

**APPENDIX A**

**Proposed Amendments to Title 13, CCR, Sections 1900 and 1960.1**

PROPOSED REGULATION ORDER

Sections 1900 and 1960.1, Title 13, CCR

1. Amend title 13, California Code of Regulations, section 1900 to read as follows:

**§1900. Definitions.**

[Subsections (a)(1) through (14) -- No change]

~~(a)(15) “Zero-emission vehicle” (or “ZEV”) means any vehicle which is certified by the Executive Officer to produce zero emissions of any criteria pollutants 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 degrees Fahrenheit and the heater is demonstrated to have zero evaporative emissions under any and all possible operational modes and conditions: [Reserved]~~

[Subsection (a)(16) -- No change]

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; and section 27156, Vehicle Code.

2. Amend title 13, California Code of Regulations, section 1960.1 to read as follows:<sup>1</sup>

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

[Subsections (a) through (f) -- No Change]

(g)(1) The exhaust emissions from new 1992 and subsequent model-year light-duty transitional low-emission vehicles, low-emission vehicles, and ultra-low emission vehicles, *and new 2003 and subsequent model-year light-duty zero-emission vehicles* shall not exceed:

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<sup>1</sup> The proposed amendments are shown in italics to indicate additions to and strikeout to indicate deletions from the California Code of Regulations (CCR). This proposal does not reflect the amendments to section 1960.1 approved by the Board in September of 1995. Those amendments have not yet been formally adopted and submitted to the Office of Administrative Law for review and filing with the Secretary of State and inclusion in the CCR. The amendments proposed here will have no effect on those amendments.

EXHAUST EMISSION STANDARDS FOR TRANSITIONAL  
LOW-EMISSION VEHICLES, LOW-EMISSION VEHICLES, ~~AND~~  
ULTRA-LOW-EMISSION VEHICLES AND ZERO-EMISSION VEHICLES IN  
PASSENGER CAR AND LIGHT-DUTY TRUCK VEHICLE CLASSES<sup>6,7,8,9,10</sup>  
[grams per mile (or “g/mi”)]

<u>Vehicle Type</u> <sup>1</sup>	<u>Loaded Vehicle Weight (lbs)</u>	<u>Durability Vehicle Basis (mi)</u>	<u>Vehicle Emission Category</u> <sup>2</sup>	<u>Non-Methane Organic Gases</u> <sup>3,4</sup>	<u>Carbon Monoxide</u>	<u>Oxides of Nitrogen</u> <sup>5</sup>
PC and LDT	All 0-3750	50,000	TLEV	0.125 (0.188)	3.4 (3.4)	0.4 (0.4)
			LEV	0.075 (0.100)	3.4 (3.4)	0.2 (0.3)
			ULEV	0.040 (0.058)	1.7 (2.6)	0.2 (0.3)
			ZEV <sup>2,1</sup>	--	--	--
		100,000	TLEV	0.156	4.2	0.6
			LEV	0.090	4.2	0.3
			ULEV	0.055	2.1	0.3
			ZEV <sup>2,1</sup>	--	--	--
LDT	3751-5750	50,000	TLEV	0.160 (0.238)	4.4 (4.4)	0.7 (0.7)
			LEV	0.100 (0.128)	4.4 (4.4)	0.4 (0.5)
			ULEV	0.050 (0.075)	2.2 (3.3)	0.4 (0.5)
			ZEV <sup>2,1</sup>	--	--	--
		100,000	TLEV	0.200	5.5	0.9
			LEV	0.130	5.5	0.5
			ULEV	0.070	2.8	0.5
			ZEV <sup>2,1</sup>	--	--	--

(1) “PC” means passenger cars.  
“LDT” means light-duty trucks.

(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 or evaporative 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 degrees Fahrenheit 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 fleet average NMOG exhaust emission values under section (g)(2), note (4) or (5); NMOG credits under section (g)(2), note(7); and ZEV credits under section (g)(2), note (9)a.*

[Notes (3) through (10) -- No change]

[Section (g)(2), table and notes (1) through (8) -- No change]

(9) While meeting the fleet average requirements, each manufacturer shall certify, produce and deliver for sale in California at least 2% ZEVs each model year from 1998 through 2000, 5% ZEVs in 2001 and 2002, and 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. Manufacturers ~~which~~ *that* produce for sale in California more ZEVs than required in a given model year shall earn ZEV credits, which shall have 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 using the Federal Urban Dynamometer Driving Schedule, Part 86, Appendix I, Code of Federal Regulations.*

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. "Specific energy" of batteries will be the specific energy as determined in accordance with the US Advanced Battery Consortium's Electric Vehicle Battery Procedure Manual (January 1996), Procedure No. 2, "Constant Current Discharge Test Series," using the C/3 rate. The weight calculation must reflect a completely functional battery system as defined in Appendix F of the Manual, including pack(s), required support ancillaries (e.g., thermal management), and electronic controller.*

3. *For purposes of calculating ZEV credits, a ZEV may be counted according to (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 ~~1998~~ 2003 model year shall be treated as if earned in the ~~1998~~ 2003 model year and shall be discounted in accordance with notes (7)c and 7(d).

- b. 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. Manufacturers ~~which~~ *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 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 the model year in which the deficit is incurred.
- d. Any manufacturer ~~which~~ *that* fails to produce and deliver for sale in California the required number of ZEVs or submit an appropriate amount of ZEVs 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 ~~which~~ *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. 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 (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.
- ~~g. Intermediate volume manufacturers as defined in section 1960.1(o) shall not be required to meet the percentage ZEV requirements before the 2003 model year.~~

[Subsection (h)(1) -- No Change]

(h)(2) The exhaust emissions from new 1992 and subsequent model-year medium-duty low-emission vehicles and ultra-low-emissions vehicles, *and new 2003 and subsequent model-year medium-duty zero-emission vehicles* shall not exceed:

EXHAUST EMISSION STANDARDS FOR LOW-EMISSION VEHICLES, AND  
 ULTRA-LOW-EMISSION VEHICLES AND ZERO-EMISSION VEHICLES IN THE  
 MEDIUM-DUTY VEHICLE WEIGHT CLASSES<sup>8,9,10,11,12,13,14,15,16</sup>  
 [grams per mile (or “g/mi”)]

<u>Test Weight</u> (lbs.) <sup>1</sup>	<u>Durability</u> <u>Vehicle</u> <u>Basis (mi)</u>	<u>Vehicle</u> <u>Emission</u> <u>Category</u> <sup>2</sup>	<u>Non-Methane</u> <u>Organic Gases</u> <sup>3,4</sup>	<u>Carbon</u> <u>Monoxide</u>	<u>Oxides of</u> <u>Nitrogen</u> <sup>5</sup>	<u>Particulates</u> <sup>6</sup> <u>7</u>
0-3750	50,000	LEV	0.125 (0.188)	3.4 (3.4)	0.4 (0.4)	n/a
		ULEV	0.075 (0.100)	1.7 (2.6)	0.2 (0.3)	n/a
		ZEV <sup>2,1</sup>	--	--	--	--
	120,000	LEV	0.180	5.0	0.6	0.08
		ULEV	0.107	2.5	0.3	0.04
		ZEV <sup>2,1</sup>	--	--	--	--
3751-5750	50,000	LEV	0.160 (0.238)	4.4 (4.4)	0.7 (0.7)	n/a
		ULEV	0.100 (0.128)	2.2 (3.3)	0.4 (0.5)	n/a
		ZEV <sup>2,1</sup>	--	--	--	--
	120,000	LEV	0.230	6.4	1.0	0.10
		ULEV	0.143	3.2	0.5	0.05
		ZEV <sup>2,1</sup>	--	--	--	--
5751-8500	50,000	LEV	0.195 (0.293)	5.0 (5.0)	1.1 (1.1)	n/a
		ULEV	0.117 (0.156)	2.5 (3.8)	0.6 (0.8)	n/a
		ZEV <sup>2,1</sup>	--	--	--	--
	120,000	LEV	0.280	7.3	1.5	0.12
		ULEV	0.167	3.7	0.8	0.06
		ZEV <sup>2,1</sup>	--	--	--	--
8501-10,000	50,000	LEV	0.230 (0.345)	5.5 (5.5)	1.3 (1.3)	n/a
		ULEV	0.138 (0.184)	2.8 (4.2)	0.7 (1.0)	n/a
		ZEV <sup>2,1</sup>	--	--	--	--
	120,000	LEV	0.330	8.1	1.8	0.12
		ULEV	0.197	4.1	0.9	0.06
		ZEV <sup>2,1</sup>	--	--	--	--
10,001-14,000	50,000	LEV	0.300 (0.450)	7.0 (7.0)	2.0 (2.0)	n/a
		ULEV	0.180 (0.240)	3.5 (5.3)	1.0 (1.5)	n/a
		ZEV <sup>2,1</sup>	--	--	--	--
	120,000	LEV	0.430	10.3	2.8	0.12
		ULEV	0.257	5.2	1.4	0.06
		ZEV <sup>2,1</sup>	--	--	--	--

(1) “Test Weight” (or “TW”) shall mean the average of the vehicle’s curb weight and gross vehicle weight.

- (2) “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 or evaporative 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 degrees Fahrenheit 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.*

[Notes (3) through (16) and subsections (i) through (p) -- No change]

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, 43205.5, Health and Safety Code.