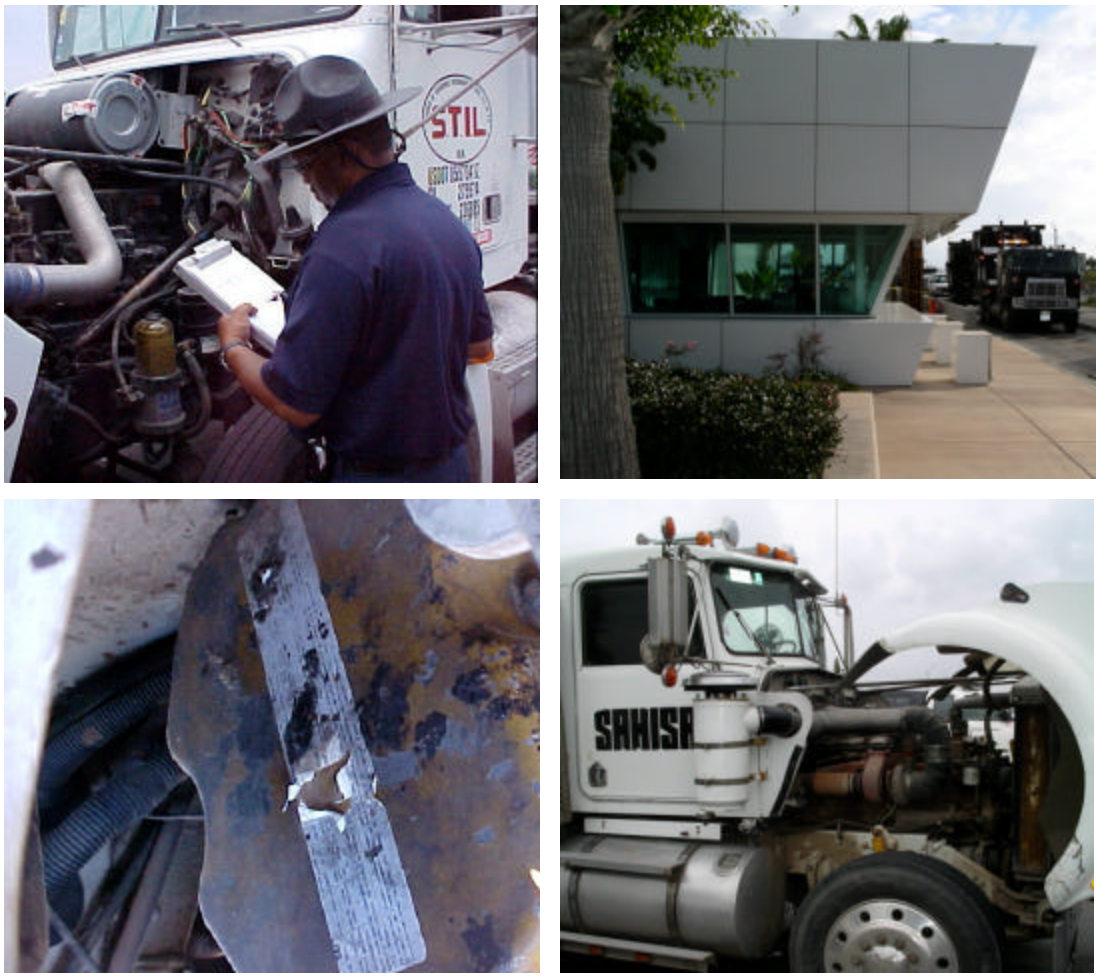
California Environmental Protection Agency

Air Resources Board

STAFF REPORT: INITIAL STATEMENT OF REASONS FOR PROPOSED RULEMAKING, PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE HEAVY-DUTY VEHICLE SMOKE INSPECTION PROGRAM (IMPLEMENTATION OF ASSEMBLY BILL 1009, PAVLEY 2004, CHAPTER 873)



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AIR RESOURCES BOARD

STAFF REPORT: INITIAL STATEMENT OF REASONS
FOR PROPOSED RULEMAKING

PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE HEAVY DUTY VEHICLE SMOKE INSPECTION PROGRAM (IMPLEMENTATION OF ASSEMBLY BILL 1009, PAVLEY 2004, CHAPTER 873)

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TABLE OF CONTENTS

TABLE OF CONTENTS……. i

EXECUTIVE SUMMARY……. ii

I. Introduction…….. 1

II. Background……... 1
- A. Contribution of On-Road Heavy-Duty Commercial Vehicles to Air Pollution……..... 1
- B. Current Status of International Trucking Provisions…….. 2
- C. Fleet Characterization Surveys…… 3
- D. North American Emission Standards……..... 3
- E. Heavy-Duty Vehicle Inspection Program…… 5

III. Summary of the Regulatory Proposal…….. 5
- A. Applicability……..... 5
- B. Requirement that HDCVs have Labels that Indicate that Engines Meet Emission Standards at Least as Stringent as U.S. Emission Standards……..... 6
- C. Non-Compliance Penalties……..... 6
- D. Citation Appeals……. 7

IV. Issues Regarding the Proposal……..... 7
- A. NAFTA……. 10
- B. Foreign Commerce Clause…….. 12

V. Environmental and Economic Impacts……. 16
- A. Air Quality Benefits……. 16
- B. Costs……. 19
- C. Costs to State Agencies……. 20
- D. Cost Effectiveness……. 21
- E. Economic Impact on the Economy of the State……. 22

VI. Alternatives Considered……. 22
- A. Registration Based Program……... 22
- B. Denial of Entry into California……. 22

VII. Summary and Conclusions……. 23

VIII. References…….. 23

APPENDIX A: AB 1009 Legislation
APPENDIX B: NAFTA Provisions
APPENDIX C: Proposed Regulation Order

EXECUTIVE SUMMARY

Assembly Bill 1009, Pavley was signed into law on September 29, 2004. The bill requires operators of heavy-duty commercial vehicles (HDCVs) to carry evidence that their engines meet emission standards at least as stringent as those promulgated by the U.S. Environmental Protection Agency for their year of manufacture. The purpose of the bill is to eliminate excess emissions in California by making it illegal for vehicles that do not meet federal standards to enter or operate in the State. The statute requires the ARB, in consultation with the California Highway Patrol (CHP), to adopt and implement regulations that will achieve this result. This report presents the Air Resources Board staff's proposal to comply with AB 1009's requirements.

Staff is proposing to expand ARB's existing Heavy-Duty Vehicle Inspection Program smoke inspection procedure to include verification of engine certification. Currently, ARB inspects vehicles for missing emission control labels, but does not generally assess penalties for tampered (e.g., missing or permanently obscured) labels. This proposal adds a $300 penalty for missing labels. That penalty would be waived for citations issued within the first twelve months of the regulation's effective date if the vehicle owner obtains a replacement label from a manufacturer authorized engine repair/service facility within 45 days of the citation date. After the 12 month grace period, no additional waivers would be available.

The proposal requires that labels be affixed to the engine so that ARB staff can determine whether the vehicle was manufactured to meet U.S. standards or better. Engines that do not meet those standards would be subject to an additional civil penalty of $300. The regulation presumes that vehicles without engine labels do not meet the federal certification standards. Such vehicles would be cited twice: once for the missing label and once for a non-compliant engine. The latter penalty would be waived if the engine in fact meets the standards and the vehicle owner gets a proper label within 45 days of the citation date. Unlike the tampered label waiver, which expires in 12 months, the waiver for not being in compliance with the required emission standards would be ongoing in cases where proof of compliance can be provided after the citation is issued.

If this regulation is approved by the Board, ARB enforcement staff will cite heavy duty commercial vehicles that do not meet the labeling and certification requirements each time they are found to be operating illegally in California.

Approximately one percent of the 400,000 heavy duty commercial vehicles operating in California have engines that do not meet at least federal emission certification standards. Staff estimates that these engines will account for 2.9 tons per day of excess oxides of nitrogen (NOx) and 0.12 tons per day of particulate matter (PM) in calendar year 2006. Implementing the proposed regulation will eventually eliminate those excess emissions, as drivers of foreign vehicles become aware of their provisions. The regulation will also prevent future excess emissions from foreign vehicles as trade expands and border crossing restrictions are removed per the North

American Free Trade Agreement (NAFTA).

If vehicle owners comply with the regulation by replacing their non-compliant engines, staff estimates that the fleet-wide compliance cost would reach approximately $20 million. The cost effectiveness of that compliance path is $1.09 per pound for NOx and PM reduced for 2004 and newer vehicles and $10.62 per pound for NOx and PM reduced, for pre-1993 model year vehicles. However, another compliance option is to use only federally certified vehicles for cross-border trips which would reduce these costs significantly.

The proposed amendments also include minor clarifying changes to the civil penalty schedule in section 2185, Title 13 of the California Code of Regulations for ARB's existing Heavy Duty Vehicle Inspection Program.

State of California
AIR RESOURCES BOARD

Staff Report: Initial Statement of Reasons for Proposed Rulemaking

I. Introduction

Assembly Bill 1009 was signed into law on September 29, 2004, as urgency legislation. This bill requires the Air Resources Board, in consultation with the California Highway Patrol (CHP), to develop protocols to ensure that heavy duty commercial vehicles (HDCVs) over 10,000 pounds gross vehicle weight operating in California meet U.S. EPA standards for the applicable model year of engine manufacture. The purpose of the bill is to prevent higher emitting vehicles from entering or operating in the State, thereby reducing excess oxides of nitrogen (NOx) and particulate matter (PM) emissions and preventing increases of such emissions in the future.

To accomplish this goal, staff is proposing to add vehicle certification status to ARB's existing program for inspecting heavy-duty vehicles. The amended regulation prohibits operation in California of vehicles whose engines do not meet federal emission standards for the year of manufacture of the engine. New monetary penalties are also proposed to enforce the amended regulation.

II. Background

A. Contribution of On-Road Heavy-Duty Commercial Vehicles to Air Pollution

Heavy duty diesel commercial vehicles are a major contributor to statewide NOx and PM emissions[1]. Although these vehicles are only two percent of the on-road vehicle fleet, staff estimates they contribute 30 percent of the NOx and 65 percent of the PM from all on-road vehicles. These emissions pose significant environmental, public health, and economic impacts. Public health impacts associated with diesel emissions include an increased likelihood of contracting various respiratory diseases, cancers, and premature death. NOx emissions are a key component to the formation of ozone in the atmosphere.

Excessive emissions from visibly smoking vehicles have been the number-one source of complaints from the public regarding air pollution. Research performed by the University of California (Howitt and Goodman) estimated damage to crops in California at $50 million to $333 million per year as a result of diesel emissions.[2]

[1] Particulate matter is generally classified as "PM-10", or particles with diameters of 10 microns or less, and "PM-2.5" that, similarly, consist of particles of 2.5 microns or less. Studies show that diesel exhaust primarily consists of PM-2.5.

[2] R.E. Howitt and C. Goodman, The Economic Assessment of California Field Crop Losses Due To Air Pollution, Final Report, Contract # A5-105-32, California Air Resources Board, Sacramento, June (1989).

B. Current Status of International Trucking Provisions

In 1982, the U.S. Congress established a moratorium on operating Mexican domiciled vehicles beyond established border commercial zones.[3] These border zones typically extend for 5 to 20 miles inside of the U.S. border, but can extend further. Within the border zone, Mexican domiciled vehicles can either unload goods transported from Mexico to U.S. based carriers that distribute the goods beyond the zone, or they can pick up goods to be delivered within Mexico. Enforcement of the border commercial zones within California is carried out by the California Highway Patrol.

In November of 2002, President Bush determined that Mexican domiciled vehicles should be eligible to provide cross-border truck services beyond the border commercial zones pursuant to the North American Free Trade Agreement.[4] In response to the President's determination, the U.S. Department of Transportation's Federal Motor Carrier Safety Administration (FMCSA) developed a safety-based registration process to qualify Mexican domiciled vehicles for full cross-border access. Implementation of the registration process has been delayed by legal action concerning whether the federal government was required to conduct a full environmental impact study under the National Environmental Policy Act. On June 7, 2004, the U.S. Supreme Court concluded that FMCSA was not required to conduct the environmental impact study.[5] Although the FMCSA has not yet promulgated final federal regulations that would allow full cross-border access for Mexican domiciled vehicles, the agency is accepting applications and could begin issuing permits at essentially any time upon receiving such direction.

Currently, approximately 3,500 Mexican commercial vehicles cross into California each day (about 3,000 at Otay Mesa and 500 at Calexico/Mexicali) for operation within the border commercial zone along the California / Mexico border.[6] Predictions have been made that if cross-border travel restrictions are eased, the number of these crossings could increase by a factor of five or more. Additionally, increased crossings at the California/Arizona border on Interstate 8 and Interstate 10 are anticipated as Mexican HDCVs from the Nogales region and beyond come west to use the Ports of Los Angeles and Long Beach.[7]

[3] Canadian HDCVs were also initially included in the moratorium; however, Congress immediately lifted the moratorium for these vehicles based on a bilateral cross-border access agreement. www.fmcsa.dot.gov/cross-border/whnaftafactsheet.htm

[4] White House memo: "Determination Under the Interstate Commerce Commission Termination Act of 1995", November 27, 2002. www.fmcsa.dot.gov/cross-border/whmemo.htm

[5] Department of Transportation v. Public Citizen. Docket 03-358. June 7, 2004.

[6] "Commercial Inspection Facility Traffic Counts," California Highway Patrol, 1997 through 2004

[7] "Technical Memorandum No. 5 Freight Movement Issue Prepared for The National I- Freight Corridor Study", Wilbur Smith Associates Team, February 2003, p. 5-79.

C. Fleet Characterization Surveys

Staff conducted surveys in July and August, 2005, of randomly selected vehicles at the Mexican border and at other locations in Southern California to determine the makeup of the California HDCV fleet. The results are summarized in Table 1.

Table 1: HDCV Survey Results

Survey Location	Total Vehicles	U.S. Cert. Confirmed	Non-U.S. Cert Confirmed		Engine Label Replacement Needed		Gas Powered HDCVs	
			Number	% of all confirmed certs.	Number	Percent	Number	Percent
Otay Mesa	135	75	1	1.3%	60	44%	8	6%
Tecate	39	10	1	9.1%	11	28%	6	15%
Calexico	137	63	3	4.6%	26	19%	9	7%
Castaic	207	114	0	0.0%	74	36%	8	4%
San Onofre	247	165	1	0.6%	60	24%	30	12%
Totals	**765**	**427**	**6**	**1.4%**	**231**	**31%**	**61**	**8%**

The results indicate that a little over one percent of the HDCVs for which certification status could be determined have engines that do not meet U.S. standards. Because the survey focused on Southern California and the border in particular, staff believes the statewide percentage is somewhat lower, and therefore assumed one percent for its emission benefit analyses (Section V, subsection A.). To minimize the delay that HDCV operators experienced during the survey, ARB inspectors released some vehicles for which the emission-control label was difficult to access without collecting its data. The results indicate that the operators of approximately 30 percent of HDCVs operating in California would need to obtain replacement labels in order to provide ARB inspectors with evidence of the certification status of their engines.

D. North American Emission Standards

The U.S. Environmental Protection Agency established emission certification standards for heavy-duty diesel engines beginning with the 1974 model year, one year after ARB standards were established.[8] At times throughout the 1980's, ARB standards were more stringent than federal requirements. However, the emission standards of the two agencies have been aligned since 1990 in recognition of the interstate nature of heavy-duty truck travel. Vehicles imported into Canada throughout this timeframe have been certified to U.S. standards even though Canada did not officially adopt U.S. standards for these on-road vehicles until 1999.

[8] Although emission standards were established for the 1973 model year, the ARB exempted manufacturers from its certification requirements for that year under Resolution 73-8, February 21, 1973.

The Mexican government did not establish its own standards until the 1993 model year. HDCVs imported prior to that time were not required to meet U.S. emission standards. As shown in Table 2, the standards established by Mexico for model years 1993 through the 2003 are identical to U.S. standards. However, beginning with the 2004 model year, U.S. and Canadian emission standards became more stringent again than vehicles manufactured for use in Mexico. The newer U.S. and Canadian emission standards require new emission controls such as exhaust gas recirculation to reduce NOx emissions. By the 2010 model year, both NOx and PM emissions from heavy-duty diesel engines certified for use in the U.S. and Canada will be cut by 90 percent with the use of aftertreatment technologies. Mexico has yet to adopt these more stringent emission standards. Its requirements currently remain unchanged from the 2003 model year, and manufacturers continue to import HDCV engines into Mexico meeting these standards.

Table 2:
Comparison of U.S. and Mexico Heavy-Duty Diesel Engine Emission Standards
(in grams per brake-horsepower-hour)

	Hydrocarbons (HC)		Carbon Monoxide (CO)		Nitrogen Oxides (NOx)		Particulate Matter (PM)	
Year	U.S.	Mexico	U.S.	Mexico	U.S.	Mexico	U.S.	Mexico
1974-78	-	-	40.0	-	16[9]	-	-	-
1979-83	1.5	-	25.0	-	10	-	-	-
1984-87	1.3	-	15.5	-	10.7[10]	-	-	-
1988-89	1.3	-	15.5	-	10.7	-	0.6	-
1990	1.3	-	15.5	-	6.0	-	0.6	-
1991-92	1.3	-	15.5	-	5.0	-	0.25	-
1993	1.3	1.3	15.5	15.5	5.0	5.0	0.25	0.25
1994-97	1.3	1.3	15.5	15.5	5.0	5.0	0.1	0.1
1998-2003	1.3	1.3	15.5	15.5	4.0	4.0	0.1	0.1
2004-06	0.5	1.3	15.5	15.5	~2.0[11]	4.0	0.1	0.1
2007+	0.14	1.3	15.5	15.5	0.2[12]	4.0	0.01	0.1

[9] Steady state HC plus NOx standard
[10] A transient test procedure for measuring emissions was established beginning with the 1984 model year.
[11] Standard is 2.5 or 2.4 g/bhp-hr HC +NOx.
[12] 50 percent of the engines must meet this standards; 100 percent by 2010.

E. Heavy-Duty Vehicle Inspection Program (HDVIP)

ARB operates its HDVIP to curb excess smoke emissions from heavy-duty vehicles caused by poor maintenance and tampering of the engine's emissions controls. Roadside smoke inspections were required by 1988 legislation (SB 1997, Presley) and the program was implemented in November 1991. Vehicle inspections take place at border crossings, CHP weight enforcement facilities, and at random roadside locations. Separate smoke opacity standards are applicable to 1990 and older HDCVs (55 percent opacity), and for 1991 and newer HDCVs (40 percent opacity).

Commercial vehicles determined to have excessive smoke emissions are subject to civil penalties. Additional legislation (SB 270, Peace) in 1998 augmented the program's enforcement presence by authorizing full time enforcement at the Otay Mesa and Calexico border crossings, and provided funding for inspection site improvements at both locations. As of June 2005, the HDVIP's enforcement infrastructure consisted of eleven inspection teams operating throughout the state. Since the program's inception, significant reductions in the number of smoking vehicles operating in the state have been recorded, and the failure rate has steadily declined from approximately 34 percent to the current failure rate of less than 10 percent. [13]

HDVIP inspectors already look for and examine the engine's emission control label as part of the smoke test procedure. The information on the label is used to determine the appropriate smoke opacity levels for the inspection. Operators of vehicles with missing or damaged labels may be given written notification that the label must be replaced; however, a citation is not issued. Instead, the inspectors presume for subsequent inspections that the engine is to be subject to the more stringent opacity standard for 1991 and newer HDCVs, unless the label is replaced to indicate otherwise.[14]

III. Summary of the Regulatory Proposal

The staff's proposal is designed to meet the statutory requirements of AB 1009 through amendments to ARB's existing HDVIP regulations. The proposed amendments would require HDCV operators to provide evidence when the vehicle is inspected under the HDVIP program of the emission standards the vehicle's engine was certified to meet at the time of manufacture.

A. Applicability

The proposed amendments would apply to 1974 and later model year diesel-powered HDCVs with a gross vehicle weight rating of 10,000 pounds or more. The 1974 model year marks the first year in which HDCV certification was required under federal

[13] P.E. Jacobs, D. J. Chernich, "California's Revised Heavy Duty Vehicle Smoke and Tampering Inspection Program", Society of Automotive Engineers, Technical Paper No. 981951, August 1998.
[14] Title 13, California Code of Regulations, Section 2182(c).

regulations. Although the language of AB 1009 does not exclude gasoline-powered HDCVs, the staff believes their inclusion would result in substantially higher compliance costs for which there would be little associated emission benefits. The staff's conclusion was reached for the following reasons:

- The legislative findings that the statute is based on are clearly focused on diesel engines, including the associated cancer risks of diesel particulate matter, and the ozone implications of NOx emissions from diesel engines. The findings make no specific mention of gasoline-powered HDCVs. Gasoline powered HDCVs generally emit very little PM relative to diesel-powered HDCVs. NOx emissions are also lower in gasoline-powered HDCVs. Based on staff estimates, the NOx and PM emission benefits from gasoline vehicles under the regulation would be less than 5 percent of the expected benefits for diesel HDCVs, and gasoline HDCV inclusion would increase compliance costs by more than 20 percent.

- Gasoline-powered HDCVs are not generally used for long distance moving of freight, primarily because of their relatively poor fuel economy. Most freight is transported by diesel vehicles with gross vehicle weight ratings of more than 60,000 pounds. Only 23 of the 311 (7 percent) HDCVs surveyed by ARB staff at the U.S./Mexico border were gasoline powered.

- Heavy-duty gasoline-engine manufacturers have indicated that replacement labels for gasoline-powered HDCVs are generally not available for engines more than 10 years old. The cost, therefore, for the manufacturers to provide HDCV operators with evidence of the engine's certification status would be expected to be significantly higher than for diesel-powered engines.

B. Requirement that HDCVs have Labels that Indicate that Engines Meet Emission Standards at Least as Stringent as U.S. Emission Standards

Under the staff's proposal, ARB inspectors will check the engine's label for compliance. Compliance would be determined by the year that the engine was certified, and by whether or not the engine certification is at least equivalent to U.S. EPA emission certification standards. Owners that are operating in-use HDCVs that are missing their ECL, or have engines that do not meet standards at least as stringent as federally promulgated certification standards would be considered noncompliant.

C. Non-Compliance Penalties

Owners of HDCVs determined to be out of compliance with the proposed amendments would be issued a Citation and assessed a $300 penalty for each violation (proposed section 2185 (a)(3) and (4)). During the first year after the amendments become effective, an HDCV owner who has been cited for a tampered engine ECL would be able to avoid the civil penalty under ARB staff's proposal by providing proof, within 45-days of receiving the citation, that the ECL has been replaced. A new ECL would be obtained by presenting the vehicle for inspection to an authorized dealer of the engine

manufacturer. The dealer would then directly contact the engine manufacturer to obtain a replacement ECL. Upon receipt, the authorized dealer would affix the new ECL to the engine. The owner would then be required to submit proof of the correction to the ARB (section 2186(a)(3).

The ECL is necessary to determine whether or not the engine was designed to at least meet U.S. EPA promulgated emission-certification standards. Under the proposed amendments, an HDCV engine with an affixed ECL indicating that the vehicle does not meet U.S. EPA emission standards for the year of manufacture of the engine would be in violation of the regulation and assessed a $300, nonwaivable penalty. Additionally, the proposed amendments would presume that an HDCV engine with a tampered ECL does not at least meet applicable federal emission standards for the year of manufacture of the engine, and would also be subject to a violation for not having an ECL affixed to the engine. However, the violation for operating a non-compliant engine in California would be waived upon the owner, within 45 days, having an emission label affixed to the engine that shows that the HDCV engine actually does meet the proposed emission-standard requirements. In contrast to the violation for a tampered ECL, which will only be waived during the first year after the amendments become effective, the ability to obtain a penalty waiver from violation of the emission-standard requirements by demonstrating the engine meets at least U.S. standards would be ongoing.

D. Citation Appeals

As with other violations issued under the ARB's HDVIP program, HDCV operators wishing to contest a violation based on operation of a non-compliant HDCV, or for not having proof of the engine's certification status, can request an administrative hearing to contest the citation (See title 13, CCR, section 2188 and title 17, CCR, sections 60075.1 et seq.).

IV. Issues Regarding the Proposal

Through the following questions and answers, potential issues and concerns regarding the staff's proposal are identified and addressed.

Q: What is the practical impact of the proposal on Canadian and Mexican HDCVs operating in California?

A: Canada has historically imported heavy-duty vehicles built to U.S. standards. Therefore, the proposed regulation should not impact the operation of Canadian HDCVs within California. However, operators of Canadian vehicles with missing labels would be required to obtain a replacement label from an authorized dealer.

Mexico applied U.S. standards between the 1993 and 2003 model years, so vehicle engines manufactured during this period would be unaffected. However, Mexican HDCV engines were not required to meet emission standards prior to model year 1993, and Mexico's emission standards are less stringent than those

for U.S. engines for 2004 and newer model years. Therefore, HDCVs equipped with engines built to meet emission requirements for Mexico between model years 1974 and 1992, or model years 2004 and newer, would no longer be legal for use on California highways.

Q: Why are 2003 Mexican certified engines allowed to operate in California, but 2004 and newer engines are not, even though they meet the same standards?

A: The existing alignment of U.S. and Mexico emission standards ended with the 2003 model year. As illustrated previously in Table 2, allowable NOx emissions for U.S. certified engines have been cut in half beginning with the 2004 model year. In other words, a 2004 Mexican certified engine emits twice the NOx emissions of a 2004 HDCV certified to U.S. EPA standards. An even greater disparity for PM and NOx emissions will occur by the 2010 model year when U.S. emission standards will be 90 percent lower than present Mexican emission standards. While there is little doubt that 2004 Mexican certified HDCVs would be as clean or cleaner on average than 2003 or older HDCVs, the staff believes permitting continued operation of 2004 and later Mexican certified HDCVs could create an ongoing economic incentive that would encourage Mexican-based trucking companies to purchase and use Mexican-certified HDCVs over engines certified to meet at least federal emission standards. The emission control technologies used on 2004 U.S. certified engines modestly increase HDCV prices. Differential engine costs will increase further as U.S. emission standards increase in stringency in 2007 and 2010.

Q. 2007 and later model year U.S. engines will require the use of Ultra Low Sulfur Diesel (ULSD) fuel. If operators of Mexican domiciled HDCVs purchase U.S. certified engines to permit operation in California, how will they fuel the engines within Mexico?

A. Representatives from the U.S. EPA and Mexico's Ministry of Environment and Natural Resources (SEMARNAT), met October 19, 2005 in Mexico, and jointly announced that Mexico plans to aggressively reduce sulfur levels in gasoline and diesel fuel beginning in 2006. [15] Preparations are currently underway by Mexico to establish the availability of ULSD within its borders through both importation of the fuel in the short term, and through changes to fuel refining within Mexico for the longer term. [16] Therefore, the staff expects that ULSD fuel will be available within Mexico for use in 2007 and later engines.

[15] http://usinfo.state.gov/gi/Archive/2005/Oct/24-774920.html

[16] Sandra Dibble, *"Cleaner low-sulfur diesel to be introduced by 2007"*, THE SAN DIEGO UNION-TRIBUNE, October 22, 2005.

Q. Will HDCV operators have any trouble in obtaining replacement ECLs?

A. Manufacturers of heavy-duty engines have indicated to ARB staff that affected HDCV operators will be able to obtain replacement ECLs from manufacturer authorized service providers.

Q. How will you make sure that the correct replacement labels are issued to HDCV operators?

A. The general business practice of the heavy-duty engine manufacturers is to issue a replacement label only to an authorized service provider based on the engine serial number supplied by the provider. The service provider is also responsible for installing the new label. In order further minimize mislabeling or fraud, the ARB staff plans to work with heavy-duty engine manufacturers to develop a serial number database that can be used to verify the accuracy of the ECL.

Q. Is the proposed regulation lawful under the North American Free Trade Agreement (NAFTA) and the Foreign Commerce Clause of the U.S. Constitution?[17]

A. Article 3, section 3.5 of the California Constitution provides:

> An administrative agency, including an administrative agency created by the Constitution or an initiative statute, has no power:
>
> (a) To declare a statute unenforceable, or refuse to enforce a statute, on the basis of it being unconstitutional unless an appellate court has made a determination that such statute is unconstitutional;
>
> (b) To declare a statute unconstitutional;
>
> (c) To declare a statute unenforceable, or to refuse to enforce a statute on the basis that federal law or federal regulations prohibit the enforcement of such statute unless an appellate court has made a determination that the enforcement of such statute is prohibited by federal law or federal regulations.

In enacting AB 1009, the Legislature directed ARB to adopt a regulation meeting the purpose and intent of the statute "[t] o the extent permissible under federal Law . . . ."[18] To that end, in carrying out its duties under the Constitution, ARB staff crafted the proposed regulation that applies to all vehicles operating in

[17] U.S. Const. Art. I, sec. 8, cl. 3.

California, whether domiciled in California, other states, or foreign countries. By drafting the proposed amendments in this way, ARB captured the intent of the Legislature's directive to achieve immediate emission reductions from HDCVs, without being discriminatory.[19] ARB's attorneys believe that the proposed regulation is consistent with NAFTA and the Foreign Commerce Clause of the U.S. Constitution.

A. NAFTA

Under Part Three, Chapter 9 of NAFTA, the United States, Mexico, and Canada (the Parties) agreed that "[e]ach Party shall seek, through appropriate measures, to ensure observance of Articles 904 through 908 *by state* or provincial governments. . . ." (Emphasis added.)[20] Under Article 904:

> 1. Each Party may, in accordance with this Agreement, adopt, maintain or apply any standard-related measure [SRM], including any such measure relating to safety, the protection of human, animal or plant life or health, the environment or consumers, and any measure to ensure its enforcement or implementation. Such measures include those to prohibit the importation . . . provision of a service by a service provider of another Party that *fails to comply with the applicable requirements of those measures or to complete the Party's approval procedures*. (Emphasis added.)
>
> 2. Notwithstanding any other provision of this Chapter, each Party may, in pursuing its legitimate objectives of safety or the protection of human, animal or plant life or health, the environment or consumers, establish the levels of protection that it considers appropriate in accordance with Article 907(2).
>
> 3. Each Party shall, in respect of its [SRMs], accord to goods and service providers of another Party:
>
> (a) national treatment in accordance with Article 301 (Market Access)[21] or Article 1202 (Cross –Border Trade in Services;[22] and

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[18] Stats 2004, ch 873, sec 2 (AB1009)
[19] *Id.*
[20] *NAFTA, Part Three – Technical Barrriers to Trade, Chapter Nine – Standards-Related Measures, Article 902.* Chapter Nine is attached in full hereto as Attachment B. See http://www.mac.doc.gov/nafta/naftatext.html.
[21] *Id., Article 301: National Treatment,* provides in relevant part:

> "[N]ational treatment shall mean, with respect to a state or province, treatment no less favorable than the most favorable treatment accorded by such state or province to any like, directly competitive or substitutable goods, as the case may be, of the Party of which it forms a part."

(b) treatment no less favorable than that it accords to like goods, or in like circumstances to service providers, or any other country.

4. No Party may prepare, adopt, maintain or apply any [SRMs] with a view to or with the effect of creating an unnecessary obstacle to trade between the Parties. An unnecessary obstacle to trade shall not be deemed to created where:

(a) the demonstrable purpose of the measure is to achieve a legitimate objective; and

(b) the measure does not operate to exclude goods or another Party that meet the legitimate objectives. [23]

Article 907(2) provides:

2. Where pursuant to Article 904(2) a Party establishes a level of protection that it considers appropriate and conducts an assessment of risk, it should avoid arbitrary or unjustifiable distinctions between similar goods or services in the level of protection it considers appropriate, where the distinctions:

(c) result in arbitrary or unjustifiable discrimination against goods or service provides of another Party;

(d) constitute a disguised restriction on trade between the Parties; or

(e) discriminate between similar goods or services for the same use under the same conditions that pose the same level of risk and provide similar benefits.[24]

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[22] *Id., Article 1202: National Treatment provides:*

1. Each Party shall accord to service providers of another Party treatment no less favorable than that it accords, in like circumstances, to its own service providers.

2. The treatment accorded by a Party under paragraph 1 means, with respect to a state or province, treatment no less favorable than the most favorable treatment accorded, in like circumstances, by that state or province to service providers of the Party of which it forms a part.

[23] *Id., Article 904,: Basic Rights and Obligations*
[24] *Id.,Article 907: Assessment of Risk.*

By its terms, NAFTA does not per se prohibit individual state regulations.[25] The purposes and intent of AB 1009 and the proposed regulation are not to discriminate against any Party to NAFTA. Rather the expressed purpose is to ensure that California continues to meet its ambient air quality goals set forth in the federal Clean Air Act (CAA)[26] and U.S. EPA regulations[27] and by the California Legislature in the Health and Safety Code.[28] California is confronted with some of the worst air quality in the nation. Moreover, diesel PM emissions have been designated as toxic air contaminants by ARB, and, as such, ARB has been directed by the Legislature to take all actions necessary to address the toxic air contaminant.[29] The proposed regulation is just one of many measures adopted by ARB to address statewide issues regarding ozone and PM attainment.

Consistent with Article 904(3) and (4), the proposed regulation does not establish discriminatory SRMs. The provisions of the regulation would apply standards no less favorable to Canadian and Mexican owners of HDCVs than it provides to owners of HDCVs domiciled in the United States. The proposed regulation further does not establish an SRM that creates an unnecessary obstacle to trade between the parties. As set forth in Article 904(4), an SRM shall not be considered an unnecessary obstacle to trade when "the demonstrable purpose of the measure is to achieve a legitimate objective," (i.e., attainment of ambient clean air standards), and, "does not operate to exclude goods of another Party that meet that legitimate objective." As provided in the proposed regulation, HDCVs equipped with engines that meet the nondiscriminatory U.S. certification standards, which U.S. EPA has determined necessary to address the nation's ambient air quality, will not be prohibited from operating within California. The same requirements are expected of all HDCVs that operate in the state.

B. Foreign Commerce Clause

The Commerce Clause grants Congress the power "[t]o regulate Commerce with foreign Nations, and among the several States. . . ." The Supreme Court has recognized that the Commerce Clause in addition to granting Congress an affirmative grant of authority "also encompasses an implicit or 'dormant' limitation on the authority of the States to enact legislation affecting interstate commerce."[30] The Supreme Court has applied a similar analysis to state regulation affecting foreign commerce, even where Congress has not acted.[31] The responsibility for interpreting this implied limitation has been left largely to the courts. The Supreme Court has interpreted the limitation on the states to

[25] *Id., Article 904(3).*
[26] CAA sections 108 and 109, 42 USCA sections 7408 and 7409.
[27] 40 CFR section 50.10.
[28] Health and Safety Code section 39606.
[29] See Health and Safety Code sections 39650 et seq.
[30] *Healy v. The Beer Institute* (1989) 491 U.S. 324, 326, fn.1. [Citations omitted.]
[31] *Barclays Bank PLC v. Franchise Tax Bd. of California* (1994) 512 U.S. 298, 311.

mean that the "states cannot impede substantially the free flow of commerce from state to state [or foreign commerce], or regulate those phases of national commerce which, because of need of national uniformity, demand that their regulation, if any, be prescribed by a single authority."[32] However, the Court has allowed the states to regulate matters of local state concern, even though such regulations may have an effect on interstate commerce.[33]

The Supreme Court has used what has been characterized as a two-tiered approach to determine whether state statutes and regulations violate the Commerce Clause.[34] Under this approach, the Court will look to see if a state statute or regulation directly regulates or discriminates against interstate commerce, or its effect is to favor in-state economic interests over out-of-state interests.[35] If so, the Court has reviewed such laws with rigorous scrutiny. In cases of discrimination and economic favoritism or instate interest, the Court has generally struck down the laws, unless the state could both demonstrate that the subject law "serves a legitimate purpose and that the purpose could not be served as well by available nondiscriminatory means."[36] When, however, a state statute or regulation is neutral on its face, has only indirect or incidental effects on interstate commerce, and regulates evenhandedly, it is analyzed under a second test, which balances the state's legitimate interests in adopting the regulation against the burden that the regulation may have on interstate commerce.[37]

Here, as explained earlier, the proposed amendments do not discriminate against commerce coming into California from other states or nations. The regulation would require all HDCVs operating in the state to meet minimum-emission requirements (i.e., that engines be designed to at least meet U.S. EPA promulgated standards for the year that the engines were manufactured) that would be applied to California-domiciled as well as to foreign-domiciled vehicles. To the extent that one could argue that the proposal might discriminatorily affect Mexican domiciled vehicles more than trucks from California, other states, or Canada, the effect would be incidental. As discussed above, ARB surveys and anecdotal testimony at an ARB workshop indicate that only approximately one percent of vehicles that presently cross the border from Mexico into the border-commercial zones do not meet at least U.S. EPA emission standards. This could only be described as an incidental effect.

On the other hand, if, after the border zones are fully opened under NAFTA, a greater number of Mexican vehicles were found to be excluded from entry into

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[32] *Southern Pac. Co. v. State of Arizona* (1945) 325 U.S. 761, 767; *Barclays Bank* 512 U.S. at 311, citing *Southern Pac. Co.*
[33] *Southern Pac. Co.*, 325 U.S. 770.
[34] *Brown-Foreman Distillers Corporation v, New York State Liquor Authority* (1986) 476 U.S. 573, 578.
[35] *Id.*
[36] *Maine v. Taylor* (1986) 477 U.S. 131, 137.
[37] *Pike v. Bruce Church, Inc.* (1970) 397 U.S. 137.

the U.S. because they do not at least meet federal standards, California will be able to show that the proposed regulation serves a legitimate purpose that could not be served as well by nondiscriminatory means.[38] This analysis is similar to that applied under NAFTA.[39] Indeed one could argue that the dormant Commerce Clause does not apply here since Congress adopted NAFTA under its Commerce Clause authority.[40] As previously discussed, NAFTA expressly provides that it is not discriminatory or an unnecessary obstacle to free trade if a SRM is expressly designed to achieve a legitimate objective such as protecting the environment or human, animal or plant life or health.[41]

In determining whether the proposed regulation is nondiscriminatory, under a foreign Commerce Clause challenge -- if it is indeed applicable -- courts would look to see whether the purpose of the proposed regulation is legitimate and whether the burden on interstate commerce imposed by the regulation would clearly exceed the local benefits.[42] Balancing the local interest in regulation against the burden on interstate commerce is considered on a case-by-case basis, and the more legitimate the public interest, the greater the interference must be to overcome it.[43] Indeed, the Supreme Court has found that there is a strong presumption of validity of local safety regulations when challenged.[44]

In evaluating a state's interests, the Court has recognized that a state's interest is never greater than in matters of traditional local concern.[45] Air pollution prevention is undoubtedly a traditional local safety concern.[46] In adopting the CAA, Congress expressly found that air pollution poses a significant danger to public health and welfare and that "air pollution prevention is primarily a responsibility of the states and local governments."[47]

The California Legislature has similarly found that a strong public interest exists in the control of air pollution for the purpose of protecting the health and welfare of its citizens.[48] More specifically, with respect to the proposed regulation, the Legislature has found that toxic air contaminants pose a grave danger to the

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[38] *Maine v. Taylor* 477 U.S. at 137.
[39] *NAFTA, Article 904(4).*
[40] *North American Free Trade Agreement Implementation Act*, sections 2-533, 19 U.S.C.A. sections 3301-3473.
[41] *NAFTA, Article 904(1) and (4).*
[42] *Pike*, 397 U.S. at 142.)
[43] See *Raymond Motor Transportation v. Rice,* (1978) 434 U.S. 429, 439.)
[44] See *Bibb v. Navajo Freight Lines, Inc.* (1959) 359 U.S. 520.); see also *Huron Portland Cement Co. v. Detroit* (1960) 362 U.S. 440, 443 ["Constitution when conferring upon Congress the regulation of commerce . . . never intended to cut the States off from legislating on all subjects relating to the health, life, and safety of their citizens."]
[45] *Hunt v. Washington Apple Advertising Comm'n* (1977) 432 U.S. 333, 350.
[46] See *Huron Cement Co.,* 362 U.S. at 445-446.
[47] CAA section 101(a)(1) and (2).
[48] Health and Safety Code sections 39000 and 39001.

citizens of the state and that emissions of such contaminants need to be controlled.[49]

In an effort to address this problem, in August 1998, the ARB identified diesel PM as a toxic air contaminant and approved a comprehensive Diesel Risk Reduction Plan in September 2000, to reduce diesel PM emissions from new and existing diesel-fueled engines and vehicles. The proposed regulation specifically targets diesel PM from HDCVs that do not at least meet federal emission standards in order to reduce diesel PM emissions in the State.

Thus, an undeniable strong public interest exists for the adoption of the proposed regulation. Since the regulation has strong support and is not illusory, significant deference should be accorded to the State's policy determination.[50] Weighed against this strong local public interest are the burdens that would be imposed on foreign commerce by implementation of the regulation. The burdens, which, on average, would amount to several thousand dollars (see next section), would not outweigh the presumed local health and welfare benefits of the regulation. Although these costs are not insignificant, they are costs that for most will not be repeated. They thus should not impose an excessive burden on foreign commerce that outweighs the health and safety benefits of the regulation.

In foreign commerce clause cases, the Supreme Court has also looked at the question of whether a state law prevents the United States from speaking with one voice in international trade.[51] But, in *Barclays Bank* -- a leading case interpreting the Foreign Commerce Clause -- the Court, while recognizing the importance of the federal government's ability to speak with one voice on foreign affairs, made clear that it did not intend to say that Congress occupied the field and is the only party that may act, or that the states may never act in a particular area.[52]

Here, this is really a non-issue since Congress, in implementing NAFTA, recognized that there might indeed be a need for the states to adopt and implement and environmental and public safety laws and regulations.[53] The question, as stated previously, is whether the state is acting to achieve a legitimate objective. Here, there is no dispute that the California legislature, in

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[49] Health and Safety Code section 39650.

[50] See *Ramond*, 434 U.S. at 448 (Blackmun, J., concurrence); cf. *Kassel v, Consolidated Freightways Corp.* (1980) 450 U.S. 662, at 670-671 ["if safety justifications are not illusory, the Court will not second-guess legislative judgment about their importance in comparison with related burdens on interstate commerce"].

[51] *Barclays Bank*, 512 U.S. at 329; see *Japan Line, Ltd. v. County of Los Angeles,* 441 U.S. 434, 449.

[52] *Barclays Bank*, 512 U.S. at 329; *Wardair Canada Inc. v. Florida Department of Revenue,* (1986) 477 U.S. 1, 12-13 (1986) ["[W]e never suggested in [*Japan Line*] or in any other [case] that the Foreign Commerce Clause *insists* that the Federal Government speak with any particular voice." 477 U.S. at 12-13.]

[53] *NAFTA, Part Three, Article 904.*

enacting AB 1009, and ARB, in proposing the immediate amendments, is acting to achieve such an objective.

V. ENVIRONMENTAL AND ECONOMIC IMPACTS

The staff has estimated both the emission benefits and costs associated with the proposed requirements for calendar year 2006. If adopted by the Board, the staff expects the regulation to become effective and implemented within the year. The proposed regulatory modifications would eliminate excess emissions from diesel-powered HDCVs operating in California that are equipped with engines meeting emission standards less stringent than the corresponding U.S. standards. Also, as discussed in the previous section, the proposal would prevent further excess emissions from HDCVs meeting emission standards that are not at least as stringent as U.S. standards in light of the growing disparity between U.S. and non-U.S. standards for heavy-duty on-road vehicles, and the possibility of increased usage of non-compliant engines in California.

A. Air Quality Benefits

Emission reductions were estimated for calendar year 2006 using ARB's EMFAC 2002 emissions inventory model in combination with the U.S. EPA's MOBILE5- Mexico model. The impacts were assessed statewide and for the South Coast Air Basin. Staff determined the emissions impacts by comparing baseline emissions to increased emissions levels that would result from the substitution of a portion of the federally-compliant HDCV fleet with a fleet comprised of HDCVs that do not at least meet U.S. standards. Non-U.S. certified engine emissions were determined through adjustments to the emission rates and model year travel fractions used to estimate emissions from U.S. certified engines.

ARB staff relied on previous studies and modeling work to make the necessary adjustments for estimating emission rates from HDCVs meeting Mexican emission requirements.[54] These studies established a methodology for cross-mapping U.S. and Mexico truck engine model years based on emission control technology equivalence, allowing Mexican vehicle emission rates to be estimated based on emission rates already established for older U.S. certified engines. The emission rates are model year specific and were converted to grams per mile based on yearly Vehicle Miles Traveled (VMT) data contained in EMFAC.

Up through the 1992 model year, prior to the establishment of emission standards in Mexico, the cross mapping is based on estimated time lags in the introduction of emission controls on Mexican engines relative to U.S. engines. For model years 1993

[54], J.Lyons et al.,"Critical Review of 'Safety Oversight for Mexico-Domiciled Commercial Motor Carriers, Final Programmatic Environmental Assessment, Prepared by John A Volpe Transportation Systems Center, January 2002," Report No. SR02-04-01, Sierra Research, Inc., April 2002, p.17.

through 2002, when Mexican and U.S. emission standards were aligned, the same emission rates are used for both U.S. and Mexican HDCVs. Although emission standard alignment also exists for the 2003 model year, EMFAC 2002 models the benefits of the early introduction of cleaner HDCVs in California under a settlement agreement with several engine manufacturers. Therefore, 2003 through 2006 Mexican HDCV emission rates are mapped back to the 2002 model year for U.S. HDCVs. The actual model-year cross mapping used in the staff's emissions estimate is shown in Table 3.

Table 3:

Emissions Equivalency Between Mexican – and U.S.- Domiciled Heavy-Duty Diesel Vehicles as a Function of Model Year

Mexican Truck Model Year(s)	Equivalent U.S. Truck Model Year(s) for Emissions
1974	1971
1975-1976	1973
1977-1978	1975
1979-1980	1977
1981-1982	1979
1983	1980
1984-1985	1981
1986	1982
1987-1988	1983
1989-1990	1986
1991	1988
1992	1989
1993-2002	1993-2002
2003	2002
2004-2006	2002

Travel fractions (i.e., the distribution of fleet vehicle miles traveled as a function of model year) for Mexican vehicles were adjusted to be consistent with the travel fractions developed for a version of the federal EPA MOBILE5 model known as MOBILE5-Mexico. These travel fractions are shown in Figure 1 along with the corresponding travel fractions from EMFAC 2002 for U.S. certified engines. A comparison of the fractions indicates that a greater percentage of total vehicle miles are traveled by relatively older vehicles in Mexico. The staff believes the difference in travel fractions is the result of a greater reliance on used vehicles in Mexico, many of which are likely purchased from the U.S. The staff's analysis assumes that the MOBILE5-Mexico travel fractions are also representative of the usage patterns of Mexican domiciled trucks used on California roads.

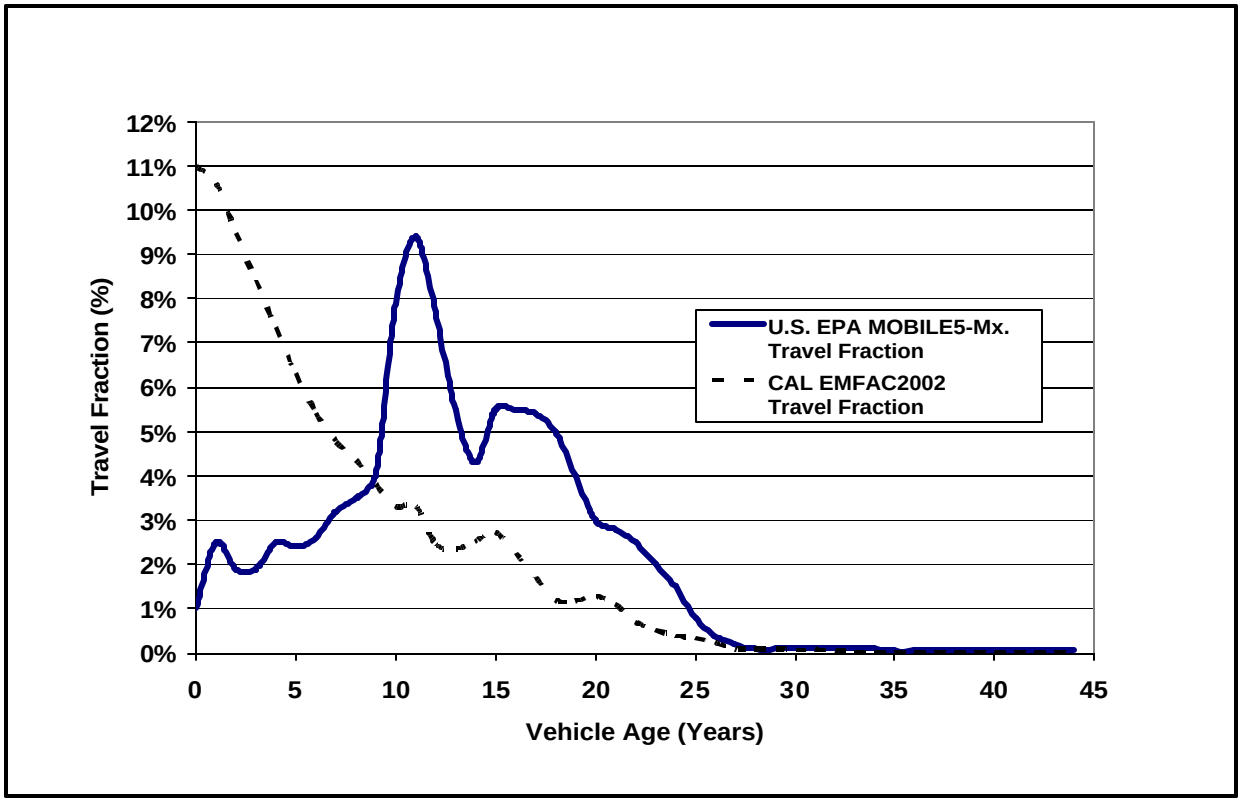

Figure 1: Comparison of the HDCV travel fractions from the MOBILE5- Mexico and the California EMFAC2002 emission model.

The emissions reductions calculated for the staff's proposal for the calendar year 2006 are shown in Table 4. The analysis is based on ARB staff's estimate that one percent of current HDCV truck traffic is conducted by HDCVs not meeting standards required for U.S. certified vehicles, and assumes that this will not change in the future. The results indicate that the staff's proposal would result in the reduction of 2.9 and 0.12 tons per day of NOx and PM, respectively, statewide. In the South Coast Air Basin, emissions would be reduced by 1.1 and 0.04 tons per day for NOx and PM, respectively.

Table 4:
2006 Estimated Emissions Impact on Criteria Pollutants, Statewide and South Coast Air Basin for 1 percent Displacement of Vehicle Miles Traveled
Tons-Per-Day (tpd)

Location	NOx (tpd)	PM (tpd)
Statewide	2.9	0.12
South Coast Air Basin	1.1	0.04

As discussed previously, the use of HDCVs with engines that do not meet the requirements for U.S. certified engines could increase dramatically when federal restrictions on the extent to which such vehicles can travel within the U.S. are eased. While ARB staff has not made a specific prediction of how travel patterns may change

as a result from such action, the analysis can be easily scaled to determine the impact of assumed scenarios. This can be accomplished by multiplying the emission reduction figures in Table 4 by the assumed percentage of U.S. truck travel that would be replaced by HDCVs with engines not meeting at least U.S. standards. For example, based on a hypothetical estimate of a 20 percent displacement rate, increases of 58.0 (2.9 times 20) and 2.40 (0.12 times 20) tons per day of NOx and PM would be added to the statewide inventory in calendar year 2006.

B. Costs

The staff has determined that two types of compliance costs would be incurred under the proposed requirements. The first cost will be borne by the owners of HDCVs that operate in California with engines not designed to meet federal emission standards for the year of manufacture. Because use of these HDCVs would be prohibited in California, vehicle operators will be faced with the options shown in Table 5 and their associated costs.

Table 5:
Compliance Options and Costs for Owners of Vehicles Equipped with non-U.S Compliant Engines

Option	Estimated Cost
Use truck for out-of-state business	None
Replace Vehicle with U.S. Certified Equivalent	*Differential Costs* Up to $1,500 for Pre-1993 Model Years[55] Up to $4,500 for Post-2004 Model Years[56]
Repower with U.S. Compliant Engine	Approximately $15,000

ARB staff based its cost estimate on the option of replacing vehicles with U.S. certified equivalents. Staff recognizes that the option of simply moving the trucks out of state may be a reasonable option only for larger fleets for which a significant portion of their business entails travel outside of California. The staff also believes that the more expensive option of repowering a noncompliant truck would probably only be chosen if the engine was otherwise in need of being replaced.

The staff estimates that the differential replacement cost for a 2004 through 2006 model year truck will be approximately $4500, and the cost differential replacement for a 1992 or older truck will be approximately $1500. These costs take into consideration the incremental cost of the replacement truck, taxes, and registration fees, minus business tax benefits.

[55] Based on no differential in truck costs, an estimated $20,000 truck value, and a tax rate of 7.75%
[56] Based on a $600 differential truck cost, an estimated $50,000 truck value, and a tax rate of 7.75%.

The second circumstance would require HDCV owners to incur compliance costs to replace missing ECLs in order to demonstrate that an HDCV engine meets at least U.S. certification standards. Replacement ECLs can be ordered from the engine manufacturer through an authorized dealership. The cost for ECL replacement can vary depending on the amount of labor the dealership needs to invest in inspecting the engine to determine its certification status. In circumstances where the certification status of the engine is easily determined by the dealership through available documentation or dealer records, the staff estimates the cost will be about $30 or less. In cases where a physical inspection of the engine is required to determine its certification configuration, the staff estimates that the ECL replacement cost could be as high as $150. For the purpose of this analysis, the staff used an estimate of $100 per ECL replacement as an average cost. ARB's roadside surveys indicate that approximately 30 percent of inspected HDCVs would need a replacement ECL because the original is missing or is no longer legible. Owners of the remaining 70 percent of HDCVs operating in California would not incur any costs to comply with the proposed requirements.

The resulting estimated one time statewide costs for compliance are summarized in Table 6 below.

Table 6:
Overall Compliance Costs

Diesel Engine Weight Category (lbs)	2006 Population			Label Costs	Vehicle Replacement Costs	
	All 1974+	1974-1993	2004-2006		1974-1993	2004-2006
> 33,000	183,750	64,061	28,264	$5,484,802	$2,882,745	$1,271,880
14,001-33,000	182,454	44,818	32,823	$5,450,328	$2,016,810	$1,477,035
10,001-14,000	36,736	8,651	6,729	$1,097,466	$389,295	$302,805
Subtotals	402,940	117,530	67,816	$12,032,596	$5,288,850	$3,051,720

TOTAL COST $20,373,166

C. Costs to State Agencies

The staff estimates three additional ARB staff would be necessary to implement the proposed revisions to the inspection procedure. The additional staff would be needed to handle expected increases in inspection times and the number of citations issued. Otherwise, the staff expects compliance costs to state agencies to be near zero. Staff presumes that only compliant and labeled HDCVs are being operated by state agencies, therefore no increased costs are expected. The proposal would not require record keeping and, therefore, has no associated costs.

D. Cost Effectiveness

The ARB also evaluated the cost effectiveness associated with the option of replacing trucks with engines not certified to at least federal emission standards. Per vehicle lifetime emission benefits were calculated by taking the difference in Mexican versus U.S. truck emission rates for each affected model year under the proposal and multiplying them by miles traveled over the expected life of the engine. For 2004 through 2006 engines, the expected life is 20 years. For 1974 through 1992 engines, the expected life is 10 years. The number of miles traveled was determined by finding the average yearly vehicle miles traveled (VMT) over the expected life period. For example, miles traveled for 2006 vehicles were determined by averaging the yearly VMT for 2006 and 1986 trucks.

Once the lifetime emissions benefit value was determined for each model year, the average benefit for 2004 through 2006 trucks and for 1992 and older trucks was calculated separately. This yields average lifetime benefit numbers for the two timeframes (1974 through 1992, and 2004 and later) for each heavy-duty truck category (HHDT down to LDT2).

From these values, a composite lifetime emission value was calculated to yield a single benefit number for the two timeframes. The components of the composite value were calculated by weighting the lifetime number for each truck category by the population fraction for that category compared to the overall population from the timeframe. The composite value is the sum of the category components.

In addition to the HDCV replacement costs discussed previously, ECL replacement costs for engines meeting federal certification standards were also included in the cost effectiveness calculation. Because emission benefits are only associated with the replacement of trucks (i.e., U.S. certified trucks that only receive a replacement ECL do not provide emission benefits), the costs were transferred to the population of trucks that would be replaced under the regulation. This was done by dividing the total estimated cost of replacement ECLs for the California fleet by the number of trucks expected to be replaced (1 percent of the population of 2004 and newer, and 1992 and older trucks). The result is a dollar value that is added to the truck replacement value for each timeframe. The final cost effectiveness value for each timeframe is then simply the per truck cost divided by the composite lifetime benefit number.

Based on the calculations, the cost effectiveness is estimated to be $1.09 per pound for the combined NOx and PM for post-2004 HDCVs, and $10.62 for pre-1993 HDCVs. The cost effectiveness of the proposed regulation is much better for 2004 and newer HDCVs for three reasons. First, the average gram per mile difference in U.S. certified versus Mexican certified vehicles is greater for the 2004 through 2006 HDCVs. Secondly, EMFAC predicts that newer HDCVs travel farther per year on a per vehicle basis than do older vehicles and, lastly, the analysis assumes a 20 year life for 2004 through 2006 HDCVs and a 10 year remaining life for 1992 and older HDCVs.

E. Economic Impact on the Economy of the State

The regulation will affect all businesses that own or lease diesel powered on-road trucks that weigh more than 10,000 pounds, including small businesses. As of June 2005, the CHP's "Biennial Inspection of Terminals" document lists 37,615 fleets in California. The economic impact to any individual company will depend on the number of HDCVs used by the company that do not at least meet U.S. certification standards, and the percentage of HDCVs that will require an engine label replacement. Overall, the staff expects that many California businesses that operate HDCVs will incur no expenses at all under the staff's proposal, while others will incur the relatively minor compliance costs identified in previous section IV, Subsection B of this report. Staff does not expect that these costs will significantly affect the ability of California businesses to compete with other states by making it more costly to produce goods or services. On average, compliance costs for the regulation are approximately $50 per vehicle; therefore, the staff does not expect that compliance costs will be passed on to consumers. The regulation will impact all diesel powered HDCVs operating within the state regardless of their state or country of origin.

VI. Alternatives Considered

AB 1009 contains specific directives regarding the control of emissions within California from HDCVs equipped with engines that do not at least meet applicable U.S. standards for the year of manufacture of the engine, constraining possible alternatives to the staff's proposal. However, the staff considered two alternatives concerning how the program should be implemented. These alternatives included a registration-based program, and a strategy to actively turn around noncompliant vehicles at the border.

A. Registration Based Program

The California Department of Motor Vehicles (DMV) currently has a policy of ensuring that engines used in HDCVs at least meet U.S. certification standards when the vehicle owners apply for permanent importation. However, for out-of-state and out-of-country HDCVs, AB 1009 does not direct or authorize DMV to deny the registration for operation on California highways based on engine certification status. DMV staff does not believe such authority exists in other state laws.

B. Denial of Entry into California

The second alternative that staff considered was the denial of entry into California of vehicles equipped with engines that do not meet at least federal certification standards. In concept, inspection staff would be stationed at ports of entry and would inspect vehicles entering California. Vehicles determined to have non-conforming engines would be prevented from entry.

Under the existing HDVIP regulations, ARB has the authority to request CHP to place a vehicle out of service under California Vehicle Code 27159. However, this authority is

limited to circumstances involving smoke opacity violations for which the required fines have not been paid. Staff determined that additional statutory authority would be necessary to deny HDCV entry into California for purposes of this alternative.

VII. Summary and Conclusions

The staff's proposal would effectively implement the requirements of AB 1009 to eliminate excess emissions from California operation of HDCVs that use engines meeting emission standards less stringent than those set for U.S. trucks. By relying on the emission control labels that were installed on engines at the time of manufacture for evidence of the HDCV certification status, the staff's proposal will minimize the compliance costs that will be incurred by HDCV operators. The proposal will also minimize costs to the state by incorporating the certification status inspection into ARB's existing program for roadside testing of HDCV smoke emissions.

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27. Procuraduria Federal de Protection Ambiente, Estados Unidos Mexicanos, *"NORMA OFICIAL MEXICANA NOM-076-ECOL-1995, QUE ESTABLECE LOS NIVELES MAXIMOS PERMISIBLES DE EMISION DE HIDROCARBUROS NO QUEMADOS, MONOXIDO DE CARBONO Y OXIDOS DE NITROGENO PROVENIENTES DEL ESCAPE, ASI COMO DE HIDROCARBUROS EVAPORATIVOS PROVENIENTES DEL SISTEMA DE COMBUSTIBLE, QUE USAN GASOLINA, GAS LICUADO DE PETROLEO, GAS NATURAL Y OTROS COMBUTIBLES ALTERNOS Y QUE SE UTILIZARAN PARA LA PROPULSION DE VEHICULOS AUTOMOTORES, CON PESO BRUTO VEHICLULAR MAYOR DE 3,857 KILOGRAMOS NUEVOS EN PLANTA."*, Publicada en el D.O.F. de fecha 26 de diciembre de 1995.

28. United States Environmental Protection Agency, Air and Radiation, "Emission Standards Guide for Heavy-Duty and Nonroad Engines", EPA420-F-97-014, September 1997.

APPENDIX A:
AB 1009 Legislation

APPENDIX B:
NAFTA Provisions

APPENDIX C:
PROPOSED REGULATION ORDER