CALIFORNIA AIR RESOURCES BOARD

LEV II AND CAP 2000 AMENDMENTS

FINAL REGULATION ORDER

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FINAL REGULATION ORDER

Title 13, California Code of Regulations (CCR)

Note: Set forth below are the adopted amendments to title 13 of the California Code of Regulations. Additions are shown in underline and deletions are shown in ~~strikeout~~.

1. Amend title 13, CCR, section 1900 to read as follows:

§1900. Definitions.

[Subsections (a), (b)(1) through (7) -- No change]

(b)(8) "Light-duty truck" means any 2000 and subsequent model motor vehicle certified to the standards in section 1961(a)(1) rated at 8,500 pounds gross vehicle weight or less, and any other motor vehicle rated at 6,000 pounds gross vehicle weight or less, which is designed primarily for purposes of transportation of property or is a derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use.

(b)(9) "Medium-duty vehicle" means any pre-1995 model year heavy-duty vehicle having a manufacturer's gross vehicle weight rating of 8,500 pounds or less; any 1992 through 2006 ~~and subsequent~~ model-year heavy-duty low-emission, ~~vehicle or~~ ultra-low-emission, super-ultra-low-emission or zero-emission vehicle certified to the standards in section 1960.1(h)(2) having a manufacturer's gross vehicle weight rating of 14,000 pounds or less; ~~or~~ any 1995 through 2003 ~~and subsequent~~ model year heavy-duty vehicle certified to the standards in section 1960.1(h)(1) having a manufacturer's gross vehicle weight rating of 14,000 pounds or less; and any 2000 and subsequent model heavy-duty low-emission, ultra-low-emission, super-ultra-low-emission or zero-emission vehicle certified to the standards in Section 1961(a)(1) or 1962 having a manufacturer's gross vehicle weight rating between 8,501 and 14,000 pounds.

[Subsections (b)(9) through (16) -- No change]

(b)(17) "Small volume manufacturer" means, with respect to the 2001 and subsequent model-years, a manufacturer with California sales less than 4,500 new passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty vehicles and heavy-duty engines based on the average number of vehicles sold for the three previous consecutive model years for which a manufacturer seeks certification; however, for manufacturers certifying for the first time in California model-year sales shall be based on projected California sales. A manufacturer's California sales shall consist of all vehicles or engines produced by the manufacturer and delivered for sale in California, except that vehicles or engines produced by the manufacturer and marketed in California by another manufacturer under the other manufacturer's nameplate shall be treated as

California sales of the marketing manufacturer. For purposes of compliance with the zero-emission vehicle requirements, heavy-duty vehicles and engines shall not be counted as part of a manufacturer's sales.

(b)(18) "Intermediate volume manufacturer" means any pre-2001 model year manufacturer with California sales between 3,001 and 35,000 new light- and medium-duty vehicles per model year based on the average number of vehicles sold by the manufacturer each model year from 1989 to 1993; any 2001 through 2002 model year manufacturer with California sales between 4,501 and 35,000 new light- and medium-duty vehicles per model year based on the average number of vehicles sold by the manufacturer each model year from 1989 to 1993; and any 2003 and subsequent model year manufacturer with California sales between 4,501 and 35,000 new light- and medium-duty vehicles based on the average number of vehicles sold for the three previous consecutive model years for which a manufacturer seeks certification. For a manufacturer certifying for the first time in California, model year sales shall be based on projected California sales.

(b)(19) "Large volume manufacturer" means any 2000 and subsequent model year manufacturer that is not a small volume manufacturer or an intermediate volume manufacturer.

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, and 43104 Health and Safety Code. Reference: Sections 39002, 39003, 39010, 39500, 40000, 43000, 43013, 43100, 43101, 43101.5, 43102, ~~43103,~~ 43104, 43106, and 43204, Health and Safety Code.

2. Amend title 13, CCR, section 1960.1 to read as follows:

§1960.1. Exhaust Emission Standards and Test Procedures - 1981 through 2006 ~~and Subsequent~~ Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.

[Subsections (a) through (e)(1) -- No change]

(e)(2) The exhaust emissions from new 1993 through 2003 ~~and subsequent~~ model methanol-fueled vehicles, including fuel-flexible vehicles, shall meet all the applicable requirements in (e)(1), (f)(1) and (f)(2) with the following modifications and additions:

1993 THROUGH 2003 ~~AND SUBSEQUENT~~ METHANOL-SPECIFIC EXHAUST EMISSION STANDARDS

Vehicle Type[1]	Loaded Vehicle Weight (lbs.)[3]	Durability Vehicle Basis (mi)	Formaldehyde (mg/mi) Certification	Formaldehyde (mg/mi) In-Use Compliance[2]
PC	All	50,000	15	23 (1993-1995) 15 (1996- 2003 ~~and later~~)
LDT,MDV	0-3750	50,000	15	23 (1993-1995) 15 (1996- 2003 ~~and later~~)
LDT,MDV	3751-5750	50,000	18	27 (1993-1995) 18 (1996- 2003 ~~and later~~)
MDV	5751-8500	50,000	22	33 (1993-1995) 22 (1996- 2003 ~~and later~~)
MDV	8501-10,000	50,000	28	36 (1995) 28 (1996- 2003 ~~and later~~)
MDV	10,001-14,000	50,000	36	45 (1995) 36 (1996- 2003 ~~and later~~)

(1) "PC" means passenger cars.
"LDT" means light-duty trucks.
"MDV" means medium-duty vehicles.

(2) If the formaldehyde in-use compliance level is above the respective certification level but does not exceed the in-use compliance level, and based on a review of information derived from a statistically valid and representative sample of vehicles, the Executive Officer determines that a

substantial percentage of any class or category of such vehicle exhibits, prior to 50,000 miles or 5 years, whichever occurs first, an identifiable, systematic defect in a component listed in Section 1960.1.5(c)(2), Title 13 California Code of Regulations, which causes a significant increase in emissions above those exhibited by vehicles free of such defects and of the same class or category and having the same period of use and mileage, the Executive Officer may invoke the enforcement authority under subchapter 2.5, Title 13, California Code of Regulations, commencing with Section 2111, to require remedial action by the vehicle manufacturer. Such remedial action shall be limited to owner notification and repair or replacement of the defect component. As used in this section, the term "defect" shall not include failures which are the result of abuse, neglect, or improper maintenance.

(3) For 1995-2003 ~~and subsequent~~ model year medium-duty vehicles certifying to the standards and test procedures specified in Section 1960.1(h)(1), Title 13, California Code of Regulations, "Loaded Vehicle Weight" shall mean "Test Weight", which is the average of the vehicle's curb weight and gross vehicle weight.

(e)(3) The exhaust emissions from new 1992 through 2006 ~~and subsequent~~ model-year "LEV I" transitional low-emission vehicles, low-emission vehicles, ultra-low emission vehicles, and super ultra-low-emission vehicles, including fuel-flexible and dual-fuel vehicles, shall meet all the requirements in (g)(1), and (h)(2) with the following additions: [No change to remainder of section.]

[Subsection (f)(1) -- No change.]

(f)(2) *"Tier 1" Exhaust Emission Standards for PCs and LDTs.* The exhaust emissions from new 1995 through 2003 ~~and subsequent~~ model Tier 1 passenger cars and light-duty trucks shall not exceed:

1995-2003 ~~AND SUBSEQUENT~~ MODEL-YEAR TIER 1 PASSENGER CAR AND LIGHT-DUTY TRUCK EXHAUST EMISSIONS STANDARDS[5,6,8,10]

(grams per mile)

[No change to remainder of section.]

(g)(1) *"LEV I" Exhaust Emission Standards for PCs and LDTs.* The exhaust emissions from new 1992 through 2003 ~~and subsequent~~ model-year ~~light-duty~~ "LEV I" transitional low-emission vehicles, and new 1992 through 2006 model-year "LEV I" low-emission vehicles~~,~~ and ultra-low-emission vehicles, ~~and new 2003 and subsequent model-year light-duty zero-emission vehicles,~~ in the passenger car and light-duty truck classes shall not exceed:

LEV I EXHAUST EMISSION STANDARDS
FOR TRANSITIONAL LOW-EMISSION VEHICLES, LOW-EMISSION VEHICLES, ULTRA-LOW-EMISSION VEHICLES AND ZERO-EMISSION VEHICLES IN PASSENGER CAR AND LIGHT-DUTY TRUCK VEHICLE CLASSES[6,7,8,9,10]

[grams per mile (or "g/mi")]

Vehicle Type[1]	*Loaded Vehicle Weight (lbs)*	*Durability Vehicle Basis(mi)*	*Vehicle Emission Category*[2]	*Non-Methane Organic Gases*[3,4]	*Carbon Monoxide*	*Oxides of Nitrogen*[5]
PC and	All	50,000	TLEV	0.125	3.4	0.4
LDT	0-3750		LEV	0.075	3.4	0.2
			ULEV	0.040	1.7	0.2
			~~ZEV~~[2.1]	--	--	--
		100,000	TLEV	0.156	4.2	0.6
			LEV	0.090	4.2	0.3
			ULEV	0.055	2.1	0.3
			~~ZEV~~[2.1]	--	--	--
LDT	3751-5750	50,000	TLEV	0.160	4.4	0.7
			LEV	0.100	4.4	0.4
			ULEV	0.050	2.2	0.4
			~~ZEV~~[2.1]	--	--	--
		100,000	TLEV	0.200	5.5	0.9
			LEV	0.130	5.5	0.5
			ULEV	0.070	2.8	0.5
			~~ZEV~~[2.1]	--	--	--

(1) "PC" means passenger cars.
"LDT" means light-duty trucks.
"LVW" means loaded vehicle weight.
"Non-Methane Organic Gases" or "NMOG" means the total mass of oxygenated and non-oxygenated hydrocarbon emissions.

(2) "TLEV" means transitional low-emission vehicle.
"LEV" means low-emission vehicle.
"ULEV" means ultra-low-emission vehicle.
~~"ZEV" means zero-emission vehicle.~~

~~(2.1) a. The Executive Officer shall certify as ZEVs vehicles that produce zero exhaust emissions of any criteria pollutant (or precursor pollutant) under any and all possible operational modes and conditions. Incorporation of a fuel fired heater shall not preclude a vehicle from being certified as a ZEV provided the fuel fired heater cannot be operated at ambient temperatures above 40°F and the heater is demonstrated to have zero evaporative emissions under any and all possible operational modes and conditions.~~

(3) *Compliance with NMOG Standard.* To demonstrate compliance with an NMOG standard, NMOG emissions shall be measured in accordance with the "California Non-Methane Organic Gas Test Procedures" as adopted July 12, 1991 and last amended ~~June 24, 1996~~ August 5, 1999, which is incorporated herein by reference.

a. *Reactivity Adjustment.* For TLEVs, LEVs, and ULEVs certified to operate exclusively on any fuel other than conventional gasoline, and for fuel-flexible and dual-fuel TLEVs, LEVs, and ULEVs when certifying on a fuel other than gasoline, manufacturers shall multiply NMOG exhaust certification levels by the applicable reactivity adjustment factor set forth in section 13 of the "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or in section I.E.5. of the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1961(d), or established by the Executive Officer pursuant to Appendix VIII or section II.D. respectively of the foregoing test procedures. In addition, natural gas vehicles certifying to TLEV, LEV or ULEV standards shall calculate a reactivity-adjusted methane exhaust emission value by multiplying the methane exhaust certification level by the applicable methane reactivity adjustment factor set forth in section 13 or in section I.E.5. of the above-referenced test procedures as applicable. The product of the NMOG exhaust certification levels and the reactivity adjustment factor shall be compared to the exhaust NMOG mass emission standards established for the particular vehicle emission category to determine compliance. For natural gas vehicles, the reactivity-adjusted NMOG value shall be added to the reactivity-adjusted methane value and then compared to the exhaust NMOG mass emission standards established for the particular vehicle emission category to determine compliance.

b. *Fleet Average Requirement.* Each manufacturer shall certify PCs or LDTs to meet the exhaust mass emission standards for TLEVs, LEVs, ULEVs, or the exhaust emission standards of sections 1960.1(e)(1), 1960.1(f)(1), or 1960.1(f)(2), Title 13, California Code of Regulations, or as Zero-Emission Vehicles, such that the manufacturer's fleet average NMOG values for California-certified PCs and LDTs from 0-3750 lbs. LVW, and LDTs from 3751-5750 lbs. LVW produced and delivered for sale in California are less than or equal to the requirement for the corresponding Model Year, Vehicle Type, and LVW Class in section 1960.1(g)(2), Title 13, California Code of Regulations.

[Footnotes (4) through (7) -- No change.]

(8) *50°F Requirement.* Manufacturers shall demonstrate compliance with the above standards for NMOG, CO, and NOx at 50°F, according to the procedure specified in section 11k of the "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or according to the procedure specified in section II.C. of the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1961(d), as applicable. Hybrid electric, natural gas and diesel-fueled vehicles shall be exempt from 50°F test requirements.

[Footnotes (9) and (10) -- No change]

(11) *NMOG Credit for Direct Ozone Reduction Technology.* A manufacturer that certifies vehicles equipped with direct ozone reduction technologies shall be eligible to receive NMOG credits that can be applied to the NMOG exhaust emissions of the vehicle when determining compliance with the standard. In order to receive credit, the manufacturer must submit the following information for each vehicle model, including, but not limited to:

(a) a demonstration of the airflow rate through the direct ozone reduction device and the ozone-reducing efficiency of the device over the range of speeds encountered in the SFTP test cycle;

(b) an evaluation of the durability of the device for the full useful life of the vehicle; and

(c) a description of the on-board diagnostic strategy for monitoring the performance of the device in-use.

Using the above information, the Executive Officer shall determine the value of the NMOG credit based on the calculated change in the one-hour peak ozone level using an approved airshed model.

(g)(2) The fleet average non-methane organic gas exhaust emission values from passenger cars and light-duty trucks produced and delivered for sale in California by a manufacturer each model year from 1994 through 2000 shall not exceed:

FLEET AVERAGE NON-METHANE ORGANIC GAS EXHAUST MASS EMISSION REQUIREMENTS FOR LIGHT-DUTY VEHICLE WEIGHT CLASSES[7,8,9]

[grams per mile" (or "g/mi")]

Vehicle Type[1]	*Loaded Vehicle Weight (lbs.)*	*Durability Vehicle Basis (mi)*[7]	*Model Year*	*Fleet Average Non-Methane Organic Gases*[2,3,4,5,6]
PC and LDT	All 0-3750	50,000	1994	0.250
			1995	0.231
			1996	0.225
			1997	0.202
			1998	0.157
			1999	0.113
			2000	0.073
			~~2001~~	~~0.070~~
			~~2002~~	~~0.068~~
			~~2003 and subsequent~~	~~0.062~~
LDT	3751-5750	50,000	1994	0.320
			1995	0.295
			1996	0.287
			1997	0.260

1998	0.205
1999	0.150
2000	0.099
~~2001~~	~~0.098~~
~~2002~~	~~0.095~~
~~2003 and subsequent~~	~~0.093~~

[Footnotes (1) and (2) -- No change.]

(3) *HEV Categories*. For the purpose of calculating fleet average NMOG values, a manufacturer may adjust the certification levels of hybrid electric vehicles (or "HEVs") based on the range of the HEV without the use of the engine. For the purpose of calculating the adjusted NMOG emissions, the following definitions shall apply:

"*Type A HEV*" shall mean an HEV which achieves a minimum range of 60 miles over the All-Electric Range Test as defined in "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or in "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1961(d), as applicable.

"*Type B HEV*" shall mean an HEV which achieves a range of 40 - 59 miles over the All-Electric Range Test as defined in "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or in "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1961(d), as applicable.

"*Type C HEV*" shall mean an HEV which achieves a range of 0 - 39 miles over the All-Electric Range Test ~~and all other HEVs excluding "Type A" and "Type B" HEVs~~ as defined in "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or in "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1961(d), as applicable, and all other HEVs excluding "Type A" and "Type B" HEVs.

a. For the purpose of calculating fleet average NMOG values, vehicles which have no tailpipe emissions but use fuel-fired heaters and which are not certified as ZEVs shall be treated as "Type A HEV ULEVs."

[Footnotes (4) and (5) -- No Change.]

(6) *Requirements for Small Volume Manufacturers*. As used in this subsection, the term "small volume manufacturer" shall mean any vehicle manufacturer with California sales less than or equal to 3000 new PCs, LDTs and MDVs per model year based on the average number of vehicles sold by the manufacturer each model year from 1989 to 1991, except as noted below. For

manufacturers certifying for the first time in California, model-year sales shall be based on projected California sales. In 2000 and subsequent model years, small volume manufacturers shall comply with the fleet average NMOG requirements set forth below.

a. Prior to the model year 2000, compliance with the specified fleet average NMOG requirements shall be waived.

b. In the 2000 ~~and subsequent~~ model year~~s~~, small volume manufacturers shall not exceed a fleet average NMOG value of 0.075 g/mi for PCs and LDTs from 0-3750 lbs. LVW calculated in accordance with note (4).

c. In the 2000 ~~and subsequent~~ model year~~s~~, small volume manufacturers shall not exceed a fleet average NMOG value of 0.100 g/mi for LDTs from 3751-5750 lbs. LVW calculated in accordance with note (5).

d. If a manufacturer's average California sales exceeds 3000 units of new PCs, LDTs, and MDVs based on the average number of vehicles sold for any three consecutive model years, the manufacturer shall no longer be treated as a small volume manufacturer and shall comply with the fleet average requirements applicable for larger manufacturers as specified in section 1960.1(g)(2) beginning with the fourth model year after the last of the three consecutive model years.

e. If a manufacturer's average California sales falls below 3000 units of new PCs, LDTs, and MDVs based on the average number of vehicles sold for any three consecutive model years, the manufacturer shall be treated as a small volume manufacturer and shall be subject to requirements for small volume manufacturers as specified in section 1960.1(g)(2) beginning with the next model year.

(7) *Calculation of NMOG Credits/Debits and Procedure for Offsetting Debits*.

a. In 1992 ~~and subsequent~~ through 2000 model years, manufacturers that achieve fleet average NMOG values lower than the fleet average NMOG requirement for the corresponding model year shall receive credits in units of g/mi NMOG determined as:

{[(Fleet Average NMOG Requirement) - (Manufacturer's Fleet Average NMOG Value)] x (Total No. of Vehicles Produced and Delivered for Sale in California, Including ZEVs and HEVs)}.

Manufacturers with fleet average NMOG values greater than the fleet average requirement for the corresponding model year shall receive debits in units of g/mi NMOG equal to the amount of negative credits determined by the aforementioned equation. For any given model year, the total g/mi NMOG credits or debits earned for PCs and LDTs 0-3750 lbs. LVW and for LDTs 3751-5750 lbs. LVW shall be summed together. The resulting amount shall constitute the g/mi NMOG credits or debits accrued by the manufacturer for the model year.

b. For the 1994 through 1997 model years, manufacturers shall equalize emission debits within three model years and prior to the end of the 1998 model year by earning g/mi NMOG emission credits in an amount equal to their g/mi NMOG debits, or by submitting a commensurate amount of g/mi NMOG credits to the Executive Officer that were earned previously or acquired from another manufacturer. For 1998 ~~and subsequent~~ through 2000 model years, manufacturers shall equalize emission debits by the end of the following model year. If emission debits are not equalized within the specified time period, the manufacturer shall be subject to the Health and Safety Code section 43211 civil penalty applicable to a manufacturer which 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 emission debits are not equalized by the end of the specified time period. For the purposes of Health and Safety Code section 43211, the number

of vehicles not meeting the state board's emission standards shall be determined by dividing the total amount of g/mi NMOG emission debits for the model year by the g/mi NMOG fleet average requirement for PCs and LDTs 0-3750 lbs. LVW applicable for the model year in which the debits were first incurred.

c. The g/mi NMOG emission credits earned in any given model year shall retain full value through the subsequent model year. The g/mi NMOG value of any credits not used to equalize the previous model-year's debit, shall be discounted by 50% at the beginning of the second model year after being earned, discounted to 25% of its original value if not used by the beginning of the third model year after being earned, and will have no value if not used by the beginning of the fourth model year after being earned.

d. In order to verify the status of a manufacturer's compliance with the fleet average requirements for a given model year, and in order to confirm the accrual of NMOG credits or debits, each manufacturer shall submit an annual report to the Executive Officer which sets forth the production data used to establish compliance, by no later than March 1 of the calendar year following the close of the completed model year.

[Footnote (8) -- No change.]

~~(9) *ZEV Requirements*. While meeting the fleet average requirements, each manufacturer shall certify, produce, and deliver for sale in California at least 10% ZEVs in 2003 and subsequent model years. These percentages shall be applied to the manufacturer's total production of PCs and LDTs 0-3750 lbs. LVW delivered for sale in California.~~

~~a. *Calculation of ZEV Credits*. Manufacturers that produce for sale in California more ZEVs than required in a given model year shall earn ZEV credits, which shall be expressed in units of g/mi NMOG. The amount of ZEV credits earned shall be equal to the number of ZEVs required to be produced and delivered for sale in California for the model year subtracted from the number of ZEVs produced and delivered for sale in California by the manufacturer for the model year and then multiplied by the fleet average NMOG requirement for PCs and LDTs 0-3750 lbs. LVW for the model year.~~

~~In calculating the number of ZEV credits under this note (9)a, each ZEV produced and delivered for sale prior to the 2003 model year may be counted as follows:~~

~~1. ZEV Credits based on vehicle range:~~

~~Number of ZEVs~~	~~Vehicle Range (miles)~~		
	~~Model Years 1996 and 1997~~	~~Model Years 1998 and 1999~~	~~Model Years 2000, 2001 and 2002~~
~~2~~	~~any~~	~~≥ 100~~	~~≥ 140~~
~~3~~	~~≥70~~	~~≥ 130~~	~~≥ 175~~

~~Range shall be determined in accordance with section 9.f.(2)(a) of the "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," incorporated by reference in section 1960.1(k).~~

2. ZEV Credits based on the specific energy of the battery:

Number of ZEVs	Specific Energy of Battery (w-hr/kg)		
	Model Years 1996, 1997 and 1998	Model Years 1999 and 2000	Model Years 2001 and 2002
2	any	≥ 50	≥ 60
3	≥40	≥ 60	≥ 90

For model years 1999 through 2002, additional ZEV credits will be determined by linear interpolation between the values shown in the above schedule. Battery specific energy shall be determined in accordance with section 9.g. of the "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," incorporated by reference in section 1960.1(k).

3. For purposes of calculating ZEV credits, a ZEV may be counted according to note (9)a.1. or (9)a.2. above, but not both.

4. For purposes of calculating manufacturer's fleet average NMOG value under note (4) or (5), each ZEV shall be counted as one vehicle.

All ZEV credits earned prior to the 2003 model year shall be treated as if earned in the 2003 model year and shall be discounted in accordance with note (7)c.

b. *Submittal of ZEV Credits.* A manufacturer may meet the ZEV requirements in any given model year by submitting to the Executive Officer a commensurate amount of ZEV credits. These credits may be earned previously by the manufacturer or acquired from another manufacturer. The amount of ZEV credits required to be submitted shall be calculated by subtracting the number of ZEVs produced and delivered for sale in California by the manufacturer for the model year from the number of ZEVs required to be produced by the manufacturer for the model year and then multiplying by the fleet average requirement for PCs and LDTs 0-3750 lbs. LVW for that model year.

c. *Requirement to Make Up a ZEV Deficit.* Manufacturers that certify, produce, and deliver for sale in California fewer ZEVs than required in a given model year shall make up the deficit by the end of the next model year by submitting to the Executive Officer a commensurate amount of ZEV credits. The amount of ZEV credits required to be submitted shall be calculated by subtracting the number of ZEVs produced and delivered for sale in California by the manufacturer for the model year from the number of ZEVs required to be produced by the manufacturer for the model year and then multiplying by the fleet average requirements for PCs and LDTs 0-3750 lbs. LVW for the model year in which the deficit is incurred.

d. *Penalty for Failure to Meet ZEV Requirements.* Any manufacturer that fails to produce and deliver for sale in California the required number of ZEVs or submit an appropriate amount of ZEV credits and does not make up ZEV deficits within the specified time period 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 period. For the purposes of Health and Safety Code section 43211,

~~the number of vehicles not meeting the state board's standards shall be calculated according to the following equation:~~

~~(No. of ZEVs required to be produced and delivered for sale in California for the model year) - (No of ZEVs actually produced and delivered for sale in California for the model year) - [(Amount of ZEV credits submitted for the model year) / (the fleet average requirement for PCs and LDTs 0-3750 lbs. LVW for the model year)].~~

~~e. *ZEV Credits for MDVs and LDTs 3751-5750 lbs. LVW*. ZEVs classified as MDVs or as LDTs 3751-5750 lbs. LVW may be counted toward the ZEV requirement for PCs and LDTs 0-3750 lbs. LVW and included in the calculation of ZEV credits as specified in note (9)a, if the manufacturer so designates.~~

~~f. Small volume manufacturers as defined in note (6) shall not be required to meet the percentage ZEV requirements. However, small volume manufacturers may earn and market credits for ZEVs they produce and deliver for sale in California.~~

(h)(1) *"Tier 1" Exhaust Emission Standards for MDVs.* The exhaust emission from new 1995 through 2003 ~~and subsequent~~ model Tier 1 medium-duty vehicles shall not exceed:

1995-2003 ~~AND SUBSEQUENT~~ MODEL-YEAR TIER 1
MEDIUM-DUTY VEHICLE EXHAUST EMISSIONS STANDARDS [1,2,3,7,8]
(grams per mile)

[The remainder of section -- No change.]

(h)(2) *"LEV I" Exhaust Emission Standards for MDVs.* The exhaust emissions from new 1992 through 2006 ~~and subsequent~~ model-year medium-duty LEV I low-emission vehicles, ultra-low-emission vehicles and super ultra-low-emission vehicles~~, and new 2003 and subsequent model-year medium-duty zero-emission vehicles~~ shall not exceed:

LEV I EXHAUST EMISSION STANDARDS FOR
LOW-EMISSION VEHICLES, ULTRA-LOW EMISSION VEHICLES~~,~~ AND
SUPER-ULTRA-LOW-EMISSION VEHICLES ~~AND ZERO-EMISSION VEHICLES~~
IN THE MEDIUM-DUTY VEHICLE WEIGHT CLASS[8,9,10,11,12,13,14,15,16]
[grams per mile (or "g/mi")]

Test Weight (lbs)[1]	*Durability Vehicle Basis (mi)*	*Vehicle Emission Category*[2]	*Non-Methane Organic Gases*[1,3,4]	*Carbon Monoxide*	*Oxides of Nitrogen*[3,5]	*Particulates*[6,7]
0-3750	50,000	LEV	0.125	3.4	0.4	n/a
		ULEV	0.075	1.7	0.2	n/a
		~~ZEV~~[2,1]	--	--	--	--

	120,000	LEV	0.180	5.0	0.6	0.08
		ULEV	0.107	2.5	0.3	0.04
		~~ZEV~~[2.1]	--	--	--	--
3751-5750	50,000	LEV	0.160	4.4	0.4	n/a
		ULEV	0.100	4.4	0.4	n/a
		SULEV	0.050	2.2	0.2	n/a
		~~ZEV~~[2.1]	--	--	--	--
	120,000	LEV	0.230	6.4	0.6	0.10
		ULEV	0.143	6.4	0.6	0.05
		SULEV	0.072	3.2	0.3	0.05
		~~ZEV~~[2.1]	--	--	--	--
5751-8500	50,000	LEV	0.195	5.0	0.6	n/a
		ULEV	0.117	5.0	0.6	n/a
		SULEV	0.059	2.5	0.3	n/a
		~~ZEV~~[2.1]	--	--	--	--
	120,000	LEV	0.280	7.3	0.9	0.12
		ULEV	0.167	7.3	0.9	0.06
		SULEV	0.084	3.7	0.45	0.06
		~~ZEV~~[2.1]	--	--	--	--
8501-10,000	50,000	LEV	0.230	5.5	0.7	n/a
		ULEV	0.138	5.5	0.7	n/a
		SULEV	0.069	2.8	0.35	n/a
		~~ZEV~~[2.1]	--	--	--	--
	120,000	LEV	0.330	8.1	1.0	0.12
		ULEV	0.197	8.1	1.0	0.06
		SULEV	0.100	4.1	0.5	0.06
		~~ZEV~~[2.1]	--	--	--	--
10,001-14,000	50,000	LEV	0.300	7.0	1.0	n/a
		ULEV	0.180	7.0	1.0	n/a
		SULEV	0.09	3.5	0.5	n/a
		~~ZEV~~[2.1]	--	--	--	--
	120,000	LEV	0.430	10.3	1.5	0.12
		ULEV	0.257	10.3	1.5	0.06
		SULEV	0.130	5.2	0.7	0.06
		~~ZEV~~[2.1]	--	--	--	--

(1) "Test Weight" (or "TW") shall mean the average of the vehicle's curb weight and gross vehicle weight.
"Non-Methane Organic Gases" (or "NMOG") means the total mass of oxygenated and non-oxygenated hydrocarbon emissions.

(2) "LEV" means low-emission vehicle.
"ULEV" means ultra-low-emission vehicle.
"SULEV" means super-ultra-low-emission vehicle.
~~"ZEV" means zero-emission vehicle.~~

~~(2.1)~~ ~~a. The Executive Officer shall certify as ZEVs vehicles that produce zero exhaust emissions of any criteria pollutant (or precursor pollutant) under any and all possible operational modes and conditions. Incorporation of a fuel fired heater shall not preclude a vehicle from being certified as a ZEV provided the fuel fired heater cannot be operated at ambient temperatures above 40°F and the heater is demonstrated to have zero evaporative emissions under any and all possible operational modes and conditions.~~

~~b. Prior to the 2003 model year a manufacturer that voluntarily produces vehicles that meet the ZEV emission standards applicable to 2003 and subsequent model year vehicles may certify those vehicles as ZEVs for the purposes of calculating ZEV credits under section (g)(2), note (9)a. and (9)e.~~

(3) *Compliance with NMOG Standards*. To determine compliance with an NMOG standard, NMOG emissions shall be measured in accordance with "California Non-Methane Organic Gas Test Procedures" adopted July 12, 1991 and last amended ~~June 24, 1996~~ August 5, 1999, which is incorporated herein by reference.

a. *Reactivity Adjustment.* For LEVs and ULEVs certified to operate on an available fuel other than conventional gasoline, including fuel-flexible or dual-fuel vehicles when certifying on a fuel other than gasoline, manufacturers shall multiply the NMOG exhaust certification levels by the applicable reactivity adjustment factor set forth in Section 13 of the "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or in section I.E.5. of the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1961(d), or established by the Executive Officer pursuant to Appendix VIII or section II.D. respectively of the foregoing test procedures. In addition, natural gas vehicles certifying to LEV or ULEV standards shall calculate a reactivity-adjusted methane exhaust emission value by multiplying the methane exhaust certification level by the applicable methane reactivity adjustment factor set forth in section 13 or in section I.E.5. of the above-referenced test procedures as applicable. The product of the exhaust NMOG certification levels and the reactivity adjustment factor shall be compared to the exhaust NMOG mass emission standard established for the particular vehicle emission category to determine compliance. For natural gas vehicles, the reactivity-adjusted NMOG value shall be added to the reactivity-adjusted methane value and then compared to the exhaust NMOG mass emission standards established for the particular vehicle emission category to determine compliance.

b. *Pre-1998 NOx standards.* Prior to the 1998 model year, the 50,000 mile and 120,000 mile LEV exhaust mass emission standards for NOx shall be: 0.7 and 1.0 g/mi for MDVs from 3751-5750 lbs. TW, 1.1 and 1.5 g/mi for MDVs from 5751-8500 lbs. TW, 1.3 and 1.8 g/mi for MDVs from 8501-10,000 lbs. TW, and 2.0 and 2.8 g/mi for MDVs from ~~10,000~~ 10,001-14,000 lbs. TW, respectively.

[Footnotes (4) through (9) -- No change.]

(10) *Medium-Duty Vehicle Phase-In Requirements.* Each manufacturer's MDV fleet shall be defined as the total number of California certified MDVs from 0-14,000 lbs. TW produced and delivered for sale in California.

a. Manufacturers of MDVs shall certify an equivalent percentage of their MDV fleet according to the following phase-in schedule:

Model Year	*Vehicles Certified to Title 13 CCR Section 1960.1(h)(1) or (h)(2) (%)*			*Vehicles Certified to Title 13 CCR Section 1956.8(g) or (h) (%)*		
	Tier 1	LEV	ULEV	Tier 1	LEV	ULEV
1998	73	25	2	100	0	0
1999	48	50	2	100	0	0
2000	23	75	2	100	0	0
~~2001~~	~~0~~	~~80~~	~~20~~	~~100~~	~~0~~	~~0~~
~~2002~~	~~0~~	~~70~~	~~30~~	~~0~~	~~100~~	~~0~~
~~2003~~	~~0~~	~~60~~	~~40~~	~~0~~	~~100~~	~~0~~
~~2004 +~~	~~0~~	~~60~~	~~40~~	~~0~~	~~0~~	~~100~~

c. The percentages shall be applied to the manufacturers' total production of California-certified medium-duty vehicles delivered for sale in California.

d. These requirements shall not apply to small volume manufacturers. Small volume manufacturers shall comply with the requirements of note (16) below.

(11) *Definition of HEV.* For the purpose of calculating "Vehicle Equivalent Credits" (or "VECs"), the contribution of hybrid electric vehicles (or "HEVs") will be calculated based on the range of the HEV without the use of the engine. For purpose of calculating the contribution of HEVs to the VECs, the following definitions shall apply:

"*Type A HEV*" shall mean an HEV which achieves a minimum range of 60 miles over the All-Electric Range Test as defined in "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or in "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1961(d), as applicable.

"*Type B HEV*" shall mean an HEV which achieves a range of 40 - 59 miles over the All-Electric Range Test as defined in "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or in "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1961(d), as applicable.

"*Type C HEV*" shall mean an HEV which achieves a range of 0 - 39 miles over the All-Electric Range Test ~~and all other HEVs excluding "Type A" and "Type B" HEVs~~ as defined in "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or in "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles"

as incorporated by reference in section 1961(d), as applicable, and all other HEVs excluding "Type A" and "Type B" HEVs.

(12) *Calculation of Vehicle Equivalent Credits.* In 1992 ~~and subsequent~~ through 2000 model years, manufacturers that produce and deliver for sale in California MDVs in excess of the equivalent requirements for LEVs and/or ULEVs certified to the exhaust emission standards set forth in this section (h)(2) or Title 13, CCR Section 1956.8(h), shall receive VECs calculated in accordance with the following equation, where the term "Produced" means produced and delivered for sale in California:

{[(No. of LEVs Produced excluding HEVs) + (No. of "Type C HEV" LEVs Produced)] +
[(No. of "Type A HEV" LEVs Produced) x (1.2)] +
[(No of "Type B HEV" LEVs Produced) x (1.1)] -
(Equivalent No. of LEVs Required to be Produced)**}** +
{(1.4) x [(No. of ULEVs Produced excluding HEVs) + (No. of "Type C HEV" ULEVs Produced)] +
[(1.7) x (No. of "Type A HEV" ULEVs Produced)] +
[(1.5) x (No. of "Type B HEV" ULEVs Produced)] -
[(1.4) x (Equivalent No. of ULEVs Required to be Produced)]**}** +
{[(1.7) x [(No. of SULEVs Produced excluding HEVs) + (No. of "Type C HEV" SULEVs Produced)] +
[(No. of "Type A HEV" SULEVs Produced) x (1.7)] +
[(No. of "Type B HEV" SULEVs) x (1.5)] -
[(1.7) x [(Equivalent No. of SULEVs Required to be Produced)]} +
[(2.0) x (No. of ZEVs Certified and Produced as MDVs)].

a. Manufacturers that fail to produce and deliver for sale in California the equivalent quantity of MDVs certified to LEV and/or ULEV exhaust emission standards, shall receive "Vehicle-Equivalent Debits" (or "VEDs") equal to the amount of negative VECs determined by the aforementioned equation.

b. Manufacturers shall equalize emission debits within one model year by earning VECs in an amount equal to their previous model-year's total of VEDs, or by submitting a commensurate amount of VECs to the Executive Officer that were earned previously or acquired from another manufacturer. Any manufacturer which fails to equalize emission debits within the specified time period shall be subject to the Health and Safety Code civil penalty applicable to a manufacturer which 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 emission debits are not equalized by the end of the specified time period. For the purposes of Health and Safety Code section 43211, the number of vehicles not meeting the state board's emission standards shall be equal to the amount of VEDs incurred.

c. The VECs earned in any given model year shall retain full value through the subsequent model year.

d. The value of any VECs not used to equalize the previous model-year's debit, shall be discounted by 50% at the beginning of second model year after being earned, discounted to 25% of its original value if not used by the beginning of the third model year after being earned, and will have no value if not ~~depleted~~ used by the beginning of the fourth model year after being earned.

e. Any VECs earned prior to the 1998 model year shall be treated as earned in the 1998 model year and discounted in accordance with the schedule specified in note (12)(d).

f. Only ZEVs certified as MDVs shall be included in the calculation of VECs.

g. In order to verify the status of a manufacturer's compliance with the phase-in requirements of this section and in order to confirm the accrual of VECs or VEDs, each manufacturer shall submit an annual report to the Executive Officer which sets forth the production data used to establish compliance by no later than March 1 of the calendar year following the close of the model year.

(13) *50°F Requirement*. Manufacturers shall demonstrate compliance with the above standards for NMOG, carbon monoxide, and oxides of nitrogen at 50°F, according to the procedure specified in section 11k of the "California Exhaust Emission Standards and Test Procedures for 1988 ~~and Subsequent~~ Through 2000 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1960.1(k), or according to the procedure specified in section II.C. of the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" as incorporated by reference in section 1961(d), as applicable. Hybrid electric, natural gas and diesel-fueled vehicles shall be exempt from 50°F test requirements.

(14) In-use compliance testing shall be limited to vehicles with fewer than 90,000 miles.

(15) *HEV Requirements*. Deterioration factors for hybrid electric vehicles shall be based on the emissions and mileage accumulation of the auxiliary power unit. For certification purposes only, Type A hybrid electric vehicles shall demonstrate compliance with 50,000 mile emission standards (using 50,000 mile deterioration factors), and demonstrating compliance with 120,000 mile emission standards shall not be required. For certification purposes only, Type B hybrid electric vehicles shall demonstrate compliance with 50,000 mile emission standards (using 50,000 mile deterioration factors) and 120,000 mile emission standards (using 90,000 mile deterioration factors). For certification purposes only, Type C hybrid electric vehicles shall demonstrate compliance with 50,000 mile emission standards (using 50,000 mile deterioration factors) and 120,000 mile emission standards (using 120,000 mile deterioration factors).

(16) *Requirements for Small Volume Manufacturers*. As used in Section 1960.1(h)(2), ~~Title 13, CCR,~~ the term "small volume manufacturer" shall mean any vehicle manufacturer with California sales less than or equal to 3000 new PCs, LDTs, and MDVs per model year based on the average number of vehicles sold by the manufacturer each model year from 1992 to 1994, except as otherwise noted below. For manufacturers certifying for the first time in California, model-year sales shall be based on projected California sales. ~~In 2001 and subsequent model years, small volume manufacturers shall comply with the requirements set forth below.~~

a. Prior to the model year 2001, small volume manufacturers shall not be required to certify, produce, or deliver LEVs and ULEVs for sale in California.

~~b. In 2001 and subsequent model years, small volume manufacturers shall certify, produce, and deliver for sale in California LEVs in a quantity equivalent to 100% of their MDV fleet.~~

~~c.~~ b. If a manufacturer's average California sales exceeds 3000 units of new PCs, LDTs, and MDVs based on the average number of vehicles sold for any three consecutive model years, the manufacturer shall no longer be treated as a small volume manufacturer and shall comply with the LEV and ULEV requirements applicable for larger manufacturers as specified in Section 1960.1(h)(2) beginning with the fourth model year after the last of the three consecutive model years.

~~d.~~ c. If a manufacturer's average California sales falls below 3000 units of new PCs, LDTs, and MDVs based on the average number of vehicles sold for any three consecutive model years, the manufacturer shall be treated as a small volume manufacturer and shall be subject to

requirements for small volume manufacturers as specified in Section 1960.1(h)(2) beginning with the next model year.

[Subsection (i) -- No change.]

(j) For Option 1 in the tables in sections (f)(1) and (f)(2), the hydrocarbon and carbon monoxide compliance shall be determined on a 50,000-mile durability basis. For Option 2 in the table in section (f)(2), the hydrocarbon and carbon monoxide compliance shall be determined on a 100,000-mile durability basis.

(k) The test procedures for determining compliance with these standards are set forth in "California Exhaust Emission Standards and Test Procedures for 1981 through 1987 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," adopted by the state board on November 23, 1976, as last amended May 20, 1987, and in "California Exhaust Emission Standards and Test Procedures for 1988 through 2000 ~~and Subsequent~~ Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," adopted by the state board on May 20, 1987 as last amended ~~March 19, 1998~~ August 5, 1999, both which are incorporated herein by reference, and in "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as incorporated by reference in section 1961(d). The test procedures for determining the compliance of 2001 through 2006 model-year hybrid electric vehicles with the standards set forth in this section are set forth in "California Exhaust Emission Standards and Test Procedures for 2003 and Subsequent Model Zero-Emission Vehicles, and 2001 and Subsequent Model Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck, and Medium-Duty Vehicle Classes, as incorporated by reference in section 1962(e).

[Subsections (*l*) through (m) -- No change.]

(n) For purposes of ~~this~~ section 1960.1(a) through (f), section 1960.1(h)(1), and section 1960.1.5, "small volume manufacturer" for the 2000 and earlier model years is any vehicle manufacturer which was subject to "in lieu" standards pursuant to section 202(b)(1)(B) of the Federal Clean Air Act (42 U.S.C. section 7521(b)(1)(B), as amended November 16, 1977) or a vehicle manufacturer with California sales not exceeding 3,000 new motor vehicles per model year based on previous model-year sales; however, for manufacturers certifying for the first time in California model year sales shall be based on projected California sales.

(o) ~~For the purposes of this section, an "intermediate volume manufacturer" is any manufacturer with California sales between 3,001 and 35,000 new light- and medium-duty vehicles per model year based on the average number of vehicles sold by the manufacturer each model year from 1989 to 1993; however, for manufacturers certifying for the first time in California, model-year sales shall be based on projected California sales.~~ [Reserved]

(p) The cold temperature exhaust carbon monoxide emission levels from new 1996 through 2000 and subsequent model-year passenger cars, light-duty trucks and medium-duty vehicles shall not exceed: [No change to remainder of section.]

[Subsection (q) -- no change.]

(r) The Supplemental Federal Test Procedure (SFTP) standards in this section represent the maximum SFTP exhaust emissions at 4,000 miles ± 250 miles or at the mileage determined by the manufacturer for emission-data vehicles in accordance with the "California Exhaust Emission Standards and Test Procedures for 1988 Through 2000 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as incorporated by reference in section 1960.1(k), and with the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as incorporated by reference in section 1961(d). The SFTP exhaust emission levels from new 2001 and subsequent model low-emission vehicles, and ultra-low-emission vehicles and super ultra-low-emission vehicles in the passenger car and light-duty truck class, and new 2003 and subsequent low-emission vehicles, ultra-low-emission vehicles, and super-ultra-low-emission vehicles in the medium-duty class, shall not exceed:

SFTP EXHAUST EMISSION STANDARDS
FOR LOW-EMISSION VEHICLES, ULTRA-LOW-EMISSION VEHICLES, AND SUPER-ULTRA-LOW-EMISSION VEHICLES IN THE PASSENGER CAR, LIGHT-DUTY TRUCK, AND MEDIUM-DUTY VEHICLE CLASSES
(grams per mile)[6,7,8,9,10,11]

		US06 Test[1]		*A/C Test*[1,5]	
Vehicle Type[1]	*Loaded Vehicle Weight (lbs.)*[2]	*NMHC*[4] + *NOx*[1]	*CO*[1]	*NMHC*[4] + *NOx*[1]	*CO*[1]
PC	All	0.14	8.0	0.20	2.7
LDT	0-3750	0.14	8.0	0.20	2.7
LDT	3751-5750	0.25	10.5	0.27	3.5
MDV	3751-5750	0.40	10.5	0.31	3.5
MDV	5751-8500[3]	0.60	11.8	0.44	4.0

(1) *Abbreviations and Definitions.* For the purposes of this SFTP standards table only, the following abbreviations and definitions apply:
"PC" means passenger car.

"LDT" means light-duty truck, defined as any motor vehicle rated at 6,000 pounds gross vehicle weight or less, which is designed primarily for purposes of transportation of property or is a derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use.
"MDV" means medium-duty truck, defined as any motor vehicle having a manufacturer's gross vehicle weight rating of greater than 6,000 pounds and less than 14,001 pounds, except passenger cars.
"NMHC+NOx" means non-methane hydrocarbon plus oxides of nitrogen emissions.
"CO" means carbon monoxide emissions.
"US06" means the test cycle designed to evaluate emissions during aggressive and microtransient driving.
"A/C" means air-conditioning.

[No change to remainder of section]

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 39667, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43105, 43106, 43107, 43204, and 43205.5, Health and Safety Code.

3. Adopt title 13, CCR section 1961 to read as follows:

§1961. Exhaust Emission Standards and Test Procedures - 2004 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.

Introduction. This section 1961 contains the California "LEV II" exhaust emission standards for 2004 and subsequent model passenger cars, light-duty trucks and medium-duty vehicles. A manufacturer must demonstrate compliance with the exhaust standards in section 1961(a) applicable to specific test groups, and with the composite phase-in requirements in section 1961(b) applicable to the manufacturer's entire fleet. Section 1961(b) also includes the manufacturer's fleet-wide composite phase-in requirements for the 2001 - 2003 model years.

Prior to the 2004 model year, a manufacturer that produces vehicles that meet the standards in section 1961(a) has the option of certifying the vehicles to those standards, in which case the vehicles will be treated as LEV II vehicles for purposes of the fleet-wide phase-in requirements. Similarly, 2004 - 2006 model-year vehicles may be certified to the "LEV I" exhaust emission standards in section 1960.1(g)(1) and (h)(2), in which case the vehicles will be treated as LEV I vehicles for purposes of the fleet-wide phase-in requirements.

A manufacturer has the option of certifying engines used in incomplete and diesel medium-duty vehicles with a gross vehicle weight rating of greater than 8,500 lbs. to the heavy-duty engine standards and test procedures set forth in title 13, CCR, sections 1956.8(g) and (h).

(a) *Exhaust Emission Standards.*

(1) *"LEV II" Exhaust Standards.* The following standards represent the maximum exhaust emissions for the intermediate and full useful life from new 2004 and subsequent model-year "LEV II" LEVs, ULEVs, and SULEVs, including fuel-flexible, bi-fuel and dual fuel vehicles when operating on the gaseous or alcohol fuel they are designed to use:

LEV II Exhaust Mass Emission Standards for New 2004 and Subsequent Model LEVs, ULEVs, and SULEVs in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes

Vehicle Type	Durability Vehicle Basis (mi)	Vehicle Emission Category	NMOG (g/mi)	Carbon Monoxide (g/mi)	Oxides of Nitrogen (g/mi)	Formaldehyde (mg/mi)	Particulate from diesel vehicles (g/mi)
All PCs; LDTs 8500 lbs. GVW or less Vehicles in this category are tested at their loaded vehicle weight	50,000	LEV	0.075	3.4	0.05	15	n/a
		LEV, Option 1	0.075	3.4	0.07	15	n/a
		ULEV	0.040	1.7	0.05	8	n/a
	120,000	LEV	0.090	4.2	0.07	18	0.01
		LEV, Option 1	0.090	4.2	0.10	18	0.01
		ULEV	0.055	2.1	0.07	11	0.01
		SULEV	0.010	1.0	0.02	4	0.01
	150,000 (Optional)	LEV	0.090	4.2	0.07	18	0.01
		LEV, Option 1	0.090	4.2	0.10	18	0.01
		ULEV	0.055	2.1	0.07	11	0.01
		SULEV	0.010	1.0	0.02	4	0.01
MDVs 8501 - 10,000 lbs. GVW Vehicles in this category are tested at their adjusted loaded vehicle weight	120,000	LEV	0.195	6.4	0.2	32	0.12
		ULEV	0.143	6.4	0.2	16	0.06
		SULEV	0.100	3.2	0.1	8	0.06
	150,000 (Optional)	LEV	0.195	6.4	0.2	32	0.12
		ULEV	0.143	6.4	0.2	16	0.06
		SULEV	0.100	3.2	0.1	8	0.06
MDVs 10,001-14,000 lbs. GVW Vehicles in this category are tested at their adjusted loaded vehicle weight	120,000	LEV	0.230	7.3	0.4	40	0.12
		ULEV	0.167	7.3	0.4	21	0.06
		SULEV	0.117	3.7	0.2	10	0.06
	150,000 (Optional)	LEV	0.230	7.3	0.4	40	0.12
		ULEV	0.167	7.3	0.4	21	0.06
		SULEV	0.117	3.7	0.2	10	0.06

(2) *Reactivity Adjustment in Determining Compliance with the NMOG Standard*

(A) The NMOG emission results from all TLEVs, LEVs, ULEVs and SULEVs certifying on a fuel other than conventional gasoline shall be numerically adjusted to establish an NMOG exhaust mass emission value equivalent. The manufacturer shall multiply measured NMOG exhaust emission results by the appropriate reactivity adjustment factor set forth in section 1961(a)(2)(B) or established in accordance with the test procedures incorporated by reference in section 1961(d). The reactivity adjustment factor represents the ratio of the NMOG specific reactivity of a low-emission vehicle designed to operate on a fuel other than conventional gasoline compared to the NMOG baseline specific reactivity of vehicles in the same vehicle emission category operated on conventional gasoline.

(B) The following reactivity adjustment factors apply through the 2003 model year:

	Light-Duty Vehicles 0-6000 lbs. GVW			**Medium-Duty Vehicles** 6001 lbs. - 14,000 lbs. GVW	
	TLEV	LEV	ULEV	LEV	ULEV
Fuel	**Baseline Specific Reactivity** (grams ozone / gram NMOG)				
Conventional Gasoline	3.42	3.13	3.13	3.13	3.13
	Reactivity Adjustment Factors				
Phase 2 RFG	0.98	0.94	0.94	0.94	0.94
M85	0.41	0.41	0.41	0.41	0.41
Natural Gas	1.0	0.43	0.43	0.43	0.43
LPG	1.0	0.50	0.50	0.50	0.50
	Methane Reactivity Adjustment Factors				
Natural Gas	0.0043	0.0047	0.0047	0.0047	0.0047

(3) *NMOG Standards for Bi-Fuel, Fuel-Flexible and Dual-Fuel Vehicles Operating on Gasoline*. For fuel-flexible, bi-fuel, and dual-fuel PCs, LDTs and MDVs, compliance with the NMOG exhaust mass emission standards shall be based on exhaust emission tests both when the vehicle is operated on the gaseous or alcohol fuel it is designed to use, and when the vehicle is operated on gasoline. A manufacturer must demonstrate compliance with the applicable exhaust mass emission standards for NMOG, CO, NOx and formaldehyde set forth in the table in section 1961(a)(1) when certifying the vehicle for operation on the gaseous or alcohol fuel.

The following standards represent the maximum NMOG emissions when the vehicle is operating on gasoline. A manufacturer shall not apply a reactivity adjustment factor to the exhaust NMOG mass emission result when operating on gasoline. Testing at 50°F is not required

for fuel-flexible, bi-fuel and dual-fuel vehicles when operating on gasoline. The applicable CO, NOx and formaldehyde standards are set forth in section 1961(a)(1).

LEV II NMOG Standards for Bi-Fuel, Fuel-Flexible and Dual-Fuel Vehicles Operating on Gasoline (g/mi)

Vehicle Type	Vehicle Emission Category	Durability Vehicle Basis	
		50,000 mi	120,000 mi
All PCs; LDTs, 0-8500 lbs. GVW	LEV	0.125	0.156
	ULEV	0.075	0.090
	SULEV	0.010	0.040
MDVs, 8501-10,000 lbs. GVW	LEV	n/a	0.230
	ULEV	n/a	0.167
	SULEV	n/a	0.117
MDVs, 10,001-14,000 lbs. GVW	LEV	n/a	0.280
	ULEV	n/a	0.195
	SULEV	n/a	0.143

(4) *50ºF Exhaust Emission Standards.* All light- and medium-duty LEVs, ULEVs and SULEVs must demonstrate compliance with the following exhaust emission standards for NMOG and formaldehyde (HCHO) measured on the FTP (40 CFR, Part 86, Subpart B) conducted at a nominal test temperature of 50°F, as modified by Part II, Section C of the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles" incorporated by reference in section 1961(d). The NMOG mass emission result shall be multiplied by the applicable reactivity adjustment factor, if any, prior to comparing to the applicable adjusted 50,000 mile certification standards set forth below. Emissions of CO and NOx measured at 50°F shall not exceed the standards set forth in §1961(a)(1) applicable to vehicles of the same emission category and vehicle type subject to a cold soak and emission test at 68º to 86°F. Natural gas and diesel-fueled vehicles are exempt from the 50º F test requirements.

Vehicle Weight Class	Vehicle Emission Category (g/mi)					
	LEV		ULEV		SULEV	
	NMOG	HCHO	NMOG	HCHO	NMOG	HCHO
PCs; LDTs 0-8500 lbs. GVW	0.150	0.030	0.080	0.016	0.02	0.008
MDVs 8501-10,000 lbs. GVW	0.390	0.064	0.286	0.032	0.200	0.016
MDVs 10,001-14,000 lbs. GVW	0.460	0.080	0.334	0.042	0.234	0.020

(5) *Cold CO Standard*. The following standards represent the 50,000 mile cold temperature exhaust carbon monoxide emission levels from new 2001 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles:

2001 AND SUBSEQUENT MODEL-YEAR COLD TEMPERATURE CARBON MONOXIDE EXHAUST EMISSIONS STANDARDS FOR PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY VEHICLES

(grams per mile)

Vehicle Type	Carbon Monoxide
All PCs, LDTs 0-3750 lbs. LVW;	10.0
LDTs, 3751 lbs. LVW - 8500 lbs. GVW; LEV I and Tier 1 MDVs 8500 lbs. GVW and less	12.5

These standards are applicable to vehicles tested at a nominal temperature of 20°F (-7°C) in accordance with 40 CFR Part 86 Subpart C, as amended by the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles" incorporated by reference in section 1961(d). Natural gas, diesel-fueled and zero-emission vehicles are exempt from these standards.

(6) *Highway NOx Standard.* The maximum emissions of oxides of nitrogen measured on the federal Highway Fuel Economy Test (HWFET; 40 CFR 600 Subpart B, which is incorporated herein by reference) shall not be greater than 1.33 times the applicable PC and LDT standards or 2.0 times the applicable MDV standards set forth in section 1961(a)(1). Both the projected emissions and the HWFET standard shall be rounded in accordance with ASTM E29-67 to the nearest 0.1 g/mi (or 0.01 g/mi for vehicles certified to the 0.05 or 0.02 g/mi NOx standards) before being compared.

(7) *Supplemental Federal Test Procedure (SFTP) Off-Cycle Emission Standards.* The SFTP exhaust emission levels from new 2004 and subsequent model LEVs, ULEVs, and SULEVs shall not exceed the standards set forth in section 1960.1(r).

(8) *Requirements for Vehicles Certified to the Optional 150,000 Mile Standards.*

(A) *Requirement to Generate Additional Fleet Average NMOG Credit.* A vehicle that is certified to the 150,000 mile standards in section 1961(a) shall generate additional NMOG fleet average credit as set forth in 1961(b)(1) or additional vehicle equivalent credits as set forth in 1961(b)(2) provided that the manufacturer extends the warranty on high cost parts to 8 years or 100,000 miles, whichever occurs first, and agrees to extend the limit on high mileage in-use testing to 105,000 miles.

(B) *Requirement to Generate a Partial ZEV Allowance.* A vehicle that is certified to the 150,000 mile SULEV standards shall also generate a partial ZEV allocation according to the criteria set forth in section C.3 of the "California Exhaust Emission Standards and Test Procedures for 2003 and Subsequent Model Zero-Emission Vehicles, and 2001 and Subsequent Model Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962(e)."

(9) *Optional LEV II NOx Standard.* A manufacturer may certify up to 4% of its light-duty truck fleet from 3751 lbs. LVW - 8500 lbs. GVW with a maximum base payload of 2500 lbs. or more to the LEV, option 1, standard set forth in 1961(a)(1) based on projected sales of trucks in the LDT2 category. Passenger cars and light-duty trucks 0-3750 lbs. LVW are not eligible for this option.

(10) *Intermediate In-Use Compliance Standards*. For test groups certified prior to the 2007 model year, the following intermediate in-use compliance standards shall apply for the first two model years the test group is certified to the new standard. For SULEVs certified prior to the 2004 model year, the following intermediate in-use compliance SULEV standards shall apply through the 2006 model year.

Emission Category	Durability Vehicle Basis	LEV II PCs and LDTs		LEV II MDVs 8500 - 10,000 lbs. GVW
		NMOG	NOx	NOx
LEV/ULEV	50,000	n/a	0.07	n/a
	120,000	n/a	0.10	0.3
SULEV	120,000	0.02	0.03	0.15

(11) *NMOG Credit for Vehicles with Zero-Evaporative Emissions.* In determining compliance of a vehicle with the applicable exhaust NMOG standard, a gram per mile NMOG

factor, to be determined by the Executive Officer based on available data, shall be subtracted from the reactivity-adjusted NMOG exhaust emission results for any vehicle that has been certified to the "zero" evaporative emission standard set forth in title 13, CCR, section 1976(b)(1)(E). This credit shall not apply to a SULEV that generates a partial ZEV allowance.

(12) *NMOG Credit for Direct Ozone Reduction Technology.* A manufacturer that certifies vehicles equipped with direct ozone reduction technologies shall be eligible to receive NMOG credits that can be applied to the NMOG exhaust emissions of the vehicle when determining compliance with the standard. In order to receive credit, the manufacturer must submit the following information for each vehicle model, including, but not limited to:

(a) a demonstration of the airflow rate through the direct ozone reduction device and the ozone-reducing efficiency of the device over the range of speeds encountered in the SFTP test cycle;

(b) an evaluation of the durability of the device for the full useful life of the vehicle; and

(c) a description of the on-board diagnostic strategy for monitoring the performance of the device in-use.

Using the above information, the Executive Officer shall determine the value of the NMOG credit based on the calculated change in the one-hour peak ozone level using an approved airshed model.

(13) *NOx Credits for Pre-2004 MDVs Certified to the LEV I LEV or ULEV Standards.* Prior to the 2004 model year, a manufacturer may earn a 0.02 g/mi per vehicle NOx credit for MDVs between 6,000-8500 lbs. GVW certified to the LEV I LEV or ULEV standards for PCs and LDTs set forth in section 1960.1(g)(1). The manufacturer may apply the credit on a per vehicle basis to the NOx emissions of LDTs between 6,000-8500 lbs. GVW certified to the PC/LDT LEV or ULEV standards in section 1961(a)(1) for the 2004 through 2008 model years.

(b) *Emission Standards Phase-In Requirements for Manufacturers.*

(1) *Fleet Average NMOG Requirements for Passenger Cars and Light-Duty Trucks.*

(A) The fleet average non-methane organic gas exhaust mass emission values from the passenger cars and light-duty trucks certified to the Tier 1, LEV I and LEV II standards that are produced and delivered for sale in California each model year by a manufacturer other than a small volume manufacturer shall not exceed:

FLEET AVERAGE NON-METHANE ORGANIC GAS EXHAUST MASS EMISSION REQUIREMENTS FOR LIGHT-DUTY VEHICLE WEIGHT CLASSES (50,000 mile Durability Vehicle Basis)		
Model Year	Fleet Average NMOG (grams per mile)	
	All PCs; LDTs 0-3750 lbs. LVW	LDTs 3751 lbs. LVW - 8500 lbs. GVW
2001	0.070	0.098
2002	0.068	0.095
2003	0.062	0.093
2004	0.053	0.085
2005	0.049	0.076
2006	0.046	0.062
2007	0.043	0.055
2008	0.040	0.050
2009	0.038	0.047
2010+	0.035	0.043

(B) *Calculation of Fleet Average NMOG Value.*

1. Each manufacturer's fleet average NMOG value for the total number of PCs and LDTs produced and delivered for sale in California shall be calculated as follows:

$$\frac{\sum [\text{Number of vehicles in a test group} \times \text{applicable emission standard}] + \sum [\text{Number of hybrid electric vehicles in a test group} \times \text{HEV NMOG factor}]}{\text{Total Number of Vehicles Produced, Including ZEVs and HEVs}}$$

The applicable emission standards to be used in the above equation are as follows:

Model Year	Emission Category	Emission Standard Value	
		All PCs; LDTs 0-3750 lbs. LVW	LDTs 3751-5750 lbs. LVW
2001 and subsequent (§1960.5 "AB 965" vehicles only)	Tier 1	0.25	0.32
2001 - 2003 (§1960.1(f)(2))	Tier 1	0.25	0.32
2001 - 2006 model year vehicles certified to the "LEV I" standards in §1960.1(g)(1) (For TLEVs, 2001 - 2003 model years only)	TLEVs	0.125	0.160
	LEVs	0.075	0.100
	ULEVs	0.040	0.050
Model Year	**Emission Category**	**All PCs; LDTs 0-3750 lbs. LVW**	**LDTs 3751 lbs. LVW - 8500 lbs. GVW**
2004 and subsequent model year vehicles certified to the "LEV II" standards in §1961(a)(1)	LEVs	0.075	0.075
	ULEVs	0.040	0.040
	SULEVs	0.01	0.01
2004 and subsequent model year vehicles certified to the optional 150,000 mile "LEV II" standards for PCs and LDTs in 1961(a)(1)	LEVs	0.06	0.06
	ULEVs	0.03	0.03
	SULEVs	0.0085	0.0085

2. *HEV NMOG Factor*. The HEV NMOG factor for light-duty vehicles is calculated as follows:

LEV HEV Contribution Factor = 0.075 - [(Zero-emission VMT Factor) x 0.035]
ULEV HEV Contribution Factor = 0.040 - [(Zero-emission VMT Factor) x 0.030]

where Zero-emission VMT Factor for HEVs is determined in accordance with section 1962.

(C) *Requirements for Small Volume Manufacturers*.

1. In 2001 through 2003 model years, a small volume manufacturer shall not exceed a fleet average NMOG value of 0.075 g/mi for PCs and LDTs from 0-3750 lbs. LVW or 0.100 g/mi for LDTs from 3751-5750 lbs. LVW calculated in accordance with section 1961(b)(1)(B). In 2004 and subsequent model years, a small volume manufacturer shall not exceed a fleet average NMOG value of 0.075 for PCs and LDTs from 0-3750 lbs. LVW or 0.075 for LDTs from 3751 lbs. LVW - 8500 lbs. GVW calculated in accordance with section 1961(b)(1)(B).

2. If a manufacturer's average California sales exceed 4500 units of new PCs, LDTs, MDVs and heavy duty engines based on the average number of vehicles sold for the three previous consecutive model years, the manufacturer shall no longer be treated as a small volume manufacturer and shall comply with the fleet average requirements applicable to larger manufacturers as specified in section 1961(b)(1) beginning with the fourth model year after the last of the three consecutive model years.

3. If a manufacturer's average California sales fall below 4500 units of new PCs, LDTs, MDVs and heavy duty engines based on the average number of vehicles sold for the three previous consecutive model years, the manufacturer shall be treated as a small volume manufacturer and shall be subject to the requirements for small volume manufacturers beginning with the next model year.

(D) ZEVs classified as LDTs (>3750 lbs. LVW) that have been counted toward the ZEV requirement for PCs and LDTs (0-3750 lbs. LVW) as specified in section 1962 shall be included as LDT1s in the calculation of a fleet average NMOG value.

(2) *LEV II Phase-In Requirement for PCs and LDTs.* Beginning in the 2004 model year, a manufacturer, except a small volume manufacturer, shall certify a percentage of its PC and LDT fleet to the LEV II standards in section 1961(a) according to the following phase in schedule:

Model Year	PC/LDT1 (%)	LDT2 (%)
2004	25	25
2005	50	50
2006	75	75
2007	100	100

In determining compliance with the phase-in schedule, the fleet shall consist of LEV I and LEV II PCs and LDT1s for the PC/LDT1 calculation, and LEV I and LEV II LDT2s for the LDT2 calculation. LEV I MDVs are not counted in the calculation until they are certified as LEV II LDT2s.

A manufacturer may use an alternative phase-in schedule to comply with these phase-in requirements as long as equivalent NOx emission reductions are achieved by the 2007 model year from each of the two categories -- PC/LDT1 and LDT2. Model year emission reductions shall be calculated by multiplying the percent of either PC/LDT1 or LDT2 vehicles meeting the LEV II standards in a given model year (based on a manufacturer's projected sales volume of vehicles in each category) by 4 for the 2004 model year, 3 for the 2005 model year, 2 for the 2006 model year and 1 for the 2007 model year. The yearly results for PCs/LDT1s shall be summed together to determine a separate cumulative total for PCs/LDT1s and the yearly results for LDT2s shall be

summed together to determine a cumulative total for LDT2s. The cumulative total for each category must be equal to or exceed 500 to be considered equivalent. A manufacturer may add vehicles introduced before the 2004 model year (e.g., the percent of vehicles introduced in 2003 would be multiplied by 5) to the cumulative total.

(3) *Medium-Duty Vehicle Phase-In Requirements*.

(A) A manufacturer of MDVs shall certify an equivalent percentage of its MDV fleet according to the following phase-in schedule:

Model Year	Vehicles Certified to §1960.1(h)(1), (h)(2), and §1961(a)(1) (%)		Vehicles Certified to §1956.8(g) or (h) (%)		
	LEV	ULEV	Tier 1	LEV	ULEV
2001	80	20	100	0	0
2002	70	30	0	100	0
2003	60	40	0	100	0
2004 +	40	60	0	0	100

(B) Beginning with the 2004 model year, a manufacturer shall phase-in at least one test group per model year to the MDV LEV II standards.

(C) For the 2001 and subsequent model years, each manufacturer's MDV fleet shall be defined as the total number of California-certified MDVs produced and delivered for sale in California. The percentages shall be applied to the manufacturers' total production of California-certified medium-duty vehicles delivered for sale in California.

(D) *Requirements for Small Volume Manufacturers*. In 2001 and subsequent model years, a small volume manufacturer shall certify, produce, and deliver for sale in California LEVs in a quantity equivalent to 100% of its MDV fleet.

(c) *Calculation of NMOG Credits/Debits*

(1) *Calculation of NMOG Credits for Passenger Cars and Light-Duty Trucks*. In 2001 and subsequent model years, a manufacturer that achieves fleet average NMOG values lower than the fleet average NMOG requirement for the corresponding model year shall receive credits in units of g/mi NMOG determined as:

[(Fleet Average NMOG Requirement) - (Manufacturer's Fleet Average NMOG Value)] x (Total No. of Vehicles Produced and Delivered for Sale in California, Including ZEVs and HEVs).

A manufacturer with 2001 and subsequent model year fleet average NMOG values greater than the fleet average requirement for the corresponding model year shall receive debits in units of g/mi NMOG equal to the amount of negative credits determined by the aforementioned equation. For the 2001 and subsequent model years, the total g/mi NMOG credits or debits earned for PCs and LDTs 0-3750 lbs. LVW, for LDTs 3751-5750 lbs. LVW and for LDTs 3751 lbs. LVW - 8500 lbs. GVW shall be summed together. The resulting amount shall constitute the g/mi NMOG credits or debits accrued by the manufacturer for the model year.

(2) *Calculation of Vehicle Equivalent NMOG Credits for Medium-Duty Vehicles.*

(A) In 2001 and subsequent model years, a manufacturer that produces and delivers for sale in California MDVs in excess of the equivalent requirements for LEVs, ULEVs and/or SULEVs certified to the exhaust emission standards set forth in section 1961(a)(1) or to the exhaust emission standards set forth in Title 13, CCR, Section 1956.8(h) shall receive "Vehicle-Equivalent Credits" (or "VECs") calculated in accordance with the following equation, where the term "produced" means produced and delivered for sale in California:

{[(No. of LEVs Produced excluding HEVs) +
(No. of LEV HEVs x HEV VEC factor for LEVs)] +
(1.20 x No. of LEVs certified to the 150,000 mile standards)} -
(Equivalent No. of LEVs Required to be Produced)} +

{[(1.4) x (No. of ULEVs Produced excluding HEVs) +
(No. of ULEV HEVs x HEV VEC factor for ULEVs)] +
(1.50 x No. of ULEVs certified to the 150,000 mile standards)} -
[(1.4) x (Equivalent No. of ULEVs Required to be Produced)]} +

{[(1.7) x (No. of SULEVs Produced excluding HEVs) +
(No. of SULEV HEVs x HEV VEC factor for SULEVs)] +
(1.75 x No. of SULEVs certified to the 150,000 mile standards)} -
[(1.7) x [(Equivalent No. of SULEVs Required to be Produced)]} +

[(2.0) x (No. of ZEVs Certified and Produced as MDVs)].

MDVs certified prior to the 2004 model year to the LEV I LEV or ULEV standards for PCs and LDTs 0-3750 lbs. LVW set forth in section E.1 of these test procedures shall receive VECs calculated in accordance with the following equation, where the term "produced" means produced and delivered for sale in California:

[(1.6) x (No. of MDVs meeting the LEV I LEV standards for PCs and LDTs 0-3750 lbs. LVW excluding HEVs) +
(No. of HEVs meeting the LEV I LEV standards for PCs and LDTs 0-3750 lbs. LVW x HEV VEC factor for MDVs meeting the LEV I LEV standards for PCs and LDTs 0-3750 lbs. LVW)]+
[(1.65 x No. of MDVs certified to the 150,000 mile LEV I LEV standards for PCs and LDTs 0-3750 lbs.)] +

[(1.8) x (No. of MDVs meeting the LEV I ULEV standards for PCs and LDTs 0-3750 lbs. LVW excluding HEVs) + (No. of HEVs meeting the LEV I ULEV standards for PCs and LDTs 0-3750 lbs. LVW x HEV VEC factor for MDVs meeting the LEV I ULEV standards for PCs and LDTs 0-3750 lbs. LVW)]+
[(1.85 x No. of MDVs certified to the 150,000 mile LEV I ULEV standards for PCs and LDTs 0-3750 lbs.)].

(B) *MDV HEV VEC factor*. The MDV HEV VEC factor is calculated as follows:

1 + [(LEV standard - ULEV standard) x (Zero-emission VMT Factor) ÷ LEV standard] for LEVs;
1 + [(ULEV standard - SULEV standard) x (Zero-emission VMT Factor) ÷ ULEV standard] for ULEVs;
1 + [(SULEV standard - ZEV standard) x (Zero-emission VMT Factor) ÷ SULEV standard] for SULEVs;
where "Zero-emission VMT Factor" for an HEV is determined in accordance with section 1962.

The HEV VEC factor for MDVs prior to model year 2004 meeting the LEV I LEV and ULEV standards for PCs and LDTs 0-3750 lbs. LVW is calculated as follows:

1 + [(MDV SULEV standard - PC LEV I LEV standard) x (Zero-emission VMT Factor) ÷PC LEV I LEV standard] for MDVs meeting the LEV I LEV standards for PCs and LDTs 0-3750 lbs. LVW;
1 + [(MDV SULEV standard - PC ULEV standard) x (Zero-emission VMT Factor) ÷PC LEV I ULEV standard] for MDVs meeting the ULEV I LEV standards for PCs and LDTs 0-3750 lbs. LVW.

(C) A manufacturer that fails to produce and deliver for sale in California the equivalent quantity of MDVs certified to LEV, ULEV and/or SULEV exhaust emission standards, shall receive "Vehicle-Equivalent Debits" (or "VEDs") equal to the amount of negative VECs determined by the equation in section 1961(c)(2)(A).

(D) Only ZEVs certified as MDVs and not used to meet the ZEV requirement shall be included in the calculation of VECs.

(3) *Procedure for Offsetting Debits.*

(A) A manufacturer shall equalize emission debits by earning g/mi NMOG emission credits or VECs in an amount equal to the g/mi NMOG debits or VEDs, or by submitting a commensurate amount of g/mi NMOG credits or VECs to the Executive Officer that were earned previously or acquired from another manufacturer. For 2001 through 2003 and for 2007 and subsequent model years, manufacturers shall equalize emission debits by the end of the following model year. For 2004 through 2006 model years, a manufacturer shall equalize NMOG debits for PCs and LDTs and LEV II MDVs within three model years and prior to the end of the 2007 model year. If emission debits are not equalized within the specified time period, the manufacturer shall be subject to the Health and Safety Code section 43211 civil penalty applicable to a manufacturer which 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 emission debits are not equalized by the end of the specified time period. For the purposes of Health and Safety Code section 43211, the number of passenger cars and light-duty trucks not

meeting the state board's emission standards shall be determined by dividing the total amount of g/mi NMOG emission debits for the model year by the g/mi NMOG fleet average requirement for PCs and LDTs 0-3750 lbs. LVW applicable for the model year in which the debits were first incurred and the number of medium-duty vehicles not meeting the state board's emission standards shall be equal to the amount of VEDs incurred.

(B) The emission credits earned in any given model year shall retain full value through the subsequent model year. The value of any credits not used to equalize the previous model-year's debit shall be discounted by 50% at the beginning of second model year after being earned, shall be discounted to 25% of its original value if not used by the beginning of the third model year after being earned, and will have no value if not used by the beginning of the fourth model year after being earned.

(d) *Test Procedures.* The certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," adopted on August 5, 1999, which is incorporated herein by reference. In the case of hybrid electric vehicles, the certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the "California Exhaust Emission Standards and Test Procedures for 2003 and Subsequent Model Zero-Emission Vehicles, and 2001 and Subsequent Model Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962(e).

(e) *Abbreviations.* The following abbreviations are used in this section 1961:

"ALVW" means adjusted loaded vehicle weight.
"ASTM" means American Society of Testing and Materials.
"CO" means carbon monoxide.
"FTP" means Federal Test Procedure.
"g/mi" means grams per mile.
"GVW" means gross vehicle weight.
"GVWR" means gross vehicle weight rating.
"HEV" means hybrid-electric vehicle.
"LDT" means light-duty truck.
"LDT1" means a light-duty 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.
"LEV" means low-emission vehicle.
"LPG" means liquefied petroleum gas.
"LVW" means loaded vehicle weight.
"MDV" means medium-duty vehicle.
"mg/mi" means milligrams per mile.

"Non-Methane Organic Gases" or "NMOG" means the total mass of oxygenated and non-oxygenated hydrocarbon emissions.
"NOx" means oxides of nitrogen.
"PC" means passenger car.
"SULEV" means super ultra-low-emission vehicle.
"TLEV" means transitional low-emission vehicle.
"ULEV" means ultra-low-emission vehicle.
"VEC" means vehicle-equivalent credits.
"VED" means vehicle-equivalent debits.
"VMT" means vehicle miles traveled.

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 39667, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43107, 43204, and 43205.5, Health and Safety Code.

4. Add new title 13, CCR section 1962 to read as follows:

§1962. Zero-Emission Vehicle Standards for 2003 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.

(a) *ZEV Emission Standard.* The Executive Officer shall certify new 2003 and subsequent model 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. Incorporation of a fuel-fired heater shall not preclude a vehicle from being certified as a ZEV provided: (1) the fuel-fired heater cannot be operated at ambient temperatures above 40°F, (2) the heater is demonstrated to have zero fuel evaporative emissions under any and all possible operational modes and conditions, and (3) the emissions of any pollutant from the fuel-fired heater when operated at an ambient temperature between 68°F and 86°F do not exceed the emission standard for that pollutant for a ULEV under section 1961(a)(1).

A vehicle that would meet the emissions standards for a ZEV except that it uses a fuel-fired heater that can be operated at ambient temperatures above 40°F, that cannot be demonstrated to have zero fuel evaporative emissions under any and all possible operation modes and conditions, or that has emissions of any pollutant exceeding the emission standard for that pollutant for a ULEV under section 1961(a)(1), shall be certified based on the emission level of the fuel-fired heater.

(b) *Percentage ZEV Requirements.* The ZEV requirement for each manufacturer in 2003 and subsequent model years is that at least 10% of the PCs and LDT1s produced by the manufacturer and delivered for sale in California must be ZEVs, subject to the conditions in this section 1962(b). In applying the ZEV requirement, a PC or LDT1 that is produced by a small volume manufacturer, but is marketed in California by another manufacturer under the other manufacturer's nameplate, shall be treated as having been produced by the marketing manufacturer.

(1) *Basic Requirements for Large, Intermediate, and Small Volume Manufacturers.*

(A) *Large Volume Manufacturers*. In 2003 and subsequent model years, a large-volume manufacturer must meet at least 40% of its ZEV requirement with ZEVs, full ZEV allowance vehicles, or ZEV credits generated by such vehicles. The remainder of the large-volume manufacturer's ZEV requirement may be met using partial ZEV allowance vehicles or credits generated by such vehicles.

(B) *Intermediate Volume Manufacturers*. In 2003 and subsequent model years, an intermediate volume manufacturer may meet its ZEV requirement with up to 100 percent partial ZEV allowance vehicles or credits generated by such vehicles.

(C) *Small Volume Manufacturers*. A small volume manufacturer is not required to meet the percentage ZEV requirements. However, a small volume manufacturer may earn and market credits for the ZEVs or ZEV allowance vehicles it produces and delivers for sale in California.

(2) *Counting ZEVs and ZEV Allowance Vehicles in Fleet Average NMOG Calculations*. Vehicles certified as ZEVs and as full ZEV allowance vehicles shall be counted as ZEVs for the purpose of calculating a manufacturer's fleet average NMOG value and NMOG credits under sections 1960.1(g)(2) and 1961(b) and (c). Partial ZEV allowance vehicles shall be counted as SULEVs certified to the 150,000 mile standards for the purpose of calculating a manufacturer's fleet average NMOG value and NMOG credits under sections 1960.1(g)(2) and 1961(b) and (c).

(3) *Implementation Prior to 2003 Model Year*. Prior to the 2003 model year, a manufacturer that voluntarily produces vehicles meeting the ZEV emission standards applicable to 2003 and subsequent model year vehicles may certify the vehicles to those standards and requirements for purposes of calculating fleet average NMOG exhaust emission values and NMOG credits under sections 1960.1(g)(2) and 1961(b) and (c), and for calculating ZEV credits as set forth in section 1962(d).

(4) *Changes in Small and Intermediate Volume Manufacturer Status*. In 2003 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, or if an intermediate volume manufacturer's average California production volume exceeds 35,000 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 intermediate manufacturer, as applicable, and shall comply with the ZEV requirements for intermediate or large volume manufacturers, as applicable, beginning with the fourth model year after the last of the three consecutive model years. If a manufacturer's average California production volume falls below 4,500 or 35,000 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 or intermediate volume manufacturer, as applicable, and shall be subject to the requirements for a small or intermediate volume manufacturer beginning with the next model year. In determining small volume manufacturer status, vehicles produced by one manufacturer and marketed in California by another manufacturer under the other manufacturer's nameplate shall be treated as part of the California production volume of the sales of the marketing manufacturer.

(c) *Partial and Full ZEV Allowance Vehicles.*

(1) This section 1962(c) sets forth the criteria for identifying vehicles delivered for sale in California as partial or full ZEV allowance vehicles. A partial ZEV allowance vehicle is a vehicle that is delivered for sale in California and that qualifies for a partial ZEV allowance of at

least 0.2 but less than 1.0. A full ZEV allowance vehicle is a vehicle that is delivered for sale in California and that qualifies for a ZEV allowance of 1.0.

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

(A) Certify the vehicle to the 150,00-mile SULEV exhaust emission standards for PCs and LDTs in section 1961(a)(1);

(B) Certify the vehicle to the evaporative emission standards in section 1976(b)(1)(E) ("zero" evaporative emissions standards);

(C) Certify that the vehicle will meet the applicable on-board diagnostic requirements in section 1968.1 for 150,000 miles;

(D) Extend the performance and defects warranty period set forth in sections 2037(b)(2) and 2038(b)(2) to 15 years or 150,000 miles, whichever occurs first.

(3) *Zero-Emission VMT Partial ZEV Allowance*.

(A) A vehicle that meets the requirements of section 1962(c)(2) and has zero-emission vehicle miles traveled ("VMT") capability will generate an additional ZEV allowance, not to exceed 0.6, according to the following equation:

Zero-Emission VMT Partial ZEV Allowance = 0.6 x Zero-Emission VMT Factor

where zero-emission VMT factor is the ratio of the zero-emission miles the vehicle travels to the total miles traveled per trip.

(B) The zero-emission VMT factor in the above equation is to be calculated as follows, with the urban all-electric range (AER) determined in accordance with section E.3.(2)(a) of the "California Exhaust Emission Standards and Test Procedures for 2003 and Subsequent Model Zero-Emission Vehicles, and 2001 and Subsequent Model Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962(e):

Urban All-Electric Range	Zero-emission VMT Factors:
< 20 miles	0.0
≤ 20 miles to < 100 miles	(30 + [0.5 x Urban AER])/80
≥ 100 miles	1.0

(C) As an alternative to determining the zero-emission VMT factor in accordance with the preceding section 1962(c)(3)(B), 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 factor of 0.5. Upon approval of the alternative procedure, the Executive Officer shall assign a zero-emission VMT factor not to exceed 1.0.

(D) The Executive Officer shall approve an additional 0.1 zero-emission VMT ZEV allowance for an HEV with an all-electric range greater than 20 miles if the manufacturer demonstrates to the reasonable satisfaction of the Executive Officer that the HEV is equipped with software and/or other strategies that would promote maximum use of off-vehicle charging, and that the strategies employed are reasonably reliable and tamper-proof. In no event, however, may the total zero-emission VMT ZEV allowance for an HEV under section 1962(c)(3) exceed 0.6.

(4) *Partial ZEV Allowance for Advanced ZEV Componentry*. A vehicle that does not qualify for any zero-emission VMT partial ZEV allowance under section 1962(c)(3) shall qualify for an advanced componentry partial ZEV allowance of 0.1, if the manufacturer demonstrates to the reasonable satisfaction of the Executive Officer that the vehicle is equipped with advanced ZEV componentry such as an advanced battery integral to the operation of the vehicle power-train or an electric power-train.

(5) *Partial ZEV Allowance for Fuel-Cycle Emissions*. A vehicle that uses fuel(s) with very low fuel-cycle emissions shall receive a partial ZEV allowance not to exceed 0.2. In order to receive the fuel-cycle partial ZEV 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. The fuel-cycle partial ZEV allowance is calculated according to the following formula:

Partial ZEV Fuel Cycle Allowance = 0.2 x [(percent of VMT using fuel(s) meeting the requirements of the preceding paragraph) / 100]

A manufacturer's demonstration to the Executive Officer that a vehicle qualifies for a fuel-cycle partial ZEV allowance shall include test results and/or empirical data supporting the estimate of the relative proportion of VMT while operating on fuel(s) with very low fuel-cycle emissions.

(6) *Calculation of Combined ZEV Allowance for a Vehicle.* The combined ZEV allowance for a qualifying vehicle is the sum of:

(A) The baseline ZEV allowance of 0.2 for vehicles meeting the criteria in section 1962(c)(2);

(B) The zero-emission VMT ZEV allowance, if any, determined in accordance with section 1962(c)(3), not to exceed 0.6;

(C) The advanced ZEV componentry ZEV allowance, if any, determined in accordance with section 1962(c)(4), not to exceed 0.1; and

(D) The fuel-cycle emissions ZEV allowance, if any, determined in accordance with section 1962(c)(5), not to exceed 0.2.

(d) *Generation and Use of ZEV Credits; Calculation of Penalties.* A manufacturer that produces and delivers for sale in California ZEVs, full ZEV allowance vehicles, or partial ZEV allowance vehicles in a given model year exceeding the manufacturer's ZEV requirement set forth in section 1962(b) shall earn ZEV credits in accordance with this section 1962(d).

(1) *Qualification for ZEV Multipliers.*

(A) *1996-1998 Model-Year ZEV Multipliers.*

1. *1996-1998 Model-Year ZEV Multiplier Based on Vehicle Range.* 1996-1998 model-year ZEVs shall qualify for a ZEV multiplier based on vehicle range as follows:

ZEV Multiplier	Vehicle Range (miles)	
	Model Years 1996 and 1997	Model Year 1998
2	any	$\geq$ 100
3	$\geq$70	$\geq$ 130

Range shall be determined in accordance with section 9.f.(2)(a) of the "California Exhaust Emission Standards and Test Procedures for 1988 Through 2000 Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," incorporated by reference in section 1960.1(k).

2. *1996-1998 Model-Year ZEV Multiplier Based on Specific Energy of Battery.* 1996-1998 model-year ZEVs shall qualify for a ZEV multiplier based on specific energy of the battery as follows:

ZEV Multiplier	Specific Energy of Battery (w-hr/kg)
2	any
3	≥40

3. A 1996-1998 model-year ZEV may qualify for a ZEV multiplier according to section 1962(d)(1)(A)1. or section 1962(d)(1)(A)2., but not both. For purposes of calculating a manufacturer's fleet average NMOG value under section 1960.1(g)(2), each ZEV that qualifies for a ZEV multiplier shall be counted as one vehicle.

(B) *1999-2007 Model-Year ZEV Multiplier Calculation for Extended Electric Range Vehicles.*

1. Each ZEV and full ZEV allowance vehicle that is produced and delivered for sale in California in the 1999 to 2007 model years and that has an extended electric range shall qualify for a ZEV multiplier as follows:

All-electric range	**MY 1999-2000**	**MY 2001 -2002**	**MY 2003-2005**	**MY 2006-2007**
100-175	6-10	4-6	2-4	1-2

ZEV multipliers under the above schedule will be determined by linear interpolation between the values shown in the above schedule. Range shall be determined in accordance with Section E.3.(2)(a) of the "California Exhaust Emission Standards and Test Procedures for 2003 and Subsequent Model Zero-Emission Vehicles, and 2001 and Subsequent Model Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," incorporated by reference in section 1962(e). ZEVs that have a refueling time of less than 10 minutes and a range of 100 miles or more shall be counted as having unlimited all-electric range, and shall consequently earn the maximum allowable ZEV multiplier for a specific model year. ZEVs that have a range of 80 to 99 miles shall qualify for ZEV multipliers in 1999-2002 model years in accordance with the following equation:

ZEV multiplier = (minimum allowable ZEV multiplier per above table for a model year) x (AER equivalent to a 10 minute recharge/100) x 0.5.

2. For purposes of calculating a manufacturer's fleet average NMOG value under sections 1960.1(g)(2) and 1961(b) and (c), each extended electric range ZEV shall be counted as one vehicle.

(2) *Effect of ZEV Multipliers.* In calculating the number of ZEVs and full ZEV allowance vehicles produced and delivered for sale in California by a manufacturer in a model year and the ZEV credits from such vehicles, the number of ZEVs and full ZEV allowance vehicles qualifying for a particular ZEV multiplier shall be multiplied by the ZEV multiplier.

(3) *ZEV Credit Calculations.*

(A) *Credits from ZEVs and Full ZEV Allowance Vehicles.* A full ZEV allowance vehicle shall be treated as a ZEV in calculating and applying ZEV credits. The amount of 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 ZEVs produced and delivered for sale in California that the manufacturer applies towards meeting the ZEV requirements for the model year (at least 40% of the ZEV requirement for a large volume manufacturers) 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 for that model year.

(B) *Credits from Partial ZEV Allowance Vehicles.* The amount of ZEV credits from partial ZEV allowance vehicles 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 ZEV allowances from partial ZEV allowance vehicles produced and delivered for sale in California that the manufacturer applies towards meeting its ZEV requirement for the model year (a number not to exceed 60% of the ZEV requirement for large volume manufacturers) subtracted from the total number of ZEV allowances from partial ZEV allowance vehicles 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 for that model year.

(C) The number of credits from a manufacturer's ZEVs and full ZEV allowance vehicles shall be maintained separately from the number of credits from the manufacturer's partial ZEV allowance vehicles.

(4) *ZEV Credits for MDVs and LDTs other than LDT1s.* ZEVs classified as MDVs or as LDTs other than LDT1s may be counted toward the ZEV requirement for PCs and LDT1s, and included in the calculation of ZEV credits as specified in this section 1962(d) if the manufacturer so designates.

(5) *Submittal of ZEV Credits*. 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 section 1962(b). These credits may be earned previously by the manufacturer or

acquired from another manufacturer. The amount of ZEV credits required to be submitted shall be calculated according to the criteria set forth in this section 1962(d).

(6) *Requirement to Make Up a ZEV Deficit*. 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 next model year by submitting to the Executive Officer a commensurate amount of ZEV credits. The amount of ZEV credits required to be submitted shall be calculated by (A) adding the number of ZEVs produced and delivered for sale in California by the manufacturer for the model year to the number of ZEV allowances from partial ZEV allowance vehicles produced and delivered for sale in California by the manufacturer for the model year (not to exceed 60% of a large volume manufacturer's ZEV requirement), (B) subtracting that total from the number of ZEVs required to be produced and delivered for sale in California by the manufacturer for the model year, and (C) multiplying the resulting value by the fleet average requirements for PCs and LDT1s for the model year in which the deficit is incurred.

(7) *Penalty for Failure to Meet ZEV Requirements.* Any manufacturer that fails to produce and deliver for sale in California the required number of ZEVs or submit an appropriate amount of ZEV credits and does not make up ZEV deficits within the specified time period 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 period. For the purposes of Health and Safety Code section 43211, the number of vehicles not meeting the state board's standards shall be calculated according to the following equation, provided that no more than 60% of a large volume manufacturer's ZEV requirement for a given model year may be satisfied with partial ZEV allowance vehicles or ZEV credits from such vehicles:

(No. of ZEVs required to be produced and delivered for sale in California 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 the model year) / (the fleet average requirement for PCs and LDT1s for the model-year)].

(e) *Test Procedures.* The certification requirements and test procedures for determining compliance with the this section 1962 are set forth in "California Exhaust Emission Standards and Test Procedures for 2003 and Subsequent Model Zero-Emission Vehicles, and 2001 and Subsequent Model Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," adopted by the state board on August 5, 1999, which is incorporated herein by reference.

(f) *Abbreviations.* The following abbreviations are used in this section 1962:

"AER" means all-electric range.
"HEV" means hybrid-electric vehicle.

"LDT" means light-duty truck.
"LDT1" means a light-truck with a loaded vehicle weight of 0-3750 pounds.
"MDV" means medium-duty vehicle.
"Non-Methane Organic Gases" or "NMOG" means the total mass of oxygenated and non-oxygenated hydrocarbon emissions.
"NOx" means oxides of nitrogen.
"PC" means passenger car.
"SULEV" means super ultra-low-emission-vehicle.
"ULEV" means ultra-low emission vehicle.
"VMT" means vehicle miles traveled.

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 39667, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43107, 43204, and 43205.5, Health and Safety Code.

5. Amend title 13, CCR, section 1965 to read as follows:

§1965. Emission Control and Smog Index Labels - 1979 and Subsequent Model-Year Motor Vehicles.

In addition to all other requirements, emission control labels required by California certification procedures and smog index labels shall conform to the "California Motor Vehicle Emission Control and Smog Index Label Specifications," adopted March 1, 1978, as last amended ~~June 24, 1996 (as corrected September 20, 1996)~~ August 5, 1999, which is incorporated herein by reference.

Note: Authority cited: Sections 39600, 39601, and 43200, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101, 43102, 43103, 43104, 43107, and 43200, Health and Safety Code.

6. Amend title 13, CCR section 1968.1 to read as follows:

§1968.1 Malfunction and Diagnostic System Requirements - 1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and medium-Duty Vehicles and Engines.

[Subsections (a) through (b)(4.2.1) -- No change.]

(4.2.2) Beginning with the 2000 model year, manufacturers shall phase-in diagnostic strategies to detect system leaks greater than or equal in magnitude to a leak caused by a 0.020 inch diameter orifice. The phase-in percentages (based on the manufacturer's projected sales volume for all vehicles) shall equal or exceed ~~50~~ 20 percent for the 2000 model year, ~~75~~ 40 percent for the 2001 model year, 70 percent for the 2002 model year, and 100 percent implementation for the ~~2002~~ 2003 model year. Alternate phase-in schedules that provide for equivalent emission reduction and timeliness overall shall be accepted. Small volume manufacturers shall not be subject to the phase-in requirements; however, 100 percent implementation shall be required for the ~~2002~~ 2003 model year.

[Subsections (b)(4.2.3) through (n) -- No change.]

Note: Authority cited: Sections 39515, 39600, 39601 ~~and~~, 43006, 43013, 43018, 43104, and 44036.2, Health and Safety Code, Sections 27156 and 38395 Vehicle Code. Reference: Sections 39002, 39003, 39667, 43000, 43004, 43006, 43008.6, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, ~~and~~ 43204, and 44036.2, Health and Safety Code, Sections 27156, 38391, and 38395, Vehicle Code.

7. Amend Title 13, CCR, section 1976 to read as follows:

§1976. Standards and Test Procedures for Motor Vehicle Fuel Evaporative Emissions.

[Subsection (a) -- No change.]

(b)(1) Evaporative emissions for 1978 and subsequent model gasoline-fueled, 1983 and subsequent model liquefied petroleum gas-fueled, and 1993 and subsequent model alcohol-fueled motor vehicles and hybrid electric vehicles subject to exhaust emission standards under this article, except petroleum-fueled diesel vehicles, compressed natural gas-fueled vehicles, hybrid electric vehicles that have sealed fuel systems which can be demonstrated to have no evaporative emissions, and motorcycles, shall not exceed the following standards:

(A) For vehicles identified below, tested in accordance with the test procedure based on the Sealed Housing for Evaporative Determination as set forth in Title 40, Code of Federal Regulations, sections 86.130-78 through 86.143-90 as they existed July 1, 1989, the evaporative emission standards are:

Vehicle Type	*Model Year*	*Hydrocarbons*[(1)] *Diurnal + Hot Soak (grams/test) 50K miles*
Passenger cars	1978 and 1979	6.0
Light-duty trucks		6.0
Medium-duty vehicles		6.0
Heavy-duty vehicles		6.0
Passenger cars	1980-1994[(2)]	2.0
Light-duty trucks		2.0
Medium-duty vehicles		2.0
Heavy-duty vehicles		2.0

(1) Organic Material Hydrocarbon Equivalent, for alcohol-fueled vehicles.
(2) Other than hybrid electric vehicles.

(B) For the vehicles identified below, tested in accordance with the test procedure which includes the running loss test, the hot soak test, and the 72 hour diurnal test, the evaporative emission standards are:

Vehicle Type	*Model Year*	*Hydrocarbons*[1]	
		Three-Day Diurnal +Hot Soak (grams/test) Useful Life[2]	*Running Loss (grams/mile) Useful Life* [2]
Passenger cars	1995 through 2005 ~~and subsequent~~ [3]	2.0	0.05
Light-duty trucks		2.0	0.05
Medium-duty vehicles (6,001-8,500 lbs. GVWR)			
with fuel tanks < 30 gallons		2.0	0.05
with fuel tanks ≥ 30 gallons		2.5	0.05
(8,501-14,000 lbs. GVWR)[4]		3.0	0.05
Heavy-duty vehicles (over 14,000 lbs. GVWR)		2.0	0.05
Hybrid electric passenger cars	1993 through 2005 ~~and subsequent~~ [5]	2.0	0.05
Hybrid electric light-duty trucks		2.0	0.05
Hybrid electric medium-duty vehicles		2.0	0.05

(1) Organic Material Hydrocarbon Equivalent for alcohol-fueled vehicles.

(2) For purposes of this paragraph, "useful life" shall have the same meaning as provided in section 2112, title 13, California Code of Regulations. Approval of vehicles which are not exhaust emission tested using a chassis dynamometer pursuant to section 1960.1 or 1961, title 13, California Code of Regulations shall be based on an engineering evaluation of the system and data submitted by the applicant.

(3) The running loss and useful life three-day diurnal plus hot soak evaporative emission standards (hereinafter "running loss and useful life standards") shall be phased-in beginning with the 1995 model year. Each manufacturer, except ultra-small volume and small volume manufacturers, shall certify the specified percent (a) of passenger cars and (b) of light-duty trucks, medium-duty

vehicles and heavy-duty vehicles to the running loss and useful life standards according to the following schedule:

Model Year	*Minimum Percentage of Vehicles Certified to Running Loss and Useful Life Standards**
1995	10 percent
1996	30 percent
1997	50 percent

* The minimum percentage of motor vehicles of each vehicle type required to be certified to the running loss and useful life standards shall be based on the manufacturer's projected California model-year sales (a) of passenger cars and (b) of light-duty trucks, medium-duty vehicles and heavy-duty vehicles. Optionally, the percentage of motor vehicles can also be based on the manufacturer's projected California model-year sales (a) of passenger cars and light-duty trucks and (b) of medium-duty vehicles and heavy-duty vehicles.

Beginning with the 1998 model year, all motor vehicles subject to the running loss and useful life standards, except those produced by ultra-small volume manufacturers, shall be certified to the specified standards. In the 1999 through the 2005 ~~and subsequent~~ model years, all motor vehicles subject to the running loss and useful life standards, including those produced by ultra-small volume manufacturers, shall be certified to the specified standards.

All 1995 through 1998 model-year motor vehicles which are not subject to running loss and useful life standards pursuant to the phase-in schedule shall comply with the 50,000-mile standards in effect for 1980 through 1994 model-year vehicles.

(4) For the 1995 model year only, the evaporative emission standards for complete vehicles in this weight range shall be 2.0 grams/test and compliance with the evaporative emission standards shall be based on the SHED conducted in accordance with the procedures set forth in title 40, Code of Federal Regulations, sections 86.130-78 through 86.143-90 as they existed July 1, 1989. For the 1995 through 2005 ~~and subsequent~~ model years, the evaporative emission standards for incomplete vehicles in this weight range shall be 2.0 grams/test and compliance with the evaporative emission standards shall be based on the test procedures specified in paragraph 4.g. of the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles."

(5) The running loss and useful life standards for all hybrid electric vehicles shall be effective beginning in the 1993 ~~and subsequent~~ model year~~s~~.

(C) For vehicles identified below, tested in accordance with the test procedure which includes the hot soak test and the 48 hour diurnal test, the evaporative emission standards are:

Vehicle Type	*Model Year*	*Hydrocarbons*[1] *Two-Day Diurnal + Hot Soak (grams/test) Useful Life*[2]
Passenger cars	1996 through 2005 ~~and subsequent~~ [3]	2.5
Light-duty trucks		2.5
Medium-duty vehicles (6,001-8,500 lbs. GVWR) with fuel tanks < 30 gallons with fuel tanks ≥ 30 gallons (8,501-14,000 lbs. GVWR)		 2.5 3.0 3.5
Heavy-duty vehicles (over 14,000 lbs. GVWR)		4.5
Hybrid electric passenger cars	1996 through 2005 ~~and subsequent~~ [3]	2.5
Hybrid electric light-duty trucks		2.5
Hybrid electric medium-duty vehicles		2.5

(1) Organic Material Hydrocarbon Equivalent for alcohol-fueled vehicles.

(2) For purposes of this paragraph, "useful life" shall have the same meaning as provided in section 2112, title 13, California Code of Regulations. Approval of vehicles which are not exhaust emission tested using a chassis dynamometer pursuant to section 1960.1 or 1961, title 13, California Code of Regulations shall be based on an engineering evaluation of the system and data submitted by the applicant.

(3) The two-day diurnal plus hot soak evaporative emission standards (hereinafter "supplemental standards") shall be phased-in beginning with the 1996 model year. Those vehicles certified under the running loss and useful life standards for the 1996 through 2005 ~~and subsequent~~ model years must also be certified under the supplemental standards.

(D) Zero-emission vehicles shall produce zero fuel evaporative emissions under any and all possible operational modes and conditions.

(E) The optional zero-fuel evaporative emission standards for the three-day and two-day diurnal-plus-hot-soak tests are 0.35 grams per test for passenger cars, 0.50 grams per test for light-duty trucks 6,000 lbs. GVWR and under, and 0.75

grams per test for light-duty trucks from 6,001 to 8,500 lbs. GVWR, to account for vehicle non-fuel evaporative emissions (resulting from paints, upholstery, tires, and other vehicle sources). Vehicles demonstrating compliance with these evaporative emission standards shall also have zero (0.0) grams of fuel evaporative emissions per test for the three-day and two-day diurnal-plus-hot-soak tests. The "useful life" shall be 15 years or 150,000 miles, whichever occurs first. In lieu of demonstrating compliance with the zero (0.0) grams of fuel evaporative emissions per test over the three-day and two-day diurnal-plus-hot-soak tests, the manufacturer may submit for advance Executive Officer approval a test plan to demonstrate that the vehicle has zero (0.0) grams of fuel evaporative emissions throughout its useful life.

Additionally, in the case of a SULEV vehicle for which a manufacturer is seeking a partial ZEV credit, the manufacturer may prior to certification elect to have measured fuel evaporative emissions reduced by a specified value in all certification and in-use testing of the vehicle as long as measured mass exhaust emissions of NMOG for the vehicle are increased in all certification and in-use testing. The measured fuel evaporative emissions shall be reduced in increments of 0.1 gram per test, and the measured mass exhaust emissions of NMOG from the vehicle shall be increased by a gram per mile factor, to be determined by the Executive Officer, for every 0.1 gram per test by which the measured fuel evaporative emissions are reduced. For the purpose of this calculation, the evaporative emissions shall be measured, in grams per test, to a minimum of three significant figures.

(F) For the 2004 and subsequent model motor vehicles identified below, tested in accordance with the test procedures described in Title 40, Code of Federal Regulations, sections 86.130-78 through 86.143-90 as they existed July 1, 1989 and as modified by the "California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles" incorporated by reference in section 1976(c), the evaporative emission standards are:

Vehicle Type	*Hydrocarbon[1] Standards[2][3][4]*		
	Running Loss (grams per mile)	*Three Day Diurnal + Hot Soak (grams per test)*	*Two-Day Diurnal + Hot Soak (grams per test)*
Passenger cars	0.05	0.50	0.65
Light-duty trucks (under 8,501 lbs. GVWR)			
6,000 lbs. GVWR and under	0.05	0.65	0.85
6,001 - 8,500 lbs. GVWR	0.05	0.90	1.15
Medium-duty vehicles (8,501 - 14,000 lbs. GVWR)	0.05	1.00	1.25
Heavy-duty vehicles (over 14,000 lbs. GVWR)	0.05	1.00	1.25

(1) Organic Material Hydrocarbon Equivalent for alcohol-fueled vehicles.

(2) For all vehicles certified to these standards, the "useful life" shall be 15 years or 150,000 miles, whichever first occurs. Approval of vehicles which are not exhaust emission tested using a chassis dynamometer pursuant to section 1960.1 or 1961, title 13, California Code of Regulations shall be based on an engineering evaluation of the system and data submitted by the applicant.

(3) (a) These evaporative emission standards shall be phased-in beginning with the 2004 model year. Each manufacturer, except small volume manufacturers, shall certify at a minimum the specified percentage of its vehicle fleet to the evaporative emission standards in this table or the optional zero-evaporative emission standards in section 1976(b)(1)(E) according to the schedule set forth below. For purposes of this paragraph (a), each manufacturer's vehicle fleet consists of the total projected California sales of the manufacturer's gasoline-fueled, liquefied petroleum-fueled and alcohol-fueled passenger cars, light-duty trucks, medium-duty vehicles, and heavy-duty vehicles.

Model Year	*Minimum Percentage of Vehicles Certified to the Standards in §§1976(b)(1)(F) and (b)(1)(E)*
2004	40
2005	80
2006 and subsequent	100

A small volume manufacturer shall certify 100 percent of its 2006 and subsequent model vehicle fleet to the evaporative emission standards in the table or the optional zero-evaporative emission standards in section 1976(b)(1)(E).

All 2004 through 2005 model-year motor vehicles which are not subject to these standards or the standards in section 1976(b)(1)(E) pursuant to the phase-in schedule shall comply with the requirements of sections 1976(b)(1)(B) and (C).

(b) A manufacturer may use an "Alternative or Equivalent Phase-in Schedule" to comply with the phase-in requirements. An "Alternative Phase-in" is one that achieves at least equivalent emission reductions by the end of the last model year of the scheduled phase-in. Model-year emission reductions shall be calculated by multiplying the percent of vehicles (based on the manufacturer's projected California sales volume of the applicable vehicle fleet) meeting the new requirements per model year by the number of model years implemented prior to and including the last model year of the scheduled phase-in. The "cumulative total" is the summation of the model-year emission reductions (e.g., the three model-year 40/80/100 percent phase-in schedule would be calculated as: (40%*3 years) + (80%*2 years) + (100%*1 year) =380). The required cumulative total for the phase-in of these standards is 380 emission reductions. Any alternative phase-in that results in an equal or larger cumulative total than the required cumulative total by the end of the last model year of the scheduled phase-in shall be considered acceptable by the Executive Officer only if all vehicles subject to the phase-in comply with the respective requirements in the last model year of the required phase-in schedule. A manufacturer shall be allowed to include vehicles introduced before the first model year of the scheduled phase-in (e.g., in the previous example, 10 percent introduced one year before the scheduled phase-in begins would be calculated as: (10%*4 years)=40) and added to the cumulative total.

(c) These evaporative emission standards do not apply to zero-emission vehicles.

(4) In-use compliance whole vehicle testing shall not begin until the motor vehicle is at least one year from the production date and has accumulated a minimum of 10,000 miles. For vehicles introduced prior to the 2007 model year, in-use compliance standards of 1.75 times the "Three-Day Diurnal + Hot-Soak" and "Two-Day Diurnal + Hot-Soak" gram per test standards shall apply for only the first three model years of an evaporative family certified to a new standard.

[Subsection (b)(2) --No change.]

(c) The test procedures for determining compliance with the standards in subsection (b) above applicable to 1978 through 2000 model year vehicles are set forth in "California Evaporative Emission Standards and Test Procedures for 1978-2000 ~~and Subsequent~~ Model Motor Vehicles," adopted by the state board on April 16, 1975, as last amended ~~May 22, 1997, effective October 16, 1997,~~ August 5, 1999, which is incorporated herein by reference. The test procedures for determining compliance with standards applicable to 2001 and subsequent model year vehicles are set forth in the "California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles," adopted by the state board on August 5, 1999, which is incorporated herein by reference.

[Subsections (d) through (f)(1) -- No change.]

(f)(2) For the purposes of this section, "ultra-small volume manufacturer" means any vehicle manufacturer with California sales less than or equal to 300 new vehicles per model year based on the average number of vehicles sold by the manufacturer in the previous three consecutive model years, and "small volume manufacturer" means, for 1978 through 2000 model years, any vehicle manufacturer with California sales less than or equal to 3000 new vehicles per model year based on the average number of vehicles sold by the manufacturer in the previous three consecutive model years. For 2001 and subsequent model motor vehicles, "small volume manufacturer" has the meaning set forth in section 1900(a).

Note: Authority cited: Sections 39600, 39601, 39667, 43013, 43018, 43101, 43104 and 43107, Health and Safety Code. Reference: Sections 39003, 39500, 39667, 43000, 43013, 43018, 43100, 43101, 43102, 43104 and 43107, Health and Safety Code.

8. Amend title 13, CCR, section 1978 to read as follows:

§1978. Standards and Test Procedures for Vehicle Refueling Emissions.

(a)(1) Vehicle refueling emissions for 1998 and subsequent model gasoline-fueled, alcohol-fueled, diesel-fueled, fuel-flexible, and hybrid electric passenger cars, light-duty trucks, and medium-duty vehicles with a gross vehicle weight rating less than 8501 pounds, shall not exceed the following standards. Gaseous fueled vehicles are exempt from meeting these refueling standards. The standards apply equally to certification and in- use vehicles.

Hydrocarbons (for gasoline-fueled, diesel-fueled, and hybrid electric vehicles): 0.20 grams per gallon of fuel dispensed.

Organic Material Hydrocarbon Equivalent (for alcohol-fueled, fuel-flexible, and hybrid electric vehicles): 0.20 grams per gallon of fuel dispensed.

(2) Vehicles powered by diesel fuel are not required to conduct testing to demonstrate compliance with the refueling emission standards set forth above, provided that all of the following provisions are met:

(A) The manufacturer can attest to the following evaluation: "Due to the low vapor pressure of diesel fuel and the vehicle tank temperatures, hydrocarbon vapor concentrations are low and the vehicle meets the 0.20 grams/gallon refueling emission standard without a control system."

(B) The certification requirement described in paragraph (A) is provided in writing and applies for the full useful life of the vehicle, as defined in section 2112.

In addition to the above provisions, the ARB reserves the authority to require testing to enforce compliance and to prevent noncompliance with the refueling emission standard.

Vehicles certified to the refueling emission standard under this provision shall not be counted in the phase-in sales percentage compliance determinations.

(3) The manufacturer shall adhere to the following phase-in schedule, as determined by projected vehicle sales throughout the United States, with the exception of small volume manufacturers.

ORVR Model Year Phase-In Schedule			
Class of Vehicle	**40% Fleet**	**80% Fleet**	**100% Fleet**
Passenger Cars	1998	1999	2000
Light-Duty Trucks 0-6,000 lbs. GVWR	2001	2002	2003
Light-Duty Trucks / Medium-Duty Vehicles 6,001-8,500 lbs. GVWR	2004	2005	2006

(A) Prior to the 2001 model year, ~~S~~small volume manufacturers are defined for purposes of this section ~~regulation~~ as any vehicle manufacturer with California actual sales less than or equal to 3000 new vehicles per model year based on the average number of vehicles sold by the manufacturer in the previous three consecutive years.

(B) Small volume manufacturers of passenger cars, as defined in subsection (a)(3)(A), are exempt from the implementation schedule in subsection (a)(3) for model years 1998 and 1999. For small volume manufacturers of passenger cars, the standards of subsection (a)(1), and the associated test procedures, shall not apply until model year 2000, when 100 percent compliance with the standards of this section is required. Small volume manufacturers of light-duty trucks and medium-duty vehicles are not exempt from the implementation schedule in subsection (a)(3).

(b) The test procedures for determining compliance with standards applicable to 1998 through 2000 ~~and subsequent~~ gasoline, alcohol, diesel, and hybrid electric passenger cars, light-duty trucks, and medium-duty vehicles are set forth in the "California Refueling Emission Standards and Test Procedures for 1998-2000 ~~and Subsequent~~ Model Motor Vehicles," ~~adopted April 24, 1996, effective June 19, 1996~~ as amended August 5, 1999, which is incorporated herein by reference. The test procedures for determining compliance with standards applicable to 2001 and subsequent gasoline, alcohol, diesel, and hybrid electric passenger cars, light-duty trucks, and medium-duty vehicles are set forth in the "California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles," adopted August 5, 1999, which is incorporated herein by reference.

Note: Authority cited: Sections 39600, 39667, 43013, 43018, 43101, and 43104, Health and Safety Code. Reference: Sections 39003, 39500, 39667, 43000, 43013, 43018, 43101, 43102, and 43104, Health and Safety Code.

9. Amend title 13, CCR, section 2037 to read as follows:

§2037. Defects Warranty Requirements for 1990 and Subsequent Model Passenger Cars, Light-Duty Trucks, Medium-Duty Vehicles, and Motor Vehicle Engines Used in Such Vehicles.

(a) through (f) -- [No change.]

(g) Prior to the 2001 model year, ~~E~~ each manufacturer shall submit the documents required by subsections (c)(3), (e), and (f) with the manufacturer's preliminary application for new-vehicle or engine certification for approval by the Executive Officer. For 2001 and subsequent model years, each manufacturer shall submit the documents required by subsection 2037(c)(3), (e), and (f) with the Part 2 Application for Certification pursuant to the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," incorporated by reference in subsection 1961(d). The Executive Officer may reject or require modification of the manufacturer's list of "high-priced" warranted parts to ensure that each such list includes all emission-related parts whose replacement cost exceeds the cost limit defined in subsection (c)(1) and also may reject or require modification of any of the documents required by subsections (e) and (f). Approval by the Executive Officer of the documents required by subsections (c), (e), and (f) shall be condition of certification. The Executive Officer shall approve or disapprove the documents required by subsections (c), (e), and (f) within 90 days of the date such documents are received from the manufacturer. Any disapproval shall be accompanied by a statement of the reasons thereof. In the event of disapproval, the manufacturer may petition the Board to review the decision of the Executive Officer.

(h) through (i) -- [No change.]

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 43106, ~~432204~~ 43204, 43205, 44004, 44010, 44011, 44012, 44015, and 44017, Health and Safety Code.

10. Amend title 13, CCR, section 2038, to read as follows:

§2038. Performance Warranty Requirements for 1990 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and Motor Vehicle Engines Used in Such Vehicles

(a) through (*l*) -- [No change.]

(m) Prior to the 2001 model year, ~~E~~each manufacturer shall submit the documents required by subsection (c)(1) with the manufacturer's preliminary application for new vehicle or engine certification for approval by the Executive Officer. For 2001 and subsequent model years, each manufacturer shall submit the documents required by subsection (c)(1) with the Part 2 Application for Certification pursuant to the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," incorporated by reference in section 1961(d). The Executive Officer may reject or require modification of the documents required by subsection (c)(1). Approval by the Executive Officer of the documents required by subsection (c)(1) shall be a condition of certification. The Executive Officer shall approve or disapprove the documents required by subsection (c)(1) within 90 days of the date such documents are received from the manufacturer. Any disapproval shall be accompanied by a statement of reasons therefore. In the event of disapproval, the manufacturer may petition the Board to review the decision of the Executive Officer.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 43106, 43204, 43205, 44004, 44010, 44011, 44012, 44014, and 44015, Health and Safety Code.

11. Amend title 13, CCR, section 2062 to read as follows:

§2062. Assembly-Line Test Procedures - 1998 and Subsequent Model Years.

New 1998 ~~and subsequent~~ through 2000 model-year passenger cars, light-duty trucks, and medium-duty vehicles, subject to certification and manufactured for sale in California, except for zero-emission vehicles and medium-duty vehicles certified according to the optional standards and test procedures of Section 1956.8, Title 13, California Code of Regulations, shall be tested in accordance with the "California Assembly-Line Test Procedures for 1998 ~~and Subsequent~~ Through 2000 Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles." adopted June 24, 1996, and last amended ~~March 19, 1998~~ August 5, 1999, which is incorporated herein by reference. New 2001 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles, subject to certification and manufactured for sale in California, except for zero-emission vehicles and medium-duty vehicles certified according to the optional standards and test procedures of Section 1956.8, Title 13, California Code of Regulations, shall be tested in accordance with the "California Assembly-Line Test Procedures for 2001 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles." adopted August 5, 1999, which is incorporated herein by reference. These test procedures shall also apply to federally certified light-duty motor vehicles, except as provided in "Guidelines for Certification of 1983 and Subsequent Model-Year Federally Certified Light-Duty Motor Vehicles for Sale in California," adopted July 20, 1982, as last amended July 12, 1991, which is incorporated herein by reference.

NOTE: Authority cited: Sections 39515, 39600, 39601, 43013, 43018, 43101, 43104 and 43210, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43013, 43018, 43100, 43101, 43101.5, 43102, ~~43103,~~ 43104, 43105, 43106, 43204, 43210, 43211, and 43212, Health and Safety Code.

12. Amend title 13, CCR, section 2101 to read as follows:

§2101. Compliance Testing and Inspection - New Vehicle Selection Evaluation, and Enforcement Action.

(a) The Executive Officer may, with respect to any new vehicle engine family, test group or subgroup being sold, offered for sale, or manufactured for sale in California, order a vehicle manufacturer to make available for compliance testing and/or inspection a reasonable number of vehicles, and may direct that the vehicles be delivered to the state board at the Haagen-Smit Laboratory, 9528 Telstar Avenue, El Monte, California. Vehicles shall be selected at random from sources specified by the Executive Officer according to a method approved by him/her, which insofar as practical shall exclude (1) vehicles manufactured pursuant to the specific order of an ultimate purchaser or (2) vehicles the selection of which, if not excluded, would result in an unreasonable disruption of the manufacturer's distribution system.

A subgroup may be selected for compliance testing only if the Executive Officer has reason to believe that the emissions characteristics of that subgroup are substantially in excess of the emissions of the engine family or test group as a whole.

(b) If the vehicles are selected for compliance testing, the selection and testing of vehicles and the evaluation of data shall be made in accordance with the "California New Vehicle Compliance Test Procedures," adopted by the state board on June 13, 1976, and last amended ~~March 19, 1998~~ August 5, 1999. Motorcycles scheduled for compliance testing shall be selected, tested, and evaluated in accordance with the "California New Motorcycle Compliance Test Procedures," adopted by the state board on June 30, 1977, and amended November 24, 1981.

(c) If the Executive Officer determines, in accordance with the "California New Vehicle Compliance Test Procedures," or the "California New Motorcycle Compliance Test Procedures" that an engine family, test group, or any subgroup within an engine family or test group, exceeds the emission standards for one or more pollutants, the Executive Officer shall notify the manufacturer and may invoke Section 2109. Prior to invoking Section 2109, the Executive Officer shall consider quality audit test results, if any, and any additional test data or other information provided by the manufacturer.

(d) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43104, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43106, 43210, 43211, and 43212, Health and Safety Code.

13. Amend Title 13, CCR, section 2106 to read as follows:

§2106. New Vehicle Assembly-Line Inspection Testing.

If reports required by an assembly-line test procedure under Article 1 of Subchapter 2 are not in accordance with reporting requirements or if surveillance under Article 2 or Article 3 of Subchapter 2 indicates that assembly-line inspection testing is being improperly performed, or that vehicles are being manufactured which do not comply with the ~~assembly-line emission standards or~~ functional test requirements or, prior to the 2001 model year with the assembly-line emission standards, the Executive Officer may order corrections of reporting or test procedures, and may, in accordance with Section 2109 or 2110, as applicable, order correction of vehicles not in compliance with applicable laws, emission standards, or test procedures.

NOTE: Authority cited: Sections 39600, 39601, 43105 and 43210, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43104, 43105 and 43210, Health and Safety Code.

14. Amend title 13, CCR, section 2107 to read as follows:

§2107. Assembly-Line Quality-Audit Testing.

Prior to the 2001 model year, i~~I~~f any official test procedure adopted by the state board specifies that the state board may find a violation of Section 43105 or 43106 of the Health and Safety Code or of this article when a specified percentage of assembly-line vehicles exceeds a standard and when data submitted by the manufacturer indicates such percentage is being exceeded or if surveillance under Article 2 or Article 3 of Subchapter 2 indicates that assembly-line quality audit testing is being improperly performed, the Executive Officer may invoke the provisions of Section 2109 or 2110, as applicable. Quality audit testing is not required for the 2001 and subsequent model years.

NOTE: Authority cited: Sections 39600, 39601, 43105 and 43210, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43102, 43105, 43106 and 43210, Health and Safety Code.

15. Amend title 13, CCR, section 2110 to read as follows:

§2110. Remedial Action for Assembly-Line Quality Audit Testing of Less Than a Full Calendar Quarter of Production <u>Prior to the 2001 Model Year.</u>

(a) When this section is invoked <u>prior to the 2001 model year</u> pursuant to other sections of this article or Health and Safety Code Section 43105, the executive officer shall order the manufacturer to submit a remedial plan to bring all vehicles in possession of the manufacturer into compliance. [No change to remainder of (a)]

(b) and (c) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43016, 43100-43102, 43104 and 43106, Health and Safety Code.

16. Amend Title 13, CCR, section 2112 to read as follows:

§2112. Definitions.

(a) [No change.]

(b) "Correlation factor" means a pollutant-specific multiplicative factor calculated by a manufacturer for an engine family or test group which establishes a relationship between chassis exhaust emission data, as determined from the test procedures specified in section 1960.1 or 1961, Title 13, California Code of Regulations, and engine exhaust emission data, as determined from the test procedures specified in section 1956.8, Title 13, California Code of Regulations.

(c) through (*l*)(8) -- [No change.]

(*l*)(9) For 2001 and subsequent model year medium-duty low-emission, ultra-low-emission and super-ultra-low-emission vehicles certified to the primary standards in section 1961(a)(1), and motor vehicle engines used in such vehicles, a period of use of ten years or 120,000 miles, whichever occurs first. For 2001 and subsequent medium-duty low-emission, ultra-low-emission and super-ultra-low-emission vehicles certified to the optional 150,000 mile standards in section 1961(a)(1), and motor vehicle engines used in such vehicles, a period of use of fifteen years or 150,000 miles, whichever occurs first. For all other 1995 and subsequent model-year medium-duty vehicles~~,~~ and motor vehicle engines used in such vehicles, and 1992 ~~and subsequent~~ through 1994 model-year medium-duty low-emission, and ultra-low-emission vehicles certified to the standards in Section 1960.1(h)(2)~~,~~ and motor vehicle engines used in such vehicles, a period of use of eleven years or 120,000 miles, whichever occurs first.

(*l*)(10) through (*l*)(16) -- [No change.]

(*l*)(17) For those passenger cars and light-duty trucks certified to the primary standards in section 1961(a)(1), the useful life shall be ten years or 120,000 miles, whichever occurs first. For 2001 and subsequent passenger car and light-duty truck low-emission, ultra-low-emission and super-ultra-low-emission vehicles certified to the optional 150,000 mile standards in section 1961(a)(1), and motor vehicle engines used in such vehicles, a period of use of fifteen years or 150,000 miles, whichever occurs first.

[renumber subsections (l)(17)-(20) as (l)(18)-(21)]

(m) through Appendix A -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104, and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43105, 43106, 43107, and 43204-43205.5, Health and Safety Code.

17. Amend title 13, CCR, section 2114 to read as follows:

§2114. Voluntary and Influenced Recall Plans.

(a) The recall plan for both voluntary and influenced recalls shall contain the following information unless otherwise specified:

(1) A description of each class or category of vehicle or engine subject to recall including the number of vehicles or engines to be recalled, the engine family, test group or a subgroup thereof, the model year, the make, the model, and such other information as may be required to identify the vehicles or engines to be recalled.

(a)(2) through (a)(9) -- [No change.]

(10) Under an influenced recall, an estimate of the capture rate from the proposed recall derived from actual data and/or manufacturer experience. A 60 percent capture rate shall be assigned for recalls based exclusively on noncompliance as defined in Section 2112(gh)(1), above.

(11) Under an influenced recall based on noncompliance as defined in Section 2112(gh)(2), above, a description of the impact of the proposed changes on the average emissions from the vehicles or engines to be recalled. The description shall contain the following:

(11)(A) through (C) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code. Reference: Health and Safety Code Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5.

18. Amend title 13, CCR, section 2119 to read as follows:

§2119. Recordkeeping Reporting Requirements.

(a) Unless otherwise specified by the Executive Officer, the manufacturer shall report on the progress of the recall campaign by submitting subsequent reports for six consecutive quarters commencing with the quarter after the recall campaign begins. Such reports shall be submitted no later than 25 days after the close of each calendar quarter to: Chief, Mobile Source Operations Division, 9528 Telstar, El Monte, CA 91731. For each class or category of vehicle or engine subject to the emission recall campaign, the quarterly report shall contain the following:

(1) Engine family or test group and emission recall campaign number designated by the manufacturer.

(a)(2) through (d) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

19. Amend title 13, CCR, section 2130 to read as follows:

§2130. Capture Rates and Alternative Measures.

The manufacturer shall comply with the capture rate specified in the recall plan as determined pursuant to Section 2125(b)(6), above, within six consecutive quarters beginning with the quarter in which the notification of vehicle or engine owners was initiated. If, after good faith efforts, the manufacturer cannot correct the percentage of vehicles specified in the plan by the applicable deadlines and cannot take other measures to bring the engine family or test group into compliance with the standards, the manufacturer shall propose mitigation measures to offset the emissions of the unrepaired vehicles within 45 days from the last report filed pursuant to Section 2133(c), below. The Executive Officer shall approve such measures provided that:

(a) through (c) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

20. Amend title 13, CCR, section 2137 to read as follows:

§2137. Vehicle Selection.

(a) Any vehicle of an engine family, test group, or any vehicle of a subgroup of an engine family or test group, manufactured for sale in California, shall be subject to these test procedures during its useful life. A minimum of ten (10) in-use vehicles determined by the ARB to be properly maintained and used will be procured and tested by the ARB or its designated laboratory to represent the emission characteristics of the engine family, test group or subgroup. The ARB may test less than ten (10) in-use vehicles if the manufacturer notifies the ARB in writing that the manufacturer will accept the results from less than ten (10) vehicles as being representative of the engine family, test group or subgroup.

(b) through (4) -- [No change.]

~~(5) Lead content of fuel sample from the vehicle tank meets applicable standards.~~

~~(6)~~(5) No indication of any problem that might jeopardize the safety of laboratory personnel.

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

21. Amend title 13, CCR, section 2138 to read as follows:

§2138. <u>Restorative</u> Maintenance ~~and Preconditioning~~.

(a) Upon accepting a vehicle for testing, the ARB or its designated laboratory will replace the fuel with Indolene Clear or appropriate certification test fuel. ~~Cold soak periods shall be at least 12 hours but less than 36 hours prior to testing~~.

(b) through (b)(5) -- [No change.]

(6) <u>Check the OBD system for proper operation.</u>

<u>(7)</u> If the vehicle is within 500 miles of a scheduled maintenance service, that maintenance shall be performed except in the case of off-road motorcycles and all-terrain vehicles. For off-road motorcycles and all-terrain vehicles, all required maintenance shall be performed.

(c) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

22. Amend title 13, CCR, section 2139 to read as follows:

§2139. Testing.

After the vehicles have been accepted and restorative maintenance, if any, has been performed, the ARB or its designated laboratory shall perform the applicable emission tests pursuant to the following:

(a) For passenger cars and light-duty trucks, in-use compliance emission tests shall be performed pursuant to section 1960.1 or 1961, Title 13, California Code of Regulations, as applicable.

(b) For medium-duty vehicles certified according to the chassis standards and test procedures specified in section 1960.1 or 1961, Title 13, California Code of Regulations and the documents incorporated by reference therein, in-use compliance emission tests shall be performed pursuant to section 1960.1 or 1961, Title 13, California Code of Regulations, as applicable.

(c) For medium-duty engines and vehicles certified according to the optional engine test procedures specified in section 1956.8, Title 13, California Code of Regulations and the documents incorporated by reference therein, in-use compliance emission tests shall be performed pursuant to one of the following procedures:

(1) The engines of medium-duty vehicles may be tested pursuant to the engine test procedures specified in section 1956.8, provided that the manufacturer or its designated laboratory conduct procurement and enforcement testing pursuant to Sections 2136 through 2140, Title 13, California Code of Regulation, at the manufacturer's expense.

For manufacturers that have only one engine family or test group, the manufacturer or its designated laboratory that have more than one engine family or test group, the manufacturer or its designated laboratory shall procure no more than fifteen vehicles per engine family or test group. For manufacturers that have more than one engine family or test group, the manufacturer or its designated laboratory shall procure and test at the manufacturer's expense no more than one-third of its engine families or test groups and no more than fifteen vehicles from each engine family or test group. For the purposes of this section, "one-third' of a manufacturer's engine families or test groups shall be determined by dividing the number of distinct engine families or test groups by three, adding 0.5, and truncating the result to the nearest whole number.

The specific engine families or test groups subject to enforcement testing shall be selected by the ARB. The manufacturer or its designated laboratory shall begin the engine procurement process within 10 working days of notification by the ARB and shall complete testing within 100 working days of notification by the ARB. The Executive Officer shall approve the manufacturer's procurement procedures in advance of their use by the manufacturer. The Executive Officer shall approve a manufacturer's procurement procedures if engines are screened according to the criteria specified in section 2137, Title 13, California Code of Regulations and selected randomly from

registration records compiled and prepared by R.L. Polk and Company or a comparable source. In addition, no vehicle shall be selected for enforcement testing with mileage less than 60 percent of the useful-life mileage without prior approval from the Executive Officer. The manufacturer shall permit an ARB representative to witness procurement, restorative maintenance, and enforcement testing. The Executive Officer shall have the authority to accept or reject a test engine based upon criteria specified in section 2137. Once an engine has been tested and determined to be in compliance with the current in-use emission standards, no further testing will be performed on subsequent engine families or test groups that carry-over the durability data of the tested engine family or test group.

Notwithstanding the above, if a manufacturer fails to demonstrate compliance with the emission standards after one-third of its engine families or test groups have been tested, additional engine families or test groups shall be tested, by the manufacturer or its designated laboratory, at the manufacturer's expense, until compliance is demonstrated on one-third of the engine families or test groups or all of a manufacturer's engine families or test groups have been tested. In addition, any engine family or test group which has been tested and determined to be in noncompliance shall be retested by the manufacturer each subsequent year until compliance with the applicable emission standards has been demonstrated. Notwithstanding the above, the ARB may conduct engine enforcement testing pursuant to the engine test procedures specified in section 1956.8, at their own expense.

(2) Medium-duty vehicles may be tested according to the chassis test procedures specified in section 1960.1(k) or 1961, as applicable, if a manufacturer develops correlation factors which establish the relationship between engine and chassis testing for each engine family or test group and submits these correlation factors within one year after the beginning of production. The correlation factors shall be applied to the measured in-use engine exhaust emission data to determine the in-use engine exhaust emission levels. All correlation factors and supporting data included in a manufacturer's application must be submitted to and approved by the Executive Officer in advance of their use by a manufacturer. Correlation factors intended to apply to a specific engine family or test group shall be applicable for each vehicle model incorporating that specific engine. Manufacturers shall submit test data demonstrating the applicability of the correlation factors for vehicle models comprising a minimum of 80 percent of their engine sales for that specific engine family or test group. The correlation factors for the remaining fleet may be determined through an engineering evaluation based upon a comparison with similar vehicle models. The Executive Officer shall approve a submitted correlation factor if it accurately corresponds to other established empirical and theoretical correlation factors and to emission test data available to the Executive Officer.

A manufacturer may choose to use the results from the chassis in-use testing as a screening test. If an engine family or test group does not demonstrate compliance with any of the applicable in-use engine standards, as determined from the chassis test data and the applied correlation factors, the manufacturer shall be subject to the requirements and cost of in-use compliance engine testing, as specified in section 2139(c)(1). The manufacturer shall be subject

to engine testing for any non-complying engine family or test group for each subsequent year until compliance with the engine emission standards is demonstrated.

Subsequent to approval of the correlation factors, the Executive Officer may make a determination that the original correlation factors are not valid. Such a determination may be based upon in-use emission data, including chassis and engine testing. Upon determination that the correlation factors for a specific engine family or test group are not valid, the manufacturer of the engine family or test group shall be subject to the enforcement testing requirements and costs of in-use compliance engine testing, as specified in section 2139(c)(1).

(c)(3) through (g) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43105, 43106, 43107, 43204-43205.5, and 43211-43213 Health and Safety Code.

23. Amend title 13, CCR, section 2140 to read as follows:

§2140. Notification and Use of Test Results.

(a) The Executive Officer shall notify the manufacturer in writing if the in-use vehicle enforcement test results indicate that the test fleet contains three or more failures of the same emission-related component. Upon receipt of the notification, the manufacturer shall submit an emissions information report in accordance with Title 13, California Code of Regulations, Sections 2146 and 2147. The engine family, test group or sub-group manufacturer shall be subject to recall when a specific emission-related failure occurred in three or more test vehicles, unless the Executive Officer determines from the emissions information report that a recall is unnecessary.

(b) If the results of the in-use vehicle emission tests conducted pursuant to Section 2139 indicate that the average emissions of the test vehicles for any pollutant exceed the applicable emission standards specified in Title 13, California Code of Regulations, Section 1960.1, 1961, 1956.8, 1958 or 2412, the entire vehicle population so represented shall be deemed to exceed such standards. The Executive Officer shall notify the manufacturer of the test results and upon receipt of the notification, the manufacturer shall have 45 days to submit an influenced recall plan in accordance with Sections 2113 through 2121, Title 13, California Code of Regulations. If no such recall plan is submitted, the Executive Officer may order corrective action including recall of the affected vehicles in accordance with Sections 2122 through 2135, Title 13, California Code of Regulations.

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107, 43204-43205.5 and 43211-43213, Health and Safety Code.

24. Amend title 13, CCR, section 2143 to read as follows:

§2143. Failure Levels Triggering Recall.

An engine family, test group or a subgroup shall be subject to a recall when the number of failures of a specific emission-related component exceeds the failure level set forth below, unless the Executive Officer determines from the emission information report that a recall is unnecessary pursuant to the criteria set forth in section 2148(a) and (b). Vehicles or engines in an engine family or test group are subject to recall at the following failure levels: 4 percent or 50 (whichever is greater) for 1990 through 1991 model year vehicles or engines; 3 percent or 50 (whichever is greater) for 1992 through 1993 model-year vehicles or engines; and 2 percent or 50 (whichever is greater) for 1994 and subsequent model-year vehicles or engines. The Executive Officer may extend the applicability of the 4 or 3 percent failure levels if he/she determines that proceeding to the next lower level will create an excessive administrative burden on the ARB or the vehicle manufacturers without a corresponding benefit in the reduction of emissions.

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

25. Amend title 13, CCR, section 2144 to read as follows:

§2144. Emission Warranty Information Report.

(a) A manufacturer shall:

(1) Review warranty claim records for each engine family or test group on a quarterly basis to determine and compile by cumulative total the number of claims made for emission-related components. The data compiled shall be based on all warranty claims, without any prescreening of data as to the validity of the claims. In the case of heavy-duty vehicles or engines, a manufacturer may use nationwide data for monitoring warranty claims of a California-certified engine family or test group which is also certified by the United States Environmental Protection Agency.

(2) Categorize warranty claims for each engine family or test group by the specific emission control component replaced or repaired.

(3) On the basis of data obtained subsequent to the effective date of these regulations, file an emission warranty information report for each quarter when the cumulative number of unscreened warranty claims for a specific emission-related component or repair represent at least one percent or twenty-five (whichever is greater) of the vehicles or engines of a California-certified engine family or test group.

(b) The emission warranty information report shall contain the following information in substantially the format outlined below:

(1) [No change.]

(2) A description of each class or category of California-certified vehicles or engines affected by a warranty replacement or warranty repair of a specific emission-related component, including model year and engine family or test group.

(3) The number and percentage of vehicles or engines in each engine family or test group for which a warranty replacement or warranty repair of a specific emission-related component was identified.

(4) [No change.]

(c) Emission warranty information reports shall be submitted not more than 25 days after the close of a calendar quarter. Subsequent to the filing of an emission warranty information report, a manufacturer shall submit quarterly reports updating the number and percentage of emission-related warranty claims with the most recent information, unless a recall has been implemented. Emission warranty information reports and updates shall be submitted to the Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731.

(d) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

26. Amend title 13, CCR, section 2145 to read as follows:

§2145. Field Information Report.

(a) [No change.]

(b) All field information reports shall be submitted to the Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731, and shall contain the following information in substantially the format outlined below:

(1) [No change.]

(2) [No change.]

(3) A description of each class or category of California-certified vehicles or engines affected including make, model, model-year, engine family or test group and such other information as may be required to identify the vehicles or engines affected. The description shall include those engine families or test groups related to the affected engine family or test group through common certification test data allowed under Title 40, Code of Federal Regulations, Section 86.085-24(f), as amended December 10, 1984 or Title 40 Code of Federal Regulations, Section 86.1839-01, as adopted May 4, 1999 ("carry-over" and "carry-across" engine families or test groups).

(4) [No change.]

(5) The number and percentage of vehicles or engines in each engine family or test group for which a failure of a specific emission-related component was identified.

(6) The total number and percentage of unscreened warranty claims and failures of a specific emission-related component projected to occur during the engine family's or test group's useful life and a description of the method used to project this number.

(7) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

27. Amend title 13, CCR, section 2146 to read as follows:

§2146. Emissions Information Report.

(a) through (b) -- [No change.]

(c) All emissions information reports shall be submitted to the Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731, and shall contain the following information in substantially the format outlined below. For purposes of this section, the term "failure" shall be considered synonymous with the term "defect" for those emissions information reports filed pursuant to subsection (a)(3), above.

(1) [No change.]

(2) [No change.]

(3) A description of each class or category of California-certified vehicles or engines affected by the failure including make, model, model-year, engine family or test group, and such other information as may be required to identify the vehicles or engines affected.

(4) through (7) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

28. Amend title 13, CCR, section 2147 to read as follows:

§2147. Demonstration of Compliance with Emission Standards.

(a) [No change.]

(b) A manufacturer may test properly maintained in-use vehicles with the failed emission-related component pursuant to the applicable certification emission tests specified in Title 13, California Code of Regulations, Section 1960.1 or 1961, as applicable, for passenger cars, light-duty trucks and medium-duty vehicles, Section 1956.8 for heavy-duty engines and vehicles, and Section 1958 for motorcycles. The emissions shall be projected to the end of the vehicle's or engine's useful life using in-use deterioration factors. The in-use deterioration factors shall be chosen by the manufacturer from among the following:

(1) [No change.]

(2) [No change.]

(3) Subject to approval by the Executive Officer, a manufacturer-generated deterioration factor. The Executive Officer shall approve such deterioration factor if it is based on in-use data generated from certification emission tests performed on properly maintained and used vehicles in accordance with the procedures set forth in Section 1960.1 or 1961 of Title 13 of the California Code of Regulations as applicable for passenger cars, light-duty trucks, and medium-duty vehicles; Section 1956.8 of Title 13 of the California Code of Regulations for heavy duty vehicles and engines; and Section 1958 of Title 13 of the California Code of Regulations for motorcycles, and if the vehicles from which it was derived are representative of the in-use fleet with regard to emissions performance and are equipped with similar emission control technology as vehicles with the failed component.

(c) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

29. Amend title 13, CCR, section 2148 to read as follows:

§2148. Evaluation of Need for Recall.

(a) through (b) -- [No change.]

(c) If a manufacturer can identify a subgroup of an engine family or test group which is subject to a failure, a recall may be limited to that subgroup with Executive Officer approval.

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.