

ILLINOIS POLLUTION CONTROL BOARD  
November 21, 1991

IN THE MATTER OF: )  
 )  
APPLICATION OF CALIFORNIA ) R89-17(C)  
MOTOR VEHICLE CONTROL PROGRAM ) (Rulemaking)  
IN ILLINOIS )

PROPOSED RULE. SECOND FIRST NOTICE.

OPINION AND ORDER OF THE BOARD (by J. Theodore Meyer):

This matter is before the Board on its own motion, and on two motions to file additional comments. On October 18, 1989, the Board opened this docket to gather information on whether Illinois should adopt the California motor vehicle control program. Today the Board revises the proposal previously proposed in docket (C), and proceeds to second first notice on that revised proposal.

Procedural History

After the Board opened this docket in October 1989, an inquiry hearing was held on December 12, 1989. The Board accepted written public comments until January 5, 1990. On April 12, 1990, the Board proposed, for first notice, that portions of the California program be adopted in Illinois. That proposal, in subdockets (A) and (B), was published in the Illinois Register on May 11, 1990, at 14 Ill. Reg. 6977.

On October 11, 1990, the Board created an additional subdocket, docket (C), and sent that proposal to first notice. That October 11 proposal, published in the Illinois Register on November 2, 1990, at 14 Ill.Reg. 17812, required the sale and registration in Illinois of only those vehicles which comply with California standards in effect at the time of the manufacture of the individual vehicle. Pursuant to that proposal, the standards established by California for emission standards, diagnostic and malfunction systems, and warranty requirements would become the standards required in Illinois. The Board recognized that the United States Congress was considering various proposals to adopt these California standards, known as Tier I standards, as nationwide requirements. However, at that time it was unclear when, and if, a bill would be agreed on, what that bill would include on the issue of motor vehicle standards, and whether the President would sign such a bill. Therefore, the Board proceeded to first notice with that October 1990 proposal.

On November 15, 1990, President Bush signed the Clean Air Act Amendments of 1990 (CAAA) (P.L. 101-549). The CAAA provides that

a version of the California Tier I standards become the federal standards, beginning in model year 1994.<sup>1</sup> (42 USC §7521.) Because the proposals in subdockets (A) and (B) were basically adoptions of the Tier I standards, the Board dismissed those two subdockets on February 7, 1991. Dockets (A) and (B) are no longer being considered by the Board. However, the docket (C) proposal, which was a more comprehensive adoption of California standards, remained under consideration by the Board.

On July 23, 1991, the Board held a public hearing on the docket (C) proposal. Testimony was presented by Thomas C. Jorling, Commissioner of the New York State Department of Environmental Conservation; Michael Walsh, an independent consultant who provided testimony on behalf of the American Lung Association, the American Lung Association of Illinois, and the Chicago Lung Association; Philip Bush, on behalf of the American Petroleum Institute and Amoco Oil Company; Michael Schwartz, Timothy O'Brien, Alan Weverstad, and Reginald Modlin on behalf of the Motor Vehicle Manufacturers' Association (MVMA); Mary Ross on behalf of the Illinois Chapter of the Sierra Club; Toby Frevert of the Illinois Environmental Protection Agency (Agency); Ron Burke of the Chicago Lung Association; and Julie Cardosi on behalf of the Illinois New Car and Truck Dealers Association. The testimony at the July hearing focused on whether Illinois should adopt the California Low Emission Vehicle (LEV) program, adopted by California in September 1990. Public comments were accepted by the Board until September 13, 1991.

On November 4, 1991, the Illinois Chapter of the Sierra Club and the Chicago Lung Association filed a motion to file their reply comments instanter. (P.C.# 34.) On November 18, 1991, the Agency filed a motion to provide further comments. So that the Board can have all available information before it, those motions are granted. The Agency's information will be placed in the record as P.C.# 35.

#### Background

California has historically had stricter emission controls for mobile sources than the rest of the country. The other 49 states have all been subject to the same federal standard; in fact, the Clean Air Act (CAA) preempts the states from setting emission standards for new motor vehicles. (42 USC §7543(a).) However, the CAA also provides for a waiver of that preemption for California's motor vehicle emission standards, and allows other states to adopt the identical California standards (42 USC §§7507 and 7543(b).) In other words, a state may choose between the federal standards and the California standards: no state can adopt a third standard.

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<sup>1</sup> California begins to phase in the Tier I standards in model year 1993.

The test in deciding whether adoption of a proposed new standard complies with the CAA is whether vehicle manufacturers would be burdened with additional hardware requirements beyond the federal and California standards, i.e. whether a third vehicle would have to be manufactured in order to comply with the proposed standard.

The eight states which belong to the Northeast States for Coordinated Air Use Management (NESCAUM) have been leaders in the recent move towards adopting California motor vehicle standards in their states.<sup>2</sup> For example, New York has adopted the California Tier I standards, effective beginning with the 1993 model year, and is currently proceeding with rulemaking to adopt the California LEV program. Most of the NESCAUM states, as well as Pennsylvania, Virginia, Maryland, and Delaware, and the District of Columbia, have agreed to adopt the California LEV program. By proceeding today, the Board adds Illinois to the growing list of states which are in the process of considering the California LEV program.

#### California Low Emission Vehicle (LEV) Program

In September 1990, the California Air Resources Board (CARB) adopted a new program, the Low Emission Vehicle (LEV) program, to further tighten emissions from vehicles in California. The LEV program establishes four new categories of vehicle emission standards which are to be phased in beginning in model year (MY) 1994. The four types of LEV vehicles are categorized according to the emission standards those vehicles must meet. The transitional low emission vehicle (TLEV) represents 10-20% of new vehicle<sup>3</sup> production beginning in MY 1994. TLEVs must meet a hydrocarbon (HC) standard of 0.125 grams per mile (g/mi). Carbon monoxide (CO) and oxides of nitrogen (NOx) standards are the same as for MY 1993 vehicles. The low emission vehicle (LEV) represents 25% of new vehicle production beginning in MY 1997. LEVs must meet standards of 0.075 g/mi HC and 0.2 g/mi NOx. The CO standard for LEVs is the same as for MY 1993 vehicles and TLEVs. The ultra low emission vehicle (ULEV) represents 2 - 15% of new vehicle production between 1997 - 2003. The HC standard for ULEVs is 0.04 g/mi, and the CO standard is 1.7 g/mi. (These standards are about half of those from LEVs.) The NOx standard for ULEVs remains the same as for LEVs. Finally, the zero emission vehicle (ZEV) represents 2 - 10% of new vehicle production between 1998 - 2003. The ZEV is expected to be an electric car, which will not have any direct pollutant emissions. (P.C.# 35; Ex. 26B, Tab 5.)

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<sup>2</sup> The eight states which belong to NESCAUM are Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

<sup>3</sup> As used here, the term "vehicle" refers to passenger cars and light-duty trucks rated at 6000 pounds gross vehicle weight or less.

The percentage figures given for conventional vehicles, TLEVs, LEVs, and ULEVs are guidelines for the manufacturers to reach fleet average standards. Manufacturers are required to certify sufficient portions of their fleet to meet increasingly strict fleet average standards. Manufacturers may meet the fleet average standard by certifying vehicles to any combination of conventional vehicle, TLEV, LEV, ULEV, and ZEV standards. However, the percentage requirements for ZEVs are mandatory, although manufacturers can meet these ZEV requirements with emission credits. (P.C.# 35; Ex. 26B, Tab 5.)

#### Public Comments

The Board received a number of public comments on its October 1990 docket (C) proposal. Comments were submitted by the Engine Manufacturers Association (P.C.# 17), the Administrative Code Unit (P.C.# 18), Toyota Motor Sales (P.C.# 19), the Agency (P.C.#20), the Department of Commerce and Community Affairs (P.C.# 21), MVMA (P.C.# 22), and General Motors (P.C.# 23). Those comments were directed to the Board's broad October 1990 proposal, in which the Board proposed a general "incorporation" of the California standards governing emission standards, diagnostic and malfunction systems, and warranty requirements. The Board has considered these comments in deciding to revise its proposal.

The comments received by the Board after the July 1991 hearing were directed to the more narrow issue of whether Illinois should adopt the California LEV program. Comments were received from the Association of International Automobile Manufacturers (P.C.# 24), the Illinois Department of Energy and Natural Resources (ENR) (P.C.# 25), Amoco Oil Company (P.C.# 26 and 27), the Agency (P.C.# 28 and 35), Clark Oil and Refining Corporation (P.C.# 29), the New York State Department of Environmental Conservation (P.C.# 30 and 32)<sup>4</sup>, the Illinois Chapter of the Sierra Club and the Chicago Lung Association (P.C.# 31 and 34), and the Illinois Attorney General (P.C.# 33).

Most of these comments, with the exception of those from the Sierra Club, the Chicago Lung Association, and the New York State Department of Environmental Conservation, suggested that the Board delay further action on this docket until more information on specific issues was available. In particular, the Agency suggested that the Board retain the docket and convene a number of hearings over the next nine to twelve months, with each hearing focusing on a specific area of concern. The Agency identified a number of issues which might be the subject of further hearing, including quantification of the emission reductions to be gained, whether

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<sup>4</sup> The Board notes that public comments 30 and 32 contain basically the same information.

Illinois must adopt the California clean fuels program as well as the LEV program itself, and the economic impact of the LEV program in Illinois. The Agency also questioned whether this docket includes consideration of the Tier I standards, the LEV standards, or both. The Agency further stated its intent to gather information on the identified issues, and, in conjunction with ENR, to produce a report on the Illinois adoption of the California motor vehicle standards. (P.C.# 28.) In its most recent comments, the Agency provided the Board with a summary of the California LEV program,, which is a result of the Agency's extensive research. (P.C.# 35.) The Sierra Club and the Chicago Lung Association opposed any delay in this docket. (P.C.# 34.)

### Board Conclusions

The Board has considered all testimony, exhibits, and public comments in this docket, and concludes that a revision of its October 1990 proposal is warranted. Because more than one year has passed since the first notice publication of the October 1990 proposal, this revision will be accomplished as a second first notice. (See Section 5.01(d) of the Illinois Administrative Procedure Act, Ill.Rev.Stat. 1989, ch. 127, par. 1005.01.)

Initially, the Board clarifies its intent in this docket to consider the adoption of the California LEV program in Illinois, and not the Tier I standards. To a large degree, the Tier I standards have been adopted as the new federal standards by the CAAA. The Board recognizes that the federal version of the Tier I standards is slightly different than the California version, with the most notable difference being a slightly slower phase-in of the standards. However, because the CAA requires the states to adopt the California standards at least two years before the model year in which the adoption becomes effective (42 USC §7507), Illinois could not take final action on any adoption of the Tier I standards in time to have effective rules phased in any earlier than the federal phase-in.<sup>5</sup> Therefore, the Board finds that consideration of adoption of the California LEV program holds the most potential for significant air quality benefits in Illinois.

Today's proposal is similar to the October 1990 proposal in many ways. There are three major changes which have been made. First, the proposal would take effect with 1996 model year vehicles, instead of with 1993 model year vehicles. As previously stated, the CAA requires that states adopt the California standards two years before the model year in which the adoption becomes effective. The model year begins on January 2 of the calendar year preceding the model year designation. For example, the 1993 model

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<sup>5</sup> As noted earlier, the federal standards begin to phase-in in model year 1994, while the California phase-in begins in model year 1993.

year begins on January 2, 1992. Therefore, if the Board were to move to final adoption of these rules in calendar year 1992, two years from that adoption would be calendar year 1994, which is actually model year 1995. The next model year beginning after that is the 1996 model year. (Ex. 26A; Tr. II, pp. 153-156.)<sup>6</sup>

Second, the October 1990 proposal did not contain specific standards for vehicles sold in Illinois, but stated that all vehicles must be certified to whatever standard was in effect in California at the time of the vehicle's manufacture. Today's proposal specific emission standards, fleet average requirements, zero emission vehicle (ZEV) mandates, and emission credits. These rules are based on the rules presently being considered by New York. The Board specifically requests comment on these proposed rules, and whether the rules correctly and completely reflect the California LEV program.

Finally, the Board has added an exemption for vehicles which are part of a fleet used for research on fuels, oils, and other automotive products (Section 241.140(f)). Amoco Oil Company testified at hearing that it conducts research and development of all its new fuels, oils, and automotive products in Naperville, Illinois. Amoco stated that its research required that all cars, "federal" as well as "California", be included in these tests. Thus, Amoco requested an exemption for research vehicles so that it can continue to conduct its research in Illinois. (Tr. II, pp. 81-83.) In its post-hearing comments, Amoco stated that several other research facilities in Illinois would probably also be interested in an exemption.<sup>7</sup> Amoco estimated that there are probably less than 1,000 research vehicles, of nearly 8 million registered vehicles, in Illinois. Therefore, Amoco contends that an exemption for research vehicles would have a negligible impact on emissions from the total fleet of vehicles. (P.C.# 26.) The Board believes that the requested exemption is reasonable, and has added the exemption to the proposed rules.

The Board recognizes the concerns raised by several commenters, especially the Agency, that there are unanswered questions raised by this proceeding. However, the Board also believes that any rulemaking proceeding is more focused when that proceeding contains actual text of proposed rules, rather than trying to conduct proceedings without specific text. Thus, the Board has proceeded to first notice with today's proposal, rather

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<sup>6</sup> "Tr. II" is used to designate the transcript of the July 23, 1991 hearing in this proceeding.

<sup>7</sup> The entities identified by Amoco include Argonne National Laboratory, Automotive Laboratories, Inc. (ALI), Caterpillar, Navistar, Northern Illinois Gas, the University of Illinois, and other schools and universities.

than waiting for further hearings. The Board notes that this step is only the first in the rulemaking process, and is willing to hold additional hearings on the matter. We appreciate the suggestions the Agency has made regarding possible subjects for hearings, and the initial report provided in the Agency's latest comments. (P.C.# 28 and 35.) The Board emphasizes, however, that it is willing to hold additional hearings only if the hearings can be productive. Therefore, the Board directs the Agency, and all other interested participants, to submit comments on the need for additional hearings, which subjects might be discussed on the same day of hearing, and suggested timeframes for these hearings. These comments on further hearings shall be submitted to the Board by December 31, 1991.

#### ORDER

The Board hereby directs the Clerk of the Board to cause publication in the Illinois Register of the first notice of the following proposed regulations:

#### PART 241 EMISSION STANDARDS FOR MOTOR VEHICLES AND MOTOR VEHICLE ENGINES

##### SUBPART A: PURPOSE, APPLICABILITY, AND DEFINITIONS

#### Section 241.100 Purpose

The General Assembly of the State of Illinois has found that Illinois should RESTORE, MAINTAIN, AND ENHANCE THE PURITY OF THE AIR OF THIS STATE IN ORDER TO PROTECT HEALTH, WELFARE, PROPERTY, AND THE QUALITY OF LIFE. One threat to good air quality in the State is the formation of ozone. Mobile sources are the largest source of carbon monoxide and hydrocarbon emissions, and significant sources of nitrogen oxide emissions, all of which contribute to the formation of ozone. It is the purpose of this Part to place controls on emissions from motor vehicles so as to reduce ozone levels, thus RESTORING, MAINTAINING, AND ENHANCING THE PURITY OF THE AIR OF THIS STATE. (Ill.Rev.Stat. 1989, ch. 111 1/2, par. 1008.)

#### Section 241.101 Applicability

- a) This Part shall apply to all 1996 and subsequent model-year motor vehicles, motor vehicle engines, and air contaminant emission control systems offered for sale, or sold, for registration in this state.
- b) Notwithstanding subsection (a), this Part does not apply to any motor vehicle having a manufacturer's gross vehicle weight rating of greater than 6000 pounds, or to

any motor vehicle engine designed for installation in such vehicle.

Section 241.102            Definitions

The definitions of the Environmental Protection Act (Ill.Rev.Stat. 1989, ch. 111 1/2, par. 1001 et seq.) apply to this Part. The following definitions also apply to this Part:

"Act" means the Environmental Protection Act (Ill.Rev.Stat. 1989, ch. 111 1/2, par. 1001 et seq.)

"Air contaminant emission control system" means equipment designed for installation on a motor vehicle or motor vehicle engine for the purpose of reducing the air contaminants emitted from the motor vehicle or motor vehicle engine, or a system or engine modification on a motor vehicle or motor vehicle engine which causes a reduction of air contaminants emitted from the motor vehicle or motor vehicle engine, including but not limited to exhaust control systems, fuel evaporation control systems and crankcase ventilating systems.

"California standards" means those standards for motor vehicles and motor vehicle engines which the State of California has adopted and is permitted to adopt under 42 USC §7543, and which other states are permitted to adopt under 42 USC §7507.

"Dealer" means a person registered as a dealer under the Illinois Vehicle Code (Ill.Rev.Stat. 1989, ch. 95 1/2, pars. 5-101 and 5-102).

"Intermediate volume manufacturer" means any vehicle manufacturer with California sales between 3,001 and 35,000 new light-duty and medium duty vehicles per model year, based on the average number of vehicle 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.

"Light-duty truck" means any motor vehicle, rated at 6000 pounds gross vehicle weight or less, which is designed primarily for purposes of transportation of property or is derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use.

"Model year" means the manufacturer's annual production period which includes January 1 of a calendar year or, if the manufacturer has no annual production period, the

calendar year. In the case of any motor vehicle manufactured in two or more stages, the time of manufacture shall be the date of completion of the chassis.

"Motor vehicle" is a vehicle which is self-propelled.

"New motor vehicle" means a motor vehicle, the equitable or legal title to which has never been transferred to the ultimate purchaser.

"New motor vehicle engine" means a new engine in a motor vehicle.

"Passenger car" means any motor vehicle designed with a capability for transportation of persons and having a design capacity of twelve persons or less.

"Sale" means the transfer of title to a motor vehicle or motor vehicle engine to the ultimate or subsequent purchaser, or the lease or rental of a new motor vehicle to a person.

"Small volume manufacturer" means any vehicle manufacturer with California sales less than or equal to 3000 new light-duty 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.

"Ultimate purchaser" means, with respect to any new motor vehicle or new motor vehicle engine, the first person who in good faith purchases a new motor vehicle or new motor vehicle engine for purposes other than resale.

"Used motor vehicle" means any motor vehicle which is not a new motor vehicle.

"Vehicle" means a device by which any person or property may be propelled, moved, or drawn upon a highway, except a device moved exclusively by human power or used exclusively upon stationary rails or tracks.

#### Section 241.103 Severability

Each Section of this Part shall be deemed severable, and in the event that any Section of this Part is held to be invalid, the remainder of this Part shall continue in full force and effect.

## SUBPART B: PROHIBITIONS

## Section 241.120 Prohibitions Against Sale

- a) No dealer shall sell a 1996 or subsequent model year new or used motor vehicle which is not in compliance with this Part, unless the vehicle is sold to another dealer, sold for the purpose of being wrecked or dismantled, sold exclusively for off-highway use, or sold for registration and use out of state.
- b) No person shall sell, offer or deliver for sale, to the ultimate purchaser or to any subsequent purchaser a 1996 or subsequent model year new or used motor vehicle for registration in this state, which is not in compliance with the rules and regulations as adopted in this Part on emission control standards and emission control systems and devices.
- c) No person who is engaged in this state in the business of selling to an ultimate purchaser or renting or leasing motor vehicles or motor vehicle engines (including but not limited to, manufacturers, distributors, and dealers), shall sell, or offer to sell, to an ultimate purchaser who is a resident of or doing business in this state, or lease, offer to lease, rent, or offer to rent, in this state a 1996 or subsequent model year motor vehicle, motor vehicle engine, or vehicle with a new motor vehicle engine, which is intended primarily for use in or for registration in this state, unless that vehicle is in compliance with the Act and this Part.
- d) Prior to or at the time of delivery or sale, the seller shall certify to the purchaser, in writing, that the motor vehicle conforms with the requirements of this Part.

## Section 241.121 Prohibition Against Use

- a) No person who is a resident of or who operates an established place of business within this state shall import, deliver, purchase, rent, lease, acquire, or receive a 1996 or subsequent model year motor vehicle, motor vehicle engine, or motor vehicle with a new motor vehicle engine for use, registration, or resale in this state unless such motor vehicle engine or motor vehicle is in compliance with the Act and this Part.
- b) "Established place of business", as used in this Section, means a place actually occupied either continuously or at regular periods.

**Section 241.122 Prohibition Against Possession**

No person who is engaged in this state in the business of selling to an ultimate purchaser, or renting or leasing motor vehicles or motor vehicle engines (including, but not limited to, manufacturers, distributors, and dealers), shall import, deliver, purchase, receive, or otherwise acquire a 1996 or subsequent model year motor vehicle, motor vehicle engine, or vehicle with a new motor vehicle engine which is intended for use primarily in this state, for sale or resale to an ultimate purchaser who is a resident of or doing business in this state, or for registration, leasing or rental in this state, unless that vehicle or engine is in compliance with this Part.

**Section 241.123 No Difference From California Standard**

In accordance with 42 USC §7507, no action by the State of Illinois will require the conversion of a vehicle to a standard different from that to which it is certified for sale in California.

**SUBPART C: EXEMPTIONS****Section 241.140 Exemptions**

- a) This Part does not apply to a vehicle acquired by a resident of this state for the purpose of replacing a vehicle registered to such resident which was damaged or became inoperative beyond reasonable repair or was stolen while out of this state; provided that such replacement vehicle is acquired out of state at the time the previously owned vehicle was damaged or became inoperative or was stolen.
- b) This Part does not apply to a vehicle transferred by inheritance, or by a decree of a court of competent jurisdiction.
- c) This Part does not apply to any vehicle sold after the effective date of this Part if the vehicle was registered in this state before such effective date.
- d) This Part does not apply to vehicles owned by a rental vehicle company and registered in another state, if such vehicle is operated in Illinois on a temporary basis. "Temporary basis" means a period of 21 days or less.
- e) This Part does not apply to any motor vehicle having a certificate of conformity issued pursuant to the Clean Air Act (42 U.S.C. §7401 et seq.) and originally registered in another state by a resident of that state who subsequently establishes residence in Illinois.

- f) This Part does not apply to vehicles which are part of a fleet used for research on fuels, oils, and other automotive products.

SUBPART D: STANDARDS

Section 241.160 Emission Standards

All 1996 and subsequent model-year motor vehicles registered in Illinois, shall meet the emission standards set forth in 241.Appendix A, Tables I, II, and III.

Section 241.161 Fleet Average

The fleet average non-methane organic gas exhaust emission values from a manufacturer's sales of passenger cars and light-duty trucks shall not exceed the standards set forth in 241.Appendix B, Table I.

SUBPART E: ZERO EMISSION VEHICLES

Section 241.180 Zero Emission Vehicle Sales Mandate

- a) Beginning in model year 1998, each manufacturer's sales fleet of passenger cars and light-duty trucks from 0-3750 lbs. loaded vehicle weight shall, at a minimum, contain the following percentage of zero emission vehicles (ZEV):

<u>Model Year</u>	<u>Percentage of Sales</u>
1998	2%
1999	2%
2000	2%
2001	5%
2002	5%
2003 and subsequent	10%

- b) The percentage of sales figures required in subsection (a) shall be based on sales of vehicles in Illinois.
- c) Small volume manufacturers shall not be required to meet the percentage ZEV requirements.
- d) Intermediate volume manufacturers shall not be required to meet the percentage ZEV requirements before the 2003 model year.

Section 241.181 Emission Credits

- a) A manufacturer may meet the zero emission vehicle (ZEV)

requirements by submitting a commensurate amount of grams per mile (g/mi) non-methane organic gases (NMOG) emission credits earned exclusively from the sale of ZEVs in Illinois. These credits may be earned previously by the manufacturer in accordance with subsection (c) or acquired from another manufacturer.

- b) Manufacturers which sell fewer ZEVs in Illinois than required in a given model year shall make up the deficit by the end of the next model year. The deficit shall be made up by selling an additional number of ZEVs in Illinois, equal to the deficit, or by submitting a commensurate amount of g/mi NMOG credits earned exclusively from the sale of ZEVs in Illinois.
- c) In 1996 and subsequent model years, manufacturers that achieve fleet average NMOG values lower than the fleet average requirement for that model year shall receive credits in units of g/mi NMOG. The credit shall be determined as  $\{[(\text{fleet average NMOG requirements}) - (\text{manufacturer's fleet average NMOG value})] \times (\text{total number of vehicles sold, including ZEVs and hybrid electric vehicles (HEVs)})\}$ .
  - 1) The g/mi NMOG value of emission credits earned in any given model year shall retain full value through the subsequent model year.
  - 2) The g/mi NMOG value of any credits not used to equalize the previous model year's deficit 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.

## 241. Appendix A Table I

1996 AND SUBSEQUENT MODEL-YEAR PASSENGER CAR AND  
 LIGHT-DUTY TRUCK EXHAUST EMISSIONS STANDARDS (2)(3)(4)(5)  
 (grams per mile)

Vehicle Type <sub>(1)</sub>	Loaded Vehicle Weight (lbs)	Durability Vehicle Basis (mi)	Non-Methane Hydrocarbons	Carbon Monoxide	Oxides of Nitrogen
PC	All	50,000	0.25	3.4	0.4
PC	All	100,000	0.31	4.2	n/a
Diesel PC (Option 2)	All	100,000	0.31	4.2	1.0
LDT	0-3750	50,000	0.25	3.4	0.4
LDT	0-3750	100,000	0.31	4.2	n/a
Diesel LDT (Option 2)	0-3750	100,000	0.31	4.2	1.0
LDT	3751-5750	50,000	0.32	4.4	0.7
LDT	3751-5750	100,000	0.40	5.5	n/a
Diesel LDT (Option 1)	3751-5750	100,000	0.40	5.5	1.5

- 1) "PC" means passenger cars.  
 "LDT" means light-duty trucks.  
 "n/a" means not applicable.
- 2) Diesel passenger cars and light-duty trucks certifying to these standards are subject to a particulate exhaust emission standard of 0.08 g/mi, determined on a 50,000 mile durability vehicle basis.
- 3) For all vehicles, except those certifying to optional diesel standards, in-use compliance with the exhaust emission standards shall be limited to vehicles with less than 75,000 miles.
- 4) For the 1996 model year, all manufacturers, except those certifying to optional diesel standards, are permitted alternative in-use compliance. Alternative in-use compliance is permitted for 20% of a manufacturer's vehicles in the 1996 model-year. For the 1996 model-

year, small volume manufacturers only are permitted alternative in-use compliance for 100% of the fleet. The percentages shall be applied to the manufacturers' total projected sales for California-certified passenger cars and light-duty trucks for the model-year. "Alternative in-use compliance" shall consist of the following:

- a) For all passenger cars and those light-duty trucks from 0-3750 lbs., loaded vehicle weight, except those diesel vehicles certifying to optional 100,000 mile standards, in-use compliance standards shall be 0.32 g/mi non-methane hydrocarbon and 5.2 g/mi monoxide for 50,000 miles.
  - b) For light-duty trucks from 3751-5750 lbs., loaded vehicle weight, except those diesel light duty trucks certifying to optional 100,000 mile standards, in-use compliance standards shall be 0.41 g/mi non-methane hydrocarbon and 6.7 g/mi carbon monoxide for 50,000 miles.
  - c) In-use compliance standards shall be waived beyond 50,000 miles.
- 5) All passenger cars and light-duty trucks, except those diesel vehicles certifying to optional standards, are subject to non-methane hydrocarbon, carbon monoxide, and oxides of nitrogen standards determined on a 50,000 mile durability basis and non-methane hydrocarbon and carbon monoxide standards determined on an 100,000 mile durability basis.

241. Appendix A Table II

EXHAUST EMISSION STANDARDS  
FOR TRANSITIONAL LOW-EMISSION VEHICLES, LOW EMISSION VEHICLES  
AND ULTRA-LOW-EMISSION VEHICLES IN PASSENGER CAR  
AND LIGHT-DUTY TRUCK VEHICLE CLASSES <sup>(5)(6)</sup>  
[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
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)
		100,000	TLEV	0.156	4.2	0
			LEV	0.090	4.2	0
			ULEV	0.055	2.1	0
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)
		100,000	TLEV	0.200	5.5	0.9
			LEV	0.130	5.5	0.5
			ULEV	0.070	2.8	0.5

- 1) "PC" means passenger cars.  
"LDT" means light-duty trucks.
- 2) "TLEV" means low-emission vehicles.  
"LEV" means low-emission vehicles.  
"ULEV" means ultra-low-emission vehicles.
- 3) "Non-Methane Organic Gases" (or "NMOG") shall mean the total mass of oxygenated and non-oxygenated hydrocarbon emissions.
- 4) Fuel-flexible and dual-fuel PCs and LDTs from 0-5750 lbs. loaded vehicle weight (LVW) shall be certified to exhaust mass emission standards for NMOG established for the

operation of the vehicle and any available fuel other than conventional gasoline, and conventional gasoline.

- a) For PCs and LDTs from 0-3750 lbs. LVW, the applicable exhaust mass emission standard for NMOG when certifying the vehicle for operation on conventional gasoline shall be:
    - i) For TLEVs, 0.25 g/mi and 0.31 g/mi for 50,000 and 100,000 miles, respectively.
    - ii) For LEVs, 0.125 g/mi and 0.156 g/mi for 50,000 and 100,000 miles, respectively.
    - iii) For ULEV, 0.75 g/mi and 0.090 g/mi for 50,000 and 100,000 miles, respectively.
  - b) For LDTs from 3751-5750 lbs LVW, the applicable exhaust mass emission standard for NMOG when certifying the vehicle for operation on conventional gasoline shall be:
    - i) For TLEVs, 0.32 g/mi and 0.40 g/mi for 50,000 and 100,000 miles, respectively.
    - ii) For LEVs 0.160 g/mi and 0.200 g/mi for 50,000 and 100,000 miles respectively.
    - iii) For ULEVs, 0.100 g/mi and 0.130 g/mi for 50,000 and 100,000 miles, respectively.
- 5) The standards in parentheses are intermediate compliance standards for 50,000 miles. For PCs and LDTs from 0-5750 lbs. LVW, including fuel-flexible and dual-fuel vehicles when operating on any available fuel other than conventional gasoline, intermediate compliance standards shall apply to LEVs and ULEVs through the 1998 model-year. Compliance with standards beyond 50,000 miles shall be waived through the 1998 model-year for LEVs and ULEVs.
- a) For fuel-flexible and dual-fuel PC and LDTs from 0-3750 lbs LVW, intermediate compliance standards for NMOG emissions at 50,000 miles, when the vehicle is operated on conventional gasoline, shall be 0.32 g/mi, 0.188 g/mi, and 0.100 g/mi for TLEVs, LEVs, and ULEVs respectively.
  - b) For fuel-flexible and dual-fuel PCs and LDTs from 3751-5750 lbs. LVW, intermediate compliance standards for NMOG emissions at 50,000 miles, when the vehicle is operated on conventional gasoline

shall be 0.41 g/mi, 0.238 g/mi, and 0.128 g/mi for TLEVs, LEVs and ULEVs, respectively.

- 6) Manufacturers of diesel vehicles must also certify to particulate standards for 100,000 miles. For all PCs and LDTs from 0-5750 lbs LVW, the particulate standard is 0.08 g/mi, 0.08 g/mi and 0.04 g/mi for TLEVs, LEVs and ULEVs, respectively.

## 241. Appendix A Table III

FORMALDEHYDE EXHAUST EMISSION STANDARDS  
FOR TRANSITIONAL LOW-EMISSION VEHICLES, LOW EMISSION VEHICLES,  
AND ULTRA-LOW EMISSION VEHICLES IN THE  
LIGHT-DUTY VEHICLE WEIGHT CLASS  
[milligrams per mile (or mg/mi)]

Vehicle Type <sup>(1)</sup>	Vehicle Weight (lbs.) <sup>(2)</sup>	Durability Vehicle Basis (mi)	Vehicle Emission Category <sup>(3)</sup>	Formaldehyde (mg/mi) <sup>(4)(5)</sup>
PC and LDT	All 0-3750	50,000	TLEV	15 (23)
			LEV	15 (15)
			ULEV	8 (12)
		100,000	TLEV	18
			LEV	18
			ULEV	11
LDT	3751- 5850	50,000	TLEV	18 (27)
			LEV	18 (18)
			ULEV	9 (14)
		100,000	TLEV	23
			LEV	23
			ULEV	13

- 1) "PC" means passenger cars.  
"LDT" means light-duty trucks.
- 2) For light-duty trucks, "Vehicle Weight" shall mean "Loaded Vehicle Weight" (LVW) or "Test Weight" (TW), respectively.
- 3) "TLEV" means transitional low-emission vehicles.  
"LEV" means low-emission vehicles.  
"ULEV" means ultra-low-emission vehicles.
- 4) Formaldehyde exhaust emission standards apply to vehicles designed to operate on any available fuel, including fuel-flexible and dual-fuel vehicles.
- 5) The standards in parenthesis are intermediate compliance standards for 50,000 miles. For PCs and LDTs from 0-5750 lbs. LVW, including fuel-flexible and dual-fuel vehicles, intermediate compliance standards shall apply to LEVs and ULEVs through the 1998 model-year. Compliance with standards beyond 50,000 miles shall be waived through 1998 for LEVs and ULEVs.

## 241. Appendix B Table I

FLEET AVERAGE NON-METHANE ORGANIC GAS EXHAUST EMISSION  
REQUIREMENTS FOR LIGHT-DUTY VEHICLE WEIGHT CLASSES  
[grams per mile (or "g/mi")] (6)

Vehicle Type (1)	Loaded Vehicle Weight (lbs.)	Durability Vehicle Basis (mi)	Model Year	Organic Gases (2)(3)(4)(5)
PC and LDT	All 0-3750	50,000	1996	0.225
			1997	0.202
			1998	0.157
			1999	0.113
			2000	0.073
			2001	0.070
			2002	0.068
			2003 & subsequent	0.062
LDT	3751- 5750	50,000	1996	0.287
			1997	0.260
			1998	0.205
			1999	0.150
			2000	0.099
			2001	0.098
			2002	0.095
			2003 & subsequent	0.093

- 1) "PC" means passenger cars.  
"LDT" means light-duty trucks.
- 2) "Non-Methane Organic Gases" (or "NMOG") shall mean the total mass of oxygenated and non-oxygenated hydrocarbon emissions.
- 3) 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:
  - a) "Type A HEV" shall mean an HEV which achieves a minimum range of 60 miles as defined by the "Federal Highway Fuel Economy Test Procedure" (HWFWT: 40 CFR

600 Subpart B) without the use of the engine. Use of vehicle accessories cannot lower the battery-only range below 60 miles. This definition shall also apply to vehicles which have no tailpipe emissions, but use fuel fired heaters, regardless of the operating range of the vehicle.

- b) "Type B HEV" shall mean an HEV which achieves a range of 40 - 59 miles as defined by the "Federal Highway Fuel Economy Test Procedure" (HWFET; 40 CFR 600 Subpart B) without the use of the engine. Use of vehicle accessories cannot lower the battery-only range below 40 miles.
- c) "Type C HEV" shall mean an HEV which achieves a range of 0 - 39 miles as defined by the "Federal Highway Fuel Economy Test Procedure" (HWFET; 40 CFR 600 Subpart B) without the use of the engine; an HEV which enables the vehicle operators to control the engine time and modes of operation either directly or indirectly; an HEV which can be operated solely through the use of the engine; and all other HEVs excluding "Type A" and Type "B" HEVs.
- 4) Each manufacturer's fleet average NMOG value for the total number of PCs and LDTs from 0-3750 lbs. "Loaded Vehicle Weight" (LVW) delivered for sale in Illinois shall be calculated in units of g/mi NMOG as: {[No. of Vehicles Certified to the (0.39) HC Exhaust Emission Standard in subparagraphs i and ii and Sold x (0.39)] + [No. of Vehicles Certified to the Exhaust Emission Standards in iii and Sold x (0.25)] + [No. of Transitional Low-Emission Vehicles (or "TLEVs") excluding HEVs and Sold) x (0.125)] + [No. of Low-Emission Vehicles (or "LEVs") excluding HEVs and Sold) x (0.075)] + [No. of Ultra-Low Emission Vehicles (or "ULEVs) excluding HEVs and Sold) x (0.040)] + HEV contribution factor)} / (Total No. of Vehicles Sold, Including Zero-Emission Vehicle and HEVs):

- a) "HEV contribution factor" shall mean the NMOG emission contribution of HEVs to the fleet average NMOG value. The HEV contribution factor shall be calculated in units of g/mi as follows:

$$\text{HEV contribution factor} = \{[\text{No. of "Type A HEV" TLEVs Sold}] \times (0.100) + [\text{No. of "Type B HEV" TLEVs Sold}] \times (0.113) + [\text{No. of "Type C HEV" TLEVs Sold}] \times (0.125)\} + \{[\text{No. of "Type A HEV" LEVs Sold}] \times (0.057) + [\text{No. of Type B HEV" LEVs Sold}] \times (0.066) + [\text{No. of "Type C HEV" LEVs Sold}] \times (0.075)\} + \{\text{No. of "Type A HEV" ULEVs Sold}] \times (0.020) + [\text{No. of "Type B HEV"$$

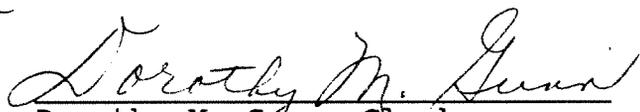
ULEVs Sold] x (0.030) + {No. of "Type C HEV" ULEVs Sold] x (0.040)}/ (Total No. of Vehicles Sold, Including Zero-Emission Vehicles and HEVs)

- b) "Zero-Emission Vehicles" (or "ZEVs") classified as medium-duty vehicles by weight may be designated as light-duty vehicles for the purposes of calculating fleet average NMOG values.
- 5) Manufacturers that certify LDTs from 3751-5750 lbs. LVW, shall calculate a fleet average NMOG value in units of g/mi NMOG as: {[No. of Vehicles Certified to the (0.50) HC Exhaust Emission Standard in subparagraphs i and ii and Sold x (0.50)} + [(No. of Vehicles Certified to the Exhaust Emission Standards in iii and Sold x (0.32))] + [(No. of TLEVs Sold excluding HEVs) x (0.160)] + [(No. of TLEVs Sold excluding HEVs) x (0.100) + [(No. of ULEVs Sold Excluding HEVs) (0.050)] + (HEV contribution factor)}/Total No. of Vehicles Sold, Including ZEVs and HEVs).
- a) "HEV contribution factor" shall mean the NMOG emission contribution of HEVs to the fleet average NMOG. The HEV contribution factor shall be calculated in units of g/mi as follows:
- $$\text{HEV contribution factor} = \{[\text{No. of Type A HEV" TLEVs Sold}] \times (0.130) + [\text{No. of "Type B HEV" TLEVs sold}] \times (0.145) + [\text{No. of "Type C HEV" TLEVs Sold}] \times (0.160)\} + \{[\text{No. of "Type A HEV" LEVs Sold}] \times (0.075) + [\text{No. of "Type B HEV" LEVs Sold}] \times (0.087) + [\text{No. of "Type C HEV" LEVs Sold}] \times (0.100)\} + \{[\text{No. of "Type A HEV" ULEVs Sold}] \times (0.025) + [\text{No. of "Type B HEV" ULEVs Sold}] \times (0.037) + [\text{No. of "Type C HEV ULEVs Sold}] \times (0.050)\}$$
- 6) In 2000 and subsequent model years, small volume manufacturers shall comply with fleet average NMOG requirements.
- a) Prior to the year 2000, compliance with the specified fleet average NMOG requirements shall be waived.
- b) In 2000 and subsequent model years, 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 for 50,000 miles.
- c) In 2000 and subsequent model years, small volume manufacturers shall not exceed a fleet average NMOG value of 0.100 g/mi for LDTs from 3751 -5750 lbs. LVW for 50,000 miles.

IT IS SO ORDERED.

R. Flemal dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 21<sup>st</sup> day of November, 1991, by a vote of 5-1.

  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board