it were leased or sold new in that year, including multipliers, on a year-by-year basis beginning in the fourth year after the vehicle is initially placed in service. For additional years of service starting April 24, 2003 or later, the manufacturer will receive 0.2 times the ZEV credit that would be earned by the vehicle if it were leased or sold new in that year, including multipliers, on a year-by-year basis beginning in the fourth year after the vehicle is initially placed in service. The extended service multiplier is reported and earned in the year following each continuous year of service. Additional credit cannot be earned after model year 2011.

(g) Generation and Use of ZEV Credits; Calculation of Penalties

(1) Introduction. A manufacturer that produces and delivers for sale in California ZEVs or PZEVs in a given model year exceeding the manufacturer's ZEV

§1962.1
A-1-19

requirement set forth in ~~section~~subdivision 1962.1(b) shall earn ZEV credits in accordance with this ~~section~~subdivision 1962.1(g).

(2) ZEV Credit Calculations.

(A) Credits from ZEVs. For model years 2009 through 2014, ~~the~~ amount of g/mi ZEV credits earned by a manufacturer in a given model year from ZEVs shall be expressed in units of g/mi NMOG, and shall be equal to the number of credits from ZEVs produced and delivered for sale in California that the manufacturer applies towards meeting the ZEV requirements for the model year subtracted from the number of ZEVs produced and delivered for sale in California by the manufacturer in the model year and then multiplied by the NMOG fleet average requirement for PCs and LDT1s, ~~or LDT2s as applicable,~~ for that model year. For model years 2015 through 2017, the amount of credits earned by a manufacturer in a given model year from ZEVs shall be expressed in units of credits.

(B) Credits from PZEVs. For model years 2009 through 2014, ~~the~~ amount of g/mi ZEV credits from PZEVs earned by a manufacturer in a given model year shall be expressed in units of g/mi NMOG, and shall be equal to the total number of PZEVs produced and delivered for sale in California that the manufacturer applies towards meeting its ZEV requirement for the model year subtracted from the total number of PZEV allowances from PZEVs produced and delivered for sale in California by the manufacturer in the model year and then multiplied by the NMOG fleet average requirement for PCs and LDT1s, ~~or LDT2s as applicable,~~ for that model year. For model years 2015 through 2017, the amount of credits earned by a manufacturer in a given model year from PZEVs shall be expressed in units of credits.

(C) Separate Credit Accounts. The number of credits from a manufacturer's [i] ZEVs, [ii] Type I.5x and Type IIx vehicles, [iii] ~~Enhanced AT PZEVs~~TZEVs, [iiii] AT PZEVs, [v] all other PZEVs, and [vi] NEVs shall each be maintained separately.

(D) Rounding Credits. For model year 2012 through 2014, ZEV credits and debits shall be rounded to the nearest 1/1000th only on the final credit and debit totals using the conventional rounding method. For model year 2015 through 2017, ZEV credits and debits shall be rounded to the nearest 1/100th only on the final credit and debit totals using the conventional rounding method.

(E) Converting g/mi NMOG ZEV Credits to ZEV Credits. After model year 2014 compliance, all manufacturer ZEV, Type I.5x and Type IIx, TZEV, AT PZEV, PZEV, and NEV accounts will be converted from g/mi NMOG to credits. Each g/mi NMOG account balance will be divided by 0.035. Starting in model year 2015, credits will no longer be expressed in terms of g/mi credits, but only as credits.

(F) Converting PZEV and AT PZEV Credits after Model Year 2017. After model year 2017 compliance, a manufacturer's PZEV and AT PZEV credit

accounts will be converted to be used for compliance with requirements specified in subdivision 1962.2(b). For LVMs, PZEV accounts will be discounted 93.25%, and AT PZEV accounts will be discounted 75%. For IVMs, PZEV accounts and AT PZEV accounts will be discounted 75%. This will be a one time calculation after model year 2017 compliance is complete.

(3) ZEV Credits for MDVs and LDTs Other Than LDT1s. ZEVs and PZEVs classified as MDVs or as LDTs other than LDT1s may be counted toward the ZEV requirement for PCs, LDT1s and LDT2s as applicable, and included in the calculation of ZEV credits as specified in this ~~section~~subdivision 1962.1(g) if the manufacturer so designates.

(4) ZEV Credits for Advanced Technology Demonstration Programs.

(A) TZEVs. ~~In model years For 2009 through 2014 model years, ZEVs and Enhanced AT PZEVs, excluding NEVs, TZEVs~~ placed in a California advanced technology demonstration program for a period of two or more years, may earn ZEV credits even if it is not “delivered for sale” or registered with the California Department of Motor Vehicles (DMV). To earn such credits, the manufacturer must demonstrate to the reasonable satisfaction of the Executive Officer that the vehicles will be regularly used in applications appropriate to evaluate issues related to safety, infrastructure, fuel specifications or public education, and that for 50 percent or more of the first two years of placement the vehicle will be operated in California. Such a vehicle is eligible to receive the same allowances and credits that it would have earned if placed in service. To determine vehicle credit, the model year designation for a demonstration vehicle shall be consistent with the model year designation for conventional vehicles placed in the same timeframe. Manufacturers may earn credit for as many as 25 vehicles per model, per ZEV state, per year under this ~~section~~subdivision 1962.1(g)(4). A manufacturer’s vehicles in excess of the 25-vehicle cap will not be eligible for advanced technology demonstration program credits.

(B) ZEVs. In model years 2009 through 2017, ZEVs, including Type I.5x and IIx vehicles, excluding NEVs and Type 0 ZEVs, placed in a California advanced technology demonstration program for a period of two or more years, may earn ZEV credits even if it is not “delivered for sale” or registered with the California DMV. To earn such credits, the manufacturer must demonstrate to the reasonable satisfaction of the Executive Officer that the vehicles will be regularly used in applications appropriate to evaluate issues related to safety, infrastructure, fuel specifications or public education, and that for 50 percent or more of the first two years of placement the vehicle will be operated in California. Such a vehicle is eligible to receive the same allowances and credits that it would have earned if placed in service. To determine vehicle credit, the model year designation for a demonstration vehicle shall be consistent with the model year designation for conventional vehicles placed in the same timeframe. Manufacturers may earn credit for as many as 25 vehicles per model, per ZEV state, per year under this subdivision 1962.1(g)(4). A manufacturer’s

vehicles in excess of the 25-vehicle cap will not be eligible for advanced technology demonstration program credits.

(5) ZEV Credits for Transportation Systems.

(A) General. In model years 2009 and subsequent through 2017, a ZEV placed, for two or more years, as part of a transportation system may earn additional ZEV credits, which may be used in the same manner as other credits earned by vehicles of that category, except as provided in subdivision (d)(5)(E)2. and as provided in section subdivision (g)(5)(C) below . In model years 2009 through 2011, an ~~Enhanced AT PZEV~~ TZEV, AT PZEV or PZEV placed as part of a transportation system may earn additional ZEV credits, which may be used in the same manner as other credits earned by vehicles of that category, except as provided in ~~section subdivision (g)(5)(C) below~~. A NEV is not eligible to earn credit for transportation systems. To earn such credits, the manufacturer must demonstrate to the reasonable satisfaction of the Executive Officer that the vehicle will be used as a part of a project that uses an innovative transportation system as described in ~~section subdivision (g)(5)(B) below~~.

(B) Credits Earned. In order to earn additional credit under this section (g)(5), a project must at a minimum demonstrate [i] shared use of ZEVs, Type I.5x and Type IIx vehicles, Enhanced AT PZEVs~~TZEV~~, AT PZEVs, or PZEVs, and [ii] the application of “intelligent” new technologies such as reservation management, card systems, depot management, location management, charge billing and real-time wireless information systems. If, in addition to factors [i] and [ii] above, a project also features linkage to transit, the project may receive further additional credit. For ZEVs only, not including NEVs, a project that features linkage to transit, such as dedicated parking and charging facilities at transit stations, but does not demonstrate shared use or the application of intelligent new technologies, may also receive additional credit for linkage to transit. The maximum credit awarded per vehicle shall be determined by the Executive Officer, based upon an application submitted by the manufacturer and, if appropriate, the project manager. The maximum credit awarded shall not exceed the following:

Type of Vehicle	Model Year	Shared Use, Intelligence	Linkage to Transit
PZEV	through 2011	2	1
AT PZEV	through 2011	4	2
Enhanced AT PZEV <u>TZEV</u>	2009 through 2011	4	2
ZEV	2009 through 2011	6	3
Enhanced AT PZEV <u>TZEV</u>	2012 and subsequent through 2017	<u>40.5</u>	<u>40.5</u>
<u>ZEV and Type I.5x and Type IIx vehicles</u>	2012 and subsequent through 2017	<u>20.75</u>	<u>40.75</u>

(C) Cap on Use of Transportation System Credits.

1. **ZEVs.** Credits earned or allocated by ZEVs or Type I.5x and Type IIx vehicles pursuant to this ~~section~~ subdivision (g)(5), not including all credits earned by the vehicle itself, may be used to satisfy up to one-tenth of a manufacturer's ZEV obligation in any given model year, and may be used to satisfy up to one-tenth of a manufacturer's ZEV obligation which must be met with ZEVs, as specified in ~~section~~ subdivision 1962.1(b)(2)(D)3.

2. **~~Enhanced AT PZEVs~~ TZEVs.** Credits earned or allocated by ~~Enhanced AT PZEVs~~ TZEVs pursuant to this ~~section~~ subdivision (g)(5), not including all credits earned by the vehicle itself, may be used to satisfy up to one-tenth of a manufacturer's ZEV obligation in any given model year, but may only be used in the same manner as other credits earned by vehicles of that category.

3. **AT PZEVs.** Credits earned or allocated by AT PZEVs pursuant to this ~~section~~ subdivision (g)(5), not including all credits earned by the vehicle itself, may be used to satisfy up to one-twentieth of a manufacturer's ZEV obligation in any given model year, but may only be used in the same manner as other credits earned by vehicles of that category.

4. **PZEVs.** Credits earned or allocated by PZEVs pursuant to this ~~section~~ subdivision (g)(5), not including all credits earned by the vehicle itself, may be used to satisfy up to one-fiftieth of the manufacturer's ZEV obligation in any given model year, but may only be used in the same manner as other credits earned by vehicles of that category.

(D) Allocation of Transportation System Credits. Credits shall be assigned by the Executive Officer to the project manager or, in the absence of a separate project manager, to the vehicle manufacturers upon demonstration that a

vehicle has been placed in a project for the time specified in subdivision 1962.1(g)(5)(A). Credits shall be allocated to vehicle manufacturers by the Executive Officer in accordance with a recommendation submitted in writing by the project manager and signed by all manufacturers participating in the project, and need not be allocated in direct proportion to the number of vehicles placed. Credits will no longer be allocated for vehicles placed in transportation systems after 2017 model year.

(6) Use of ZEV Credits. For model years 2009 through 2014, Aa manufacturer may meet the ZEV requirements in any given model year by submitting to the Executive Officer a commensurate amount of g/mi ZEV credits, consistent with ~~section~~subdivision 1962.1(b). For model years 2015 through 2017, a manufacturer may meet the ZEV requirements in any given model year by submitting to the Executive Officer a commensurate amount of ZEV credits, consistent with subdivision 1962.1(b). Credits in each of the categories may be used to meet the requirement for that category as well as the requirements for lesser credit earning ZEV categories, but shall not be used to meet the requirement for a greater credit earning ZEV category. For example, credits produced from ~~Enhanced AT PZEVs~~TZEVs may be used to comply with AT PZEV requirements, but not with the portion that must be satisfied with ZEVs. These credits may be earned previously by the manufacturer or acquired from another party.

(A) NEVs. Credits earned from NEVs offered for sale or placed in service in model years 2001 through 2005 cannot be used to satisfy more than the percentage limits described in the following table:

Model Years	ZEV Obligation that:	Percentage limit for NEVs allowed to meet each Obligation:
2009 – 2011	Must be met with ZEVs	50%
2009	May be met with AT PZEVs but not PZEVs	75%
2010 – 2011		50%
2009 – 2011	May be met with PZEVs	No Limit
2012 – 2014 <u>2017</u>	Must be met with ZEVs	0%
	May be met with Enhanced AT PZEVs <u>TZEVs</u> and AT PZEVs	50%
	May be met with PZEVs	No Limit

Additionally, credits earned from NEVs ~~offered for sale or~~ placed in service in model years 2006 ~~through 2017 or later~~ can be used to meet the percentage limits described in the following table:

Model Years	ZEV Obligation that:	Percentage Limit for NEVs allowed to meet each Obligation:
2009 - 2011	May be met through compliance with Primary Requirements	No Limit
	May be met through compliance with Alternative Requirements, and must be met with ZEVs	0%
	May be met through compliance Alternative Requirements, and may be met with AT PZEVs or PZEVs	No Limit
2012 – 2014 <u>2017</u>	Must be met with ZEVs	0%
	May be met with Enhanced AT PZEVs <u>ZEVs</u> , AT PZEVs, or PZEVs	No Limit

This limitation applies to NEV credits earned by the same manufacturer or earned by another manufacturer and acquired.

(B) Carry forward provisions for LVMs for 2009-2011 Model Years.

~~ZEV~~ Credits from ZEVs, excluding credits generated from NEVs generated from excess production in ~~model years 2009 through 2011 model years~~ and subsequent, including those acquired from another party, may be carried forward and applied to the ZEV minimum floor requirement specified in ~~sections~~ subdivisions 1962.1(b)(2)(B)1.b. and (b)(2)(D) for two subsequent model years. Beginning with the third subsequent model year, those earned ~~ZEV~~ credits may no longer be used to satisfy the manufacturer's percentage ZEV obligation that may only be satisfied by credits from ZEVs, but may be used to satisfy the manufacturer's percentage ZEV obligation that may be satisfied by credits from ~~Enhanced AT PZEVs~~ ZEVs, AT PZEVs, or PZEVs. For example, ZEV credit earned in 2010 would retain full flexibility through 2012, after which time that credit could only be used as ~~Enhanced AT PZEV~~ ZEV, AT PZEV, or PZEV credits.

(C) Carry forward provisions for manufacturers other than LVMs for 2009-2011 Model Years. ~~ZEV~~ Credits generated from ZEVs, excluding credits generated from NEVs, from 2009 through 2011 and subsequent model year production by manufacturers that are not LVMs may be carried forward by the manufacturer producing the ~~ZEV~~ credit until the manufacturer becomes subject to the LVM requirements, after the transition period permitted in ~~sections~~ subdivision 1962.1(b)(7)(A).

When subject to the LVM requirements, a manufacturer must comply with the provisions of ~~section~~subdivision 1962.1(g)(6)(B).

~~ZEV~~Credits traded by a manufacturer other than a LVM to any other manufacturer, including a LVM, are subject to ~~section~~subdivision 1962.1(g)(6)(B), beginning in the model year in which they were produced (e.g., a 2009 model year ~~ZEV~~credit traded in calendar year 2010 can only be applied towards the portion of the manufacturer's requirement that must be met with ZEVs through model year 2011; beginning in model year 2012, the credit can only be applied to the portion of the manufacturer's requirement that may be met with ~~Enhanced AT PZEVs~~TZEVs, AT PZEVs, or PZEVs).

(D) Type I.5x and Type IIx Vehicles. Credits earned from Type I.5x and Type IIx vehicles offered for sale or placed in service may meet up to 50% of the portion of a manufacturer's requirement that must be met with credits from ZEVs.

(7) Requirement to Make Up a ZEV Deficit.

(A) General. A manufacturer that produces and delivers for sale in California fewer ZEVs than required in a given model year shall make up the deficit by the end of the third model year by submitting to the Executive Officer a commensurate amount of ~~g/mi ZEV~~credits generated by ZEVs, for model year 2009 through 2014, and the commensurate amount of credits generated by ZEVs for model year 2015 through 2017. The amount of ~~g/mi 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 allowances from partial ZEV allowance vehicles produced and delivered for sale in California by the manufacturer for the model year (for a LVM, not to exceed that permitted under ~~section~~subdivision 1962.1(b)(2)), [ii] subtracting that total from the number of ZEVs credits required to be produced and delivered for sale in California by the manufacturer for the model year, and, for model year 2009 through 2014 compliance, [iii] multiplying the resulting value by the fleet average requirements for PCs and LDT1s for the model year in which the deficit is incurred. Credits earned by delivery for sale of Type I.5x and Type IIx vehicles, TZEV, NEV, AT PZEV, and PZEV are not allowed to be used to fulfill a manufacturer's ZEV deficit; only credits from ZEVs may be used to fulfill a manufacturer's ZEV deficit.

(8) Penalty for Failure to Meet ZEV Requirements. Any manufacturer that fails to produce and deliver for sale in California the required number of ZEVs and submit an appropriate amount of ~~g/mi ZEV~~credits, for model years 2009 through 2014, and credits for model years 2015 through 2017, and does not make up ZEV deficits within the specified time allowed by ~~section~~subdivision 1962.1(g)(7)(A) shall be subject to the Health and Safety Code section 43211 civil penalty applicable to a manufacturer that sells a new motor vehicle that does not meet the applicable emission standards adopted by the state board. The cause of action shall be deemed to accrue when the ZEV deficits are not balanced by the end of the specified time allowed by ~~section~~subdivision 1962.1(g)(7)(A). For the purposes of Health and Safety Code

section 43211, the number of vehicles not meeting the state board's standards shall be equal to the manufacturer's credit deficit, rounded to the nearest 1/1000th for model years 2009 through 2014 and rounded to the nearest 1/100th for model years 2015 through 2017, calculated according to the following equations, provided that the percentage of a LVM's manufacturer's ZEV requirement for a given model year that may be satisfied with PZEV allowance vehicles or credit from such vehicles may not exceed the percentages permitted under ~~sections~~ subdivision 1962.1(b)(2)(A) 1962.1(b)(2):

For 2009 through 2014 model years:

~~(No. of ZEVs credits required to be produced and delivered for sale in California generated for the model year) – (No. of ZEVs produced and delivered for sale in California for the model year) – (No. of ZEV allowances from partial ZEV allowance vehicles produced and delivered for sale in California for the model year) – [(Amount of ZEV credits submitted for compliance for the model year) / (the fleet average requirement for PCs and LDT1s for the model year)]~~

For 2015 through 2017 model years:

(No. of credits required to be generated for the model year) – (Amount of credits submitted for compliance for the model year)

(h) Test Procedures.

(1) Determining Compliance. The certification requirements and test procedures for determining compliance with this section 1962.1 are set forth in "California Exhaust Emission Standards and Test Procedures for 2009 and ~~Subsequent~~ through 2017 Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," adopted by the state board on [insert date here], and last amended [insert date here], which is incorporated herein by reference.

(2) NEV Compliance. The test procedures for determining compliance with ~~sections~~ subdivision 1962.1(d)(5)(F)1. are set forth in ETA-NTP002 (revision 3) "Implementation of SAE Standard J1666 May 93: Electric Vehicle Acceleration, Gradeability, and Deceleration Test Procedure" adopted on December 1, 2004, and ETA-NTP004 (revision 2) "Electric Vehicle Constant Speed Range Tests" adopted on December 1, 2004.

(i) ZEV-Specific Definitions. The following definitions apply to this section 1962.1.

(1) "Advanced technology PZEV" or "AT PZEV" means any PZEV with an allowance greater than 0.2 before application of the PZEV early introduction phase-in multiplier.

(2) “Auxiliary power unit” or “APU” means any device that provides electrical or mechanical energy, meeting the requirements of subdivision 1962.1(c)(2), to a Type I.5x or Type IIx vehicle, after the zero emission range has been fully depleted. A fuel fired heater does not qualify under this definition for an APU.

(23) “Battery electric vehicle” means any vehicle that operates solely by use of a battery or battery pack, or that is powered primarily through the use of an electric battery or battery pack but uses a flywheel or capacitor that stores energy produced by the electric motor or through regenerative braking to assist in vehicle operation.

(34) “Charge depletion range actual” or “R_{cda}” means the distance achieved by a hybrid electric vehicle on the urban driving cycle at the point when the zero-emission energy storage device is depleted of off-vehicle charge and regenerative braking derived energy.

(45) “Electric drive system” means an electric motor and associated power electronics which provide acceleration torque to the drive wheels sometime during normal vehicle operation. This does not include components that could act as a motor, but are configured to act only as a generator or engine starter in a particular vehicle application.

(56) “Enhanced AT PZEV” means any model year 2009 through 2011 PZEV that has an allowance of 1.0 or greater per vehicle without multipliers and makes use of a ZEV fuel. Enhanced AT PZEV means Transitional Zero Emission Vehicle.

(67) “Neighborhood electric vehicle” or “NEV” means a motor vehicle that meets the definition of Low-Speed Vehicle either in section 385.5 of the Vehicle Code or in 49 CFR 571.500 (as it existed on July 1, 2000), and is certified to zero-emission vehicle standards.

(78) “Placed in service” means having been sold or leased to an end-user and not to a dealer or other distribution chain entity, and having been individually registered for on-road use by the California ~~Department of Motor Vehicles~~ DMV.

(9) “Proportional value” means the ratio of a manufacturer’s California applicable sales volume to the manufacturer’s Section 177 state applicable sales volume. In any given model year, the same applicable sale volume calculation method must be used to calculate proportional value.

(10) “Range Extended Battery Electric Vehicle” means a vehicle powered predominantly by a zero emission energy storage device, able to drive the vehicle for more than 75 all-electric miles, and also equipped with a backup APU, which does not operate until the energy storage device is fully depleted, and meeting requirements in subdivision 1962.1(d)(5)(G).

(811) “Regenerative braking” means the partial recovery of the energy normally dissipated into friction braking that is returned as electrical current to an energy storage device.

(912) “Section 177 state” means a state that is administering the California ZEV requirements pursuant to section 177 of the federal Clean Air Act (42 U.S.C. § 7507).

(13) “Transitional Zero Emission Vehicle” means a PZEV that has an allowance of 1.0 or greater, and makes use of a ZEV fuel.

(4014) “Type 0, I, I.5, II, III, IV, and V ZEV” all have the meanings set forth in section 1962.1(d)(5)(A).

(415) “ZEV fuel” means a fuel that provides traction energy in on-road ZEVs. Examples of current technology ZEV fuels include electricity, hydrogen, and compressed air.

(j) Abbreviations. The following abbreviations are used in this section 1962.1:

“AER” means all-electric range.

“APU” means auxiliary power unit.

“AT PZEV” means advanced technology partial zero-emission vehicle.

“CFR” means Code of Federal Regulations.

“DMV” means the California Department of Motor Vehicles.

“EAER” means equivalent all-electric range.

“EAER_{u40}” means the equivalent all-electric range that a 40 mile R_{cda} plug-in hybrid electric vehicle achieves.

“FR” means Federal Register.

“HEV” means hybrid-electric vehicle.

“LDT” means light-duty truck.

“LDT1” means a light-truck with a loaded vehicle weight of 0-3750 pounds.

“LDT2” means a “LEV II” light-duty truck with a loaded vehicle weight of 3751 pounds to a gross vehicle weight of 8500 pounds, or a “LEV I” light-duty truck with a loaded vehicle weight of 3751-5750 pounds.

“LVM” means large volume manufacturer.

“MDV” means medium-duty vehicle.

“Non-Methane Organic Gases” or “NMOG” means the total mass of oxygenated and non-oxygenated hydrocarbon emissions.

“NEV” means neighborhood electric vehicle.

“NOx” means oxides of nitrogen.

“PC” means passenger car.

“PZEV” means partial allowance zero-emission vehicle, any vehicle that is delivered for sale in California and that qualifies for a partial ZEV allowance of at least 0.2.

“R_{cda}” means charge depletion actual range (urban Cycle).

“SAE” means Society of Automotive Engineers.
“SULEV” means super-ultra-low-emission-vehicle.
“TZEV” means transitional zero emission vehicle.
“Type I.5x” means range extended 75 mile to 100 mile all electric range battery electric vehicle.
“Type IIx” means range extended 100 mile or greater all electric range battery electric vehicle.
“UDDS” means urban dynamometer driving cycle.
“UF” means utility factor.
“US06” means the US06 Supplemental Federal Test Procedure
“VMT” means vehicle miles traveled.
“ZEV” means zero-emission vehicle.

(k) Severability. Each provision of this section is severable, and in the event that any provision of this section is held to be invalid, the remainder of this article remains in full force and effect.

(l) Public Disclosure. Records in the Board’s possession for the vehicles subject to the requirements of section 1962.1 shall be subject to disclosure as public records as follows:

(1) Each manufacturer’s annual production data and the corresponding credits per vehicle earned for ZEVs (including ZEV type), ~~Enhanced AT PZEVs~~ TZEVs, AT PZEVs, and PZEVs for the 2009 through 2017 ~~and subsequent~~ model years; and

(2) Each manufacturer’s annual credit balances for 2010 through 2017 ~~and subsequent~~ years for:

- (A)** Each type of vehicle: ZEVs (minus NEVs), Type I.5x, and Type IIx vehicles, NEVs, ~~Enhanced AT PZEVs~~ TZEVs, AT PZEVs, and PZEVs; and
- (B)** Advanced technology demonstration programs; and
- (C)** Transportation systems; and
- (D)** Credits earned under ~~section~~ subdivision 1962.1(d)(5)(C), including credits acquired from, or transferred to another party.

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 38562, 39002, 39003, 39667, 43000, 43009.5, 43013, 43018, 43018.5, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43204, 43205, 43206, and 43205.5, Health and Safety Code.