California Environmental Protection Agency

Air Resources Board

Final Statement of Reasons for Rulemaking

FOR THE ADOPTION OF A PROPOSED REGULATION TO REDUCE EMISSIONS FROM IN-USE ON-ROAD DIESEL VEHICLES MADE AS PART OF THE PUBLIC HEARING TO CONSIDER PROPOSED REGULATION TO REDUCE EMISSIONS FROM IN-USE ON-ROAD DIESEL VEHICLES, AND AMENDMENTS TO THE REGULATIONS FOR IN-USE OFF-ROAD VEHICLES, DRAYAGE TRUCKS, MUNICIPALITY AND UTILITY VEHICLES, MOBILE CARGO HANDLING EQUIPMENT, PORTABLE ENGINES AND EQUIPMENT, HEAVY-DUTY ENGINES AND VEHICLE EXHAUST EMISSIONS STANDARDS AND TEST PROCEDURES AND COMMERCIAL MOTOR VEHICLE IDLING

Public Hearing Date: December 11 and 12, 2008
Agenda Item No.: 08-11-3

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State of California
AIR RESOURCES BOARD

Final Statement of Reasons for Rulemaking
Including Summary of Comments and Agency Response

PUBLIC HEARING TO CONSIDER PROPOSED REGULATION TO REDUCE EMISSIONS FROM IN-USE ON-ROAD DIESEL VEHICLES, AND AMENDMENTS TO THE REGULATIONS FOR IN-USE OFF-ROAD VEHICLES, DRAYAGE TRUCKS, MUNICIPALITY AND UTILITY VEHICLES, MOBILE CARGO HANDLING EQUIPMENT, PORTABLE ENGINES AND EQUIPMENT, HEAVY-DUTY ENGINES AND VEHICLE EXHAUST EMISSIONS STANDARDS AND TEST PROCEDURES AND COMMERCIAL MOTOR VEHICLE IDLING

Public Hearing Date: December 12, 2008
Agenda Item No: 08-11-3

I. GENERAL

A. Action Taken During This Rulemaking

In this rulemaking, the Air Resources Board (ARB or Board) adopted new regulation section 2025, title 13, California Code of Regulations (Cal. Code Regs.) to reduce emissions of diesel particulate matter (diesel PM), oxides of nitrogen (NOx), and other pollutants from in-use diesel trucks and buses that operate in California. In this document the regulation will be commonly referred to as the "Truck and Bus regulation." The regulation establishes requirements for in-state or out-of-state motor carriers, California-based brokers, vehicle owners and operators, and any California resident who hires or dispatches vehicles subject to the regulation. In addition to adopting section 2025, the Board adopted amendments to several existing regulations to ensure that the existing regulations, and the new regulation, work together effectively. The changes were made to clarify the responsibilities and duties of regulated stakeholders, to provide additional compliance flexibility, and to improve enforceability of the existing regulations. The amendments were made to title 13, Cal. Code Regs., section 2020, "Purpose and Definitions of Diesel Particulate Matter Control Measures;" sections 2022 and 2022.1, "Diesel Particulate Control Measure for Municipality or Utility On-Road Heavy-Duty Diesel-Fueled Vehicles;" section 2027, "Regulation to Control Emissions from In-Use On-Road Diesel-Fueled Heavy-Duty Drayage Trucks;" sections 2449 and 2449.3, "Regulation for In-Use Off-Road Diesel-Fueled Fleets;" sections 2451, 2452, 2453, 2455, 2456, 2458, 2461, and 2462 of the "Statewide Portable Equipment Registration Program;" section 2479, "Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Railyards;" section 2485, "Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling;" section 1956.8, "Exhaust Emissions Standards and Test Procedures – 1985 and Subsequent Model Heavy-Duty

Engines and Vehicles;" and to title 17, sections 93116.1, 93116.2 and 93116.3 of the "Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater." The Executive Officer adopted the amendments on October 19, 2009 by Executive Order R-09-010 – bifurcating the rulemaking package – and submitted the amendments to the Office of Administrative Law on that same date. This Final Statement of Reasons (FSOR) includes only comments on the new regulation.

The rulemaking was initiated by the publication on October 24, 2008 of a notice for a December 11 and 12, 2008 public hearing to consider the adoption of the regulation. A "Staff Report: Initial Statement of Reasons for Proposed Rulemaking entitled "Proposed Regulation for In-Use On Road Diesel Vehicles" (the Staff Report) and Technical Support Document entitled "Technical Support Document: Proposed Regulation for In Use On Road Diesel Vehicles" (TSD) were also released on October 24, 2008 and made available to the public upon request as required by Government Code § 11346.2.

The Staff Report and the TSD, which are incorporated by reference herein, describe the rationale for the adoption of section 2025 and the amendments to the existing regulations. The text of the originally-proposed text of section 2025 was included in Appendix A of the Staff Report. The documents were also posted by October 24, 2008 on the ARB's Internet site for the rulemaking at www.arb.ca.gov/regact/2008/truckbus08/truckbus08.htm.

On December 12, 2008, the Board considered the proposed adoption of section 2025 and the proposed amendments to the above-referenced existing regulations and received written and oral comments. At the conclusion of the hearing, the Board adopted Resolution 08-43, in which it approved the originally proposed regulation with modifications presented by staff at the hearing (set forth in a document included as Attachment C to the Resolution) along with additional proposed modifications directed by the Board.

Among other things, the staff's proposed modifications to the original proposal added a new provision that granted a retirement credit, until January 1, 2014, for fleets that retire vehicles on or after January 1, 2009; modified the requirements for two-engine sweepers that are used for back-up service to allow them to operate additional hours until 2014; and delayed the replacement requirements for motor coaches until January 1, 2017. In addition, the Board directed staff to make the following modifications: delay the initial compliance deadline for small fleets (three or fewer trucks) from January 1, 2013 to January 1, 2014 and revise the starting date for the retirement credit to July 1, 2008 – six months earlier than the date proposed by staff.

The Resolution directed the Executive Officer to incorporate the modifications into the proposed regulatory text, with such other conforming modifications as may be appropriate. In accordance with section 11346.8 of the Government Code, the Board directed the Executive Officer to adopt section 2025, title 13, CCR, and the modified sections described above after making the modified text available to the public for

comment for a period of at least 15 days. The Board conditioned this directive with the instruction that the Executive Officer shall consider the written comments regarding the modified text that may be submitted during this period, shall make modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if warranted. After the hearing, staff also identified additional conforming modifications.

The text of the modifications to the originally proposed regulation was made available for a supplemental 15-day comment period by issuance of a "Notice of Public Availability of Modified Text" on August 19, 2009 (first 15-day Notice). The first 15-Day Notice described each modification and the rationale therefore to section 2025, title 13, Cal. Code Regs. The changes to the initially proposed regulatory text were clearly identified by strikeout and underline and attached to the first 15-Day Notice. The first 15-day Notice and attachment were mailed to all parties identified in section 44(a), title 1, Cal. Code Regs., and other interested parties. The first15-day Notice and attachment were also posted on the ARB's Internet site for the rulemaking on August 19, 2009 and made available for public comment through September 3, 2009.

After considering the comments submitted during the 15-day comment period, the Executive Officer determined that additional modifications to the proposed new regulation were appropriate. A second "Notice of Public Availability of Modified Text" (second 15-day notice), setting forth the rationale for the changes made was mailed to all parties identified in section 44(a), title 1, Cal. Code Regs., and other interested parties, on October 6, 2009. Attached to the second 15-Day Notice were relevant parts of the regulatory text, with the modifications clearly indicated by double strikeout and underline. The second 15-day Notice and its attachment were also posted on the ARB's Internet site for the rulemaking by October 6, 2009 and made available for public comment through October 21, 2009. The first and second 15-Day Notices and attachments thereto are incorporated herein by reference.

After considering the comments submitted during the second 15-day comment period, on October 23, 2009, the Executive Officer issued Executive Order R-09-015, adopting the new section 2025 title 13, Cal. Code Regs.

B. Documents Incorporated by Reference

There are no documents incorporated by reference.

C. Fiscal Impacts

Fiscal Impact on State Government

The Executive Officer has determined that the regulation will create costs, as defined in Government Code sections 11346.5(a)(6). ARB staff has identified a need for additional staff and other resources for outreach and education and for the implementation, and enforcement of the proposed regulation. The proposed regulatory action would not create any additional costs or savings for other state agencies. Vehicles owned by state agencies are subject to the existing regulation for municipality

or utility fleets and would not be subject to the proposed regulation. However, while ARB will incur some costs to implement and enforce the proposed new regulation to reduce emissions from in use on road diesel vehicles, the adopted regulatory actions will not affect federal funding to the State.

Fiscal Impact on Local Government

The Executive Officer has determined that the adopted regulation will create costs for school districts and may impose a mandate that would not be reimbursable by the state pursuant to Government Code, title 2, division 4, part 7 (commencing with section 17500). The mandate which will require school bus engines to be retrofitted with the best available verified diesel emission control strategy is not reimbursable because the costs will apply in general to all school bus owners, not just school districts, as well as all other heavy-duty vehicles that operate in the State. To the extent that the regulation would require school districts to remove all school buses manufactured before April 1, 1977, that requirement also applies to all school bus owners and not to school districts alone. Additionally, school districts qualify for public funding grants under the California Clean School Bus Program (HSC section 44299.91) for replacement of all pre-1977 school buses that were in operation as of December 31, 2005. It is estimated that the direct regulatory cost of the regulation for public school districts is $27 million from 2010 through 2017 based on 2008 dollars.

D. Consideration of Alternatives

For reasons set forth in the Staff Report, in staff's comments and responses at the hearing, and in this FSOR, ARB has determined that no alternative considered by the agency, or that has otherwise been identified and brought to the attention of the agency, would be more effective in carrying out the purpose for which the regulatory action was proposed or would be as effective or less burdensome to affected private persons than the adopted regulation.

II. NONSUBSTANTIVE CHANGES TO THE FINAL REGULATION ORDER

A minor nonsubstantive change has been incorporated into the final regulation order. It was needed to fix an incorrect reference in section 2025(d)(62)(B). The reference has been changed from (r)(7) to (r)(11). The change does not alter any requirement and reflects the original intent of the regulation.

A second nonsubstantive change has been made to the final regulation order to correct a computer error or computer technician error in the attachment of proposed modifications to the first 15-Day Notice. As set forth in the first 15-Day Notice, initially proposed section 2025(i) was deleted and replaced with new language that clarifies the optional small fleet requirements and incorporates the Board's directive to provide additional time to such fleets. However, for unknown reasons, the full text of initially proposed section 2025(i)(3) was not fully struck out, leaving a clause that makes no sense in the context of the new modified language of section 2025(i).. The final regulation order has been corrected the inadvertent error and deleted the clause from the text in accord with the stated intentions of the proposed noticed modifications.

III. CORRECTIONS TO THE REFERENCES LISTED IN THE INITIAL STATEMENT OF REASONS AND THE TECHNICAL SUPPORT DOCUMENT

Staff has identified a number of typographical errors and other minor problems in some of the references and citations of the references listed in the Initial Statement of Reasons (Staff Report) and the Technical Support Document (TSD). The following identifies these errors and the necessary corrections. Despite the minor errors, all documents have been available for inspection at the offices of ARB as part of this rulemaking record.

References for the Staff Report

(1) The citation in section G on page 15 incorrectly referred to the reference (ARB, 2005c) in the reference list on page 81. The correct citation on page 15 should read "ARB, 2005b." The reference (ARB, 2005b) is correctly cited in the reference list on page 81.

(2) The following two references cited in the reference list on page 81 have incorrect publication dates.

(a) The date for reference (ARB, 2005d) should be changed from October 25, 2005 to October 21, 2005. The correct reference should be as follows:

ARB, 2005d. California Air Resources Board. *Staff Report: Proposed Diesel Particulate Matter Control Measure For On-Road Heavy-Duty Diesel-Fueled Vehicles Owned Or Operated By Public Agencies and Utilities*. October 21, 2005. http://www.arb.ca.gov/regact/dpmcm05/isor.pdf

(b) The date for reference (ARB, 2006) should be changed from October 18, 2006 to December 9, 2005. The correct reference should be as follows:

ARB, 2006. California Air Resources Board. *Environmental Tobacco Smoke: A Toxic Air Contaminant.* December 9, 2005. ftp://ftp.arb.ca.gov/carbis/regact/ets2006/isor.pdf

(3) The reference (ARB, 2007b) in the reference list on page 81 has an incorrect web link. The link should be http://www.arb.ca.gov/regact/2007/ordiesl07/isor.pdf instead of http://www.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm The correct reference should be as follows:

ARB, 2007b. California Air Resources Board. *Staff Report: Proposed Regulation for In-Use Off-Road Diesel Vehicles.* April 2007. http://www.arb.ca.gov/regact/2007/ordiesl07/isor.pdf

References for the Technical Support Document

(1) Chapter IV: The following three references cited in the reference list have the incorrect publication date.

(a) The date for reference (ARB, 2005e) on page 35 should be changed from January 5, 2005 to January 7, 2005. The correct reference should be as follows:

ARB, 2005e. California Air Resources Board. *Staff Report: Proposed Modifications to the Fleet Rule for Transit Agencies and New Requirements For Transit Fleet Vehicles.* January 7, 2005.

(b) The date for reference (ARB, 2005f) on page 35 should be changed from October 25, 2005 to October 21, 2005. The correct reference should be as follows:

ARB, 2005f. California Air Resources Board. *Staff Report: Proposed Diesel Particulate Matter Control Measure For On-Road Heavy-Duty Diesel-Fueled Vehicles Owned Or Operated By Public Agencies and Utilities.* October 25, 2005.

(c) The date for reference (ARB, 2006b) on page 35 should be changed from October 18, 2006 to December 9, 2005. The correct reference should be as follows:

ARB, 2006b. California Air Resources Board. *Environmental Tobacco Smoke: A Toxic Air Contaminant*. December 9, 2005. ftp://ftp.arb.ca.gov/carbis/regact/ets2006/isor.pdf

(2) Chapter VII: The following two references cited in the reference list have an incorrect publication date.

(a) The date for reference (Environment Canada, 2004) on page 94 should be changed from October 10, 2004 to October 19, 2004. The correct reference should be as follows:

Environment Canada, 2004. Environment Canada. *Low Sulfur Diesel and Transit Bus Retrofits Lessons Learned by Region of Waterloo*. October 19, 2004.

(b) The date for reference (US EPA, 2005) on page 94 should be changed from November 10, 2005 to June 26, 2007. The correct reference should be as follows:

U.S. EPA, 2005. United States Environmental Protection Agency. *Diesel Retrofit Project in China*. June 26, 2007. http://www.epa.gov/OMS/retrofit/China2.htm

(3) Chapter VIII: The following two references cited in the reference list have the incorrect publication date.

(a) The date for reference (UCS, 2008) on page 108 should be changed from August 2008 to October 14, 2008. The correct reference should be as follows:

UCS, 2008 Union of Concerned Scientists: *Clean Vehicles. FAQ Natural Gas Vehicles.* October 14, 2008. http://www.ucsusa.org/clean_vehicles_big_rig_cleanup/natural-gas-vehicles.htm

(b) The date for reference (U.S. DOE, 2008b) on page 108 should be changed from August 2008 to September 18 2008. The correct reference should be as follows:

U.S. DOE, 2008b. United States Department of Energy: *Alternative Fuels & Advanced Vehicles Data Center. Vehicle Make and Model Search*. September 18, 2008. http://www.eere.energy.gov/afdc/progs/vehicles_search.php

(4) Chapter VIII: The reference (CEC, 2008b) appears in the reference list but is not cited in the chapter. Staff relied on this reference document for the estimate (30,000) of the number of alternative fueled buses using compressed and liquid natural gas in transit fleet service. To correct this oversight the reference (CEC, 2008b) should be inserted on page 105, second paragraph, at the end of the fourth sentence beginning with the word "Currently."

(5) Chapter IX: Four references are cited in a reference list for this chapter but they are not cited in the chapter. The references listed in Chapter IX page 119 were not relied upon for the chapter's content and were mistakenly listed. Therefore the following references listed on page 119 should be deleted: (ARB, 1998b), (ARB 2001b), (CFR, 2007b), and (Diesel, 2005).

(6) Chapter XII: The following two references cited in the reference list are missing the publication date.

(a) The reference (ARB, 2008) on page 169 should be changed to include the publication date of May 22, 2008. The correct reference should be as follows:

ARB, 2008. California Air Resources Board. *Methodology for Estimating the Premature Deaths associated with Long-term Exposure to Fine Airborne Particulate Matter in California.* May 22, 2008. http://arb.ca.gov/research/health/pm-mort/pm-mort.htm

(b) The reference (Delucchi, 2005) on page 169 should be changed to include the publication date of May 30, 2005. The correct reference should be as follows:

Delucchi, 2005. *A Multi-Country Analysis of Lifecycle Emissions from Transportation Fuels and Motor Vehicles.* Mark A. Delucchi, Institute of Transportation Studies, University of California, Davis. UCD-ITS-RR-05-10. May 30, 2005.

(7) Chapter XIII: The following reference cited in the reference list for Chapter XIII has an incorrect publication date.

(a) The date for reference (National 2002 VIUS) on page 196 should be changed from December, 2004 to October 2008. The correct reference should be as follows:

National 2002 VIUS. U.S. Census Bureau 2002 Economic Census: Vehicle Inventory and Use Survey. EC2TV-US. Issued October 2008.

References for the Appendices to the Technical Support Document

(1) Appendix E: The following four references cited in the reference list for this appendix have an incorrect publication date or are missing the publication date.

(a) The date for reference (ARB, 2004) on page E-26 should be changed from March, 2004 to October 2003. The correct reference should be as follows:

ARB, 2004. *ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk*. October, 2003.

(b) The date for reference (ARB, 2008) on page E-26 should include the publication date – May, 2008. The correct reference should be as follows:

ARB, 2008. *ARB Methodology for Estimating Premature Deaths Associated Long-term Exposures to Fine Airborne Particulate Matter in California*. May, 2008

(c) The date for reference (Pope, 2002) on page E-26 should include the publication date March, 2002. The correct reference should be as follws:

Pope, 2002. Pope, C.A., III et.al, Lung Cancer, Cardiopulmonary Mortality, and Long-Term Exposure to Fine Particulate Air Pollution, J. AM Med. Assoc., 287, pp. 1132-1141. March, 2002.

(d) The date for reference (U.S. EPA, 2004b) on page E-27 should be changed from September 2004 to November, 2004. The correct reference should be as follows:

U.S. EPA, 2004b. User's Guide for the AERMOD Meteorological Preprocessor. Report No. EPA-454/B-03-002. Office of Air Quality Planning Standards. Emissions Monitoring and Analysis Division, Research Triangle Park, NC. November, 2004.

(2) Appendix G: The following reference cited in the reference list for this appendix has an incorrect publication date.

(a) The date for reference (DMV, 2001) on page G-90 should be changed from 2001 to 2007. The correct reference should be as follows:

California Department of Motor Vehicles, 2001. Commercial Vehicle registration Act of 2001. 2007. Available at: http://www.dmv.ca.gov/commercial/cvra.htm

(3) Appendix H: The following reference cited in the reference list for this appendix has the incorrect publication date:

(b) The date for reference (Environment Canada, 2004) on page H-9 should be changed from October 10, 2004 to October, 19, 2004. The correct reference should be as follows:

Environment Canada, 2004. Environment Canada: *Low Sulphur Diesel and Transit Bus Retrofits Lessons Learned by Region of Waterloo*. October 19, 2004. http://ec.gc.ca/cleanair-irpur/CAOL/OGEB/ecology/LSF/LowSulphur_diesel_e.cfm

(4) Appendix M: The following reference cited in the reference list for this appendix has the incorrect publication date:

(a) The date for reference (South Coast, 2008) on page M-7 should be changed from October 4, 2008 to October 23, 2008. The correct reference should be as follows:

South Coast, 2008. South Coast Air Quality Management District. Rule 1186.1 – Less Polluting Sweepers. Accessed October 23, 2008. http://www.aqmd.gov/tao/fleetrules/1186.1Sweepers/index.htm

IV. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES

The Board received numerous written and oral comments during the 45-day public comment period and at the December 2008 Board hearing. Set forth below is a summary of each objection or recommendation specifically directed to the proposed regulation for in-use on-road diesel vehicles or to the procedures followed by ARB in proposing or adopting the regulation. Each comment is followed by the agency response explaining how the proposed action was changed to accommodate each objection or recommendation, or the reasons for making no change. The comments have been grouped by topic whenever possible. Comments that do not involve objections or recommendations specifically directed towards the proposed regulation or to the procedures followed by ARB in this rulemaking are generally not summarized below.

A. Summary of Commenters

During the 45-day comment period, the Board received written comments from the persons or entities listed in Table 1. The reference code listed in the first column will be used to identify the person or entity submitting the comment in the summary of comments and responses. Oral testimony was presented at the Board Hearing by the persons or entities listed in Table 2. For comments wholly in support of the regulation, the commenters are assigned an identifier “X” shown in the last column of the tables. These comments did not require a response and do not appear in the summary of comments and agency responses.

In cases where a number of persons or other entities submitted the same comment as a group, a single reference code was assigned to the group and only one entry appears in Table 1. The groups are IND1, IND2, ENV1, and FORM1. A group reference code was also assigned when there was a large number of signees to a letter. The groups are CTBRC, DTCC, ECOAL1, ECOAL2, ECOAL3, ECOAL4, and FCOAL. A third type of group was one created by staff to identify letters that were submitted independently, but were essentially the same. By grouping them, a single group name appears with the statement of each comment in the summary of comments and agency responses. These groups are FORM2, FORM3, and FORM4.

If a reader wants to know the names of commenters assigned to a group reference code, the reader would find the reference code in Table 1 and read the corresponding entry in the third column (Company or Affiliation) which directs the reader to the table in Appendix A which contains the names of all of the members of the group.

Table 1

List of Persons and Entities Who Submitted Comments During the 45-Day Comment Period

Reference Code	*Commenter*	*Company or Affiliation*	
A1SS	Tom Tanner	A-1 Sweeping Service	
AALO	Audrey Alorro	Audrey Alorro	X
ABC	Louis Enriquez	Ace Beverage Company	
ABCON	Andrew Jordan	A & B Construction	
ACG1	David Allen	Alenco Consulting Group	
ACLOG1	Eric Carleson	Associated California Loggers	
ACNE	Cheryl Taylor	Avenal Chimes Newspaper	
ACOA	Joan Porter	Asthma Coalition	X
ADC2	Charlie Alford	Alford Distributing Company	
AEAI	David Bacchi	American Engineering & Asphalt, Inc.	
AEG1	Richard McCann	Aspen Environmental Group	
AGCEUCA	Shelli Shepherd Wahl	Associated General Contractors and Engineering & Utility Contractor's Association	
AGRI	Jim Ganduglia	Agrium	
AHEA	Don Scare	Apria Healthcare	
AIRI	Jon Heuss	Air Improvement Resource, Inc.	
ALACA1	Linda Weiner	American Lung Association of California (ALA)	X
ALOG2	Mike Anderson	Anderson Logging Inc.	
ALOG3	Myles Anderson	Anderson Logging Inc.	
ANON	Anonymous	Anonymous	
AOIR	Tom Frantz	Association of Irritated Residents	
AOSO	Alan Osofsky	Alan Osofsky	
APET	Anne Peters, MD	Anne Peters, MD	X
APHI	Andrew Phillips	Andrew Phillips	
APMIB	Darcy Quinn	A and P Moving, Inc .- Bekins	
ARA1	John McClelland	American Rental Association (ARA)	
ARA2	John McClelland	ARA	
ARC	William Callahan	Associated Roofing Contractors	
ARMC	Mike Cook	Associated RMC	
ASAN1	Anna Sanchez	Anna Sanchez	X
ASAN2	Anna Sanchez	Anna Sanchez	X
AST	Ronald Gonsalves	American Stage Tours	
ATA1	Michael Tunnell	American Trucking Association (ATA)	
ATS1	Jill Longo	Andy’s Transfer and Storage	
ATS2	Joe Kroening	Andy's Transfer and Storage; CMSA	
AWMS	Stan Bennett	All-Ways Moving and Storage	
BAAQMD1	Pamela Torliatt	Bay Area Air Quality Management District	X

Reference Code	*Commenter*	*Company or Affiliation*	
BAKER	Tony Hobbs	Baker Trucking	
BCA1	Andy Katz	Breathe California	
BCC1	Lydia Bourne	Blood Centers of California	
BCC2	Lydia Bourne	Blood Centers of California	
BDAI	Bill Sudhoff	Black Diamond Aggregates, Inc.	
BDC	Rudy Aguirre	Beauchamp Distributing Company	
BELL	Budd Elliff	Budd Elliff	
BERI	Bob Erickson	Bob Erickson	
BFER	Brigid Ferrari	Brigid Ferrari	X
BHER	Beth Hernandez	UC Merced - Graduate Student	X
BING	Bill Ingram	Bill Ingram	
BJSC1	Doug Van Allen	BJ Services Company USA	
BMAS	Bob Mason	Bob Mason	
BMOO	Bill Moore	Bill Moore	
BPAI	Allan Lind	BP America, Inc.	
BPAQ	Brian Paquette	Brian Paquette	
BRI1	Sarah Henderson	Basic Resources, Inc.	
BRI2	Sarah Henderson	Basic Resources, Inc.	
BRIT1	Doug Britton	Britton Trucking Company	
BROG	Bill Rogers	Bill Rogers	
BSB	Paul Schlenvogt	Blue Sky Bee	
BSGCC	Perry Lewis	Blue Star Gas - Coast Co.	
BSGEN	William Stewart	Blue Star Gas - Engineering	
BSGGC	Dennis O'Sullivan	Blue Star Gas - Garberville, Co.	
BSGLC	Wade Boyman	Blue Star Gas - Lake Co.	
BSGMS	Michael Slabaugh	Blue Star Gas - Mt. Shasta Co.	
BSGRC	Dave Kiker	Blue Star Gas - Redding Co.	
BSGSR	Chris Fleming	Blue Star Gas - Santa Rosa Co.	
BSTS1	Blain Stumpf	BST Services, Inc.	
BSTS2	Blain Stumpf	BST Services, Inc.	
BSTS3	Blain Stumpf	BST Services, Inc.	
BYAT	Bruce Yates	Bruce Yates	
BZT	Brian Zinn	Brian Zinn Trucking	
CAEC1	Bradley Edgar	Cleaire Advanced Emission Controls	
CAFA1	Anne Lamb	Community Action to Fight Asthma	
CAPM	Clare Brady	CLEAN AIR PLEASE Middletown 95461	X
CARC1	Paul Buttner	California Rice Commission	
CASS	George Runner	California State Senate	
CASTO1	Michael Rea	California Association of School Transportation Officials (CASTO)	
CASTO2	Michael Rea	CASTO	
CASU	Michael Iwata	City Auto Supply	
CATI	Clay Green	CATS4U Inc.	

Reference Code	*Commenter*	*Company or Affiliation*	
CBI	Barbara Camacho	Camacho Brokers, Inc.	
CCAA	Darlene Din	Central Coast Agriculture Association	
CCAR	Chris Carney	Chris Carney	X
CCDS1	Betsey Reifsnider	Catholic Charities Diocese of Stockton	X
CCEEB1	Allan Lind	California Council for Environmental and Economic Balance (CCEEB)	
CCEEB3	Gerald D. Secundy	CCEEB	
CCIMA1	Charles L. Rea	California Construction and Industrial Materials Association	
CCOO	Claude Cooley	Claude Cooley	
CCP2	Ryan Wiggins	Communities for Clean Ports	
CDMTC1	Janice Matthes	C.D. Matthes Trucking Com	
CDMTC2	Michael Collier	C.D. Matthes Trucking Comp	
CDTOA1	Walt Benson	California Dump Truck Owners Association (CDTOA)	
CDTOA10	Jim Morton Trucking	CDTOA	
CDTOA11	Lee Brown	CDTOA	
CDTOA2	Nancy Nard	CDTOA	
CDTOA3	Tom Squyres	CDTOA	
CDTOA4	Betty Plowman	CDTOA	
CDTOA5	George King	CDTOA	
CDTOA6	Madelaine Shenkel	CDTOA	
CDTOA7	James Lewis	CDTOA	
CDTOA8	Joseph Stewart	CDTOA; TEAMSTERS	
CDTOA9	Kenneth Krauss	CDTOA	
CEWR	C. Edmund Wright	C. Edmund Wright	
CFA1	Steven Brink	California Forestry Association	
CFB	City Council	City of Fort Bragg	
CFC	Cecil Gates	Crown Fence Company	
CFG	June Van Wingerden	Cut-Flower Growers	
CFRA	Carl Frank	Carl Frank	
CFRS1	Matthew Cohen	Clean Fuel Resources; Solpower	
CFRS2	Mathew Cohen	Clean Fuel Resources	
CGA1	J. Michael Mortensson	California Groundwater Association (CGA)	
CGA2	John Kratz	CGA - President-elect	
CGA3	Wayne Woodward	CGA	
CGA4	Tom Bowers	CGA	
CGA5	Arthur Fulton	CGA	
CGA6	Augie Guardino	CGA	
CGA7	Kathleen Brown	CGA	
CGA8	Ron Hedman	CGA; National Ground Water Association (NGWA)	
CGA9	Lana Valladon	CGA	

Reference Code	*Commenter*	*Company or Affiliation*	
CHOAK	Karen Hardy	Children's Hospital Oakland	X
CIAQ1	Michael Lewis	Construction Industry Air Quality Coalition (CIAQC)	
CIOMA2	Thomas Goodspeed	California Independent Oil Marketers Association (CIOMA)	
CIOMA3	John DeWitt	CIOMA; California Small Business Association	
CIOMA4	Mike Doggett	CIOMA; CTA	
CIOMA5	Randal Malchow	CIOMA	
CKEP	Charles Keppel	Charles Keppel	
CMSA2	Michele Bowen, Rentacrate, LLC	California Moving and Storage Association (CMSA)	
CMSA4	Peter Yoss	CMSA; American Moving and Storage Association	
CMUL	Connie Mull	Connie Mull	X
CNOW	James Provenzano	Clean Air Now	X
COA	Michael J. Vlaming	Crane Owners Association, Inc. (COA)	
COSB	Claire Osborne	Claire Osborne	X
CREDO	Becky Bond	Credo Coalition	X
CREI1	Jim Ford	C.R. England, Inc.	
CREI2	Ron Hall	C.R. England, Inc.	
CRENT	Louis Davies	Corning Rentals	
CSA	Curt Hoffman	California Sign Association	
CSB	David Roberts	City of Solana Beach	X
CSS1	Sharon Banks	Cascade Sierra Solutions	
CTA1	Jim Tognazzini	California Trucking Association (CTA)	
CTA2	Matthew Schrap	CTA	
CTBRC	CTBRC	See Table A-1 in Appendix A for list of commenters in this group.	
CTC	Wes Curtis	Commercial Truck Consulting, LLC	
CTPAC1	Barry Broad	California Teamsters Public Affairs Council	
CTTA1	Bob Berry	California Tow Truck Association (CTTA); CTA	
CTTA2	Glenn Neal	CTTA	
CVTC	James Pollack	Central Valley Truck Center	
CWC	Mark Szymczak	Citizens with Conscience	
DATW	David Atwater	David Atwater	
DAWIL1	Daniel Williamson	Daniel Williamson	
DAWIL2	Daniel Williamson	Daniel Williamson	
DBI	Robert Stewart	Delta Brands Inc.	
DCI1	Norman Brown	Delta Construction Inc.	
DDIL	David Dills	David Dills	X
DGRA	David Grande	David Grande	

Reference Code	*Commenter*	*Company or Affiliation*	
DHE1	David Delucchi	Dependable Highway Express	
DHE2	Robert Massman	Dependable Highway Express	
DHTP	G. Howe	D&H Transportation	
DJAC	Debbie Jacketta	Debbie Jacketta	
DKEL	Dan Kelly	Dan Kelly	
DKIS	Dave Kisor	Dave Kisor	X
DKIT	Dave Kite	Dave Kite	
DLEE	Donald Leeman	Donald Leeman	
DLOP	Debbie Lopez	Debbie Lopez	
DNEA	Danny Neal	Danny Neal	
DOHOL	Don Holmes	Don Holmes	
DSAM	Don Sambucetti	Don Sambucetti	
DTCC1	DTCC1	See Table A-10 in Appendix A for list of commenters in this group.	
DTCC2	Jeanne Cain	Driving Toward a Cleaner California (DTCC)	
DTCC3	Jeanne Cain	DTCC	
DTCC4	George Little	DTCC	
DTCN	Glenn Richardson	Delta Truck Center	
DTICTA	Terry Klenske	Dalton Trucking, Inc.; CTA; CDTOA; ATA	
DTRI	Cheryl Davis	Davis Trucking Inc.	
DWA	David K. Luker	Desert Water Agency	
ECCO	Gary Rohman	ECCO Equipment Corporation	
ECHAO	Esther Chao	Clean Trucks Now!	X
ECOAL1	ECOAL1	See Table A-3 in Appendix A for list of commenters	X
ECOAL2	ECOAL2	See Table A-4 in Appendix A for list of commenters in this group.	
ECOAL3	ECOAL3	See Table A-4 in Appendix A for list of commenters in this group.	
ECOAL4	ECOAL4	See Table A-5 in Appendix A for list of commenters in this group.	X
EDF1	Camille Kustin	Environmental Defense Fund	
EDF2	Dr. John Balbus	Environmental Defense Fund	X
EGI	Robert Engel	Engel & Gray, Inc.	
EHC	Joy Williams	Environmental Health Coalition	X
ENVI	ENV1	See Table A-13 in Appendix A for list of commenters in this group.	X
ERAD	Eric Rader	Eric Rader	
ESHU	Elizabeth Shull	Elizabeth Shull	
ETI	Donovan Albright	Ellis Trucking, Inc.	
EUCA1	Deanne Rose Padel	Engineering & Utility Contractors Association (EUCA)	
EUCA2	Andrew Vasconi	EUCA	X

Reference Code	*Commenter*	*Company or Affiliation*	
EYARD1	Isella Ramirez	East Yard Communities for Environmental Justice	X
FAUL1	Ron Faulkner	Faulkner Trucking, Inc.	
FCAT1	Dan Ruoff	Frank C. Alegre Trucking Inc.	
FCAT2	Dan Ruoff	Frank C. Alegre Trucking Inc.	
FCI	Rod Winkle	Franklin Construction, Inc.	
FCOAL	FCOAL	See Table A-2 in Appendix A for list of commenters in this group.	
FEDEX	John Dunlapp	Federal Express	
FLFTI1	Chris Torres	F & L Farms Trucking Inc.	
FMAY	Earl Farnsworth, Jr.	Farnsworth Mayflower	
FMEN	Fred Mena	Fred Mena	
FNIE	Frank Nieman	Frank Nieman	X
FORM1	FORM1	See Table A-6 in Appendix A for list of commenters in this group.	
FPIN	Francine Pinoni	Francine Pinoni	X
FREFEDH	Norma Nunez	Freemont Federation High School	X
FREMH	Todd Landrum	Fremont High School	X
FRMI	Kevin L. Brunnemer	Foothill Ready - Mix Inc.	
FSMI	Frank Smith	Frank Smith	
FSTI	Marsha Foster	Foster & Son Trucking, Inc.	
FTUR	Fran Turano	Fran Turano	
FVEL	Felix Velasco	Clean Trucks=Clean Air	X
GAJON	Gary Jones	Gary Jones	
GAPE	Grover A. Perrigue III	Grover A. Perrigue III	
GCAR	Gaile Carr	Gaile Carr	X
GCBOS	Michael Murray	Board of Supervisors, Glenn County, California	
GCI1	Nick Pfeifer	Granite Construction, Inc.	
GELY	Glenn Ely	Glenn Ely	
GHEI	Gary Heit	Gary Heit	X
GPOR	Gail Porter	Gail Porter	X
GRAY	Gordon Rayner	Gordon Rayner	
GRI	Bill Faris	George Reed, Inc.	
GSCL1	John Baudendistel	GSC Logistics, Inc	
GSCL2	Robert Rodriguez	GSC Logistics, Inc	
GSWMI	Dennis Shuler	Gilton Solid Waste Management, Inc.	
GTI	Don Albright	Geise Trucking, Inc.	
GTRU1	Gayle Lopopolo	Ganduglia Trucking	
GUGL	David Guglielmetti	Guglielmetti Trucking, LLC	
GUJON	Guy Jones	Guy Jones	
GVSI	Leroy Gelsi-Medeot	Graf Van & Storage, Inc.	
HBDCI	Madeline Roddy	Hennings Bros Drilling Co, Inc.	

Reference Code	*Commenter*	*Company or Affiliation*	
HCCMI	Kevin Pereira	Hat Creek Construction & Materials, Inc.	
HEPRO	Paul von Ranzow	Heritage Propane	
HMI	Brice Weyer	Hensell Materials, Inc.	
HSCH	Henry Schlinger	Henry Schlinger	X
HSD	William Seberry	High Sierra Distributing	
HSTI	Donna Holmes	Holmes & Sons Trucking, Inc.;CDTOA	
HTC1	Lee Hobbs	Hobbs Trucking Company	
HTC2	Lee Hobbs	Hobbs Trucking Company	
HVS	Mark Crawley	Hemsteds Van & Storage	
IDI	Randy DeVecchi	Industrial Drayage, Inc.	
IND1	IND1	See Table A-11 in Appendix A for list of commenters in this group.	
IND2	IND2	See Table A-12 in Appendix A for list of commenters	
IPLAS	Steve Smiley	Inland Plaster Inc.	
ISS	Marc Bertsch	International Surfacing Systems	
IVCC	Robert Carter	Indian Valley Chamber of Commerce	
IWPI	Curtis Wright	Imperial Western Products, Inc.	
JBOW	Jim Bowans	Jim Bowans	
JBSI	Jack Ronald Rudolf	Jack's Butane Service, Inc.	
JBTI1	Oralia Ornelas	Juarez Brothers Trucking Inc.	
JCLA	Joanna Clark	Joanna Clark	X
JDAU	Josh Daughdrill	Josh Daughdrill	
JDSR	Richard Davis	JDSR Company	
JFI	David Rowe	Jet Forwarding, Inc.	
JFIL	Jeffrey Filiault	Jeffrey Filiault	
JFLOR	Jason Flores	Jason Flores	
JFRA	John Frailing	John Frailing	X
JFRE	Jeff Freitas	Jeff Freitas	X
JGRA	John Grant	John Grant	X
JHDCI	Brian Hoien	J&H Drilling Co Inc.	
JJAI	Kevin Albanese	Joseph J. Albanese, Inc.	
JJTI	Valerie Liese	Jack Jones Trucking, Inc.	
JMC1	Martin Lassen	Johnson Matthey	
JMCE	Jodi McEdward	Jodi McEdward	X
JOBUR	John Burroughs	John Burroughs	
JORT	Jaime Ortega	Jaime Ortega	X
JOSB	Josh Osborne	Josh Osborne	
JPHI	John Phillips	John Phillips	
JSAM	John Sambucetti	John Sambucetti	
JSEC	Jennifer Secord	Jennifer Secord	
JSHA	John Shallenberger	John Shallenberger	
JSIL	Joseph Silva	Joseph Silva	X

Reference Code	*Commenter*	*Company or Affiliation*	
JSIN	Jacob Singer	Jacob Singer	
JSPA	John Spainhoward	John Spainhoward	
JTOR	Joe Torres Jr.	Joe Torres Jr.	
JWAS	JR. Washington	JR. Washington	X
JWIL	James Williams	James Williams	
KAUB	Karl Aube	Karl Aube	
KBUS	Kevin Bush	Kevin Bush	
KCAR	Karen Carlson	Karen Carlson	X
KCUT1	John Clements	Kings Canyon Unified Transportation	
KFIT	Kathy Fitzgerald	Kathy Fitzgerald	
KFS	Jim Kelly	Kelly Freight Services	
KHUT	Kristi Hutchison	Kristi Hutchison	X
KLABR	Kathleen Labriola	Kathleen Labriola	X
KLL1	Kenny Lloyd	Kenny Lloyd	
KPI3	Glenn Reibin	Kamps Propane	
KROS	Karen Ross	Karen Ross	
KSAN	Kit Sanders	Kit Sanders	
KVSI1	Gary Hartmann	KVS Inc.	
KVSI2	Gary Hartmann	KVS Inc.	
LBCPTA	Birgit De La Torre	Long Beach Council PTA	
LDAV	Les Davies	Les Davies	
LDBE	Liz and Dale Bell	Liz and Dale Bell	X
LDT	Larry and Dianne Long	L & D Transportation	
LFER	Linda Ferzoco	Linda Ferzoco	X
LFSI	Tony Morales	Lax Freight Services, Inc.	
LGM	Theresa Lyngso	Lyngso Garden Materials	
LHHCG	David R. Hummel	Lehigh Hanson Heidelberg Cement Group	
LJCI	Douglas Straw	Larry Jacinto Construction, Inc.	X
LJEN	Larry Jenkins	Larry Jenkins	
LKGR	Lisa Kayser-Grant	Lisa Kayser-Grant	X
LLUMC	Michael Terry	Loma Linda University Medical Center	X
LSNY	Lucy Snyder	Lucy Snyder	X
LUSD1	David Norris	Lakeport Unified School District	
LUSD2	David Norris	Lakeport Unified School District	
MAHA	Mark Olson	MAHA GmbH	
MANDH10	Ben Moli	Mandela High School	X
MANDH11	Kalisi P. Toli	Mandela High School	X
MANDH12	Alix Hardy	Mandela High School	X
MANDH6	Roy Beltz	Mandela High School	X
MANDH7	Bria Landrum	Mandela High School	X
MANDH8	De'janae Bates	Mandela High School	X
MANDH9	Maria Rico	Mandela High School	X
MATT	Michael Attema	Michael Attema	

Reference Code	*Commenter*	*Company or Affiliation*	
MBANK	Richard Laxton	Murphy Bank	
MBCM	Davinder Chandhok	Merced Bike Coalition, Member	
MBIN	Mark Binkley	Mark Binkley	
MBLA	Michael Blatt	Michael Blatt	X
MBUAPCD	Linda Mounday	Monterey Bay Unified Air Pollution Control District Board of Directors	
MCA2	Andy Cox	Mike Campbell & Associates	
MCA3	Paul Trump	Mike Campbell & Associates	
MCA4	Andy Cox	Mike Campbell & Associates	
MCA5	Steve Pilcher	Mike Campbell & Associates	
MCAM	Mayra Campos	Mayra Campos	X
MCBS	Mike Anderson	Anderson Logging	
MCC3	Frank J. De Smidt	Milpitas Chamber of Commerce	
MCTR1	Lee McCorkle	McCorkle Trucking	
MDAV	Milton Davis	Milton Davis	
MDS	Dean Gabrelcik	Mobil Diesel Service	
MECA1	Jamie Song	Manufacturers of Emission Controls Association	
MET1	Rob Goliti	Rob Goliti	
MFLE1	Michael Fletcher	Michael Fletcher	
MFLE2	Michael Fletcher	Michael Fletcher	
MGOT	Michael Gottwald	Michael Gottwald	X
MHAL	Max Hallmann	Max Hallmann	X
MICTR	Michael Crum	Mike Crum Trucking	
MIRE	Dwayne Fosseen	Mirenco	X
MJEN	Mike Jenks	City of Victorville	
MKIL	Mike Killingsworth	Mike Killingsworth	X
MLVSI	Ronals Larson	Mother Lode Van & Storage Inc.	
MMAX	Matthew Maxcy	Matthew Maxcy	
MMCAC1	Kellagan	Merced/Mariposa County Asthma Coalition	X
MMCAC2	Melissa Kelly-Ortega	Merced/Mariposa County Asthma Coalition	
MMCAC3	Mary-Michal Rawling	Merced/Mariposa County Asthma Coalition	
MMOV	Jack Macy	Macy Movers	
MNST	Martin Steinman	Martin Steinman	X
MOSB	Mark Osborne	Mark Osborne	
MOST	Mark Ostrow	Mark Ostrow	
MPPSTA1	Martin Ward	Mid-Placer Public Schools Transportation Agency	
MPPSTA2	Martin Ward	Mid-Placer Public Schools Transportation Agency	
MRLLC	Lee Cooper	Mathews Readymix, LLC	
MSAR	Marie Sargent	Marie Sargent	
MSHE	Madelaine Shenkel	Madelaine Shenkel	

Reference Code	*Commenter*	*Company or Affiliation*	
MSIL	Marc Silverman	Marc Silverman	X
MSTE	Matt Stern	Matt Stern	
MSTU	Mark Sturdevant	Mark Sturdevant	
MSWAT	Nick Robinson	Merced Stop Wal-Mart Action Team	
MTOU	Monique Toubia	Monique Toubia	
MUSD1	Jason Osborn	Manteca Unified School District	
MWIL	Mark Wilson	Mark Wilson	
NACA	Lawrence Sabbath	National Armored Car Association, Inc.	X
NAPSA1	Dale McCaskill Sr.	North American Power Sweeping Association (NAPSA)	
NAPSA2	Mark Carter	NAPSA, California Chapter	
NATS	Dan Parquette	North American Trailer Sales, L.L.C.	
NAV1	Thomas Kramer	Navistar, Inc., Engine Group	
NAV3	David Piech	Navistar, Inc.	
NAVL	Steven McKenna	North American Van Lines	
NBUT	Norma Butler	Norma Butler	
NCECA	Lorena Fisher	Northern California Engineering Contractors Association	
NCPWD	Harkrishan Heer	Nor-Cal Pump & Well Drilling, Inc.	
NEI2	Ron Nuss	Northwest Excavating, Inc.	
NPCA1	Ron Sundergill	National Parks Conservation Association	
NSMALC	Norman S. Marshall	Norman S. Marshall A Law Corporation	
NTDA	Roger M Simon	National Trailer Dealers Association; CTA	
NTKC	Tin Tran	NTK Construction, Inc.	
NTRC	Donald Nielsen	Nielsen Trucking, Company	
NWSC1	James Thomas	Nabors Well Services Company	
OAKH1	Ricky Tran	Oakland High School	X
OAKH10	Kenny Le	Oakland High School	X
OAKH11	Christopher Pulu	Oakland High School	X
OAKH12	San Ming Mak	Oakland High School	X
OAKH13	Julis Kho	Oakland High School	X
OAKH14	Nancy Wu	Oakland High School	X
OAKH15	Karen Ko	Oakland High School	X
OAKH16	Annie Huy	Oakland High School	X
OAKH17	Diana Tan	Oakland High School	X
OAKH18	Lawrence Dam	Oakland High School	X
OAKH2	Chris Mak	Oakland High School	X
OAKH3	V Lang	Oakland High School	X
OAKH33	Vivian Luong	Oakland High School	X
OAKH33	Vivian Luong	Oakland High School	X
OAKH34	Mario Jimenez	Oakland High School	X
OAKH35	Carlos Banuelos	Oakland High School	X
OAKH36	Isidro Arechiga	Oakland High School	X

Reference Code	*Commenter*	*Company or Affiliation*	
OAKH4	Cindy Lu	Oakland High School	X
OAKH5	Trang Nguyen	Oakland High School	X
OAKH6	Chabeli Huang	Oakland High School	X
OAKH7	Michael Phung	Oakland High School	X
OAKH8	Briceida Burgos	Oakland High School	X
OAKH9	Rocio Briseno	Oakland High School	X
OENG	John Reed	Omnitek Engineering	
OFMS	Curtis R. Olsen, Jr.	Olsen & Fielding Moving Services	
PARK	Tim Hanson	Parkside Church	
PAT	Paul August	Paul August Trucking	
PBT	George Maillo	Pozas Bros. Trucking	
PDC	Matt Panella	Panella Drayage Company	
PDEN	Peter Denvir	Peter Denvir	
PDON	Paul Donaldson	Paul Donaldson	
PEB	Russell Smith	Pacific Enterprise Bank	
PFER	Ph.D. Ferea	Ph.D. Ferea	X
PGE	Tyler Wellman	Pacific Gas & Electric	
PGOM	Patty Gomez	Patty Gomez	X
PHEI	Peter Heimark	Peter Heimark	
PHEN	Paul Henkart	Paul Henkart	
PHINST1	Matthew Marsom	Public Health Institute	
PMCG	Patrick McGinnis	Patrick McGinnis	
PMI	Bryan Bloom	Priority Moving, Inc.	
PODER	Charlie Sciammas	People Organizing to Demand Environmental & Economic Rights	X
PPE	Ginny Stein	Preferred Pump & Equipment, LP	
PRR	Steve Moore	Pacific Rim Recycling	
PTCDTOA	Mary Proctor	Proctor Trucking; CDTOA	
PTI	Patti Born	Pharris Trucking, Inc.	
RBUR	Rob Burke	Rob Burke	
RCIA	Robert Ciano	Robert Ciano	
RCRC	Mary Pitto	Regional Council of Rural Counties	
RCSAA	Sandy Silberstein	Riverside County Schools Advocacy Association	
RDA	R.D.	R.D.	
RDOR	Robert Dorazio	Robert Dorazio	
REGG	Robert Egger	Robert Egger	
REI1	Ed Walker	Robinson Enterprises, Inc.	
RELEC	Luke Middleton	Ray's Electric	
RELT	Ed Brown	Roy E. Lay Trucking	
RGIL	Rachelle Gill	Rachelle Gill	
RGOM	Robert Gomez	Robert Gomez	X
RGRE	Randy Grewal	Randy Grewal	

Reference Code	*Commenter*	*Company or Affiliation*	
RHTI	Mike Renner	Rock Hard Transportation, Inc.	
RITL1	Eric Bassett	Riverview International Trucks LLC	
RLAW	Rodney Lawley	Rodney Lawley	
RNEL	Ron Nelthorpe	Ron Nelthorpe	
ROC	Vince Reiser	Redding Oil Company	
ROCI	Kevin Sjostrand	Roe Oil Company, Inc.	
ROSE1	Jill Ratner	Rose Foundation	X
ROVE	Ronald Overacker	Ronald Overacker	
RPLO	Robert Plowman	Robert Plowman	
RRIN	Reed Rinehart	Reed Rinehart	
RTC	Don Reeve	Reeve Trucking Company	
RTCDTOA	Angel and Jake Raposa	Raposa Trucking; CDTOA	
RTRI	Rod Stallings	Rod's Truck Repair, Inc.	
RTRU1	Robert Ramorino	Roadstar Trucking	
RTRU3	Bob Ramorino	Roadstar Trucking	
RTS	Steve Rossi	Rossi Transport Service	
RVER	Rene Vercruyssen	Rene Vercruyssen	
RWAL	Robert Walker	Robert Walker	
RWEB	Roderick Webster	Roderick Webster	
RWT	Ralph Walsh	Ralph Walsh Trucking	
RZT	Richard Zinn	Rich Zinn Trucking	
SANC1	Ed Welch	Save the Air in Nevada County	X
SATECH	Doug Hogue	Saunco Air Technologies	
SBOY	Susan Boykin	Susan Boykin	X
SCAQMD1	Barry Wallerstein	South Coast Air Quality Management District	
SCAR	Sherry Carr	Sherry Carr	X
SCFB	Jim Morris	Siskiyou County Farm Bureau	
SCLA	Steven Clay	Steven Clay	
SCNRS	Ric Costales	Siskiyou County, Natural Resource Specialist	
SCOR	Steve Cortie	Steve Cortie	
SDAPCD	Robert Reider	San Diego Air Pollution Control District	
SDISA	Sal DiSalvo	Sal DiSalvo	
SESE1	Stephen Rhoads	Strategic Education Services	
SFATF	Gloria Thorton	San Francisco Asthma Task Force	
SFPI	William Hall	Shasta Forest Products, Inc.	
SFUR	Sandy Furlich	Sandy Furlich	X
SHUE	Kenneth Shuemake	Shuemake Trucking	
SHUS	Bob Shuster	Shuster Oil Company,Inc.	
SJC	James Mangia	St. Johns Center	
SLOPE	Steve Lopes	Steve Lopes	
SMAQMD1	Larry Greene	Air Quality Sacramento	
SOLAC	Susan White	Solano Asthma Coalition	

Reference Code	*Commenter*	*Company or Affiliation*	
SOTM	Alvaro de la Cerda	Seniors On-The-Move, Inc.	
SRCYL	Shawn Guttersen	Sacramento Recycling	
SRES1	Allan Daly	Sierra Research; COA	
SRES2	James Lyons	Sierra Research; DTCC	
SRES3	Jim Lyons	Sierra Research	
SRT	Daniel Miller	Smart Refrigerated Transport	
SSCBA	Jim Galusham	Silverado Stages; California Bus Association	
SSDA	David L Walrath	Small School Districts' Association	
SSOW	Stuart Sowell	Ernie's Van & Storage	
STC	Stephen Rhoads	School Transportation Coalition	
STI	Samuel Iaconis	Sammy's Transportation, Inc.	
STID	Richard Stidham	Stidham Trucking	
STIT	Pat McDonald	STI Trucking	
STLLC	William Smith	Smith Trucking LLC	
STRF	Richard Stevenson	Stevenson Transfer Inc.	
SUHSD1	Tom Carroll	Shasta Union High School District	
SVP	Larry Charette	Silver Valley Propane	
SWAR	Shelly Ward	Shelly Ward	
SWESC	Lan Danh	Southwest Education Support Center	
SWMA	Raquel Ortega	Stop Wal-Mart Action	
TBHA	Tom and Barbara Hamilton	Tom and Barbara Hamilton	X
TBRI	Tom Brian	Tom Brian	
TCAC1	Christine Foster	Tulare County Asthma Coalition	
TCAPCD	William Sandman	Tuolumne County Air Pollution Control District	
TCDI	Tim Duddie	Tri-County Drilling Inc.	
TCHA	Tina Chavez	Tina Chavez	X
TCILL	Gerry Flynn	TCI Leasing/Logistics	
TCTP	Dean Marietta	Tri-County Transportation	
TEAT	Tom Eaton	Tom Eaton	
TELL	Ty Ellington	Ty Ellington	
TESI	Kent Baucher	Technicon Engineering Services, Inc	
TFOR	Tim Fortier	Tim Fortier	
TGRA	Thomas Grave	Thomas Grave	X
TGUI	Tim Guishard	Tim Guishard	
THEI	Ted Heilman	Ted Heilman	
THON	Ted Honcharik	Ted Honcharik	
TLT1	Tony Luiz	T&L Trucking LLC	
TRKN	Thomas R. Knapp	Thomas R. Knapp	
TTL	Darby Barclay	Tow Trucks for Less	
TTSU	Tiffany Tsu	Tiffany Tsu	
TWEL1	Todd Wells	Todd Wells	

Reference Code	*Commenter*	*Company or Affiliation*	
TWEL2	Todd Wells	Todd Wells	
UCLA1	Matthew Malkan	University of California, Los Angeles	
UCLA2	James Enstrom	University of California, Los Angeles	
UCLA3	James Enstrom	University of California, Los Angeles	
UCOAL	Tyler Wellman	Utility Coalition	
UCSF	Dr. Al Landucci	University of California, San Francisco	
ULV	Jay Jones	University of La Verne	X
USCKSM	Wendy Mitchell	USC-Keck School of Medicine	X
USP1	Mark Sisco	Mark Sisco	
UTCI	Daniel G Uglade	Uglade Trucking Company, Inc.	
UVLCMSA	Robert Johnson	United Van Lines; CMSA	
VSS	Alan Berger	Valley Slurry Seal Company	
WAUP	William A. Upfold	William A. Upfold	
WBAT	William Batson	William Batson	
WCTA1	Michael Rea	West County Transportation Agency	
WCTA2	Michael Rea	West County Transportation Agency	
WEST	Ron Silva	Westar Transport	
WFS	Ken Nichols	Western Farm Services	
WFSI	Tony Picarello	Westport Fuel Systems Inc.	
WGROV	William Groves Jr.	William Groves Jr.	
WHIT	Moe Whitchurch	Whitchurch & Son	
WPS2	Kristy Richardson	Western Propane Service	
WTS1	Michael Darling	Western Truck School	
WTS2	Michael Darling	Western Truck School	
YRCWI	Richard Smith	YRC Worldwide Inc.	
YTI1	John Yandell	Yandell Truckaway, Inc.	
YTI2	John Yandell	Yandell Truckaway, Inc.	

Table 2

List of Individuals and other Entities who Presented Oral Testimony

Reference Code	*Commenter*	*Affiliation*	
AAPED	Janice Kim	American Academy of Pediatrics	X
ACG2	David Allen	Alenco Consulting Group	
ACLOG2	Eric Carleson	Associated California Loggers	
ACTR	Albert Nunes	AC Trucking	
AEG2	Dr. Richard McCann	Aspen Environmental Group	
AFEX	Jean Etcheverry	Antonini Fruit Express	
AFTR	Allen Faris	Allen Faris Trucking	
AGPR	Kent Johnson	AG Production	

Reference Code	*Commenter*	*Affiliation*	
ALA1	Bonnie Holmes-Gen	American Lung Association (ALA)	X
ALA2	Melissa Stephens	ALA	
ALACA2	Linda Weiner	ALA of California	X
ALOG4	Mike Anderson	Anderson Logging Inc.	
ALOG5	Myles Anderson	Anderson Logging Inc.	
APEX	Denny Wyatt	APEX Bulk Commodities	
ARA3	Michael Graboski	American Rental Association	
ATA2	Michael Tunnell	American Trucking Association	
ATOW	Perry Shusta	Arrowhead Towing	
BAAQMD2	Jack Broadbent	Bay Area Air Quality Management District	X
BBTOW	Bob Berry	Berry Brothers Towing	
BCA2	Andy Katz	Breathe CA	
BCA3	Brian Davis	Breathe CA	X
BCA4	Rick Bettis	Breathe CA	X
BCA5	Jacquie Hansen	Breathe CA	X
BCOH	Brian Cohen	Brian Cohen	
BJSC2	Doug Van Allen	BJ Services, Co.	
BJSC3	Allen Burmeister	BJ Services Co.	
BRIT2	Doug Britton	Britton Trucking Company	
BTRANS	Dan Sartell	Button Transportation	
CAAWG	Camron King	CA Association of Winegrape Growers	X
CABA	Mike Waters	California Business Association	
CACC	Jason Schmelzer	California Chamber of Commerce	
CAEC2	Brad Edgar	Cleaire Advanced Emission Control	
CAEC3	Gale Plummer	Cleaire Advanced Emission Controls	X
CAFA2	Brandon Kitagawa	Community Action to Fight Asthma	
CAFBF	Cynthia Cory	CA Farm Bureau Federation	X
CAGA	Patty Senecal	CA Government Affairs IWLA	
CANA	Susan King	CA Nurses Association	X
CAPCFA	Michael Paparian	CA Pollution Control Financing Authority	X
CARC2	Paul Buttner	CA Rice Commission	
CBAS	Josh Pane	California Bus Association	X
CBE1	Anna Lee	Communities for a Better Environment	X
CBE2	Tiana Drisker	Communities for a Better Environment	X
CBE3	Glenda Deloney	Communities for a Better Environment	X
CCAIR1	Laura Fultz Stout	Coalition for Clean Air	X
CCAIR2	Nidia Bautista	Coalition for Clean Air	

Reference Code	*Commenter*	*Affiliation*	
CCDS2	Betsy Reifsnider	Catholic Charities Diocese of Stockton	X
CCEEB4	Allan Lind	California Council for Environmental and Economic Balance	
CCGGA	Roger Isom	CA Cotton Ginners and Growers Association	
CCIMA2	Charlie Rea	California Construction and Industrial Materials Association	
CCP1	Ryan Wiggins	Communities for Clean Ports	
CCSM	Shirley Batchman	California Citrus Mutual	
CCT	Mark Castro	Castro and Castro Trucking	
CDCAMP	Kevin Abernathy	Cal Dairy Campaign	
CDMTC3	Michael Collier	C.D. Matthes Trucking Company.	
CDTOA12	Angel Raposa	California Dump Truck Owners Association	
CDTOA13	Betty Plowman	CDTOA	
CDTOA14	Carol Pruett	CDTOA	
CDTR	Charles Diaz	Charles Diaz Trucking, Inc.	
CEHE	Christine Cordero	Center for Environmental Health	X
CFA2	Steve Brink	California Forestry Association	
CFCOAL	Sean Edgar	Clean Fleets Coalition	
CFEM1	Felipe Lopez	Consejo de Federaciones de Estados Mexicanas	X
CFEM2	Luz Elena Tafalla	Consejo de Federaciones de Estados Mexicanos	X
CGA10	J. Michael Martensson	California Groundwater Association	
CGTFL	Christopher Valadez	California Grape and Tree Fruit League	
CHONEY	Greg Pile	Chaparral Honey, Inc.	
CIAQ2	Michael Lewis	Construction Industry Air Quality Coalition	
CIOMA6	Jay McKeeman	California Independent Oil Marketers Association (CIOMA)	
CLIFE	Brian Rood	Colonial Life	
CMA	Dr. Janet Abshire	California Medical Association	X
CMSA5	Steve Weitekamp	California Moving and Storage Association	
CMTA	Gavin McHugh	California Manufacturers and Technology Association	
COARC	Alvan Mangalindan	Crane Owners' Association and Association of Crane Rental Contractors	S
COT	George Little	College Oak Towing	

Reference Code	*Commenter*	*Affiliation*	
CPASC	Bruce Wick	CA Professional Association of Specialty Contractors	
CPC	John White,	Clean Power Campaign	
CPF	Brian Rees	California Poultry Federation	
CREI3	Ron Hall	CR England, Inc.	
CRPE1	Brent Newell	Center on Race, Poverty, and the Environment	
CRPE2	Marybelle Nzegwu	Center on Race, Poverty, and the Environment	
CRPE3	Sofia Sarabia	Center on Race, Poverty, and the Environment	
CSS2	Sharon Banks	Cascade Sierra Solutions	
CTA4	Matthew Schrap	CTA	
CTA5	Eric Sauer	California Trucking Association	
CTA6	Julie Sauls	CTA	
CTPAC2	Barry Broad	CA Teamsters Public Affairs Council	
CTSER	Steve Shamp	Customer Truck Service	
CTTA3	Glenn Neal	CA Tow Truck Association	
CVAQC	Liza Bolanol	Central Valley Air Quality Coalition	
DCI2	Skip Brown	Delta Construction Company	
DLST	Daniel Speth	DLS Trucking	
DOWN	Dennis Downing	Downing Trucking	
DSTR	Susan Jones	D&S Trucking, CDTOA	
DTRP	Wayne Teece	Dispatch Transportation Inc.	
EDF3	Camille Kustin	Environmental Defense	
EDF4	Dr. John Balbus	Environmetal Defense Fund	X
ELKGROVE	Jill Gayaldo	Elk Grove Unified School District	
EMTI	Charlie Simpson	EM Tharp, Inc.	
EYARD2	Anna Arriola	East Yard	X
EYARD3	Angelo Logan	East Yard Communities	X
EYARD4	Enrique Arriola	East Yards	X
FAUL2	Ron Faulkner	Faulkner Trucking	
FLFTI2	Chris Torres	F&L Farms Trucking, Inc.	
FMMIN	Jenny Saklar	Fresno Metro Ministry	
FTSA	Kathy Fitzgerald	Fitzgerald Truck Sales	
GCI2	Nick Pfeifer	Granite Construction, Inc.	
GCON	Bill Terrell	Genesis Construction	
GENT	Bill Gassaway	Gassaway Enterprises	
GSCL3	Andy Garcia	GSC Logistics	
GSCL4	Scott Taylor	GSC Logistics	
GTRU2	Gayle Lopopolo	Ganduglia Trucking	
GTRU3	Jim Ganduglia	Ganduglia Trucking	
GVHC	Mary-Michal Rawling	Golden Valley Health Centers	

Reference Code	*Commenter*	*Affiliation*	
H880C	Vania Ahamdi	Healthy 880 Committee	X
IDAW	Irvin Dawid	Irvin Dawid	
JBTI2	Oralia Ornelas	Juarez Bros. Trucking, Inc.	
JMC2	Martin Lassen	Johnson Matthey Catalysts	
JPT	John Pitta	John Pitta Trucking	
KCUT2	Stephen Rhoades for John Clements	Kings Canyon Schools	
KLL2	Kenny Lloyd	Kenny Lloyd	
KRCORP	Steve Azevedo	Knife River Corp.	
LDR	Sam Zugzda	Leonard's Diesel Repair, Inc.	
LUCA	Mario Talavera	Latinos Unidos Concientizados al Ambiente	X
LUSD3	David Norris	Lakeport Unified School District	
MACF	Dennis MacFarland	Mr. Dennis MacFarland	
MATR	Mark Matheson	Matheson Trucking	
MCA6	Paul Trump	Mike Campbell & Associates	
MCBS2	Michael Delbar	Mendocino County	
MCCJ	Catherine Garoupa	Madera Coalition for Community Justice	
MCIW	Jeremy Jungreis	Marine Corps Installations West	
MCOG	Lee Steinberg	Mobile Crane Owners Group	
MCTR2	Lee McCorkle	McCorkle Trucking	
MCW	Dick Stuart	Maxim Crane Works	
MECA2	Dr. Joseph Kubsh	Manufacturers of Emission Controls Association	
MET2	Rob Goliti	Midnight Express Trucking, Inc.	
MGTR	Mark Griffin	Matthew Griffin Trucking	
MMCAC4	Melissa Kelly-Ortega	Merced Asthma Coalition	
MMCAC5	Anna Sanchez	MMCAC	X
MPPSTA3	Stephen Rhoades for Martin Ward	Mid-Placer Public Schools Transportation	
MRED	Cheryl Moore	Mendocino Redwood Company	X
MROC1	Marie Witte	Mike Roche, Inc.	
MROC2	Stephanie Roche	Mike Roche, Inc.	
MSBC	Larry Robinson	Mark Stein Beverage Company	
MTRA	Gary Montgomery	Montgomery Transfers	
MUSD2	Jason Osborn	Manteca Unified School District	
MVE2	Dan Souza	Mountain Valley Express	
MVE3	Scott Blevins	Mountain Valley Express	
NAVI2	David Piech	JD Navistar Engine Corp.	
NISEI	Manuel Cunha Jr.	Nisei Farmers League	
NPCA2	Tim Gibbs	National Parks Conservation Association	

Reference Code	*Commenter*	*Affiliation*	
NRDC	Diane Bailey	Natural Resources Defense Council	
NWSC2	James Thomas	Nabors Well Services Co.	
OAKH19	Michael Mach	Oakland High School	X
PAC1	Blanca Nunez	Pacoima Beautiful	X
PAC2	Jorge Villanueva	Pacoima Beautiful	X
PHINST2	Matthew Marsom	Public Health Institute	
PTERI	Patti Pirkle	Pirkle Trucking & Equipment Rental, Inc.	
PVMT	Daniel Del Moro	PVM Transportation	
RAMP	Joel Errice	Regional Asthma Management and Prevention	X
RCS	Stephen Rhoades	Riverside County Schools	
REI2	Ed Walker	Robinson Enterprises, Inc.	
REI3	Lowell Robinson	Robinson Enterprises, Inc.	
RITL2	Eric Bassett	Riverview International Trucks Inc.	
RKID	Ray Kidd	Ray Kidd	X
ROSE2	Jill Ratner	Rose Foundation	X
ROTC	Alan Osofsky	Rodgers Trucking Company	
RPETR	Joe Rosa	Renner Petroleum	
RSIIB	David Hagen	RSI Insurance Brokers	
RTRU2	Bob Ramorino	Roadstar Trucking	
SANC2	Ed Welch	Save the Air in Nevada County	X
SCACA	William E. Davis	Southern CA Contractors Association	
SCAQMD2	Henry Hogo	South Coast Air Quality Management District	
SCCA3	Bill Magavern	Sierra Club CA	X
SCRANE	Seth Hammond	Specialty Crane	X
SESE2	Stephen Rhoads	Strategic Education Services	
SFRS3	Matt Cohen	Solpower Corp & Clean Fuels Resources	
SJVAPCD	Sayed Sadredin	San Joaquin Valley Air Pollution Control District	
SMAQMD2	Larry Green	Sacramento Metropolitan Air Quality Management District	
SREA	Sean Realite	Sean Realite	X
SRES4	Jim Lyons	Sierra Research	
SSVMS2	Robert Meagher	Sierra Sacramento Valley Medical Society	X
STRAN	Lan Dahn	Southwest Transportation	
STRT	Steve Roberts	STR Transport	
SUHSD2	Tom Carroll	Shasta Union High School District	

Reference Code	*Commenter*	*Affiliation*	
TCAC2	Christine Foster	Tulare County Asthma Coalition and CAFA	
TLT2	Tony Luiz	T&L Trucking LLC	
UCSC3	Don Anair	Union of Concerned Scientists	X
USEPA	Deborah Jordan	US Environmental Protection Agency	
USN	Randal Friedman	US Navy	
USP2	Mark Sisco	Mr. Mark Sisco	
VDPE	David Atwater	Van De Pol Enterprises, Inc.	
WCTA3	Michael Rea	West County Transportation Agency	
WMIOU	Wendy Mitchell	W.M. Consulting for Investor-Owned Utilities	X
WOIP	Brian Beveridge	West Oakland Indicators Project	X
WOODM1	Tessa Woodmansee	Tessa Woodmansee	X
WOODM2	Marshall Woodmansee	Mr. Marshall Woodmansee	X
WOODM3	Sophia Woodmanse	Sophia Woodmanse	
WPBA	Paul Schlenvogt	Washington Professional Beekeepers Association	
WSOC	Steve Lopes	Western States Oil Company	
YTI3	John Yandell	Yandell Truckaway, Inc.	

B. Summary of Public Comments Presented Prior to or at the Hearing and Agency Responses

The 45-day comments refer to sections of the regulation that was made available with the October 2008 hearing notice. Some of these sections have since been renumbered and the responses to the comments will refer to the section of the current regulation released with the Notice of Availability of Modified Text.

1. Legal Comments

a) Authority

1. Comment: How can it be legal to make us retrofit our trucks to meet emissions when they were approved for operation before on public highways. The government should be able to pay for all expenses and retrofits because they allowed them to be manufactured to begin with. (MDS)

Agency Response: ARB has been granted both general and specific authority under the Health and Safety Code (HSC) to adopt the proposed regulation. HSC sections

39600 (General Powers), 39601 (Standards, Definitions, Rules and Measures), and 39602.5 (Adoption of Rules and Regulations) confer on ARB, the general authority and obligation to adopt rules and measures necessary to execute the Board's powers and duties imposed by State law and to attain national ambient air quality standards in all areas by applicable attainment dates. HSC sections 43013 and 43018(a) provide broad authority to achieve the maximum feasible and cost-effective emission reductions from all mobile source categories, including both new and in-use on-road and off-road diesel engines used in motor vehicles. Additional authority over over in-use motor vehicles resides at HSC sections 43600 and 43701.

Additionally, California's Air Toxics Program, established under California law by AB 1807 (stats. 1983, ch. 1047, the Tanner Act) and set forth in the HSC sections 39650 through 39675, mandates that ARB identify and control air toxics emissions in California. The identification phase of the Air Toxics Program requires ARB, with participation of other state agencies such as the Office of Environmental Health Hazard Assessment (OEHHA), to evaluate the health impacts of, and exposure to, substances and to identify those substances that pose the greatest health threat as toxic air contaminants (TACs). ARB's evaluation is then made available to the public and is formally reviewed by the Scientific Review Panel (SRP) established under HSC section 39670. Following the ARB's evaluation and the SRP's review, the Board may formally identify a TAC at a public hearing. Following the identification of a substance as a TAC, HSC section 39665 requires ARB, with the participation of the local air pollution control and air quality management districts (districts), and in consultation with affected sources and interested parties, to prepare a report on the need and appropriate degree of regulation for that substance. Based upon the findings of the report, ARB is vested with authority under sections 39666 and 39667 to adopt and enforce airborne toxic control measures (ATCM) that will respectively achieve emission reductions using best available control technology (BACT) for nonvehicular and vehicular sources, the latter of which includes in-use on-road heavy-duty vehicles.

b) Taking of Property

2. **Comment:** CARB is at it again forcing businesses in the state to stop using legally purchased equipment and vehicles before their end of life. This is an illegal taking of private property. If you want it, buy it. The trouble with CARB is you people want us to pay for all your ideas. If you want to buy all of my older trucks that is fine. But if you want to follow through with this illegal taking of my property and the devaluing of my used equipment then compensate me for that. (DATW)

3. **Comment:** I'm here representing the California Chamber of Commerce, the largest broad-based business association in the state of California with over 16,000 members, with three million employees. I want to be really clear about what's happening here. There is a name for the process that's taken place with this rule. It's called eminent domain. Governments do it to people's homes. When they do it, not only do they have to have a good reason, but they have to pay fair market value for what's being taken. That's not happening here. I think a lot of

> people in this room that are supporting the rule would have a very different take if it were their property that was being proposed to be taken. (CACC)

Agency Response: Staff does not agree that the proposed regulation would result in a regulatory taking. The "Takings Clause" of the Fifth Amendment to the United States Constitution provides that the federal government shall not take private property for public use, without just compensation.[1] The prohibition was extended to the states by the Fourteenth Amendment.[2]

Generally, in real property regulatory takings claims, courts have found a compensable taking if a regulation does not substantially advance legitimate state interests or has permanently deprived an owner of "all economically beneficial or productive use" of the land (*Lucas v. South Carolina Coastal Council (1992)* 505 U.S. 1003, 1015; *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency* (2002) 535 U.S. 302). In determining whether a state may avoid compensation when it has used its police powers for public health and welfare purposes, and the action has resulted in depriving an owner of all beneficial or productive use of his land, the courts have looked to see if the proscriptions of the regulation were, in fact, covered by preexisting implied limitations on the property owner's title. (*Lucas v. South Carolina Coastal Council*, *supra,* 505 U.S. at 1027.) In *Lucas*, the Court acknowledged that where such implied limitations exist, "the property owner necessarily expects the uses of his property to be restricted, from time to time, by various measures newly enacted by the State in legitimate exercise of its police powers." (*Id.)*

Of significance to the instant proposed regulation, the Court went on to clarify that implied limitations on ownership rights almost always exist with regard to the commercial value of personal property. The Court stated:

> [I]n the case of personal property, by reason of the State's traditionally high degree of control over commercial dealings, [the personal property owner] ought to be aware of the possibility that new regulation might even render his property economically worthless. (Id., at 1027-1028.)

In line with the Supreme Court's decisions with regulatory takings, the proposed regulation cannot be considered as unconstitutional. First, the regulation will not deprive the stakeholder of all beneficial value of the regulated engines and vehicles. Even those engines and vehicles that must be retired under the proposed regulation will continue to retain fair market value in domestic and international markets outside of California. Second, consistent with *Lucas,* even in the unlikely event the regulated

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[1] The Fifth Amendment provides in relevant part:

No person shall be . . . deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

[2] The Fourteenth Amendment provides in relevant part that "[no State shall] deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws."

engines and vehicles lost all of their beneficial value, ARB is exercising its vested police power authority to regulate in-use on-road fleets. Over the past 40 years, ARB has adopted a panoply of air quality regulations affecting nearly every vehicular source category for purposes of public health and safety. Given the extreme air quality problems confronting most areas of the state, owners of in-use on-road vehicles should be well aware that regulation of their fleets was likely to occur, especially given the high level of emissions associated with the operation of such vehicles.

4. **Comment:** Surely if the Governor, legislature and the public's intent is to replace all older trucks they should pay a fair price to the owner no different than eminent domain of real property. Instead of forcing the truck owners to buy new or retro-fit and than pass on their costs, when they can't, the public should pay "some" large cost of a new truck – "Tax the Bear because it's Fair!"

(a) Whether through direct non-1099 funding, trade-in rebates and tax credits or a combination of these elements, the truck owner should be reimbursed fairly for his/her property.

California diesel truck owners should not be forced to bear the entire cost of this public health related regulation. This will be a huge burden on small transportation businesses, especially during a construction industry recession and when oil and diesel prices were just recently at record highs and no relief is in sight. With the instability of the financial markets right now few can afford conventional financing when there is so little work." (CDTOA11)

Agency Response: CARB staff does not agree that the truck and bus regulation would result in a regulatory taking that would require compensation. This issue is discussed in our response to comments 2 and 3).

c) Interstate Commerce and the Severability Clause

5. **Comment:** The current wording of the severability clause would allow only those portions found invalid to be severed from the Rule. The most obvious challenge to the proposed Rule will be whether or not CARB can regulate interstate commerce. Should interstate trucks eventually end up exempt from the compliance with the Rule, there would be a mass exodus of fleet owners from California. The Severability Clause should be modified to state that if non-California trucks cannot be regulated, the entire Rule is immediately suspended. Change the Severability Clause such that if interstate trucks cannot be regulated then the entire Rule is vacated. (CFA1)

Agency Response: The purpose of the severability clause is to protect other provisions in the event that certain provisions are deemed invalid. To the extent that a court may find certain provisions fo the regulation invalid, it does not undermine the need for CARB to attain the emission reductions to be achieved from the regulation in order to meet federal and state mandates. For this reason, CARB does not intend to modify the severability clause as suggested by the commenter.

Staff believes that the board approved regulation would not be in violation of the Commerce Clause of the U.S. Constitution. The Commerce Clause of the United States Constitution (U.S. Const., Art. I, §8, cl. 3) grants Congress the power "[t]o regulate Commerce with foreign Nations, and among the several States. . . ." In addition to granting Congress an affirmative grant of authority, courts have found that the clause creates an implied restraint on state authority to enact legislation that imposes significant burdens on interstate commerce. (See *United Haulers Ass'n, Inc. v. Oneida-Herkimer Solid Waste Management Authority* (2007) 127 S.Ct. 1786; *Healy v. The Beer Institute* (1989) 491 U.S. 324, 326, fn.1.) The adopted regulation is not *per se* unlawful in that it does not expressly discriminate against out-of-state heavy-duty vehicle fleets, have the practical effect or purpose of protecting California economic interests at the expense of out-of-state interests, or have an impermissible extraterritorial effect on other states.

When a state statute or regulation is neutral on its face, has only indirect or incidental effects on interstate commerce, and regulates evenhandedly, the courts have applied a balancing test that weighs the state's legitimate interests in adopting the regulation against the burden that the regulation may have on interstate commerce. (*Pike v. Bruce Church, Inc.* (1970) 397 U.S. 137.). Here, the board approved regulation, which achieves significant reductions in diesel PM, an identified TAC, and NOx, with concomitant reductions in health risks to the public (i.e., resulting in fewer fatalities, hospitalization, lost school and work days), would provide great health and welfare benefits to the public. The benefits of the regulation, adopted under the police powers granted to the State, clearly outweigh any burdens that the regulation would impose on out-of-state interests above and beyond those imposed on in-state interests.

We do not believe that the regulation is in conflict with the interstate commerce clause. Since the regulation applies equally to both in-state and out-of-state fleets operating within the state of California, there would not be an economic inequality as a result of the regulation. For information about the economic impacts and the methodology for the cost analysis, see Chapter XIV and Appendix J of the TSD.

d) Requirements for Public Schools

6. **Comment:** We firmly believe that the requirements your regulations will impose on our public schools are a reimbursable mandate as defined by Article XII B of the State Constitution and under Government code section 17514. That means we will be able to file claims to the State Commission on Mandates and we will eventually be reimbursed by the state. We do not think it is appropriate at this time to worsen the deteriorating fiscal condition of the state by another $500 million. (SUHSD1)

7. **Comment:** We firmly believe that the requirements your regulations will impose on our public schools are a reimbursable mandate as defined by Article XII B of the State Constitution and under Government code section 17514. That means we will be able to file claims to the State Commission on Mandates and we will eventually be reimbursed by the state. We do not think it is appropriate at this time

to worsen the deteriorating fiscal condition of the state by another 500 million. Consequently, we would urge the ARB Board to make all their requirements on school buses contingent on available funding. We would work hard with ARB to obtain that funding. (FCAM)

8. **Comment:** School districts will have to spend $500 million in the next ten years to do what the rule requires. Five hundred million dollars and the replacement of the school buses and the installation of the traps and maintaining them. We believe, your staff does not, that that is a state mandate under the constitution, a reimbursable mandate. It's a fiscal liability to the state of $500 million. You do not want to have in these fiscal times a newspaper article or a reporter or a headline that says you have passed regulations that have a potential $500 million state mandate. (MPPSTA3)

9. **Comment:** Section 6 of Article 13 B of the California Constitution is very clear that "Whenever the Legislature or any state agency mandates a new program or a higher level of service on any local government, the state shall provide a subvention of funds to reimburse that local government for the cost of the program or the increased level of service". The Commission on State Mandates processes the mandated claims. Not only will school districts be able to recover the costs of the traps or retrofits, but they will be able to recover all the costs associated with the mandates such as the costs of installation, disposal, electricity for cleaning, engine repair, and other such costs related to the trap.

   The school district will also be able to recover the full cost of the replacement school bus. By the year 2018, all pre-1987 and pre-1993 (two-stroke) school buses must be replaced. This is a reimbursable mandate. School districts will be able to recover the full cost of the new school bus. (STC)

Agency Response: Pursuant to Government Code sections 11346.5(a)(5) and (6), the Executive Officer has further determined that the board approved regulatory action would create costs for school districts, and may impose a mandate that would not be reimbursable by the State, pursuant to Government Code, title 2, division 4, part 7 (commencing with section 17500). The mandate which would require school bus engines to be retrofitted engines with the best available verified diesel emission control strategy is not reimbursable because the costs would apply to all school bus owners, not just school districts, as well as all other heavy-duty vehicles that operate in the State. To the extent that the regulation would require school districts to remove all school buses manufactured before April 1, 1977, that requirement also applies to all school bus owners and not to school districts alone. Additionally, school districts qualify for public funding grants under the California Clean School Bus Program (HSC section 4299.90) for replacement of all pre-1997 school buses that were in operation as of December 31, 2005.

It is estimated that the direct regulatory cost of the regulation for public school districts is $27 million from 2010 through 2017 based on 2008 dollars. Further information on the cost of the regulation to public and private school fleets may be found in Appendix K of the TSD.

2. Need for Emissions Reductions

a) Ambient Air Quality

1. **Comment:** Should California appeal to the Federal Government for an extension of time to meet air regulations? Considering what the government is doing to prop up various private companies, the state of California should be entitled to this consideration. (BSTS1)

2. **Comment**: We do not understand why the CA Air Resources Board is being asked by its staff to over-reach the requirements of the U.S. Environmental Protection Agency. (CCAA) (FCOAL)

Agency Response: Under the federal Clean Air Act (CAA), the U.S. Environmental Protection Agency (U.S. EPA) has established National Ambient Air Quality Standards (federal standards or NAAQS) for pollutants considered harmful to public health, including fine particulate matter (PM2.5) and ozone. The CAA mandates that California achieve the federal standards by specific dates based on the severity of the air quality problem in each of California's nonattainment areas. Areas in the State that exceed the federal standards are required to develop State Implementation Plans (SIPs) describing how they will attain the standards by their deadline. The South Coast and San Joaquin Valley must attain the PM2.5 standard by 2015 and the ozone standard by 2024. Since attainment requirements are such that the target ambient ozone levels must be achieved for the full year prior to the attainment date, we must realize the reductions by 2014 and 2023, respectively. This is the longest deadline allowed in the CAA. U.S. EPA does not have the authority to grant an extension from the CAA requirements.

To attain the federal ozone standard, the South Coast will need NOx (oxides of nitrogen) reductions of nearly 90 percent from 2006 levels. Similarly, the San Joaquin Valley will need to reduce NOx emissions by 80 percent. U.S. EPA has a national rule to cut emissions from new, on-road diesel engines, but this rule does not reduce emissions quickly enough for California to meet the federal attainment date. California must achieve the reductions more quickly by going beyond the U.S. EPA rule to advance the clean-up from the existing fleet.

3. **Comment:** In the Statement of Reasons prepared by staff they indicate that "without reductions from these vehicles, especially the South Coast and San Joaquin Valley, the state would be unable to attain federal ambient air quality standards". When the benefits of this regulation are aimed at the South Coast and San Joaquin Valley and the disproportionate burden is carried by rural counties that did not create the problem most logical people would realize this regulation is headed in the wrong direction and needs to be reconsidered, with the impacts to rural California in mind. (ALI1)

4. **Comment:** Whereas diesel particulate is a significant health risk in densely populated areas, the risks are greatly reduced in rural communities with lower traffic volumes and population densities. Mendocino County received an "A" rating in the American Lung Association's 2008 "State of the Air Report." (MCBS)

5. **Comment:** It is important to note that the farmers and ranchers of Monterey County are located in an air basin that does not exceed emission standards for NOx though we would be subject to a statewide standard under this proposed regulation. As a board member of the Monterey County Farm Bureau, I take pride in representing farmers and ranchers from our area who provide such a vast amount of food for the world. In fact, Monterey County is the fourth most productive farming county in the nation. (CCAA)

6. **Comment:** Rural fleets operate for the most part in particulate matter (PM) attainment areas and NOx exempt areas and are burdened by the same regulation as the counties that suffer from PM and NOx issues. (ALI1)

7. **Comment:** Last spring the Executive Officer for the Mendocino County Air Quality Management District stated that our county is at 1980 levels for PM and NOx. We have some of the cleanest air in the State. However we still have to comply with this regulation aimed at cleaning up our trucks just like the ones that run in the San Joaquin and South Coast Air Districts. The entire state of California should not be punished for the inability of two air districts to meet the required air standards. (ALI2)

8. **Comment:** Though the CARB staff report is unclear (p. 11), we believe the State's hard commitments to emission reduction are limited to 2014 for PM2.5 and 2023 for NOx. The State apparently has assigned itself a self-imposed interim target of 2017 to meet the San Joaquin air district NOx reduction even though the hard attainment commitment is 2023. It appears the proposed rule has been written to provide some level of assurance of meeting the State Implementation Plan for emissions reduction for the San Joaquin and South Coast Air Districts but then simply applied the performance requirements Statewide. (CFA1)

Agency Response: We believe reducing emissions throughout the state (including rural areas) will be beneficial for air quality and provide important health protection benefits for three reasons. First, reducing diesel PM emissions in rural areas is beneficial for people residing in these areas because diesel PM is toxic and exposure occurs wherever diesel vehicles are used. Second, some rural areas do exceed the federal and state health based ozone and PM2.5 standards, and NOx (as a precursor to both pollutants) reductions in these areas can provide some benefit to the local area by lowering local ozone and PM2.5 levels. Third, both diesel PM and NOx generated in rural areas can be transported to more densely populated downwind urban areas, thereby exacerbating poor air quality in those downwind areas.

ARB recognizes that the need for ozone-forming NOx reductions is not as urgent in rural areas as in urban areas. The regulation contains special provisions for vehicles that operate exclusively within certain designated attainment area counties in the state. These areas, termed NOx Exempt Area counties in the regulation, attain all federal air quality standards and do not contribute pollution to downwind areas that violate the standards. Any vehicle that operates exclusively in these areas would not have to meet the NOx requirement until 2021. This means no replacement is required until

January 2021. However, they would remain subject to the PM requirements which are phased-in from 2011 to 2014.

This regulation is needed to achieve attainment of the federal standards for both ozone and PM2.5 in several areas in California, but predominantly the larger urban areas. Reductions of PM and NOx emissions are needed by 2014 to meet the PM2.5 attainment deadline and by 2023 to meet the ozone attainment deadline. An interim target date of 2017 for ozone attainment was adopted by ARB for the San Joaquin Valley as part of an effort to accelerate progress toward ozone attainment before 2023. That said, while diesel PM emissions do contribute to ambient concentrations of PM2.5, the primary driver for the diesel PM requirements is not the need to attain the federal PM 2.5 air quality standards, but instead the need to reduce the public's exposure to the toxic effects of diesel PM. Diesel PM is a primary contributor to adverse health impacts, including an estimated 70 percent of the average cancer risk from all toxic air contaminants. Exposure to diesel PM occurs wherever diesel vehicles are being used regardless of whether the area attains federal air quality standards or not, or whether the area is urban or rural. Localized diesel PM hotspots cause significant exposure risks along roadways where most people live.

This regulation is also consistent with existing ARB policy regarding diesel PM emission reduction strategies, which typically do not distinguish between different regions of the state when it comes to reducing diesel PM emissions. Numerous regulations including the transit bus regulation, the solid waste collection vehicle regulation, the stationary engine air toxic control measure, the off-road regulation, and others all provide for the installation of PM filters on the same schedule, regardless of location. The Diesel Risk Reduction Plan adopted in 2000 directed ARB to reduce emissions of diesel PM to reduce risk for all Californians.

9. **Comment:** The American Lung Association in their State of the Air Report published May 1, 2008, stated "Los Angeles, despite being ranked atop two of the three most-polluted lists, saw continued improvements in air quality, dropping its year-round particle pollution levels by nearly one-third during the last decade, and saw solid improvement in levels of ozone or "smog," a gas formed most often when sunlight reacts with vapors emitted when motor vehicles, factories, power plants and other sources burn fuel". The comments of the American Lung Association show we are doing a good job of correcting the problem. If we continue to follow a rational program of improvement over time, we can have the cleanest air in the nation and a thriving economy. (ALI1)

Agency Response: ARB and air district rules are responsible for substantial improvements in air quality in the South Coast and other areas. Staff agrees that NOx and PM emissions are projected to decrease, even in the absence of this regulation, from now through 2023 due to the normal attrition of older engines that are replaced with new engines (which are certified to the increasingly stringent engine standards). However, this rate of decline is not sufficient to meet California's emission reduction goals on time. This regulation is necessary to accelerate reductions from trucks and

buses so that California can meet federal requirements and reduce the exposure to harmful emissions as quickly as possible.

b) State Implementation Plan Commitments

10. Comment: We are greatly concerned that the state's plan for attainment of health-based air quality standards in the San Joaquin Valley and the South Coast region is so heavily dependent on the emission standards set by this regulation along with the successful implementation and enforcement of these standards. For example, while the ARB inventory shows that the newly-added agriculture provision will allow the South Coast and San Joaquin Valley to meet SIP commitments, there is no margin for error. A simple inventory error, low compliance rates, changes in compliance dates, or different weather, VMT, vehicle, and population projections may result in just a slight increase of emissions, which may cause a region to fail to meet its SIP commitments. We therefore ask that the Board adopt a rule that will obtain the reductions needed to provide a margin of safety in meeting SIP commitments. (CTBRC)

11. Comment: This rule is critical to meeting SIP commitments in the San Joaquin Valley and South Coast region, but the commitments are so heavily dependent on the emission standards in this regulation and its enforcement, that there is no margin for error. To ensure compliance, the Board should adopt a rule that will obtain the reductions needed to provide a margin of safety in meeting SIP commitments, including requiring vehicle inspections and third-party evaluations. (BCA1)

Agency Response: ARB's SIP commitment is to achieve the total emission reductions needed for attainment. The reductions may be achieved through a combination of actions including but not limited to the implementation of specified control measures such as the *Cleaner In-use Heavy–duty Trucks* measure. In the SIP, we provide estimates of the benefits we expect to achieve from each proposed measure. These estimates are based on the best information staff has available when the SIP is drafted. If during the course of rulemaking a measure does not achieve the expected emission reductions, the State still must achieve the total emission reductions needed for attainment. The state would still secure the reductions with additional rules or programs. As a result, the uncertainty in reduction estimates described by the commitment is addressed by the form of the state SIP commitment.

12. Comment: We ask the Board to restrict the staff's proposed exemptions for agricultural trucks and provide a margin of safety for meeting SIP commitments. (EDF1) (CAFA1) (LBCPTA) (SOLAC) (SJC)

Agency Response: In developing the agricultural vehicles provisions, staff ensured that the expected emissions reductions for the regulation as a whole are met in every year in the South Coast and the San Joaquin Valley. The regulation as a whole is sufficient to meet the reduction estimates from this SIP measure. In addition, staff will be collecting data to evaluate the potential risk impacts of the agricultural vehicles provision, and if appropriate, will develop recommendations to ensure that the provision

does not result in an unacceptable risk to communities. Any additional control measures necessary to limit risk could result in additional emissions reductions.

13. **Comment:** Several signers of this letter are concerned about Board Resolution 03-22, which directed ARB staff to adopt rules to achieve major reductions from diesel trucks by 2010 with specific targets for VOC and NOx reductions in 2006 and 2010. ARB staff has not adopted the regulations in Resolution 03-22 and have withdrawn the resolution, without Board authorization, from EPA review and approval into the SIP. In order for the South Coast and San Joaquin Valley to attain the one-hour ozone standard by 2010, the Board and staff should resolve this issue and seek to achieve the reductions sought in Resolution 03-22. (CTBRC)

14. **Comment:** We have concerns regarding the Board's previous commitments to achieve reductions in diesel truck emissions and the ability to meet the 1-hour ozone standard by 2010. Specifically, we draw the Board's attention to Resolution 03-22, which the Board adopted in 2003. The resolution directed ARB staff to adopt rules to achieve major reductions from diesel trucks by 2010. The resolution requires reductions in the South Coast air basin of 49 tons per day of VOC and 37 tons per day of NOx reductions through 2006 and approximately 97 of NOx and VOC by 2010. It also included reductions between 118 and 233 tons per day of VOC and up to 159 tons per day of NOx in long-term commitments by 2010. Unfortunately, the proposed rule does not effectuate the commitments made by the Board, as it does not deliver reductions until well after 2010, forcing the public to bear this extra pollution for longer. The Board must ensure that these targets are met in order to protect public health in the South Coast and the San Joaquin Valley air basins and assure attainment of the 1-hour ozone standard by 2010.

    Even though EPA revoked the 1-hour standard in 2005, EPA policy, which has been upheld by the courts, requires that mandatory control measures to attain the 1-hour standard remain in place to attain the eight-hour standard. [69 Fed. Reg. 23951, 23954 (Apr. 15, 2004)]. The D.C. Circuit Court of Appeals affirmed this EPA policy and held that EPA's decision to remove "one hour penalties, rate-of-progress milestones, contingency plans, and motor vehicle emissions budgets" and New Source Review violated the CAA. [See *South Coast Air Quality Management District v. United States Environmental Protection Agency*, 472 F.3d 882, 900 (D.C. Cir. 2006).] Further, the South Coast and the San Joaquin Valley are unlikely to achieve the critically needed relief from air pollution that would result from attaining the 1-hour ozone standard by 2010. See the Proposed Modifications to the Draft 2007 AQMP ("By 2010, this plan shows that the Basin will still exceed the federal 1-hour ozone standard by more than 30 percent despite implementation of the 2007 AQMP control measures.") Failure to attain that standard by 2010 will impose harsh penalties, including a fee on major stationary sources ($5,000 per ton in 1990 dollars for emissions greater than 80 percent of a source's 2010 baseline). (ECOAL2) (ECOAL3)

15. **Comment:** Three years ago the Board adopted two resolutions, 03-22 and 03-23; both of which committed to significant mobile source reductions so the South Coast air basin would attain the one-hour ozone standard before 2010. The regulation today does not deliver reductions before 2010. It should in order to meet this Board's earlier commitments. When there is failure to attain the standard, stationary sources in the South Coast and the San Joaquin Valley will pay stationary source fees under Section 185 of the Clean Air Act – stationary sources that have done their part to reduce emissions. This Board has not done its part to reduce mobile source emissions to help that air basin attain the 1-hour ozone standard. (CRPE1)

16. **Comment**: It is imperative that the On-Road In-Use Truck and Bus Rule meet and preferably exceed the commitments made in Resolution 03-22 and in the 2007 Ozone Plan or exacerbated health effects and millions of dollars in fees on businesses will result. We hope that the Board takes this opportunity to strengthen the On-Road In-Use Truck and Bus Rule to protect the public's health and honor its previous commitments to reduce diesel emissions in the South Coast air basin. (ECOAL2) (ECOAL3)

Agency Response: The 2003 SIP commitment (referred to as Resolution 03-22 in above comments) was to bring an on-road, heavy-duty truck measure (ON-RD HVY-DUTY-3) to the Board between 2003 and 2006 that would, at a minimum, achieve between 1.4 and 4.5 tons per day ROG reductions and between 16 and 21 tons per day NOx reductions in the South Coast in 2010. The ON-RD HVY-DUTY-3 measure included several approaches to clean-up the fleet – fleet rules, an engine software upgrade known as Reflash, on-board diagnostics (OBD), in-use vehicle testing, and reduced idling.

A voluntary chip reflash rule was adopted in 2004, and idling limits for trucks were adopted in 2004 and 2005. In addition, ARB adopted a specific fleet rule for solid waste collection vehicles in September 2003 and expanded its public utility fleet rule in December 2005. As shown in the table below, ARB adopted, by 2006, regulations that achieved the reductions anticipated from all the approaches envisioned in the ON-RD HVY-DUTY-3 in the 2003 SIP. ARB adopted a heavy-duty Engine Manufacturer Diagnostic regulation in 2004 and OBD regulations in 2005. These regulations did not produce SIP-creditable reductions; therefore they are not included in the list of SIP adopted measures.

ARB Adopted Measure	Adoption Date	South Coast NOx reductions tons per day 2010
Solid Waste Collection Fleets	September 2003	1.1
Chip Reflash	March 2004	8.0
Idling Limits for Diesel Trucks	July 2004	3.8
Sleeper Truck Idling	October 2005	8.5
Public and Utility Fleets	December 2005	0.1
Total Emission Reductions from 5 Adopted Rules		*21.5*
2003 SIP Expected Reductions from ON-RD HVY-DUTY-3, to be brought to the Board by 2006		*16-21*

Having already achieved the reductions envisioned from diesel trucks in the 2003 SIP, this regulation and the 2007 State Strategy go far beyond what was envisioned in the 2003 SIP. The 2003 strategy envisioned cleaning up 70 – 90 percent of the pre-2004 truck fleet with retrofit diesel particulate filters and NOx retrofit strategies; while this regulation will clean up 100 percent of the truck fleet to 2010 levels (NOx and PM2.5) by 2023. This ground breaking regulation is the first in-use truck fleet regulation in the nation.

17. **Comment:** We would like to see specific documentation of the annual reductions expected from implementation of the On-Road In-Use Truck and Bus Rule in comparison to the reduction of PM, NOx, and VOC committed to in the SIP and Resolution 03-22, including both attainment and reasonable further progress (RFP) commitments. (ECOAL2) (ECOAL3)

Agency Response: A direct comparison is difficult because the milestone years for the regulation and in the 2003 SIP are different and because ARB has improved the emission inventory between 2003 and today. Nevertheless, the table below shows the expected emission reductions from this regulation for the years 2014, 2020 and 2023 in the South Coast.

South Coast Expected Emission Reductions from the On-Road In-Use Truck and Bus Rule Adopted in 2008
(Emission reductions in tons per day)

Pollutant	2014	2020	2023
ROG	5	2	2
NOx	60 plus 6 equivalent tons	27	22
PM2.5	3.5	--	--

The table below shows the expected emission reductions from the fleet rule portion of the on-road heavy-duty truck measure envisioned in the 2003 SIP. As mentioned in the

response to comment 11, the reduction estimates in this table are not a SIP commitment. The 2003 SIP commitment was to achieve aggregate emission reductions in specific target years from a combination of actions that include, but was not limited to, the on-road, heavy-duty truck measure.

ON-RD HVY-DUTY-3: Pursue Approaches to Clean Up the Existing and New Truck/Bus Fleet: In-Use Emission Control Estimated Emission Reductions – South Coast
(Emission reductions in tons per day in 2010, summer planning inventory)

Pollutant	2005	2006 (Annual Average)	2008	2010	2020
ROG	0.04 – 0.09	0.09-0.3	0.8 – 2.6	1.4 – 4.5	0.5 – 1.7
NOx	Not Quantified			8 - 10	NQ
PM10	0.02 – 0.04	0.03 – 0.2	0.2 – 1	0.4 – 1.6	0.2 – 0.5
CO	Not Quantified			6 - 18	NQ

The easiest comparison is for ROG reductions in 2020 which shows that this regulation achieves the reductions envisioned in the 2003 SIP.

18. Comment: This rule is critical to meeting the obligations in the SIP. Every ton of reduction that can be achieved goes towards meeting ARB's duty under the State strategy. Once this rule is adopted, the Board must submit it to EPA for inclusion in the State SIP, which the Board currently does not do. Inclusion in the State SIP is necessary for three reasons. First, the EPA has to approve the rule as an adequate measure to meet SIP requirements. Secondly, this will give clarity as to how and if the SIP commitments are being satisfied. And thirdly, submission of the rule to EPA allows the public to enforce the rule under the federal law. So I urge you to make a strong commitment in this rule and also to submit it to EPA for inclusion in the SIP. (CRPE2)

Agency Response: ARB plans to submit the regulation to U.S. EPA for inclusion in the SIP.

19. Comment: Earlier this year, at one of the workshops in Fresno, the staff told us that even with this rule we would not meet our SIP requirements. That becomes a heavy issue if we don't meet the SIP requirement and we're going to put everyone out of business. What are we doing this for? (EMTI)

Agency Response: Results of photochemical modeling show that substantial reductions in NOx, ROG and PM2.5 emissions are necessary to achieve the federal air quality standards in the San Joaquin Valley, the South Coast Air Basin, and other areas in the state. Emissions reductions achieved by the truck rule will contribute significant reductions to the total required for the standards, but will not provide enough reductions, on their own, for the areas to attain the standards. ARB is working to identify new technologies and develop other rules to achieve the remaining reductions. The CAA

allows plans for extreme ozone nonattainment areas, such as the South Coast and San Joaquin Valley, to rely on reductions from new technologies. Ozone SIPs for these areas rely on new technology reductions and are federally approvable.

20. **Comment:** In October of 2007, hundreds of valley residents came before this Board on the 8-hour ozone plan and asked you to accelerate clean air of ozone in the San Joaquin Valley. At that time, the Board decided the best move was to do a 2024 deadline, and we became extreme non-attainment. But at that time, you also increased your commitment to accelerate despite that deadline. And part of the commitment was the diesel truck rule and ensuring that more emission reductions would come from that. We're appreciative of that. We look forward to seeing you fulfill that commitment today. I want to remind the Board that despite a strong healthy truck rule we're going to pass today; we still have more to do. Our black box contains well over 50 percent of the emission reductions still needed to get to that deadline. So with that in mind, I just ask you once again to continue to fulfill that commitment. (CVAQC)

21. **Comment:** I feel that the 2008 Ozone Plan needs to be a lot more effective in prohibiting the amount of diesel trucks that emit pollutants here in the Central Valley. With exemptions to agricultural vehicles, the Central Valley becomes vulnerable to air pollution because the valley is home too much of the agriculture in the United States. It seems like the Ozone Plan was a token gesture used to shut people up until they forgot about the issue of the air quality in the area. The issue is a concern here in the Central Valley because many of those who are at risk to environmental and health hazards involve children. (JFLOR)

22. **Comment:** Over the past year, California has submitted to EPA plans to meet the federal ozone and fine particulate standards in the South Coast and the San Joaquin Valley. These plans show both areas which are home to more than 19 million of the state's residents need additional significant reductions in NOx and PM2.5 to meet the ambient standards and to protect the public's health. Without the reductions from the proposed in-use diesel rule, the California State Implementation Plan will not demonstrate attainment of the health-based standards and will not provide Californians the clean air they deserve. EPA has issued national rules to cut emissions from new on-road and non-road engines by more than 90 percent by combining stringent emissions standards for diesel engines with clean diesel fuel. EPA standards help to ensure basic health and protect environmental protection for all of us, but they do not apply to trucks already on the road. Congress gave EPA very limited authority in the Clean Air Act to control emissions from in-use mobile sources. US EPA and California have the same goals: protecting public health and the environment. The benefits from California's proposed in-use truck and bus rule are vital to the State's efforts to meet Clean Air Act requirements and to improve and protect the public's health. (USEPA)

23. The Sacramento Metropolitan Air Quality Management District commends the staff for their hard work on this regulation. Just like the South Coast and San Joaquin Air Districts, Sacramento will not meet its current or upcoming SIP targets without

adoption of this rule. In addition this rule will provide great toxics reduction benefits for the citizens of Sacramento County. (SMAQMD)

Agency Response: ARB staff recognizes the tremendous challenge that areas like the South Coast, the San Joaquin Valley and Sacramento face meeting their attainment dates for ozone and particulate matter. Without the reductions from this regulation, these and other California areas will be unable to attain federal ambient air quality standards. Having said that, ARB staff is still working with the districts to find the additional avenues needed to reduce emissions and bring all of California into attainment for the federal standards.

3. Health Effects

a) Methodology

1. Comment: During the development of this rulemaking, ARB staff made a draft report updating a portion of the staff's benefits methodology available for public comment.[3] Air Improvement Resource, Inc. (AIR) reviewed that report and provided comments to the staff.[4] The recently-issued final staff report[5] includes our comments in the supplement and includes responses to our comments in Appendix 5 along with responses to other public comments.

The regulatory documents for the proposed rules indicate that a large proportion of the estimated monetized benefits result from avoiding premature death.[6] For example, the Technical Support Document indicates that cumulative benefits over the period 2010 to 2025 will be between $48 billion and $69 billion depending on the discount rate assumed, while estimated benefits from avoided morbidity range from $350 million to $500 million. Therefore, the overwhelming proportion of the estimated benefits come from avoided premature mortality. The TSD also notes that approximately 68 percent of the benefits are from PM from NO_X emissions and the remaining 32 percent from direct PM emissions.

Since the new methodology for estimating premature deaths associated with long-term exposures to PM2.5 in California plays a key role in the benefits estimates in the proposed regulations, it is important to determine the scientific credibility of the

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[3] California Air Resources Board, May 22, 2008 Draft Staff Report "Methodology for Estimating Premature Deaths Associated with Long-term Exposures to Fine Airborne Particulate Matter in California."

[4] J. M. Heuss, Air Improvement Resource, Inc., Comments on Air Resources Board May 22, 2008 Draft Staff Report "Methodology for Estimating Premature Deaths Associated with Long-term Exposures to Fine Airborne Particulate Matter in California," Prepared for the Alliance of Automobile Manufacturers, July 11, 2008.

[5] California Air Resources Board, October 24, 2008 Staff Report "Methodology for Estimating Premature Deaths Associated with Long-term Exposures to Fine Airborne Particulate Matter in California."

[6] October 2008 Technical Support Document, Proposed Regulation for In-Use On-Road Diesel Vehicles, at page164 and Appendix D at page D-8.

methodology staff used. Although there were a number of substantive public comments on the proposed methodology, there was little or no change in the final staff report. Although AIR and others raised numerous concerns with the assumptions made in the May 22 draft staff report, a large number of these points were not addressed or only addressed superficially in the staff's response to comments. In particular, there is a growing body of evidence that neither direct diesel PM nor nitrate PM can cause the increased risk of premature mortality that staff ascribes to the diesel source in the proposed regulations. As a result, the estimated benefits of the proposed regulations are largely illusory and, if so, will not accrue to the people of California if the regulation is implemented as proposed.

AIR's review of the comments and staff responses to comments indicates that the staff accepts uncritically findings that agree with its position and either fails to address findings that disagree with its position or finds reasons to discount these findings. This is not a scientifically sound approach. In particular, there is substantial evidence that the assumption that all ambient PM is equally toxic, which is necessary to apply the staff's methodology, cannot be supported. In particular, the July 11, 2008 AIR comments documented that the spatial and temporal pattern of results from the existing chronic and acute exposure studies is not consistent with the assumption inherent in the analysis that there is a mortality effect of generic ambient PM2.5. The assumption inherent in regulating all PM2.5 as if it were equally toxic also is not consistent with the large body of toxicological data on either individual PM2.5 components or ambient PM2.5 mixtures. In addition, if low doses of ambient particles were causing the serious health effects implied by the statistical associations relied upon in the staff's analysis, then low doses of particles should be causing similar effects in other exposure situations. As shown in the earlier AIR comments, this is not the case.

The final October 24 staff report supports the assumption of equal toxicity with the claim that "…time-series and national cohort studies have shown that the mortality effects of PM in California are comparable to those found in other locations in the United States (Dominici et al. 2005, Franklin et al. 2007, Jerrett et al. 2005a; Pope et al. 2002)."[7] The final report also acknowledges that the expert solicitation relied heavily on the Jerrett et al. 2005a study and that the "analysis by Jerrett (2005a) of the ACS cohort in Los Angeles shows that as exposure estimation is refined with sophisticated modeling, the effect increases (RR 1.17 compared to RR 1.06 in Pope et al.)"[8] In fact, the results from the Jerrett et al. study were a major factor in the ARB decision to re-evaluate the PM2.5 mortality benefit methodology.

In contrast to these claims in the final staff report, there is substantial evidence of heterogeneity in the observational data indicating that the cardiovascular PM/mortality associations in the Eastern United States are not transferable to California. In addition, there is substantial evidence that the pollutants that would be reduced by the proposed regulations, primary PM from diesel vehicles and

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[7] October 24, 2008 Staff Report at page 44.

[8] October 24, 2008 Staff Report at page 27.

secondary PM from NO_X emissions, do not cause significant cardiovascular health effects. Finally, the health risk assumed by ARB for ambient PM2.5 is not consistent with the health risk of PM in other exposure situations. The scientific findings in all three of these categories argue against the assumptions underpinning ARB's methodology and were not adequately addressed by ARB staff in its evaluation of and response to comments. (AIRI)

Agency Response: The commenter asserts that comments on the May 22 draft of the PM mortality staff report were not addressed or only addressed superficially. Every comment on the PM mortality report received serious consideration. Changes to the document based on the comments included an expanded discussion of the Health Effects Institute reanalysis of the ACS cohort study, and an additional level of peer review to evaluate the methodology for estimating diesel PM concentrations. Also, some commenters suggested that CARB put greater emphasis on the Enstrom (2006) study. CARB staff convened a teleconference with Dr. Enstrom and several prominent epidemiologists to discuss his findings. We amended that portion of the report to reflect the discussion regarding Dr. Enstrom's study.

The commenter states that there is a growing body of evidence that neither direct diesel PM nor nitrate PM can cause the increased risk of premature mortality. ARB staff disagrees that there is a "growing body of evidence" refuting the association between long-term exposure to PM2.5 and premature mortality. For the October 24 staff report (PM2.5 Mortality staff report) we only used scientific publications from the open peer-reviewed literature. We considered 78 peer-reviewed scientific journal articles and eight reports from the National Academies of Science, the U.S. Environmental Protection Agency and the World Health Organization. We did not include secondary literature, such as books or opinion pieces.

The ARB does not accept the findings of any scientific study without critical evaluation. The report went through three levels of formal, independent, external peer review. First, we only used information from published peer-reviewed journal articles. Second, we received comments throughout the process from nationally recognized scientific advisors: Dr. Jonathon Levy from Harvard, Dr. Arden Pope from Brigham Young University and Dr. Bart Ostro from the Office of Environmental Health Hazard Assessment. They publish frequently in the areas of air pollution and statistical relationships with premature death, the main subject of our report. They reviewed all aspects of our work, including all publicly released versions of the report, and concurred with our finding.

The third level of peer review came from the UC Berkeley Institute of the Environment, which selected six peer reviewers for the report. Our draft report was reviewed following the Cal/EPA external scientific peer review guidelines for independent review. In this process the UC Berkeley Institute of the Environment selects the peer reviewers without input from staff. Staff was only allowed to submit a list of individual who may have a conflict of interest and so could not participate. Furthermore, candidates were accepted as reviewers only if the disclosure information showed they had no conflict of interest related to the report.

The six reviewers identified by UC Berkeley and selected by the Cal/EPA Project Director to review the proposed methodology in the PM2.5 Mortality staff report are: Dr. Jeff Brook from Environment Canada, Professor Mark D. Eisner of UC San Francisco, Professor Richard C. Flagan of the California Institute of Technology, Professor Alan Hubbard of UC Berkeley, Professor Joel Kaufman of University of Washington and Professor Joel Schwartz of Harvard University. Collectively, their expertise is based on research in the areas of chronic obstructive pulmonary disease related to air pollution, statistical analysis of epidemiological data, particle formation and measurements in air, air quality risk management, air pollution and daily mortality associations, and epidemiology. They all concurred with our basic conclusions.

An additional independent review panel of worldwide PM health effects experts was convened at the request of Board Chairman Mary Nichols. Participants included U.S. EPA, Environment Canada, the World Health Organization, the Chairs of Cal/EPA's Clean Air Scientific Advisory Committee and Scientific Review Panel, the Health Effects Institute and several internationally recognized academic researchers. There was general concurrence on the basic conclusions of the report.

Lastly, at the request of the Engine Manufacturers Association, the diesel soot exposure estimates were reviewed by Professor Philip Hopke of Clarkson University. Dr. Hopke was supportive of the basic conceptual framework of ARB's approach (see http://www.arb.ca.gov/research/health/pm-mort/pm-mort_app6.pdf), and asked for additional information that was included in the final report.

The commenter states that if low doses of ambient PM are causing adverse health effects, then low doses of particles in other exposure situations should be causing similar effects. Health effects associated with low doses of any pollutant are difficult to detect. They require large, well controlled cohort studies for adequate exposure assessment. These cohorts exist for exposure to ambient air pollution and for truckers. Both have measured an increased risk of adverse health effects associated with exposure to PM.

CARB staff did assume that ambient PM is equally toxic independent of source. CARB staff agrees that research needs to be conducted to explore the relative toxicity of diesel and other sources of PM. In the absence of additional information, staff can only assume that all components of PM are equally toxic. As discussed in the PM Mortality Report, the extensive animal toxicology literature on the health impacts of diesel PM exposure leads to the conclusion that diesel PM is at least as toxic as the general ambient PM mixture.

On the issue of transferability of cardiovascular mortality associated with PM exposure observed in the Eastern United States, please see response to comment number 2 in the Health Effects section.

2. Comment: Pattern of Results in Observational Studies

The October 24 staff report uses selected studies (that the staff favors) to claim that mortality effects in California are comparable to those found in other locations. However, a more thorough review of the available studies indicates that there are

major spatial and temporal differences across the country that argue against assuming that California is like the rest of the nation with regard to mortality associations. As documented in AIR's July 11 comments, the Health Effects Institute (HEI)-sponsored re-analysis of the Six-City and ACS studies showed that 1) the increased risk was cardiovascular not respiratory, 2) one gaseous pollutant, SO_2, had a strong association with mortality, 3) when SO_2 was included in the model the PM all-cause mortality association was materially reduced and became non-significant, 4) the increased mortality was experienced in the portion of the cohort that had a high school education or less, and 5) there was a significant spatial heterogeneity in the association, with no effect seen in western U. S. cities. In particular, during the review of the federal PM standards in 2001, EPA staff pointed out the significant spatial variation in the data with actually a negative estimate of excess PM2.5 mortality risk in the West.[9]

A recent analysis by Zeger et al.[10] that is discussed in the October 24 staff report confirms the large spatial difference in effect in a cohort of 13 million Medicare enrollees. When introducing the study in general, the October report cautions that effect estimates for the Medicare cohort may be biased upward due to lack of adjustment for individual level risk factors. Nevertheless, when addressing the fact that although Zeger et al. reported statistically significant results for the eastern and central United States that are in general agreement with previous publications, Zeger et al. found no significant effect of PM2.5 on mortality in the western United States, staff noted that this result (in the west) may be due to lack of control for individual level covariates in the analysis. Based on this expressed concern, staff leaves the Zeger et al. results out of its analysis. This is a classic example of finding a reason or excuse to ignore a result that does not fit into or support the staff's view. In contrast, the concern over lack of control for individual level covariates should raise the issue that the effects reported in the eastern and central U.S. may be biased upward.

There are two California-specific cohort studies that AIR discussed in the July 11 comments that also find little or no PM mortality signal. While the results from the Enstrom (2005)[11] study of a cohort of 36,000 in 11 California counties and the

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[9] Grant, L.; EPA Staff Presentation to CASAC, July 23, 2001; Key Revisions and Scientific Issues for Second External Review Draft of Air Quality Criteria for Particulate Matter; Slide 46 indicates an excess risk from 10 µg/m3 PM2.5 in the ACS cohort of +29 % in the Industrial Midwest, +25 % in the Southeast, +14 % in the Northeast, and –9 % in the West (West is a combination of cities in the Northwest, Southwest, Upper Midwest, and Southern California. NMMAPS geographic regions).

[10] Zeger, S.L.; Dominici, F.; McDermott, A.; Samet, J.M. Mortality in the Medicare Population and Chronic Exposure to Fine Particulate Air Pollution in Urban Centers (2000-2005). Environ. Health Perspect. (2008), online August.

[11] Enstrom, J.E.; Particulate Air Pollution and Total Mortality Among Elderly Californians, 1973-2002; *Inhal. Toxicol*., 2005, 17, 803-816.

AHSMOG cohort of 6,338 non-smoking Seventh Day Adventists[12] are included in Table 1 of the October report, staff finds reasons to omit these studies from the mix used to develop its dose-response factor. As noted in Table 1, no significant positive associations of PM with mortality were found in AHSMOG with 15 years of follow-up (the excess cardiopulmonary risk for 20 µg/m^3 PM10 was 0.6% with 95th percentile confidence limits of -8%, 10%). Although the Chen et al. (2005)[13] update reports a positive association with a subset of cardiovascular deaths in females but not males with 22 years of follow-up, they include a comment that in extended follow-up of cardiopulmonary mortality in the total AHSMOG cohort through 1998 using the same models as previously, "we continue to find slightly stronger association in males than in females (unpublished data)." The fact that Chen et al. do not report these results suggests that their update found no overall cardiopulmonary effect, so this study does not support the ACS and Six-City findings. The omission of results calculated in a way that can be directly compared with the earlier study and with other studies in the literature is a serious oversight. Since this is a California study, ARB should contact the authors and request the data be provided on a basis that can be compared to the other studies in the literature.

Instead of utilizing all the available results, the staff finds reasons to disregard the Zeger et al., Enstom, and AHSMOG studies and instead relies heavily on the Jerrett et al. 2005 study that reported higher fine PM/premature death associations in the 23,000 members of the ACS cohort that lived in metropolitan Los Angeles. Staff rationalizes that the Jerrett et al. study found higher effects because of the refined exposure estimates based on sophisticated modeling. However, there are two other examples of refined spatial analyses that do not support this conclusion. Both AIR and HEI provided public comments noting an extended follow-up and spatial analysis of the ACS cohort being carried out for the Health Effects Institute that found that, unlike the Los Angeles results, "mortality for all-cause, cardiopulmonary, and lung cancer deaths was not elevated in the New York spatial analysis."[14] The new HEI study reports, in agreement with earlier analyses, that the PM2.5 signal in the ACS cohort is an association with cardiovascular and not respiratory deaths; in fact, elevated PM2.5 appeared to be somewhat protective against respiratory deaths. The October report dismisses consideration of the new HEI study because it is not yet in the peer reviewed literature.

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[12] Abbey, D. E.; Nishino, N.; McDonnell, W. F.; Burchette, R. J.; Knusten, S.F.; Beeson, W. L.; Yang, J. S,; Long-Term Inhalable Particles and Other Air Pollutants Related to Mortality in Non-Smokers, *Am. J. Resp. Crit. Care Med*., 1999, 59, 373-382

[13] Chen, L.H.; Knutsen, S.F.; Shavlik, D.; Beeson, W.L.; Petersen, F,; Ghamsary, M.; Abbey, D.; The Association between Fatal Coronary Heart Disease and Ambient Particulate Air pollution: Are Females at Greater Risk?; *Environ. Health Perspect*., 2005, 113, 1723-1729.

[14] Krewski, D. et al. ; Health Effects Institute Annual Conference 2008, Program and Abstracts, abstract at page 33

However, there is a third refined spatial analysis that is included in the October report but its findings are not explicitly considered in relation to the staff's interpretation of Jerrett et al. The October report discusses a Netherlands pilot study, Hoek et al. 2002, and indicates that a more recent study of the same cohort, Beelen et al. 2008, reinforces the conclusions of the pilot study and lends convincing support to the general link between premature death and PM. This description is misleading. First, the 2008 study involved the full cohort of over 120,000 subjects whereas the pilot study was only 5,000 subjects from the cohort. Second, the associations in the full cohort were much lower than for the pilot study, with none of the PM2.5 associations in the full cohort being statistically significant. Third, the strongest associations were with respiratory mortality. Thus, although Beelen et al. assessed air pollution on an even finer spatial scale than Jerrett et al., they report lower relative risks and, if anything, a respiratory signal as compared to the cardiovascular signal in the ACS cohort.

Staff relies heavily on the Jerrett et al. study in developing the dose-response relation. However, a close reading of the study indicates that it should not be relied upon as the only California study included the in the analysis. Jerrett et al. 2005 extracted data on almost 23,000 subjects in the Los Angeles area from the ACS cohort for the period 1982-2000, with more than 5,000 deaths. Pollution exposures were interpolated from 23 fine PM and 42 ozone fixed-site monitors. After controlling for 44 individual covariates, they reported a significantly increased risk of mortality associated with fine PM for all-cause, ischemic heart disease, and lung cancer mortality. The only joint pollutant analyses were with ozone, and the authors conclude that the PM results were robust to adjustments for ozone and expressway exposure. The authors also state that the magnitude of fine PM effects are about three times as large as those found in earlier studies, the clear implication being that the better exposure estimates obtained by interpolation of the pollution data "suggest the chronic health effects associated with within-city gradients in exposure to PM2.5 may be even larger than previously reported across metropolitan areas." Based on the two studies noted above, we now know that this is not necessarily the case. In addition, when contextual covariates related to socioeconomic status were included in the analyses, the associations of fine PM with total, ischemic heart disease, and lung cancer mortality were substantially attenuated and became either statistically insignificant or only borderline significant. For example, the all-cause mortality association was reduced from 1.17 (1.05-1.30) to 1.11 (0.99-1.25) per 10 $\mu g/m^3$ increase in PM2.5. Finally, the major cause of death that dominated the excess risk and was the only major cause statistically significantly elevated in the analyses with fine PM and individual covariates was ischemic heart disease. Thus, the mortality signal in Jerrett et al. is with a subset of cardiovascular diseases and that signal is only borderline significant in the more complete analyses.

There are clearly major spatial differences in the full body of cohort studies of chronic mortality. The high probability that the association of risk of cardiovascular death in the central and eastern U. S. with PM2.5 is unique must be considered by the ARB. If the staff had included the Enstom, Zeger, and AHSMOG results in the

analysis and used the Jerrett et al. result with contextual covariates, the low end of their credible range would have been 0%. Thus, by excluding relevant California studies from their thinking and including potentially irrelevant studies, ARB has biased the results high.

The overall patterns in acute observational studies are also not consistent with a generic PM2.5 effect. As noted above, the health effects signal in the long-term cohort studies is a cardiovascular signal in the central and eastern portion of the U. S., with actually a negative association in the west. There are similar regional differences in the acute studies. Of the available multi-city studies, NMMAPS is the most comprehensive for mortality and the recent Dominici et. al. (2006) analysis is the most comprehensive for hospital admissions. Although NMMAPS used PM10 data, the PM signal would include both fine and coarse PM effects and the results have been evaluated by region. The staff relies on the Dominici et al. 2005 analysis by region, but a seasonal NMMAPS analysis by Peng et al. that includes both temporal and spatial effects is now available.[15] Using updated mortality data from 1987-2000 in 100 cities, the analyses by season show that the combined association at lag 1 was greatest during the summer. Summer was the only season for which the combined effect was statistically significant. An analysis by geographical regions showed a strong seasonal pattern in the Northeast with a peak in the summer and little seasonal variation in the southern regions of the country. The authors acknowledge that there are several possible explanations for their results. One obvious hypothesis is that the most toxic particles have a spring/summer maximum and are more prevalent in the Northeast.

The Dominici et al. 2006[16] study evaluated fine PM hospital admissions associations for 204 U. S. urban counties with a population greater than 200,000 using 1999-2002 Medicare hospital admission data. The results are presented for a two stage Bayesian analysis for various types of admissions and by region. Combined associations of the order of 1% increase in various cardiovascular or respiratory outcomes per 10 $\mu g/m^3$ increase in PM2.5 are reported. The authors report strong evidence of spatial heterogeneity in the PM2.5 associations. The authors present results from seven separate regions as well as a comparison of the three western regions with the four eastern regions. There is a clear difference in the combined associations among the regions and particularly between the eastern and western region. The combined association is positive for cardiovascular outcomes in the east but negative in the west except for heart failure that is positive in both areas. This is not consistent with an effect of generic PM2.5 on cardiovascular hospital admissions. Rather, it is consistent with a major difference in PM2.5 effects on cardiovascular outcomes between the east and west as is seen in the chronic mortality studies discussed above. Indeed, the

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[15] Peng, R. D.; Dominici, F.; Pastor-Barriuso, R.; Zeger, S. L.; Samet, J. M.; Seasonal analyses of air pollution and mortality in 100 U.S. Cities, *Am. J. Epidemiol*., 2005, 161, 585-594

[16] Dominici F.; Peng, D; Bell,; M.; Pham.; McDermott, A.; Zeger, S. L.; Samet, J. M.; Particles, Air Pollution and Hospital Admissions for Cardiovascular and Respiratory Diseases, *J. American Medical Association*, 2006, 295, 1127-1134

authors point out the need to shift the focus of research to identifying those characteristics of particles that determine their toxicity.

Although the ARB report does not discuss the acute mortality studies in detail, there is ample evidence of an implausibly wide range in individual city associations in numerous multi-city studies. For example, the Franklin et al. 2007 study of acute mortality in 27 U. S. cities referenced by staff reports individual city associations ranging from – 5 % to + 10 % per 10 $\mu g/m^3$ increase in PM2.5. Franklin et al. discuss the cities with strong positive associations but never acknowledge the strong and statistically significant negative associations in cities like Houston and Dallas. They do note that there is stochastic variability in their results. With respect to California, Los Angeles and Riverside had slightly negative PM2.5 associations in the Franklin et al. 2007 study while Sacramento and San Diego had positive associations.

There are now many multi-city studies that show the same implausibly wide range in individual-city associations, both with PM2.5 and with PM10. Dominici et al.[17] acknowledge that the city-specific maximum likelihood estimates from their study of the 88 largest U. S. cities range from - 4 to + 4 % per 10 $\mu g/m^3$ increase in PM10. This translates into a range of - 8 % to + 8 % (with a combined estimate of 0.4 %) for a 20 $\mu g/m^3$ PM10 increase, an increment that would roughly correspond to a 10 $\mu g/m^3$ increase in PM2.5.

In summary, the overall pattern in both acute and chronic studies in California and across the nation is not of a consistent PM2.5 mortality signal, as assumed by ARB. While there is a great deal of stochastic variability in individual-city results in the acute studies, the combined effects in large multi-city studies indicate spatial heterogeneity that is similar to the spatial heterogeneity seen in the chronic studies, with a major difference between the east and west. There is also heterogeneity in the seasonal results. As a result of these overall patterns, the ARB assumption of equal toxicity cannot be supported. Instead, the focus of research should be on identifying the cause or causes of the positive cardiovascular associations observed in the central and eastern U. S. (AIRI)

Agency Response: The commenter is concerned that (1) there is heterogeneity in the results of studies of long-term exposure to PM2.5 and mortality, and argues that because of this, we cannot conclude that there is an association between PM2.5 and mortality in California; (2) that the ARB's conclusions about PM2.5 mortality in California do not agree with his; (3) that the increased risk of mortality for cardiovascular rather than respiratory causes argues against involvement of PM2.5; (4) that the range of associations between PM2.5 and mortality in the literature is implausibly wide; (5) that ARB has not adopted Enstrom (2005), Abbey et al. (1999), and Chen et al. (2005) as the basis for estimating PM2.5-related mortality for California; and (6) that seasonal variability in strength of the relationship between PM2.5 and mortality argues against

[17] Dominici, F.; McDermott, A.; Zeger, S. L.; Samet, J. M.; National Maps of the Effects of Particulate Matter on Mortality: Exploring Geographic Variation, *Environmental Health Perspectives*, 2003, 111, 39-43.

the conclusion that PM2.5 is associated with mortality in California. Responses to these comments are listed below.

(1) Heterogeneity: We disagree with the commenter's argument that heterogeneity in the results of studies of long-term exposure to PM2.5 and mortality means that we cannot conclude that there is an association between PM2.5 and mortality in California. The commenter asserts that the HEI reanalysis of the ACS study and a paper by Zeger et al. (2008) lead to the conclusion that PM2.5 does not have an effect in California. In fact, neither study addresses this subject for several reasons. Both studies included California in regional groupings with states that differ in patterns of population density, emissions sources, meteorology, population demographics, and PM2.5 concentrations, and consequently, do not speak to an effect estimate specific to California. Even within California there is considerable variation in all of the aforementioned characteristics, but it includes a similar range of patterns as seen in other states. Because these differences are similar in California compared to other states, it is appropriate to use a national effect estimate for California. The one difference between California and other states pertains to standards regulating the characteristics of fuels, which may have some influence on the chemical characteristics of PM2.5, and also a generally more photochemically reactive atmosphere. In addition, both studies had considerably fewer participants in the West than the East, reducing the statistical power of the regional analysis, and making it difficult to detect an effect. For example, Zeger included about 4.5 times as many ZIP codes and about 4 times as many subjects in the east as in the west.

(2) Conclusions about PM2.5 mortality: The commenter argues that only the Abbey et al (1999) and Chen et al. (2005) papers from the AHSMOG study, and Enstrom (2005), are relevant to California. The rationale for this assertion is that these papers were performed solely in California. There is an error in Table 1 of the ARB PM Mortality Report re. the Abbey 1999 study; all entries on this line are incorrect. The commenter has cited the incorrect information in his comment. The correct information is that for an interquartile range (24.08 $\mu g/m^3$), the relative risks for PM10 concentration were not statistically significant for males or females for all cause mortality (1.11 (0.98 – 1.26 95% C.I.) for males and 0.94 (0.84 – 1.04) for females). It is true that the Abbey et al. (1999) study does not show a statistically significant relationship between PM10 concentration and all cause, cardiopulmonary or nonmalignant respiratory causes for males or females, although there was a significant PM10 concentration-related effect for lung cancer in males. However, the results do show a statistically significant relationship in males between number of days per year with PM10 concentrations above 100 $\mu g/m^3$ and mortality from all causes, nonmalignant respiratory causes, and lung cancer. This finding points to a relationship between PM10 and mortality, and does not support the commenter's assertion that the paper does not support a relationship between PM10 exposure and mortality. Chen et al. (2005) found a significant effect of PM2.5 on fatal coronary heart disease in women but not men, but not for cardiopulmonary causes as studied by Abbey et al. (1999). The Chen paper is about cardiovascular deaths, while the sentence the commenter quoted refers to unpublished data on cardiopulmonary deaths being higher in males than in females.

This quoted statement is in agreement with the findings of the Abbey et al. (1999) paper. The sentence following the one quoted indicates that when the analysis included control for existence of chronic disease at entry to the study (coronary heart disease, stroke and diabetes), the sex difference in cardiovascular deaths disappeared.

It should be noted that U.S. EPA has considered the AHSMOG study to provide only qualitative support for PM standards, and ARB agrees with that conclusion. While the AHSMOG study is specific to California, several issues complicate relying on it in other than a qualitative way:

- Subjects entered the cohort between ages 25 and 95 years. Although the age distribution is not stated, the fact that there have been a comparatively small number of deaths during the follow-up suggests a significantly younger age distribution than in other cohort studies.
- While the study is based on an exposure assessment that is more extensive than other long-term cohorts (average of monthly averages over 15 to 22 years), the PM10 and PM2.5 measurements during most of that time are estimated from total suspended particulate (TSP) or airport visibility. This can introduce considerable error into the exposure estimation depending on how well the estimation algorithm is able to approximate the PM concentrations. These algorithms are very sensitive to locale, and can not be generically applied.
- The number of subjects is small (6338 in Abbey et al, and 3239 for Chen et al). This, coupled with the small number of deaths annually leads to low statistical power. This is reflected in the wide confidence intervals for the relative risks. In Abbey there were 1628 deaths over the 15 year followup, while in Chen there were only 250 deaths over a 22 year period.
- The subject population consists of Seventh Day Adventists, whose religious practices prohibit use of tobacco products and alcohol ingestion, and include various dietary requirements that differ from those of the general population. These factors raise questions as to how representative the subject group is of the general California population.

There are two principal reasons why the Enstrom (2005) paper is not the sole basis for ARB's estimations of PM mortality. The first is the 40 year follow-up period. At first glance, this long follow-up is an attractive idea. However, the Cox proportional hazards model is influenced by long-term trends that are not likely to remain proportional to the hazard for periods of that duration. While it is unlikely that changes in health care, land use, demographics and other mortality risk factors vary on the scale of a few years, they have changed over the past 40 years, and this is not accounted for in Dr. Enstrom's study. The original ACS and Six Cities studies were less than ten years in duration, reducing the likelihood that this issue applies to them. However, as follow-up in the 6-Cities and ACS populations continues, this will increasingly become an issue, unless updates to model adjustments for these factors are made.

The second reason is a concern about the age of the cohort. At some point across a 40-year period the risk of dying from causes related to old age dwarfs any additional risk added by PM2.5, making additional risk related to PM2.5 undetectable. As the subjects

move into the older age categories, it is increasingly difficult to distinguish additional risk from PM2.5 from that related to age. In fact, the Enstrom paper demonstrates this, in that the relative risk for a PM2.5 effect on death decreases through the various measurement periods reported in the paper. It should be noted that Zeger et al. (2005) also shows this in the age-stratified analyses. The mortality risk dropped from statistically significant at age 65 to nearly zero by age 85. This supports the lack of effect seen in Enstrom (2005) across the 40 years of follow-up. It should be noted that Enstrom's relative risk for the 1973 to 1983 time period is similar to that reported by Pope et al. (1995)[18] using the same exposure data, and when the subjects in the two cohorts were of similar age.

Contrary to the commenter's assertion, ARB staff did consider all long-term exposure studies that were performed in the United States and available in the peer-reviewed literature. This is evident in Table 1 of the PM Mortality report. Staff also considered European studies, as also noted in Table 1, but put less weight on them than on studies conducted in the US. Each study was evaluated in terms of several factors that influence technical quality, including population size, control for possible effect modifiers and confounders, method of exposure assessment, statistical models employed, and extent to which model assumptions were met. As can be seen in Table 1 of the PM Mortality report, there is a wide range of effect estimates among the available literature. These estimates range from zero to 27% for all cause mortality in US studies, with the majority of estimates between 6% and 13%. Given this, we believe that the 10% effect estimate we have used is reasonable. Contrary to the commenter's assertion, we have not chosen the high estimate presented by Jerrett et al. (17%)[19], but have chosen one that is toward the center of the range of published values. If we had relied strongly on the Jerrett study, as asserted by the commenter, our conclusion as to what effect estimate to use would have been considerably higher. In addition, the large 95% confidence intervals surrounding Jerrett's effect estimate indicate that the estimate lacks precision.

(3) <u>Cardiovascular vs. respiratory causes of mortality</u>: The new HEI study referred to in the comment is not available in the peer-reviewed literature, and to date has only been presented at a conference. In addition, the study pertains exclusively to New York, reducing the relevance of the results to California. ARB is required by State law (H & S Code 57004) to rely on the standard principles of scientific inquiry and practice in preparation of the scientific portion of rules, and in many cases to submit the scientific portion of those rules for peer review. The aforementioned section of the Health and Safety Code describes the standards for science and peer review that apply. The observation that this study found a stronger association with cardiovascular, compared

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[18] Pope, C.A., III; Thun, M.J.; Namboodiri, M.M.; Dockery, D.W.; Evans, J.S.; Speizer, F.E.; Heath, J.C.W. Particulate Air Pollution as a Predictor of Mortality in a Prospective Study of U.S. Adults; *Am. J. Respir. Crit. Care. Med.*, 1995, 151, 669-674.

[19] Jerrett, M.; Burnett, R.T.; Ma, R.; Pope, C.A., III; Krewski, D.; Newbold, K.B.; Thurston, G.; Shi, Y.; Finkelstein, N.; Calle, E.E.; Thun, M.J. Spatial Analysis of Air Pollution and Mortality in Los Angeles; *Epidemiol.*, 2005, 16, 727-736.

to respiratory, deaths is not a new finding. Overall, the PM literature points to PM-related mortality being primarily due to cardiovascular, rather than respiratory, causes.

(4) Wide range of associations between PM2.5 and mortality: The commenter suggests that the range of associations between PM2.5 and mortality in the literature is implausibly wide. While the range of estimates of risk ranges from approximately zero to 27%, there is considerable overlap in the 95% confidence intervals surrounding these estimates. Some of the studies have wide confidence intervals, and a few have narrow ones. The differences among studies in the precision of the risk estimate are related to several factors, including the statistical power of the study, quality of the exposure assessment, and adequacy of adjustment for potential confounders and effect modifiers.

It is unclear why the commenter cites several time-series studies to support his arguments. Time series studies investigate the relationship between acute exposures and adverse health outcomes, and thus address different questions than the long-term cohort studies. ARB does not estimate deaths from short-term exposures, in that they are already captured through the studies of long-term PM exposure. These studies are irrelevant to determination of a long term risk estimate.

(5) Papers selected for estimation of premature mortality: The commenter asserts that that ARB has selectively considered the available literature, and has not adopted Enstrom (2005), Abbey et al. (1999), and Chen et al. (2005) as the basis for estimating PM2.5-related mortality. We reiterate that we have considered all long-term cohort studies performed in the United States that have appeared in the peer reviewed scientific literature. The relative risks for PM2.5 related mortality range from zero to 27% for all cause mortality. The majority of studies have reported relative risks for all cause mortality between 6% and 13%, although there are also some values that are higher and lower than this range. The commenter wants ARB (1) to select these three papers because the studies were wholly performed in California, and because they show no increased risk of premature mortality associated with PM2.5 exposure, and (2) to ignore all studies that include regions outside California. We have under (2) above discussed the reasons why these three studies were not the sole basis for estimation of premature mortality associated with this rule. These three papers are among those with the lowest effect estimates reported by the available papers. We also did not rely heavily on the papers on the high end of the range of estimates for reasons that have also been discussed previously. We believe that the estimate we chose, which is near the midpoint of the range that includes the majority of studies is a reasonable one. We have also reported the level of uncertainty surrounding this estimate.

It is interesting to note that, contrary to the commenter's assertion, Dominici et al. 2003 shows similar maximum likelihood estimates and Bayesian estimates for the log relative rates of mortality from exposure to PM10 for California as were found for the Eastern and Mid-western parts of the country. Note that this is a time-series analysis for PM10, and is thus not directly related to the topic of the effects of long-term exposure to PM2.5 on mortality. But even so, an association for California was observed. The greatest effects were for cardiovascular and respiratory mortality, and they were in the same range in California as in the East and Mid-West. In addition, all cause mortality was also

significantly related to PM10 in CA. The parts of the country that had statistically significant effects included all of the most populated parts of the country. Consequently, the study does not support the commenter's assertion that there was no effect in California.

(6) Seasonal variability in the strength of the relationship between PM2.5 and mortality argues against the conclusion that PM2.5 is associated with mortality in California: The comment asserts that the paper by Peng et al. (2005) demonstrates that there is a statistically significant PM effect only in the Northeastern US, and only during the summer, leading to the conclusion that there is no effect in California. This is a misrepresentation of the results of the Peng et al. paper. Peng et al. state on pg. 588, "In Southern California, there is a larger effect (a 0.5 percent increase in mortality per 10-μg/m^3 increase in PM10) that is constant all year." This statement refers to the other regions considered in the analysis. The effect estimate for Southern California is higher than those reported for all other regions of the country, except for the summer season in the Northeast.

3. Comment: Toxicity of Fine PM Components

PM air pollution is a complex mixture of solid and liquid particles that vary in number, size, shape, surface area, chemical composition, solubility, and origin. The U.S. EPA's PM Criteria Document (CD)[20] indicates that different PM materials also vary extensively in toxicity based on over 30 years of toxicological study. The CD concludes that the historical toxicological data provide little basis for concluding that specific PM constituents have substantial respiratory effects at current ambient levels. This substantial body of information is routinely used to establish chemical-specific standards that are used in occupational and other settings and demonstrates that the relative toxicity of different PM2.5 species per unit mass varies by over three orders of magnitude.[21]

In the high dose toxicological studies reviewed in the CD, there are many examples that show that biological response varies dramatically depending on the chemical composition of the PM used. The CD summarizes this material noting that overall, the new studies suggest that some particles are more toxic than others. The CASAC specifically commented on this issue indicating "The chapter must make it clear that there is a large data base that indicates that PM is markedly variable in its toxic potency."[22] Thus, the assumption that all PM is equally toxic cannot be supported and the current practice of measuring and

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[20] U.S. EPA, Air Quality Criteria for Particulate Matter; EPA/600/P99/002aF and bF; U.S. Environmental Protection Agency, Washington, DC, 2004 at page 7-85

[21] 2006 Threshold Limit Values and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, Cincinnati, Ohio

[22] Hopke, P.; Clean Air Scientific Advisory Committee (CASAC) Particulate Matter (PM) Review Panel's Ongoing Peer Review of the Agency's *Fourth External Review Draft of Air Quality Criteria for Particulate Matter*, EPA-SAB-CASAC-04-005, U.S. EPA, Washington, DC, March 1, 2004.

regulating all PM2.5 as if it were equally toxic is a gross simplification that leads to substantial uncertainty.

The adverse health signal in the ACS and Six City studies that the ARB methodology relies on is a cardiovascular signal. In contrast, the concern over health effects from diesel exhaust, based on extensive studies, has concentrated on respiratory effects. There are numerous studies of diesel emissions and exposures that have been reviewed in comprehensive reports by the U. S. EPA,[23] the Health Effects Institute[24] and by Hesterberg et al.[25] The EPA Health Assessment Document for Diesel Exhaust reviews the extensive animal and human studies of the effects of diesel and discusses numerous respiratory effects that may occur due to diesel exposure. However, in discussing the human studies that are primarily of occupational exposures, EPA concludes that "the absence of reported noncancerous human health effects, other than infrequently occurring effects related to respiratory symptoms and pulmonary function changes, is notable."[26] Regarding cardiovascular disease, EPA cites the Edling et al. 1987 study of a cohort of male bus garage employees followed from 1951 through 1983 in which no increased mortality from cardiovascular disease was found when compared with the general population or grouped as subcohorts with different levels of exposure. The lack of cardiovascular risk in occupational cohorts exposed to historic high concentrations of diesel exhaust is not coherent with diesel causing cardiovascular mortality at current ambient concentrations.

There is also a lack of toxicological or occupational data that suggests nitrate PM can cause major cardiovascular risk. Another issue with PM nitrate is that ammonium nitrate volatilizes as it penetrates the building shell with the nitric acid formed being lost at surfaces. Thus, real-world nitrate exposures of the population, since people spend the bulk of time indoors, will be substantially below the ambient nitrate concentrations. (AIRI)

Agency Response: CARB staff agrees that research needs to be conducted to assess the relative toxicity of diesel and other sources of PM. However, there is ample

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[23] USEPA (2002). Health Assessment Document for Diesel Engine Exhaust. EPA/600/8-90/057F. Washington, DC, U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment.

[24] HEI (1995). Diesel exhaust: A critical analysis of emissions, exposure, and health effects. A special report of the Diesel Working Group of the Health Effects Institute. Boston, MA, Health Effects Institute; HEI (1999). Diesel emissions and lung cancer: Epidemiology and quantitative risk assessment. Special report. Boston, MA, Health Effects Institute, Diesel Epidemiology Expert Panel; HEI (2000). Health Effects Institute Review of Draft EPA Document: Reconstruction of Teamsters Union Exposures 1950-1999. Boston, MA, Health Effects Institute; HEI (2003). Improving Estimates of Diesel and Other Emissions for Epidemiologic Studies, Baltimore, MD, Dec. 2002, Health Effects Institute.

[25] T. Hesterberg, et al., "A Critical Assessment of Studies on the Carcinogenic Potential of Diesel Exhaust," Critical Reviews in Toxicology, 36, 727-776 (2006).

[26] USEPA 2002 Diesel Health Assessment at page 5-17

evidence that PM2.5 exposure, regardless of source, is linked to health impacts: PM2.5 deposit throughout the lung and is retained in large quantities; it is linked in controlled exposure studies with lung inflammation; it easily penetrates residences; and there are many epidemiological studies in dozens of cities indicating associations with daily morbidity and mortality, regardless of the specific composition of PM in each location. More than 90 percent of diesel exhaust particle mass consists of particles less than 2.5 µm in diameter.[27] Thus, to the extent that PM2.5 health effects are based on particle size, diesel PM exposure would be expected to be associated with similar impacts. Additionally, diesel exhaust is known to contain more than 40 cancer-causing substances.[27] Thus, if the chemical composition of PM is a major contributor to adverse health impacts, diesel PM exposure could pose an even greater health risk than PM2.5 in general. However, rather than treating diesel PM as more toxic than non-source-specific PM, CARB staff chose to adopt the more scientifically conservative assumption of equal toxicity. Similarly, until more specific evidence is acquired for nitrate PM, staff makes the assumption of equal toxicity. It is true that Californians spend the majority of time indoors, but this does not prevent them from being exposed to ambient pollution, including nitrate PM, and suffering adverse health effects as a result. Published research has shown that at least 50% of indoor PM originates outdoors[28]. This value can be higher depending on the characteristics of the building, and whether or not the windows are open.

Another issue raised by these comments is whether diesel PM exposure is associated with premature mortality from cardiovascular causes. Because of the dearth of studies that have directly examined the population-level impacts of diesel PM exposures, CARB staff addressed this question through examination of long-term PM2.5 exposures as a surrogate for diesel PM. The epidemiological literature shows abundant evidence of an association between PM2.5 exposure and premature death from cardiovascular disease.[e.g. 13, 29, 30, 31] The overwhelming evidence from these mixed-source PM2.5 studies was sufficiently compelling to drive CARB staff's decision that, in the absence of

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[27] California Air Resources Board. Staff Report: Initial Statement of Reasons for Rulemaking. Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant. June 1998. P. 4.

[28] California Air Resources Board. Staff Report: Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates. Sacramento, California, 2002, p. 6-61.

[29] Laden, F.; Schwartz, J.; Speizer, F.E.; Dockery, D.W. Reduction in Fine Particulate Air Pollution and Mortality: Extended Follow-Up of the Harvard Six Cities Study. Am. J. Respir. Crit. Care Med. 2006, 173, 667-672.

[30] Pope, C.A.; III; Burnett, R.T.; Thurston, G.D.; Thun, M.J.; Calle, E.E.; Krewski, D.; Godleski, J.J. Cardiovascular Mortality and Long-Term Exposure to Particulate Air Pollution: Epidemiological Evidence of General Pathophysiological Pathways of Disease; Circulation (2004), 109, 71-77.

[31] Miller, K.A.; Siscovick, D.S.; Sheppard, L.; Shepherd, K.; Anderson, G.; Kaufman, J.D. Long-term Exposure to Air Pollution and Incidence of Cardiovascular Events in Women. N England J Med (2007), 365:5, 447-458.

other source-specific evidence, all PM2.5 sources (including diesel PM) should be treated as equally responsible for the adverse health impacts.

Although staff assumed diesel PM is as toxic as PM2.5, this approach may underestimate the true effects of diesel PM exposure on adverse health outcomes. Indirect evidence for this possibility comes from a number of studies that link motor vehicle-related PM exposure to premature death including:

- Elderly people living near major roads had almost twice the risk of dying from cardiopulmonary causes (Hoek et al., 2000).
- PM from motor vehicles was linked to increased mortality (Tsai et al., 2000).
- PM2.5 from mobile sources accounted for three times the mortality as did PM2.5 from coal combustion sources (Laden et al., 2000).

As reviewed in the PM2.5 Mortality staff report, there is also some direct evidence for inflammatory and allergic responses in human subjects specifically exposed to diesel PM. None of the available epidemiologic studies of PM has measured the diesel content of the outdoor pollution mix. However, the extensive animal toxicology literature on the health impacts of constituents of diesel exhaust PM leads to the conclusion that diesel exhaust PM is at least as toxic as the general ambient PM mixture. Since CARB staff has made quantitative estimates of the public health impacts associated with diesel exhaust PM exposure based on the assumption of equal toxicity, the estimates may underestimate the true effects.

It should be noted that the isolated study (Edling et al. 1987) cited by the commenter to support the claim of a lack of adverse occupational effects was not considered a strong study by the EPA: the study had "certain methodological problems, such as small sample sizes, short follow-up periods…, lack of information on confounding variables, and lack of analysis by duration of exposure, duration of employment, or latency that preclude their use in determining the carcinogenicity of DE" (page 7-67).[23] The EPA concluded that "This study's major limitations, including small size and poor data on DE exposure, make it inadequate to draw any conclusions" (p. 7-14).[23] Hence, the commenter's argument falls flat.

4. Comment: Risks in Other Exposure Situations

One of the important points made in the earlier AIR comments is that the ambient fine PM mortality signal used by ARB is not consistent with the effects of PM exposure in other situations. If low doses of ambient particles are causing the serious health effects implied by the statistical associations relied on by ARB, then low doses of particles should be causing similar effects in other exposure situations. As discussed in the July 11, 2008 AIR comments, the exposure to nonambient particles is as high or higher than the exposure to ambient particles. Therefore, there should be a health signal for generic particles as measured by mass in the indoor pollution literature. Although there are well-established indoor health risks from environmental tobacco smoke and from particles of biological origin such as house dust-mite, cockroach, and animal allergens, no substantial or

consistent health signal from generic PM has been documented. A recent review of the scientific literature focusing on non-industrial indoor environments looked for evidence of particle health effects.[32] An interdisciplinary group of European researchers surveyed over 10,000 articles by title, chose 1725 abstracts to screen, and chose 70 articles for full review. They concluded that "there is inadequate scientific evidence that airborne, indoor particulate mass or number concentrations can be used as generally applicable risk indicators of health effects in non-industrial buildings." The lack of a health signal from generic indoor PM is not coherent with the assumed presence of a strong outdoor generic ambient PM health signal.

Gamble and Nicolich[33] compared the risks from smoking and occupational exposures with the risks implied by several of the cohort studies and concluded that the toxicity per unit mass of ambient PM would have to be 2 to 4 orders of magnitude higher than that from smoking to explain the ambient risks. The finding led them to conclude that the risks from the cohort studies were not coherent with the risks derived from smoking or occupational studies.

The findings from massive indoor pollutant exposures in developing nations are also relevant. Approximately half the world's population relies on unprocessed biomass fuels (wood, coal, crop residues, or animal dung) for cooking and space heating. These fuels are typically burned indoors in simple unvented cookstoves. The exposures to both gases and particles are many times higher than the indoor exposures in developed countries. For example, a detailed exposure study[34] of 55 households in rural Kenya reports that PM10 exposures of adult women (who normally cook and tend the fire) were the order of 5 mg/m^3 while adult male exposures were the order of 1 mg/m^3. These levels are 40 to 200 times higher than the current average U.S. outdoor PM10 levels of 25 $\mu g/m^3$. A 2002 World Health Organization report[35] of the health effects of indoor pollution exposures in developing countries reviews the evidence for health effects from these exposures. While there is strong evidence of important effects on acute and chronic respiratory disease in many countries and effects on lung cancer from coal use in China, there is little evidence to date of a strong cardiovascular signal from

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[32] Schneider, T.; Sundell, J.; Bischof, W.; Bohgard, M.; Cherrie, J. W.; Clausen, P. A.; Dreborg, S.; Kildeso, J.; Kjaergaard, S. K.; Lovik, M.; Pasanen, P.; Skyberg, K.; EUROPART. Airborne Particles in the Indoor Environment. A European Interdisciplinary Review of Scientific Evidence on Associations between Exposure to Particles in Buildings and Health Effects, *Indoor Air*, 2003, 13, 38-48

[33] Gamble J. F.; Nicolich, M. J.; Comparison of Ambient PM Risk with Risks Estimated from PM Components of Smoking and Occupational Exposures, *J. Air & Waste Manage. Assoc.*, 2000, 50, 1514-1531

[34] Ezzati, M.; Saleh, H.; Kammen, D. M.; The Contributions of Emissions and Spatial Microenvironments to Exposure to Indoor Air Pollution from Biomass Combustion in Kenya, *Environmental Health Perspectives*, 2000, 108, 833-839.

[35] Bruce, N.; Perez-Padilla, R.; Albalak, R.; The health effects of indoor air pollution exposure in developing countries, World Health Organization Report WHO/SDE/OEH/02.05, 2002.

these massive exposures. This also does not appear to be coherent with the assumption of a strong cardiovascular signal from low doses of ambient PM. (AIRI)

Agency Response: This comment asserts that studies of indoor air and international studies of indoor biomass combustion do not support a relationship between PM exposure and mortality. While there are some differences in composition of PM of indoor versus outdoor origin, there are many species in common. Delfino et al. (2008)[36], among others, reported that a significant proportion of indoor PM originates outdoors. Adverse health effects would be expected, but studies to date of the health effects of indoor air have focused only on acute endpoints. There are no long-term cohort studies that have investigated the relationship between indoor PM concentrations and premature mortality. The studies cited by the commenter have focused on acute respiratory effects, not on premature mortality. The populations studied in the international investigations were typically relatively young, and not old enough to be at risk of cardiovascular disease, the population that has been identified as most at risk of premature mortality with exposure to PM10 or PM2.5. Moreover, differences between U.S. populations and these third world populations in life expectancy, major causes of death, health care, population age distribution, nature of biomass fuel used, and other factors make the results of these studies irrelevant to the question of whether or not long-term exposure to PM2.5 increases risk of mortality in the U.S.

The Gamble and Nicolich paper has several serious flaws in methodology.

(b) The author has misinterpreted the Dockery et al. (1993) paper. The risk ratio (RR) of 1.26 that was used for the smoker example is the risk ratio for the impact of PM2.5 on all-cause mortality, not the risk ratio of smoking on all-cause mortality. This RR has been adjusted to control for smoking and several other potential confounders. Dockery et al. present a RR for smoking and all cause mortality of 2.00 (1.51 – 2.65, C.I.), while the RR for Pope et al. (1995) is 2.07 (1.75 - 2.43, C.I.). In contrast, the all cause mortality RR estimate for Dockery et al. , controlled for smoking and other confounding factors, was 1.26 (1.08 – 1.47, C.I.) comparing the most and least polluted cities. For Pope et al. the RR was 1.17 (1.09 – 1.26, C.I.) per 24.5 $\mu g/m^3$ of PM2.5, controlled for smoking and other confounding factors. It is clear from these RRs that smoking has a greater effect on risk of premature mortality than PM2.5. Therefore, the calculation on page 1516 (the smoker example) is incorrect.

(c) The author has incorrectly compared discrete cohorts from several different types of studies, and claimed that the variability in the magnitude of risk both between cohorts and between cities within a cohort indicate a lack of coherence between risks associated with smoking, occupational exposures and PM. There are multiple factors that influence mortality, in addition to

[36] Delfino RJ, Staimer N, Tjoa T, Polidori A, Arhami M, Gillen DL, Kleinman MT, Vaziri ND, Longhurst J, Zaldivar F, Sioutas C. Circulating biomarkers of inflammation, antioxidant activity, and platelet activation are associated with primary combustion aerosols in subjects with coronary artery disease. *Environ Health Perspect.*, 2008,116(7):898-906.

particulate matter, and the prevalence of these factors in the various cities studied varies. Populations and cities included in these various studies are each unique in term of their characteristics and the prevalence of factors that influence mortality; thus, it is not surprising that the strength of associations in these studies varies across both population and city. The best method for comparing different cohorts is to base the comparison on the standardized mortality rate (SMR) using the SMR rate for the cohort and weight it by the rate for the general population, which Gamble and Nicolich did not do.

(d) Occupational studies are usually conducted on work-groups that may be exposed to high levels of pollutants due to their jobs. Therefore, we would expect higher rates of respiratory illness among miners (as mentioned in this paper) and other occupational groups whose worksite is heavily polluted by dust and smoke. These studies can be used to generate hypotheses about air pollution in cities and communities. However, these studies do not generally have quantitative exposure assessments. Instead, these studies generally categorize exposure to the substance of interest as present or absent. It is not appropriate to apply the RR for these studies to the estimated quantitative ambient exposures presented in this paper.

(e) The authors have stated that the healthy worker effect is not an issue in comparing an occupational study and a cohort study, and can be ignored. Actually, the healthy worker effect is an issue because those who are able to work for prolonged periods of time in a worksite with heavy air pollution exposure compared to those cannot tell us something about the unique characteristics of the occupational population, which are likely to be different from those of the more general population. In addition, occupational cohorts are generally younger than cohorts used to estimate the risk of premature mortality in air pollution studies. Therefore, it is inappropriate to compare occupational and ambient air pollution studies.

(f) In addition, the author mentioned that the ambient concentration risks (ACR) from PAH studies of miners, including those who worked around coke ovens, showed results that were similar to those reported for tobacco smoke. This similarity is not surprising because heavy daily expose to PAHs is equivalent to being a heavy smoker.

5. Comment: Conclusion

Based on these scientific issues, the ARB staff paper should be revised extensively before it is used to provide benefit estimates for rulemakings. At a minimum, all the California-specific studies should be included in the analysis and the lower bound for premature mortality in California due to ambient PM2.5 exposure should be set at zero. This would be consistent with the U.S. EPA's procedures as noted in the earlier AIR comments. In addition, since there is greater uncertainty in the dose-response function than acknowledged in the report, ARB should follow the U.S EPA's procedure and present the results for a wide range of possible cut-off points from background up to 12 or 15 $\mu g/m^3$. Finally, the key role of uncertainty due to individual particle toxicities that vary over more than

an order of magnitude should be addressed and discussed in the staff report. (AIRI)

Agency Response: The report, “Methodology for Estimating Premature Deaths Associated with Long-Term Exposure to Fine Airborne Particulate Matter in California” underwent extensive external peer review, as described in the response to Comment 1. The best available science was the basis of the report, and CARB stands by the conclusions of the report.

The commenter raises a number of points. First, that all the California-specific studies should be included in the analysis. We disagree with this comment; please see response to Comment 2.

Second, the commenter recommends that the lower bound for premature mortality in California due to ambient PM2.5 exposure should be set at zero. Further, the ARB should follow the U.S EPA’s procedure and present the results for a wide range of possible cut-off points from background up to 12 or 15 $\mu g/m^3$. The range of uncertainty and the threshold of effects were discussed in the mortality report. That report underwent a formal peer-review. The reviewers concurred with our conclusions. For details of the formal peer-review, please see response to Comment 1.

Third, the commenter suggests that individual particle toxicities should be taken into account. We disagree with this comment; please see response to Comment 3.

6. Comment: I am writing to you concerning the October 24, 2008 staff report entitled "Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California", which was subsequently cited in the November, 2008 report by Hall, Brajer, and Lurmann entitled "The Benefits of Meting Federal Clean Air Standards in the South Coast and San Joaquin Valley Air Basins". My principal concerns are these:

(1) In neither document is the term "premature death" defined. In the section on public comments and staff responses (Appendix 5) of the staff report, BNSF Railway expressed that same concern (Point #19). I found the staff response to be unsatisfactory. Expected based upon what? Air pollution only a contributing factor and not a cause of death? Then why emphasize it? Hall et al. claim a reduction of 3860 such deaths in SC and SJ for age 30+ and 13 for infants if the proposed standards are met. That degree of precision is unwarranted.

(2) No "de minimus" value of PM 2.5 was ever provided. (BNSF also asked about that in Point #19.) I think there should have been. Our air will never be perfectly pure.

(3) In parts of the report relative risks were reported as increases of 10% and 3%, rather than the conventional values of 1.10 and 1.03 that are used in epidemiology. And I take exception to the response to Point # 26 raised by JDD: "It is interesting to note that no epidemiological organization has agreed to this standard of evidence [a RR of 2.0 or higher]." See the attachment to

this letter (an article on "Relative Risk or Risk Ratio).[37] RRs of 1.1 and 1.03 are very much of a size that an unmeasured confounder could be the cause of the RR.

(4) In the Executive Summary the authors referred to "uncertainty intervals". Do they mean confidence intervals? (Confidence intervals are not appropriate, since there was no random sampling. I taught statistics for 42 years and still serve as a statistical consultant.) Or are those intervals solely connected with the various sensitivity analyses that were employed? The "uncertainty intervals", whatever they are, should reflect the fact that multiple factors are under consideration and the bounds specified in the report are almost certainly too narrow.

(5) As suggested by several of the peer reviewers, the ÄÕ impact equation for estimating numbers of premature deaths should have been more carefully explained, especially how the value of â and its bounds are estimated.

The purpose for my writing to you now is my understanding that on December 1th of this year a decision might be made to require diesel-powered vehicles to meet standards for air pollution that would cost the trucking industry billions of dollars. I recommend that the December 11th decision be deferred until a later time, since there are so many technical problems that remain to be resolved. (TRKN)

Agency Response: CARB staff has defined premature death as a "death which occurs at a younger age than would be expected, as compared to baseline mortality" on page A-108 of the PM Mortality Report.[5] It is correct to state that air pollution is a contributing factor to death in susceptible individuals; CARB staff does not claim that air pollution "causes" the deaths. However, because of the convincing evidence that long-term PM2.5 exposures are associated with premature mortality, and because CARB's mission involves the protection of public health, it is important to recognize the inherent health risks of exposure to this pollutant. With respect to the Hall et al. 2008 report, CARB staff did not produce the report and therefore cannot address the rationale for the degree of precision of the estimates of premature death.

With respect to a *de minimis* value for PM2.5: it is unclear what the commenter is requesting. If the commenter is referring to a background level of PM2.5 (i.e., in the absence of human activity), CARB typically assumes a PM2.5 concentration of 2.5 $\mu g/m^3$. On the other hand, if CARB staff are being asked to set a PM2.5 concentration threshold below which exposure-related health impacts would be negligible or nonexistent, such an action might be premature, based on current scientific evidence. Schwartz and colleagues found a linear dose-response curve relating PM2.5 exposures and risk of death, with no evidence of a PM2.5 threshold value.[38] This finding would suggest setting a threshold value of zero. However, the peer reviewers for the

[37] http://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=truckbus08 See attachment to comment 225.

[38] Schwartz, J.; Coull, B.; Laden, F.; Ryan, L. The Effect of Dose and Timing of Dose on the Association between Airborne Particles and Survival. Env Health Persp (2008) 116, 1: 64-69.

PM Mortality Report[5] felt that empirical evidence for short-term mortality associated with a low PM2.5 concentration range was limited. Consensus among these reviewers was that 4 μg/m^3 to 5 μg/m^3 represented reasonable PM2.5 cut-off levels; hence, CARB staff chose to set a cut-off level of 5 μg/m^3.

Reporting of relative risk values as, for example, "1.10" versus a "10% increase in risk" is accepted in the mainstream epidemiological literature (e.g. the journals "Epidemiology" and "The American Journal of Epidemiology" publish papers containing wording consistent with these examples). It is conceivable that a relative risk of 1.10 or 1.03 might be due to unmeasured confounders; however, it is recognized in medical fields that even small relative risks such as these can be clinically significant. Additionally, relative risks of similar magnitude are not uncommon in the air pollution epidemiological literature; thus, the commenter's remarks about a relative risk standard of 2.0 or higher is not a blanket requirement for all fields of study.

The "uncertainty intervals" referred to in the PM mortality report were based on confidence intervals arrived at by a panel of U.S. EPA experts, who were selected to determine the association between long-term PM2.5 exposure and premature death. CARB staff's uncertainty intervals were the medians of the fifth and ninety-fifth percentiles, respectively, surrounding these experts' central estimates of the concentration-response functions relating PM2.5 exposure and premature death. As no calibration exercise was conducted within EPA's expert elicitation which would allow weighting of the individual confidence intervals, CARB staff felt that use of the median of the experts' lower and upper estimates was the most defensible option.

It is unclear what "ÄÕ impact equation" or "â and its bounds" refer to. The methodology used to develop a concentration-response relationship was explained in Section D (page 28) of the PM Mortality Report[5]; the methodology for estimating health impacts associated with PM2.5 exposure was explained in Section E (p. 31). The uncertainty intervals were determined as described in the previous paragraph.

7. **Comment:** CARB's proposed new regulations on diesel exhaust go far beyond what any of the other 49 states, or the federal government has adopted. The claimed toxic effects of diesel particulate matter (roughly described as "PM2.5") are hundreds of times smaller than, for example, the increased risk of lung cancer caused by cigarette smoking. These possible effects are so small, the actual exposure levels of human subjects are so difficult to estimate, and there are so many confounding health factors that are impossible to control, that the entire question needs to be broadly re-assessed before adopting a radical crash program of harsh new regulations on diesel trucks.

I've tried to take an objective look at the scientific question: Is fine particulate matter in diesel exhaust causing cancer and premature deaths of a measurable number of Californians? The short answer is that we do not yet know. But whichever way it eventually turns out will have no effect whatever on my career, or my grant funding. I'm just a 30-year L.A. resident looking for a clear answer, but I do use the statistical tools of epidemiologists (e.g., Cox Proportional Hazard tests) in my own astrophysics research.

Comments 9 through 15 (see below) detail the case that CARB's scientific evidence is too flimsy to justify its proposed regulations. In summary, CARB's advisors' original justification for targeting PM2.5 was that it could cause lung cancers. This claim has not been confirmed by subsequent research. In fact the research that CARB relies on has failed to find any statistically significant increased risk of ANY form of cancer, or other lung diseases associated with fine particles. In a classic "bait and switch", CARB then sought new correlations with the far larger, amorphous category of deaths due to heart disease, without a clear medical model of how this might be caused by fine particles.

Even in the studies CARB advisors chose to weight most heavily (the ones they tend to be co-authors on), the claimed associations between PM2.5 and "premature" deaths of almost any kind range from insignificant to barely "significant" at the 95% confidence level. In the physical sciences, you can't get a result published unless it passes the higher 99% significance level. I doubt any of the studies of mortality risks of fine particles has that statistical confidence. This stricter requirement is particularly necessary because--as the reviewers repeatedly admit--the true uncertainties in their results are almost always underestimated, so that the significance of their findings is overestimated.

As the studies grow in size and in time coverage, the desperately low statistical significance of the claimed hazards of PM2.5 has not improved at all. More disturbing are the larger (and growing) number of other studies that failed to detect any measurable life-threatening risks associated with fine particles. We still cannot confidently rule out the possibility that diesel exhaust is statistically associated with zero premature deaths. (UCLA1)

Agency Response: California declared that diesel PM caused cancer in 1998, based on a comprehensive review of the available literature by the California Office of Environmental Health Hazard Assessment that was peer-reviewed by the Scientific Review Panel on Toxic Air Contaminants. As a result of that declaration, ARB developed a diesel risk reduction plan that has substantially reduced the risk to public health of diesel PM exposure over the past decade.

Diesel PM is a subset of the PM2.5 size fraction, and is a constituent of the PM2.5 measured as part of PM2.5 monitoring requirements. Consequently, diesel PM is part of the mix of PM to which people are exposed on a daily basis. The scientific literature indicates that all types of particles less than 10 microns in diameter have some level of toxicity. Given this, and the paucity of data indicating that one type of particle is more or less toxic than others, we have made the assumption for our analysis that all PM2.5 particles are equally toxic, and that with chronic exposures have an equivalent association with premature mortality, both all cause, and for cardiovascular causes.

The commenter focuses on cancer as an endpoint, and asserts that ARB's scientific advisors have justified targeting PM2.5 because it could cause lung cancer. Although there is evidence that <u>diesel</u> particulate matter is associated with lung cancer, ARB has never been advised or put forth the idea that exposure to the general mixture of <u>ambient</u> PM2.5 is significantly associated with lung cancer. There are several papers in the

literature that suggest an association between PM2.5 exposure and lung cancer, but this finding has not consistently been made, and so the question remains unresolved at this time.

It is quite reasonable that inhalation of PM2.5 could influence cardiovascular function. There are several types of receptors in the airways that when stimulated influence heart rate and other cardiovascular functions. These receptors and their functions have been known for many years. Also, many particles have soluble coatings that can be taken up across the lung-capillary membrane into the blood stream. Some of these are capable of influencing systemic function. It is also well known that the lungs and cardiovascular systems have a great deal of synergy in their functions, and that they influence each other, contrary to the commenter's assertion.

The studies ARB most heavily weighted are those that have been considered to have the highest level of technical quality, not only by CARB, but also by the USEPA, the World Health Organization, Environment Canada, and the Committee on the Medical Effects of Air Pollutants of the Department of Health of the United Kingdom. ARB's conclusions about this body of literature are in line with those of these various national and international agencies.

8. **Comment:** The proposed regulations will require the expenditure of a huge amount of money to replace most of the one million diesel trucks currently operating in California. These billions of dollars could otherwise have saved and prolonged many lives. Imposing these costs primarily on truckers could cripple the competitiveness of the entire industry. CARB projects that many billions of dollars of new costs will be spread around the state, raising the prices of many essential goods and services to all Californians. It is an iron rule of public health that making people poorer results in their being less healthy. Even using CARB's own estimates, their regulations will cost about one million dollars for each "premature death" avoided (they attribute 200/year to PM2.5). It is likely that a million dollars spent in other ways could easily increase those people's life expectancy by more than the few years CARB estimates it might be shortened by diesel particles. Thus even if the proposed diesel regulations do prevent a small number of premature deaths, it is entirely possible that they will DECREASE the overall health of Californians. (UCLA1)

Agency Response: Staff estimates the total cost of the regulation to California-based trucks and truck fleets at $4.5 billion for the 2010-2025 period. These expenditures will reduce an estimated 34,600 tons of PM2.5 emissions and 480,000 tons of NO_X emissions, and are projected to avoid approximately 9,400 premature deaths, as well as thousands of hospital admissions and hundreds of thousands of respiratory illnesses.

The commenter suggests that if regulatory compliance expenditures were applied by California-based trucks and truck fleets for some other purpose, comparable health benefits would be achieved. Because the commenter offers no explanation of how an alternative use of compliance expenditures could yield comparable health benefits for Californians, it is not possible to assess the credibility of that claim.

Staff agrees with the commenter that many, if not most, transportation businesses affected by the regulation will pass along the costs of compliance to their customers. It is therefore unlikely that California's truck fleets will bear the full estimated cost of the regulation. The regulation is not expected to impose a noticeable impact on consumers. However, if all of the regulatory costs were passed through to consumers, staff estimates that a modest increase in the cost of consumer goods: about 0.014 percent on average over the life of the regulation,[39] (less than two hundredths of a percent).

The relationship between income and health – as gauged by mortality or other measures -- is complex and econometrically elusive. The worst-case scenario for truck owners described in the ISOR (p.52) estimates that an owner's net cash flow might decrease by $100-$200 per month for up to five years. However, this worst case scenario assumes that compliance costs would not be passed on to consumers, which staff considers unlikely.

The weight of scientific evidence does not support the commenter's claim that the regulation may decrease the overall health of Californians. Staff estimates that the regulation will avoid approximately 9,400 premature deaths, as well as thousands of hospital admissions, and hundreds of thousands of respiratory illnesses.

Finally, the comment's characterization of the estimated ratio of compliance expenditures to avoided mortality is inaccurate. The total estimated cost of the regulation is $5.5 billion, to control both PM2.5 and NO_X emissions from 2010-2025. The avoided mortality estimate for the same period is 9,400. If total regulatory cost were distributed solely across mortality impacts, the result would be >$600,000 per avoided premature death. This cost is outweighed by over a factor of 15 for the estimated $9.3 million value to an avoided premature death. In addition, that calculation doesn't attribute any regulatory cost to the value of morbidity impacts, such as reduced hospitalization and respiratory illnesses.

9. Comment: The available studies attempt to quantify a health hazard that is smaller and weaker than almost any previously discovered ones in medical history. Since CARB is considering a possible health hazard which they believe is 90 to 500 times less dangerous than smoking, they are exploring unknown waters of public policy. They should only draw final conclusions if they have clear-cut results from very large carefully controlled studies which accurately measure the exposure (to diesel exhaust particles) and the harm (premature death caused by them). (UCLA1)

Agency Response: As mentioned in the Agency Response to Comment 6, relative risk values of a magnitude similar to those reported in the PM mortality report are commonly reported in the air pollution epidemiology literature, and even small values can be clinically significant. Scores of epidemiologic studies have shown the association between PM2.5 exposure and adverse health effects, including premature death.[18,19,29,30] It is not clear how a "very large carefully controlled" study in which large

[39] Staff Report: Initial Statement of Reasons for Proposed Regulation for In-Use On-Road Diesel Vehicles, pages 56-57. Http://www.arb.ca.gov/regact/2008/truckbus08/tbisor.pdf.

numbers of human subjects are subjected to diesel exhaust exposures in order to quantify their resulting premature deaths would be conducted, ethically or logistically.

10. Comment: The studies do not in general test directly the crucial question for policy makers: can CARB's 85% rollback of diesel particle emissions save lives? CARB expert Joel Schwartz, of Harvard, states:

> "But the question that CARB needs to answer in order to do an analysis of the benefits of *reducing* air pollution is what mortality reduction accompanies a reduction in exposure. A cross-sectional analysis of mortality and air pollution does not tell us that, no matter how sophisticated the Cox Proportionate Hazard model is. It is an extrapolation to estimate change in mortality for change in pollution. However the Laden paper provides precisely that estimate that CARB needs. In that sense, it is the only relevant study."
>
> Indeed. And this Laden study[29] found that the decreases in PM2.5 in the Harvard-6 Cities did NOT lead to statistically significant decreases in cardiovascular, respiratory, or lung cancer deaths (or "other" deaths). (UCLA1)

Agency Response: The commenter asks if "CARB's 85% rollback of diesel particle emissions save lives?" The published scientific literature suggests that lowering levels of ambient PM can reduce premature mortality and increase life expectancy.

In the Laden study,[29] the authors concluded that city-specific average PM2.5 levels were lower in the extended follow-up during the 1990's compared to the follow-up period from 1974-1989. The mortality risk ratios were also lower for the time period associated with the lower PM2.5 levels. It is true that the decrease in PM2.5 was not associated with statistically significant decreases in cardiovascular, respiratory, lung cancer deaths, or "other" deaths. There was a statistically significant decrease in all-cause mortality associated decreased average PM2.5 (RR = 0.73; 95% CI = 0.57-0.95).

The association between long-term exposure to PM2.5 and premature mortality is well documented. This finding suggests that reductions in PM2.5 should result in improvements in life expectancy. A recent article by Pope and colleagues[40] explored the question of whether longevity is associated with improved air quality. The investigators found that a decrease of 10 $\mu g/m^3$ of PM2.5 was associated with an increase of 0.61 years of life expectancy. These results provide additional information suggesting that reductions in PM2.5 over the last 20 years has contributed to measureable improvements in life expectancy and validates our concerns about PM2.5 and its effects on the health of Californians.

11. Comment: Another fundamental problem is that the studies did not compare MATCHED samples of participants in the high- and low-exposure locations. For example, poor people are more likely to live in polluted environments than are affluent people. Poor people are also more likely to suffer premature deaths.

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[40] Pope CA, Ezzati M, Dockery DW. Fine-Particulate Air Pollution and Life Expectancy in the United States. *N. Engl. J. Med.*, 2009, 360:376-386.

These correlations do NOT establish a causal connection. They do not show that it was the pollution, or the diesel exhaust in particular, that lead to the premature deaths.

The Harvard-6 Cities study is the only one which was able to select its sample through randomization. But there is evidence that this process did NOT eliminate this problem of "confounding variables". Why did the study find that the harmful effects of PM2.5 vanish for people who received some education beyond high school? The particles don't know what your education is. The obvious explanation is that more highly educated people are more affluent and enjoy healthier lifestyles – and that, not diesel exhaust, is the cause of their slightly lower premature death rates. The main finding was a 26% higher rate of premature death in the heavily polluted city of Steubenville, Ohio, compared with that of the unpolluted town of Portage, Wisconsin. This could simply be explained by slightly healthier lifestyles in Portage, but these key variables were not measured in the Harvard-6 study. (UCLA1)

Agency Response: It is very unusual for epidemiological studies to be based on matched samples, particularly when studies include thousands of participants. The Six Cities Study had over 8000 participants, while the American Cancer Society Study had over 500,000. Subject matching is not logistically feasible with samples this large. Differences among communities and participants are addressed through inclusion of factors for personal and community characteristics in the statistical models. For example, the American Cancer Society Study included 44 individual and community factors to eliminate differences in individual subject and community characteristics that could influence the outcome of the analysis.

Confounders and effect modifiers are factors that interact with or modify outcomes. In the example cited, it is likely that level of education in the cited study is a surrogate for any of a number of socioeconomic factors, for example, nature of employment, extent of health care, lifestyle factors, proximity of home/workplace to emissions sources, total PM exposure, or other unidentified factors that relate to lower level of education, rather than education level itself.

The commenter is incorrect that diesel exhaust was associated with premature death in the Six Cities Study. The study did not measure diesel PM levels. The study only addresses the relationship between PM exposure and premature mortality.

12. Comment: None of the CARB experts has any clear idea of HOW the diesel exhaust particles are supposedly killing people "prematurely" (before age 75). The original idea was that they might be a carcinogen, which people get exposed to when they are inhaled into the lungs. However, the accumulated evidence presented by CARB does not in general support a correlation between PM2.5 and lung cancer (or any other cancers). None of the analyses of the Harvard-6 Cities data found a significant correlation, nor did the original ACS study, or the more detailed analysis of its 23,000 Los Angeles subjects. A major problem is that PM2.5 is the first "pollutant" which lacks any definition of what it is made of. Some

of it is hydrocarbon residues from all kinds of combustion, but much of it can be almost anything, from specks of dirt, to airborne sea salt.

With their cancer theory shot down by the data, the researchers cast a much wider net, looking for any kind of death that might be laid at the feet of diesel exhaust. Again, the evidence failed them, showing no significant correlation with respiratory-related premature deaths, or with cystic fibrosis. Those are the correlations that most people would be expecting to find. Most members of the public, including our leaders, have been mislead into hoping that CARB has evidence that deaths due to lung problems will be decreased by its rollback of diesel emissions, but it does not.

Finally, to find some significant health hazard, the researchers adopted the highly speculative hypothesis that the major cause of death--heart disease--was somehow exacerbated by fine particles. This is the classic scientific error of "bait and switch": of completely changing the experiment after the initial design fails, to try to turn a negative result into some other weakly positive finding. So now the primary health hazard of PM2.5 is claimed to be generic "cardiopulmonary" fatalities. (UCLA1)

Agency Response: The mechanism(s) by which particulate matter acts to promote premature death are still under investigation. A study that provides a possible link between air pollution exposures and heart disease was conducted by Mills and colleagues,[41] who found that diesel exhaust inhalation adversely affected vascular tone and endogenous fibrinolysis. However, CARB staff agrees that more work needs to be done to determine the mechanisms by which PM inhalation acts to promote premature death. Additionally, as stated in a response to a previous question, more research is necessary to address the toxicity of different components of particulate matter. Nevertheless, due to the large body of evidence that links PM exposures and health impacts, as discussed in the PM Mortality Report[5] and the Review of the Ambient Air Quality Standards for Particulate Matter and Sulfates,[28] it is not justifiable to ignore the problem until the exact mechanisms of action are determined.

The comments that CARB staff engaged in "bait and switch" and "changing the experiment" (i.e., allegedly adopting and subsequently discarding research hypotheses) are somewhat unclear. It is not clear how the commenter arrived at these conclusions; for example, one comment stated that CARB staff attempted to find an association between PM exposures and cystic fibrosis. Staff did not seek such an association. Moreover, CARB staff did not conduct the health research themselves, so they did not generate the hypotheses that were being tested by the studies; rather, they reviewed the literature.

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[41] Mills NL., Törnqvist H, Robinson SD, Gonzalez M, Darnley K, MacNee W, Boon NA, Donaldson K, Blomberg A, Sandstrom T, Newby DE. Diesel Exhaust Inhalation Causes Vascular Dysfunction and Impaired Endogenous Fibrinolysis. *Circulation*, 2005, 112:3930-3936.

As explained in the Introduction and Background to the PM Mortality Report, the rationale behind the PM mortality methodology review was the publication of a number of studies that showed stronger associations between long-term PM exposures and premature mortality than had previously been recognized. Thus, CARB staff felt it was important to revisit the issue, and reviewed pertinent studies to reach their conclusions.

13. Comment: Even if one accepts the flawed studies without considering any of their problems, they still do not provide a decisively clear answer. The possible correlation between diesel exhaust particles and "premature deaths" (mostly from heart disease) is too small to have been decisively measured in previous studies.

CARB puts the heaviest reliance on the Harvard 6-cities study (because of the quality of its data and procedures), which had a very small sample size of only 8000 subjects. The original effect was MARGINALLY significant. This study was extended for another 8 years. Although this substantially increased the total amount of data, it did NOT improve the statistical significance of the claimed effect, which was still MARGINAL. In fact, when the effects of sulfate emissions were included, the Harvard-6 study shows NO harmful effects due to PM2.5.

The small sample size problem was reduced in the ACS study, which found a smaller effect than Harvard-6 Cities, but it was statistically significant because of the larger sample size. However, ACS suffers much greater problems with data and methodology than the Harvard-6 study. When the study was extended, the statistical significance dropped to MARGINAL (Pope et al. 2002), and actually whisker-close to INSIGNIFICANT.

A major problem with all of these studies is that they estimate PM2.5 exposure levels over very large areas of twenty or more miles. The Jerrett et al. (2005) study of the LA subset of ACS data was the only one which utilized data from particle monitors (23 in the LA basin). This re-analysis found NO significant cardiopulmonary or lung cancer deaths associated with air pollution. Only by adding in ischemic heart disease deaths were Jerrett et al able to find a correlation between "All Causes" of death and PM2.5, but it was still only a MARGINAL effect, which was again very close to INSIGNIFICANT. (UCLA1)

Agency Response: As discussed in the Agency Response to Comment 6, the relative risk values that are referred to here as "marginal" are within the range of those commonly reported in the air pollution epidemiology literature, and even small values can be clinically significant. Additional support is provided by a recently released Health Effects Institute publication, which updated the methodology used for previous American Cancer Study publications, and provided an additional ten years of follow-up and exposure data.[42] This report supported and generally strengthened previous findings of nationwide associations between PM2.5 exposures and premature mortality.

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[42] Krewski D, Jerrett M, Burnett RT, Ma R, Hughes E, Shi Y, Turner MC, Pope CA III, Thurston G, Calle EE, Thun MJ. 2009. Extended Follow-Up and Spatial Analysis of the American Cancer Society Study Linking Particulate Air Pollution and Mortality. HEI Research Report 140, Health Effects Institute, Boston, MA.

Moreover, the study demonstrated significant positive associations between PM2.5 exposures and premature death from cardiopulmonary disease and ischemic heart disease in the Los Angeles area. Another recent study, by Pope and colleagues,[40] found that a 10 µg/m^3 decrease in PM2.5 concentrations was associated with an increased life expectancy of about 0.6 year. Over the last two decades, life expectancy in the U.S. increased by about 2.7 years; the researchers estimated that PM2.5 reductions accounted for approximately 15% of this increase. Thus, evidence supporting an association between chronic PM2.5 exposures and premature mortality continues to accumulate.

14. **Comment:** The marginal evidence in Public Comments 7 through 13 (described above) is not supported by a larger number of other studies. Even by CARBs own loose standard, of the remaining 5 studies: AHSMOG, VA, 11-CA Counties, Netherlands and France, found no significant effect. Compared to the ACS, for example, these other independent studies have their own strengths and weaknesses. Weighing all of them is more a matter of subjective taste, than a scientific process. The CARB advisors in effect chose to ignore them in favoring their claim of a significant, although tiny effect. If they had not "cherry-picked" the few results that supported their position, they would have had to admit that the totality of research is still consistent with the possibility that there is no effect at all. (UCLA1)

Agency Response: CARB did not cherry pick results. While it is true that there is some subjective selection of studies and how to weigh them, these decisions were made by an independent panel of experts. The panel was selected through a nominating process by Industrial Economics, Incorporated for the U.S. Environmental Protection Agency. Nominators were chosen based on a count of peer-reviewed publications. The authors with the greatest number of publications with first, second or last author were asked to provide nominations. Neither CARB nor EPA decided who would be on the panel or who would nominate panel members.

The commenter states that the totality of research is still consistent with the possibility that there is no effect at all. Of the panel of 12 experts selected by Industrial Economics, none thought on average that there would be a 0% increase in mortality per 1 µg/m^3 increase in PM2.5, as the commenter asserts. Only one of the 12 experts included a 0% increase in mortality in a 90% confidence interval.

15. **Comment:** Even if the very small claimed health hazards of diesel exhaust turn out to be real, they in no way justify CARB's proposed draconian crash program. CARB data show that PM2.5 levels all across California are dropping rapidly. The Table on A-12 shows that in only 3 years, the pollution decreased by about 25%. By 2006 the most seriously effected region, the South Coast, had PM2.5 levels which were only 50% higher than that measured in the Mojave Desert and Mountain counties (Appendix 1). Thus most of the problem that CARB is attacking will already have disappeared under current regulations, before the proposed new ones take full effect. (UCLA1)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines. See response to comment 3 to 8 in the Need for Emissions Reductions section.

The table on page A-12 of the PM Mortality Report shows that PM2.5 levels have been decreasing due to the Board's actions to reduce PM emissions. Although the commenter states that the health hazards from diesel PM are 'very small,' the benefits from the Truck and Bus Regulation are expected to be significant. The emission reductions obtained from this regulation will result in lower ambient PM levels and reduced exposure to diesel PM. Based on our analysis, we estimate that approximately 9,400 premature deaths (2,800 – 17,000, 95 percent confidence interval (95% CI)) statewide will be avoided by the year 2025 from the implementation of the on-road truck and bus regulation.

The epidemiological data suggests that health benefits will accrue well below the current ambient levels of PM2.5. Therefore, we will continue to reduce levels PM2.5 in order to reach our goal to promote and protect public health through the effective and efficient reduction of air pollutants.

16. **Comment:** These comments add to my previous public comments, which were submitted on April 22, 2008 http://www.arb.ca.gov/lists/erplan08/2-arb_enstrom_comments_on_gmerp_042208.pdf), on July 11, 2008 (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf), and on October 1, 2008 (http://www.arb.ca.gov/lists/verdev2008/33-32-carb_enstrom.pdf) These new comments describe serious scientific deficiencies in the final October 24, 2008 CARB Staff Report Methodology for Estimating Premature Deaths Associated with Long-Term Exposures to Fine Airborne Particulate Matter in California" (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_final.pdf). This CARB Staff Report and the very similar May 22, 2008 CARB Draft Staff Report with the same title (http://www.arb.ca.gov/research/health/pm-mort/pm-mortdraft.pdf) have been used as a primary public health justification for reducing diesel particulate matter in California. These reports have been prominently cited in the proposed Statewide Truck and Bus Regulations, particularly in Appendix D: Health Impacts from On-Road Diesel Vehicles (http://www.arb.ca.gov/regact/2008/truckbus08/appd.pdf) and in Appendix E: Health Risk Assessment for On-Road Diesel Trucks (http://www.arb.ca.gov/regact/2008/truckbus08/appe.pdf). To document the serious scientific deficiencies in the CARB Staff Report, I have identified and described six specific examples of serious errors and misrepresentations (Comments 17 through 23, below). (UCLA2)

17. **Comment:** Because of my concerns about the unsatisfactory and unprofessional way in which the 148 pages of public comments in response to the May 22, 2008

CARB Draft Staff Report (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf) were incorporated into the October 24, 2008 CARB Staff Report above, I have investigated the scientific qualifications of the report authors. My search of PubMed (http://www.ncbi.nlm.nih.gov/sites/entrez/) identified only two peer reviewed papers by lead author Hien T. Tran. Furthermore, none of the peer reviewed papers by Tran and the five contributing authors have been on the topic of their report, fine particulate matter (PM2.5) and mortality in California.

Dr. S. Stanley Young of the National Institute of Statistical Sciences wrote to Governor Arnold Schwarzenegger regarding the May 22, 2008 CARB Draft Staff Report. In response, California EPA Secretary Linda S. Adams wrote a November 4, 2008 letter to Dr. Young (http://www.scientificintegrityinstitute.org/Adams110408.pdf). The Adams letter makes the following statement "Regarding the professional background of the authors, the lead author and project coordinator, Hien Tran, holds a doctorate degree in statistics from the University of California at Davis . . . ." However, I have determined from the U.C. Davis Office of the University Registrar and the U.C. Davis Department of Statistics that Hien Tran holds no Ph.D. in statistics from U.C. Davis. Also, I searched ProQuest Dissertation Express http://disexpress.umi.com/dxweb#search) and found no evidence of a dissertation on any subject from any university awarded to the Hien T. Tran employed by CARB. ProQuest UMI Dissertation Publishing has been publishing dissertations and theses since 1938 and has published over 2 million graduate works from graduate schools around the world (http://www.proquest.com/en-US/products/dissertations/).

Although Tran is shown with a Ph.D. in the draft and final reports and in the December 7, 2007 CARB Research Division Organizational Chart (http://www.arb.ca.gov/html/org/orgrd.htm), most citations of Tran in documents and meetings on the CARB website identify him as Mr. Hien Tran (http://www.arb.ca.gov/db/search/search.htm). It is very important to have Tran clarify the actual status and nature of his alleged Ph.D. degree. This issue has direct relevance to the honesty of Tran and to the scientific integrity of the draft and final reports on which he is the lead author. (UCLA2)

Agency Response: While the commentor is correct in that Mr. Tran falsely claimed to have a Ph.D. degree from UC Davis, we still stand behind the conclusions of the PM2.5 Mortality staff report because it went through a rigorous, independent scientific peer review prior to the report's release, and the report was re-reviewed in light of the concerns about Mr. Tran's role. All of the reviews found that the report conclusions were well founded and properly supported. ARB staff continues to fully support the use of the report's findings in our programs to reduce diesel particulate matter. Further information on how we addressed these issues and reached this conclusion is presented below.

General Background: Last December, it was alleged by Professor James Enstrom of UCLA that Mr. Hien Tran did not hold a doctorate in statistics from UC Davis, as was indicated in the attached letter from Cal/EPA Secretary Linda Adams to Dr. Stanley

Young. We immediately investigated this allegation and found that Mr. Tran did not have a doctorate degree from UC Davis, as Mr. Tran had led us to believe. We did verify that Mr. Tran holds a Master of Science degree in statistics from UC Davis, had completed all of the requirements for advancement to candidacy for their Ph.D. degree program, and was considered by his advisor to be a current student. Upon this finding ARB staff internally reviewed the report and determined that there were no apparent problems with Mr. Tran's work in the PM2.5 Mortality report.

Overall Efforts to Determine the Scientific Credibility of the PM2.5 Mortality Study: The PM 2.5 Mortality staff report went through three levels of formal, independent, external peer review before the report was finalized, and did not rely upon the research or original work of ARB staff. However, in light of the external concerns about Mr. Tran's credentials and honesty, in March we asked all ten external reviewers (identified below) to re-review the report. All of the reviewers confirmed their original comments on the report. For the reasons summarized below, we continue to be confident of the validity of the conclusions of the PM2.5 Mortality report.

First, we only used scientific publications from the open peer-reviewed literature. We considered 78 peer-reviewed scientific journal articles (including Professor Enstrom's publication) and eight reports from the National Academies of Science, the U.S. Environmental Protection Agency and the World Health Organization. We did not include secondary literature, such as books or opinion pieces.

Second, we received comments throughout the process (including review of the final report) from our three advisors: Dr. Jonathon Levy from Harvard, Dr. Arden Pope from Brigham Young University and Dr. Bart Ostro from the Office of Environmental Health Hazard Assessment. They publish frequently in the areas of air pollution and statistical relationships with premature death, the main subject of our report, and concurred with our findings.

Third, our draft report was reviewed following the Cal/EPA external scientific peer review guidelines for independent review. In this process the UC Berkeley Institute of the Environment selects the peer reviewers without input from staff. Staff was only allowed to submit a list of individual who may have a conflict of interest. Furthermore, candidates were accepted as reviewers only if the disclosure information showed they had no conflict of interest related to the report. The six reviewers identified by UC Berkeley and selected by the Cal/EPA Project Director to review the proposed methodology in the PM2.5 Mortality staff report were: Dr. Jeff Brook from Environment Canada, Professor Mark Eisner of UC San Francisco, Professor Richard Flagan of the California Institute of Technology, Professor Alan Hubbard of UC Berkeley, Professor Joel Kaufman of the University of Washington, and Professor Joel Schwartz of Harvard University. Collectively, their expertise is based on research in the areas of chronic obstructive pulmonary disease related to air pollution, statistical analysis of epidemiological data, particle formation and measurements in air, air quality risk management, air pollution and daily mortality associations, and epidemiology. They all concurred with our basic conclusions.

In addition, the report went through several levels of informal internal review. Linda Tombras Smith, a Ph.D. in Chemistry (with a Biochemistry thesis topic) from UC San Diego with lead experience on PM and other major ambient air quality standard reviews, oversaw the entire project and reviewed all versions of the report. Dr. Smith was Mr. Tran's direct supervisor.

At the request of the Engine Manufacturers Association, the diesel PM exposure estimates were reviewed by Professor Philip Hopke of Clarkson University. Dr. Hopke was supportive of the basic conceptual framework of ARB's approach.

At the request of Board Chairman Mary Nichols, ARB staff convened a panel of worldwide PM health effects experts to discuss two important aspects of the staff report, the threshold of PM2.5 health effects and the linearity of the dose-response relationship. Participants included U.S. EPA, Environment Canada, the World Health Organization, the Chairs of U.S. EPA's Clean Air Scientific Advisory Committee and Cal/EPA's Scientific Review Panel, the Health Effects Institute, and several internationally recognized academic researchers. There was general concurrence on the issues discussed.

Actions to Address the Improper Claim by Mr. Tran of a Doctorate from UC Davis: Mr. Tran recognized the gravity of his actions and voluntarily took a two-level demotion that removed him from management responsibilities. He was reassigned to another group and is no longer involved in health impacts analyses.

Board staff also treated this incident very seriously. The management of the Research Division pursued an adverse action that resulted in a 60-day suspension without pay, which Mr. Tran served in the spring. This action took into consideration the facts that there is no evidence that Mr. Tran's work was affected or in error, possession of a doctorate was not required for his position, and Mr. Tran's history as a conscientious ARB employee for more than ten years, one who worked many extra hours on his assignments, and consistently produced high quality work.

In conclusion, we think that the PM2.5 Mortality staff report was reviewed and re-reviewed well beyond the norm, and we continue to stand behind the methodology that is used to calculate the premature deaths avoided with ambient PM2.5 reductions.

18. Comment: Review process for CARB staff report - paragraph from the Executive Summary of the CARB staff report.

> "The methodologies and results presented in this report have been endorsed by our scientific advisors, Dr. Jonathan Levy of Harvard University, Dr. Bart Ostro of the Office of Environmental Health Hazard Assessment, and Dr. Arden Pope of Brigham Young University. This report underwent an external peer review by experts selected through an independent process involving the University of California at Berkeley, Institute of the Environment. The results of the peer review process have been incorporated into this report. In addition, all public comments received on the May 22, 2008 draft version of the report have

been incorporated into this staff report. Specific responses to individual comments are addressed in Appendix 5."

Based on my November 12, 2008, 11 AM telephone conversation with Hien Tran, only the CARB Draft Staff Report underwent external peer review. This agrees with the posted CARB Peer Review Committee Background (http://www.arb.ca.gov/research/health/pm-mort/prc.htm). The final CARB Staff Report and the 148 pages of public comments were never shown to the external peer reviewers. Consequently, the final report does not contain all the changes that are warranted based on the public comments. Note that the Executive Summary of the final report is virtually identical to the Executive Summary of the draft report. I do not believe that the external peer reviewers would have approved the final report as written if they had seen the public comments. The final report should be sent to and fully evaluated by the external peer reviewers before it is used by CARB as public health justification for new diesel truck regulations. (UCLA2)

Agency Response: The draft PM mortality report was reviewed extensively by external peer reviewers, and was revised based on their comments. According to the Cal/EPA External Scientific Peer Review Guidelines (dated November 2006), a revised report cannot be sent to the original peer reviewers for a second review, as such an action could unintentionally lead to collaboration, or the appearance of such, which must be avoided. However, public comments on the final report were carefully considered by CARB staff; revisions were made as appropriate, and staff provided responses to concerns.

19. Comment: Geographic Variation of Relationship Between PM2.5 and Deaths in Cohort Studies – paragraph from pages 25-26:

"Other important screening criteria include a desire for geographic appropriateness. This does not necessarily mean that only studies in California can be used for risk evaluations in California, but it means that significant factors that vary geographically should be addressed. This can occur at multiple levels. For example, a study in a developing country may not be directly applicable to the U.S., due to differences in age distributions, underlying disease patterns, pollutant composition, standard of health care, and many other factors. Within the U.S., regional differences could occur if the composition of PM2.5 differed significantly and more/less toxic agents could be identified, or if concentration-exposure relationships differed significantly (i.e., due to differences in air conditioning prevalence). While there are some noticeable differences between California and other states in terms of climate and concentrations of PM constituents, there is little evidence for California's relative risk to be differentiated from the U.S. average. More explicitly, there is not adequate evidence at present regarding the quantitative differential toxicity of different particle constituents, and national and regional information about exposure-concentration differentials, to make any formal adjustments."

There is substantial evidence from six different sources that there is substantial geographic variation in the relationship between PM2.5 and deaths within the United States and/or that there is little or no current relationship between PM2.5 and deaths in California:

(1) Figure 21 "Fine Particles and Mortality Risk" on page 197 of the 2000 HEI Reanalysis Report by Krewski et al. shows "medium mortality" in California: "0.711<relative risk of mortality<0.919". This finding is based the HEI analysis of 1982-1989 deaths in the ACS 1982 Cancer Prevention Study (CPS II) cohort. Figure 21 has been discussed in my April 22, 2008, July 11, 2008, and October 1, 2008 public comments cited above and in my June 1, 006 *Inhalation Toxicology* response (http://www.scientificintegrityinstitute.org/IT060106.pdf).

(2) Pages 6-265 and 6-266 of March 2001 U.S. EPA Second External Review Draft Air Quality Criteria for Particulate Matter Volume II (EPA 600/P-99/002bB) (http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=20810) contain the following sentences: "The overlay of mortality with air pollution patterns is also of much interest. The spatial overlay of long-term PM2.5 and mortality (Krewski et al., 2000; Figure 21) is highest from southern Ohio to northeastern Kentucky/West Virginia, but also includes a significant association over most of the industrial midwest from Illinois to the eastern non-coastal parts of North Carolina, Virginia, Pennsylvania, and New York. . . . The apparently substantial differences in PM10 and/or PM2.5 effect sizes across different regions should not be attributed merely to possible variations in measurement error or other statistical artifact(s). Some of these differences may reflect: real regional differences in particle composition or co-pollutant mix; differences in relative human exposures to ambient particles or other gaseous pollutants; sociodemographic differences (e.g., percent of infants or elderly in regional population); or other important, as of yet unidentified PM effect modifiers."

(3) Slide 46 in the July 23, 2001 EPA CASAC presentation by Dr. Lester D. Grant shows no relationship between PM2.5 and deaths in the "West" based on the 2000 HEI Reanalysis (ACS CPS II cohort). For further details read pages S-10 and S 11 of the July 11, 2008 public comments by Jon M. Heuss (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf and http://www.scientificintegrityinstitute.org/Heuss071108.pdf) and examine the full EPA CASAC presentation by Grant (http://www.scientificintegrityinstitute.org/Grant072301.pdf).

(4) My December 15, 2005 *Inhalation Toxicology* paper, "Fine Particulate Air Pollution and Total Mortality Among Elderly Californians, 1973-2002," showed no relationship between PM2.5 and deaths in 11 California counties in the California Cancer Prevention Study (CA CPS I) cohort during 1983-1992 and 1993-2002 (http://www.scientificintegrityinstitute.org/IT121505.pdf).

(5) The August 12, 2008 *Environmental Health Perspectives* paper by Drs. Scott L. Zeger, Francesca Dominici, Aidan McDermott, and Jonathan M. Samet,

"Mortality in the Medicare Population and Chronic Exposure to Fine Particulate Air Pollution in Urban Centers (2000-2005)" (http://www.ehponline.org/members/2008/11449/11449.pdf). Page 1617 of this paper states: "A provocative finding is that the MCAPS data show no evidence of a positive association between ZIP code-level PM2.5 and mortality rates for the 640 urban ZIP codes in the western region. This lack of association is largely because the Los Angeles basin counties (California) have higher PM levels than other West Coast urban centers, but not higher adjusted mortality rates." The results for the western region [California, Oregon, and Washington] are dominated by those for California, since 468 (73%) of the 640 zip codes for the western region are in California. This paper is the published version of the January 2007 Johns Hopkins University Biostatistics Working Paper 133 (http://www.bepress.com/jhubiostat/paper133/), which has similar findings based on 2000-2002 Medicare Cohort Air Pollution Study (MCAPS) data.

(6) Additional results are found in the U.S. Centers for Disease Control (CDC) WONDER data base for U.S. mortality during 2000-2005 (http://wonder.cdc.gov/cmf-icd10.html). This interactive national mortality data base shows that, compared with the 2000-2005 United States total age adjusted death rate, the California rate is 9% lower and the Los Angeles County rate is 11% lower. These results are consistent with the finding in the 2008 *EHP* paper that total death rates are not higher in the Los Angeles basin counties. In addition, the relatively low total death rate for California does not support the notion that diesel particulate matter or fine particulate matter causes premature deaths in California. California has the fourth lowest total age-adjusted death rate among all states. (UCLA2)

Agency Response: With reference to point 1 of this comment, we reiterate our previous response to the commenter's incorrect characterization of Figure 21, page 197 of Krewski et al. (2000). The figure is a visual overlay of the mortality and the PM2.5 surfaces as spatially modeled in one of the ACS sensitivity analyses. The figure shows that in California, the majority of the most populous regions have low to medium levels of PM2.5, and a medium level of mortality. The exception is the Fresno area, and moving east into the Sierra Nevada Mountains. The description of the figure is on page 198, and states: "For the medium levels of pollution, intersections exist (referring to the two spatial surfaces) for high and medium mortality rates, but not for low mortality rates. Only the low fine particle category intersects with the low mortality rate category." The purpose of the figure was to investigate the spatial concordance between high PM2.5 and high mortality areas, not to make a statement as to specific risk in any area of the country.

Points 2, 3, 4, and 5 have been addressed in the response to comment 2 above.

The commenter does not mention in point 6 that California tends to have a younger overall population than many other states, and as a result would have lower total death rates.

20. Comment: Geographic Variation of Relationship Between PM2.5 and Deaths in Time Series Studies – paragraph from page 26:

> "National-scale epidemiological studies addressing short-term effects of PM exposure using time-series analyses do not demonstrate an appreciable difference between California and other states or regions in relative risks. For example, in a publication on 91 U.S. cities addressed by the National Mortality Morbidity Air Pollution Study, Dominici et al. (2005) showed that the southern California relative risk was slightly higher than the national average, while that of the Northwest (which included northern California as well as Oregon, Washington) was slightly lower than the national average. A simple average of the southern California and Northwest relative risks gives a value almost identical to the national average. A recent publication investigating PM2.5 mortality in 27 large communities around the U.S. (Franklin et al.2007) found that the C-R function was above the national average for San Diego and Sacramento but below the national average and insignificant for Riverside and Los Angeles. It should be noted that the cohort study by Jerrett et al. (2005a) did find a statistically significant effect for the Los Angeles metropolitan area, once exposure was estimated with more geographic precision. Thus, the available evidence does not provide any rationale for excluding relative risks derived from studies across the U.S. to California."

The results of the two time series studies cited are inaccurately described. Dominici et al. (2005) presented only PM10 results and made no mention of PM2.5 in California or elsewhere in the U.S. (http://www.scientificintegrityinstitute.org/JTEH2005.pdf). It is entirely inappropriate and misleading to cite this study as being relevant to PM2.5 relationships throughout the U.S. The Franklin et al. (2007) relative risks (RR) are described inappropriately. A properly weighted average of results for the 5 counties in California yields RR = 1.0009 (0.9972-1.0046), where as the results for all 27 U.S. counties analyzed in the paper showed RR=1.0121 (1.0029-1.0214) (http://www.scientificintegrityinstitute.org/JESEE2005.pdf). Thus, the results of Franklin et al (2007) support the above evidence of geographic variation in the relationship between PM2.5 and deaths in the U.S., with no current relationship in California. (UCLA2)

Agency Response: It is unclear why this comment was submitted in response to the truck and bus regulation because it refers to page 26 of the PM Mortality staff report. The paper has no direct relationship to the truck and bus regulation or its basis because it pertains to studies of the acute effects of PM2.5. ARB does not estimate acute mortality associated with PM, and did not do so for the truck and bus regulation.

The discussion of the Dominici paper (2005) on page 26 of the PM Mortality Report does not specify a size of PM. The commenter is correct that this study used PM10 as the air quality measurement. The commenter's description of the RR from Franklin et al. (2007) is incorrect. Table 2 of the paper specifies that the largest effect was at lag 1, and that the relative risk for all cause mortality associated with a 10 $\mu g/m^3$ increase in

PM2.5 was 1.21 (0.29, 2.14, 95% confidence interval). While it is apparent that there are differences among the 27 communities included in the study, it is also apparent that for the most part these single city estimates are not statistically different from each other. There are a few estimates for which the 95% confidence intervals do not overlap, but for the most part, one cannot conclude that the single city estimates are statistically different. The estimates for the five California communities fall solidly within the central portion of the distribution for all 27 communities. It is not appropriate to only look at the central estimate of risk; it is essential to also consider the 95% confidence interval, and the precision of the risk estimate.

21. Comment: Misrepresentation of July 11, 2008 CARB Teleconference Organized by Hien Tran - pages A-95 and A-96 of "Appendix 5 (Public Comments and Staff Responses) In this appendix, we summarize the key comments received from the public on the May 22, 2008 draft report, and our responses to them."

> "1. Choice of studies for draft report - Draft report emphasized positive studies and omits consideration of negative chronic mortality studies (i.e. Veteran's study and Enstrom (2005)). In addition, many of the studies chosen were not California-centric. . . . Some commenters suggested that CARB put greater emphasis on the Enstrom (2006) study. CARB staff convened a teleconference with Dr. Enstrom and several prominent epidemiologists to discuss his findings. We amended that portion of the report to reflect the discussion, which focused on two main issues: the time of follow-up since initial enrollment of the cohort, and the age of the cohort."

The above statement totally misrepresents the July 11, 2008 teleconference, which focused on the full July 11, 2008 agenda that I prepared in advance of the teleconference (http://www.scientificintegrityinstitute.org/AgendaFull071108.pdf). While the age of the CA CPS I cohort used in my 2005 paper was noted during the discussion, the long follow-up period of my study was not discussed. Although my study used an elderly cohort, it is important to note that about 75% of all California deaths occur among residents 65+ years of age. The primary purpose of the teleconference was to correct the mischaracterization by CARB of my 2005 paper, to address the points made in my 2006 response to criticism of my 2005 paper, to address my April 22, 2008 CARB public comments, and to discuss my proposed calculation of California-specific relative risks in ACS CPS II cohort, the cohort used in the studies rated highest in the CARB Staff Report. The full text of my public comments submitted just after the teleconference are available on pages S-139 to S-141 of the complete July 11, 2007 CARB public comments (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf and http://www.scientificintegrityinstitute.org/PMDeathsEnstrom071108.pdf). (UCLA2)

Agency Response: CARB acknowledges that the teleconference also included a discussion of a proposal by Dr. Enstrom, and CARB appreciates suggestion for calculation of California-specific relative risks using the ACS CPS II cohort data. However, as stated in our response to previous comments (page A-104 of the PM Mortality Report[5]), CARB staff does not own or have access to this data, and consequently can not perform the requested calculations. While CARB has funded

projects that use the CPS II data, the agency has no role in obtaining the necessary data.

From CARB's point of view, the primary purpose of the teleconference was to improve the PM Mortality Report by discussing Dr. Enstrom's published findings. Our notes indicate that survival effect was discussed at the meeting in the context of the long follow-up period of the CPS I cohort.

22. Comment: Repeated Failure to Obtain California-specific Results from ACS CPS II Cohort - page A-104 of "Appendix 5 (Public Comments and Staff Responses)

> "12. Pope/American Cancer Society (ACS) study
>
> Some comments are focused on Figure 21, page 197 of Krewski et al. (2000) suggest a misunderstanding of the figure. The figure is a visual overlay of the mortality and the PM2.5 surfaces as spatially modeled in one of the ACS sensitivity analyses. The figure shows that in California, the majority of the most populous regions have low to medium levels of PM2.5, and medium mortality. The exception is the Fresno area, and moving east into the Sierra Nevada Mountains. The description of the figure is on page 198, and states: 'For the medium levels of pollution, intersections exist (referring to the two spatial surfaces) for high and medium mortality rates, but not for low mortality rates. Only the low fine particle category intersects with the low mortality rate category.' The point of the figure was to investigate the spatial concordance between high PM2.5 and high mortality areas, not to make a statement as to specific risk in any area of the country.
>
> We appreciate the commenter's suggestion for calculation of California-specific relative risks using the ACS CPS II cohort data. However, CARB staff does not own or have access to this data, and consequently can not perform the requested calculations. While CARB has funded projects that use the CPS II data, the agency has no role in obtaining the necessary data. In terms of studies on the relationship between long-term exposure to PM2.5 and mortality, recent research (Jerrett et al., 2005a) into spatial variability in PM2.5 concentrations across regions, for example the Los Angeles area, shows that exposure assessments based on county level monitoring, as used in Enstrom (2005) and the various Pope et al. papers (1995, 2002, 2004), do not adequately represent population exposure, and introduce a bias toward the null. Consequently, we question the utility of an analysis that relies on what is not currently viewed as the best exposure estimation methodology."

As discussed points 1-3 in Comment 19, there is no "misunderstanding" of Figure 21 from the HEI Reanalysis. Figure 21 shows clear geographic variation with RR below 1.00 in California. Slide 46 in the Grant EPA presentation confirms the geographic variation found in the ACS CPS II cohort, with RR = 0.91 (0.71-1.17) in the West (PM2.5 Excess Risk = -9%) (http://www.scientificintegrityinstitute.org/Heuss071108.pdf).

Based information obtained from Hien T. Tran and the July 21, 2008 letter to me by CARB Chair Mary D. Nichols (http://www.scientificintegrityinstitute.org/Nichols072108.pdf), CARB has an ongoing contract involving Dr. Michael Jerrett of UC Berkeley, Dr. C. Arden Pope of Brigham Young University, and Dr. Michael J. Thun of ACS to fully analyze the relationship of PM2.5 to deaths in California. The Pope 1995, Pope 2002, and Jerrett 2005 epidemiologic studies are all based on the ACS CPS II cohort and are the primary studies that have been used in the CARB Staff Report to estimate the relationship of PM2.5 to deaths in California. Thus, it is important that the ongoing analyses examine the relationship in several ways, including those that I proposed on July 11, 2008 in my teleconference involving Tran, Jerrett, and Pope (http://www.scientificintegrityinstitute.org/AgendaFull071108.pdf).

Unfortunately, Pope has not responded to my August 20, 2008 email request to conduct my proposed analyses and Thun has not responded to my December 1, 2008 request to conduct these analyses. In the best interest of all Californians, particularly those impacted by CARB regulations, CARB should make public its ongoing contract with Jerrett, Pope, and Thun and should require that all analyses of the ACS CPS II cohort data are conducted in a complete and transparent manner. Although "CARB staff does not own or have access to this data," CARB can require that the requested analyses be completed as part of their contract. (UCLA2)

Agency Response: All CARB research contracts are public documents, and the analyses are done in a transparent manner. The results of the contract investigating mortality in California with the ACS cohort will be published in the peer reviewed literature. Also, the Board's legislatively mandated Research Screening Committee meets approximately four times a year to review proposed and completed research projects. These meetings are open to the public. For meeting notices and advance agendas, please see visit the website: http://www.arb.ca.gov/research/rsc/rsc.htm.

23. Comment: The serious errors and misrepresentations that exist in the CARB Staff Report, as illustrated by the six examples above, raise serious doubts about the honesty of the lead author, Hien T. Tran, and the scientific integrity of this report. The major issues described above must be satisfactorily addressed before this report is used as a primary public health justification for the proposed Statewide Truck and Bus Regulations. Given the extensive evidence that diesel particulate matter and fine particulate matter are not currently causing premature deaths in California, these proposed regulations should be postponed until the above issues are fully addressed. (UCLA2)

Agency Response: Staff disagrees with the statement that there is extensive evidence that shows no association between exposure to diesel PM and PM2.5 and premature deaths in California. CARB's review of the evidence in the PM Mortality Report underwent extensive peer review, as discussed in agency response to comment 1. The best available science was the basis of the report, and CARB stands by the conclusions of the report.

24. Comment: General Concerns Regarding Air Pollution Health Effects and Regulations

(7) Pollution levels are much lower today than in previous decades and current health risks are small.

(8) Small epidemiologic associations are often spurious, rather than cause-and-effect relationships.

(9) Regulations designed to solve one problem may have consequences that do more harm than good.

(10) Scientists who are not popular activists are often marginalized and their important research is ignored.

(11) Conflict of interest regarding power and funding exists between regulators and conforming scientists.

(12) New regulations must be based on a fair evaluation of all available evidence from diverse sources.

(13) Specific Concerns Regarding October 24, 2008 CARB Staff Report on PM 2.5 and Premature Deaths

(14) Authors have no relevant peer reviewed publications and lead author has misrepresented his "Ph.D."

(15) Report and public comments were never shown to outside reviewers as stated in Executive Summary.

(16) Five independent sources indicate no current relationship between PM2.5 and deaths in California.

(17) California has fourth lowest total age-adjusted death rate among US states and few "premature deaths."

(18) Diesel toxicity and fine particulate air pollution in California are currently at record low levels.

(19) Before approving new diesel regulations, CARB should fully evaluate PM2.5 and deaths in California.

Conclusion: Important epidemiologic and toxicologic evidence does not support adverse health effects of diesel claimed by CARB and new diesel regulations should be postponed until above issues are fully and fairly evaluated. (UCLA3)

Agency Response: Please see responses to comments 16 – 23.

25. Comment: It was proven that USC is the only study to support the health problems caused by trucks. UCLA does not support and in fact commented that they see no sign of diesel PM present in the study (from 1985 to 1999). (MFLE1)

Agency Response: The commenter does not provide citations for the USC and UCLA studies, so it is unknown which studies or results are being referred to.

26. Comment: Correcting the Air Quality Benefit Calculation to Account for Incremental Acceleration of Emission Reductions

The proposed on-road diesel rule is accelerating the benefits of emission reductions that would have occurred by 2030 under the current regulations. Thus the issue is how to calculate the benefit of that acceleration, not how to calculate an incremental gain beyond the current target baseline which is the effect of a typical regulation. The year-by-year calculation of the benefits done by the ARB makes an important assumption that is incorrect: that the mortality rate for one year is independent of that for subsequent years. This implies that the population of individuals who die later in the 2010-2030 time period due to the acceleration in emission reductions would *not* be the same population who would have benefited from the reductions over the same period under the existing regulations. In other words, the ARB's calculation assumes that a different population is benefiting under the new regulations from those that benefit under existing regulations. This is an important error.

The fact is that the benefits from the proposed regulations already include the benefit from extending life expectancy under the initial existing regulation. The proposed regulations make an incremental extension, not a new extension. Counting that benefit again would be double counting. The assumption implicit in the value of statistical life (VSL) calculation applied to the mortality rates does not account for differentials changes in life expectancy – only that it is improved. Research on VSL has not yet shown a strong relationship with differences in extended life expectancy (see the National Research Council report[43]), so the realized benefit will largely just be an accelerated realization of that benefit.

The CARB's current methodology incorrectly assumes that an individual who is saved from premature death with the new regulation, for example in 2012, would have lived to the fullest extent of their life expectancy, i.e., an additional 14 years or so. In reality, we would expect that the same individuals who benefited from the reduction in emissions in 2012 would be much the same as those who benefit in say 2019 under the existing regulations. So the mortality rate for 2019 is actually dependent on the mortality rate in 2012, and when the 2012 rate is changed, it changes the rate in 2019. So in fact the life expectancy is not extended 14 years, but rather 7 years in this example.

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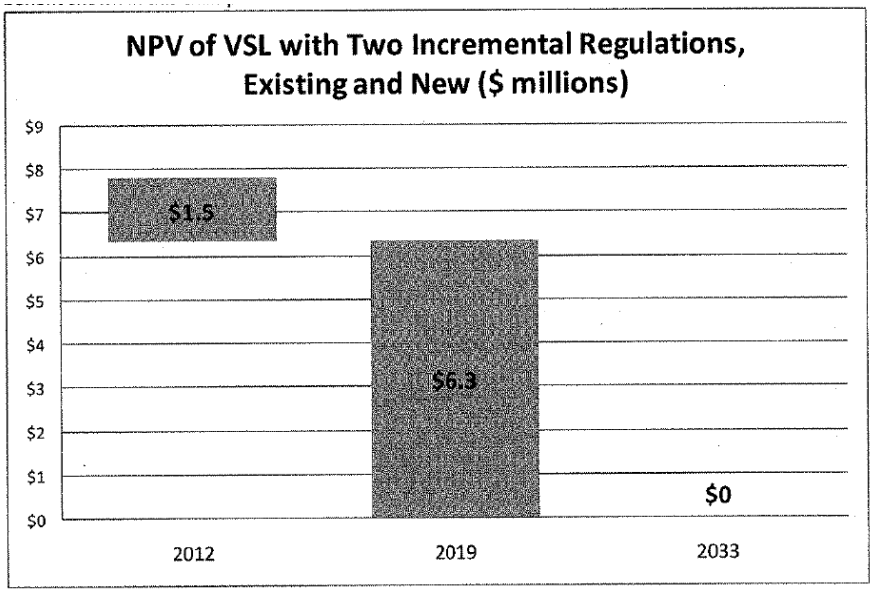
[43] J Bailar, John C.. Richard T. Burnett, Lauraine G. Chestnut, W. Michael Foster, A. Myrick Freeman, Montserrat Fuentes, Daniel S. Greenbaum, Alan Krupnick, Nino Kunzli, Kent E. Pinkerton,. Armistead G. Russell, Helen Sub, and Evelyn O. Talbott. "*Estimating Mortality Risk Reduction and Economic Benefits from Controlling Ozone Air Pollution*." Washington, D.C.: Committee on Estimating Mortality Risk Reduction Benefits from Decreasing Tropospheric Ozone Exposure, Board on Environmental Studies and Toxicology, Division on Earth and Life Studies, National Research Council, 2008, pp. 150.152.

The figure below illustrates the correct method for estimating these benefits using this example. It shows the correct method of computing the net present value of the value of a statistical life with two incremental regulations – the current diesel regulations and the proposed ones. Assuming an average VSL of $8.5 million, the present value of improving life expectancy with the existing regulations by 14 years in 2019 is $6.3 million at a 3 percent discount rate. The new regulation moves forward that benefit by 7 years – it does not create a *new* benefit because the targeted emission level would have been achieved without the regulation, just at a later date in 2019. The value of accelerating this benefit is $1.5 million. This latter value is the benefit of the new regulation, not the sum of the benefit in 2019 and in 2012 of $7.8 million. Unfortunately, the CARB's current method double counts the $6.3 million benefit shown in this example. We should expect that the same population is benefitting from the accelerated reductions, just at an earlier time. There is no evidence that a new population is benefiting. The new regulations are simply extending the expected remaining life of the target population. The net benefits of the new regulations therefore should be the net benefits of the difference in achieving the regulations the average number of years earlier that the reductions are achieved.



The correct method for calculating the benefits is a two-step process.[44] The first is to calculate how much achieving targeted reductions are accelerated for each year. Then the present value of benefits under the existing regulations are adjusted to bring them closer in each year by the amount of acceleration. Finally, the net benefits of reductions from the proposed regulations below what would have been achieved in 2030 under existing regulations are added to the accelerated benefits. Based on the data for the SCAQMD provided by the Staff,

[44] We shared with the CARB staff a spreadsheet derived from the staff's estimate of benefits for the SCAQMD that illustrates the correct methodology.

this method reduces the benefits by 52 to 58 percent at a 3 percent discount rate, and delivers benefits of 96 to 111 percent at a 7 percent discount rate. Based on the these adjustments, the health benefits should be adjusted to $36 to $40 billion when using a 3 percent discount rate, and to $46 to $53 billion based on a 7 percent discount rate.[45]

These results are consistent with economic theory, confirmed by the difference when we vary the discount rate. We expect that a higher discount rate implies more impatience. We see that accelerating the benefits has more value with a higher discount rate, exactly what we would expect. In contrast, the ARB approach implies that we become *more* patient at the discount rate rises, which is contradicted by the economic theory upon which the entire economic analysis is based.

While this error may not make a significant difference in considering of whether to adopt a plan, it can make a difference in *which* plan should be adopted. The Staff should be estimating the net benefits for each proposal, including those from stakeholders. The incremental benefits of each plan should then be compared to the incremental costs. (AEG1)

Agency Response: Staff's calculation of benefits assumes that by accelerating the adoption of regulations that reduce PM2.5 concentrations, their health benefits are extended to individuals who would not otherwise benefit from them.

The substance of the comment is that staff's assumption is incorrect: if regulations are adopted on an accelerated schedule, the individuals who would enjoy health benefits are the same ones who would enjoy them under a non-accelerated schedule. Therefore, the monetary value of early adoption of regulations is entirely due to realizing them sooner: since a discount rate is applied to benefits realized in the future, the sooner they are realized the less they are discounted, and the more they are worth.

Staff believes that the assumption that accelerating adoption of regulations extends their benefits to new individuals is well-justified. Exposure to PM2.5 at ambient concentrations does not kill people outright, but is associated with increased probability of death from an underlying condition such as cardiovascular disease (CVD) or pulmonary disease. Health conditions such as these impair the body's ability to cope with stressors such as infectious disease, extremes of temperature, injury, etc. Exposed to such stresses, individuals with underlying health conditions may die at a relatively young age. The pool of individuals at greatest risk of death is constantly changing as new individuals undergo stress, or cease to be vulnerable because they recover or die. Therefore, if PM2.5 control measures are accelerated by months or years, additional individuals enjoy reduced vulnerability, and it is appropriate to treat the resulting reduction in mortality as independent from subsequent mortality.

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[45] California Air Resources Board. "Technical Support Document: Proposed Regulation for in-Use on-Road Diesel Vehicles. Appendix D: Health Impacts from on-Road Diesel Vehicles." Sacramento, California: Mobile Source Control Division, Heavy.Duty Diesel In.Use Strategies Branch, 2008, p. D-8.

Since staff believes it is reasonable to assume that accelerated adoption of regulations extends the benefit to new individuals, staff's methodology for estimating the monetary value of the health benefits, namely by multiplying projected changes in mortality by the value of a statistical life (VSL), is appropriate. The method of valuation described in the comment only accounts for the increase in value achieved by realizing the benefits sooner, due to discounting, and does not account for the increased number of individuals who benefit. It is therefore not an accurate way to estimate their value.

27. Comment: The health benefits are grossly exaggerated. If you don't have the money to comply, your only option is to shrink your fleet. That is happening in huge numbers on the off-road fleet, and that means you dump equipment and you dump it out of state. You're merely moving the problem somewhere else. There isn't a real benefit. The problem just moved to a different neighborhood. You need to fix that. (CIAQ2)

Agency Response: ARB staff's estimate of the heath benefits associated with diesel PM reduction due the regulation is based on the best available emission and health data. We do not think that the health benefits are exaggerated. On the contrary, we did not quantify all possible health benefits that could be associated with reducing diesel PM. Health effects such as myocardial infarction (heart attack), chronic bronchitis, and onset of asthma were not quantified due to the potential overlap with the quantified effects such as lower respiratory symptoms and hospitalizations. Because only a subset of the total number of health outcomes is considered here, the estimates may be an underestimate of the total public health impact of PM exposure.

It is possible that some the equipment may move out of state. However, there is not enough information to estimate the health impacts.

28. Comment: I have worked in this diesel smoke industry alongside the crews for over 50 years and have never had any of our employees come down with lung diseases at a later time to my recollection. This is not to say that diesel smoke cannot cause lung problems, just to point out that when the smoke from equipment was at its worst (decades ago), it caused very little lung problems for the very operators of this equipment, much less the population as a whole. Diesel engines are constantly improved and normal attrition of equipment has removed most of the major offenders of air quality. The diesel smoke from today's equipment is virtually non existent at this time (invisible to the naked eye), but still not "clean enough, fast enough" for CARB. California has around 5 million folks (13% of the population) legally running around puffing on cigarettes (the admitted major cause of Chronic Obstructive Lung Disorders) but makes diesel engine exhaust components above some pre-determined level illegal because someone might breathe some of it. What's wrong with this picture? Now we are the bad guys, causing (supposedly) billions of dollars of injury to unknown persons (according to "studies"). (DCI1)

29. **Comment:** The regulation will bankrupt every small trucking firm in California, especially in this economy. The area of trucking that I have been a part of for 50 years is construction dump trucking - made up mostly of single truck operators that put less than 75,000 miles per year on the road. I, nor my father or brothers that have been in this industry all their lives have ever been diagnosed with lung cancer or any of the other deadly diseases attributed to this industry. Most lung cancers come from smoking and 50% of truck drivers probably smoke. I do not. I own a 1994 tractor that is in top condition and does not smoke. That same truck new would cost $120,000 or more and the rate system we must live by doesn't afford that kind of expense. (STLLC)

30. **Comment:** I am 31 years old and have been riding in and around trucks since I was born. I have perfectly healthy lungs. You say truckers are prone to lung cancer due to PM levels but you people don't realize 70% of truckers smoke some 2-3 packs a day. I am a diesel mechanic and you say mechanics are not as vulnerable as drivers, do you think they run the exhaust pipe in the cab of their truck? How does PM get in the cab when you are driving down the road? Smoking cigarettes causes lung cancer and second hand smoke causes asthma. (MFLE2)

31. **Comment:** My husband was diagnosed with asthma while in the marines over 49 years ago. His doctors deemed him asthma free in 1976, eleven years into his owner-operator life. We have known countless truckers over the year. We have never known anyone to die from diesel-related cancers. (CDTOA12)

32. **Comment:** Regarding the studies on premature deaths related to diesel particulates, did they consider the guy in the cab with his four packs a day of cigarettes, or obesity and other health issues? I'm an asthmatic myself. You know, I don't suck diesel particulates all day long. I just hope that you use common sense and be reasonable. (RSIIB)

33. **Comment:** I'm a five-year volunteer with the American Cancer Society for life. According to the American Cancer Society and NCI, lung cancer is on the decline in California according to a report November 25th, 2008. The report shows significant differences in lung cancer death rates in different parts of the United States. In California, for instance, the lung cancer rate dropped by 2.8 percent per year among men between 1996 and 2005. They can see that in the areas of the country where smoking and tobacco use are intrenched in daily life, men and women continue to pay a price with higher incidences of death rates for many types of cancer. This type of geographic variation in smoking related cancer is due to smoking behaviors, not regional environmental factors. Don't get me wrong. I'm not a doctor or scientist. The point I'm trying to make everyone, is always blaming the trucks or truckers. How many of the 31,000 teamsters in the surveys were smokers or former smokers? Education and preventative screening about smoking is working. But according to the ACS, if we lose our jobs and we lose our health care, these cancers will be on the rise again. (CDTOA14)

Agency Response for Comments 28-33: It is true that exposure to cigarette smoke is associated with lung cancer and other adverse health effects, but this does not negate

the evidence that particulate matter exposure is associated with health impacts. The adverse health effects associated with PM exposure extend beyond lung cancer and respiratory effects that were mentioned in these comments. Hospitalizations due to cardiovascular and respiratory causes, cases of chronic bronchitis, increased asthma symptoms, and increased work loss days are associated with these exposures.

Premature death has been found to be associated with long-term PM exposures. CARB staff does not argue that PM exposures directly cause premature death, but rather increases the risk of death for individuals whose health is already compromised.

Truck drivers also may exhibit a "healthy worker effect." In epidemiological studies, this is an innate bias in which workers in a given occupation tend to show lower death rates than members of the general public, due to the fact that only relatively healthy individuals can carry out the tasks necessary for that occupation.

34. Comment: The chairman claims that this rule "is going to save 9,000 California lives over the next decade". But, has the Board or the public read the letter submitted to public comment on the ARB web site on April 2008 from James E. Enstrom, Ph.D., M.P.H., University of California, Los Angeles? In this letter Dr. Enstrom reveals extensive research in direct contradiction to this claim of premature deaths. In addition, he makes the comment that the ARB completely disregards his research. This is in direct alignment to our industries claim that the ARB simply doesn't listen. How much other information is being published or verbally spoken the ARB that simply isn't accurate? (FCAT2)

Agency Response: Dr. Enstrom's comments on the Truck Rule were also carefully considered. Please see responses to comments 16 through 23.

To address Dr. Enstrom' comments on the PM Mortality Report, CARB staff convened a teleconference with Dr. Enstrom and several prominent epidemiologists to discuss his findings. We amended that portion of the report to reflect the discussion, which focused on two main issues: the time of follow-up since initial enrollment of the cohort, and the age of the cohort.

The first issue is the 40 year follow-up period. At first glance, this long follow-up is an attractive idea. However, the Cox proportional hazards model is influenced by long-term trends that are not likely to remain proportional to the hazard for periods of that duration, for example, changes in health care. While it is unlikely that changes in health care, land use, demographics and other risk factors vary on the scale of a few years, they will change over 40 years, and this is not accounted for in Dr. Enstrom's study. The original ACS and Six Cities studies were less than ten years in duration, reducing the likelihood that this issue applies to them. However, as follow-up in these populations continues, this will increasingly become an issue, unless updates to model adjustments for these factors are made.

The second issue is concerned with the age of the cohort. It is likely that at some point across a 40-year period the risk of dying in any given year dwarfs any additional risk

added by PM2.5, making additional risk related to PM2.5 undetectable. As the subjects move into the older age categories, it will become increasingly difficult to distinguish additional risk from PM2.5 from that related to age. In fact, the Enstrom paper demonstrates this, in that the relative risk for a PM2.5 effect on death decreases through the various measurement periods reported in the paper. It should be noted that Enstrom's relative risk for the 1973 to 1983 time period is similar to that reported by Pope et al. (1995) using the same exposure data, and when the subjects in the two groups were of similar ages. The PM Mortality Report was amended to include a discussion of these important issues.

35. Comment: Truck drivers themselves have an excess lifetime cancer risk. Long-haul drivers with the longest driving records are one and a half to two times as likely as workers not exposed to diesel exhaust to develop lung cancer during their lives. New research shows that short-haul truckers face even higher rates of death and disease. The study concluded that a reduction of diesel particulate matter would have health benefits for the trucking industry and the general public who live, commute, or work near diesel vehicles. Children are especially susceptible to the harmful effects of diesel soot because their lungs are still developing. (PHINST2)

Agency Response: A study by Garshick et al. (2008)[46] among truck drivers found that lung cancer mortality risks were elevated in workers with jobs associated with regular exposure to diesel and other vehicle exhaust and that risk increased with more years on the job. The calculated increased risk associated with an estimated 20 years of work for each specific job compared to all workers ranged from 65% to 120% for long haul, dockworkers, pick-up and delivery drivers, and combination workers. Combination workers are those that worked both jobs as dockworkers and pick-up and delivery. The commenter is correct that the greatest risk is for the short-haul truckers employed as pick-up and delivery drivers or combination workers. The results showed a trend in lung cancer mortality risk that was positively associated with years of work in jobs with regular exposure to freshly emitted diesel vehicle exhaust.

The commenter is also correct in stating that children are especially vulnerable. For example, Gauderman and colleagues[47] have demonstrated that air pollution exerts a chronic effect on the lung development in children.

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[46] Garshick, E.; F. Laden; J.E. Hart; B. Rosner; M.E. Davis; E.A. Eisen; T.J. Smith. Lung Cancer and Vehicle Exhaust in Trucking Industry Workers, Environmental Health Perspectives 116:1327-1332 (2008).

[47] Gauderrnan WJ, Avol A, Lurmann F, Kuenzli N, Gilliland F, Peters J, McConnell R. Childhood Asthma and Exposure to Traffic and Nitrogen Dioxide. Epidemiology, 16:737-743, 2005.

4. Technology

a) Performance of Verified DECS

1. **Comment:** The retrofit technology isn't ready. It's not working well in the factory installed units. You heard that from the people that own them. It's really not ready for retrofit. (CIAQ2)

2. **Comment:** The fact that the State of California is getting too far ahead of the rest of the country on updates (some of the technology is not ready yet) will be a very tough thing for the trucking industry to meet these standards. (TBRI)

3. **Comment:** Your staff's current draft regulation would require trucks and buses to replace their current engines with 2010 engine technology. The use of new technology, like retrofit devices, to reduce both PM and NOx, is an important component of this proposal and can help to reduce what ARB staff has estimated to cost more than $5.5 billion. However, because many of these devices remain unverified and others have compatibility issues with certain engine models, we are specifically requesting that your staff at ARB fully evaluate both the benefits and the availability of the diesel particulate and NOx reducing technology verified for use by the Board today. (DTCC3)

4. **Comment:** A vote for this regulation today tells us that the Board is anticipating technology to make this work and that is not the right way to formulate a regulation. (ALOG3)

5. **Comment:** How does it work that CARB can create these diesel restrictions when CARB readily admits the technology does not exist for truckers to attempt compliance? (MLVSI)

6. **Comment:** I'd urge you to really take a good look at these filters and filter rules. Better delay the implementation of them until they work. (REI2)

7. **Comment:** With the problems many fuel retailers are experiencing with in-station diagnostics as an example, we think this diesel emission legislation is also coming before the technology has a chance to prove itself as a worthy investment. (ROC)

8. **Comment:** We are not opposed to the requirement for diesel retrofits or traps. However, the state should set up several long-term pilot studies to determine the true cost and the true impact of the traps. Our concern is that the State is being sold a bill of untested goods. (FCAM) (SUHSD1)

9. **Comment:** We have heard concerns that the diesel technology should be fully proven, and we ask that the Air Resources Board evaluate this technology and communicate that information to the public. (CFB)

Agency Response: As reported in Chapter VII of the TSD, hundreds of thousands of DPFs have been installed successfully on trucks and buses throughout the world, both in new vehicles and in numerous on-road retrofit applications. Most medium-heavy and heavy-heavy duty diesel engines produced since 2007 have been equipped by the manufacturer with DPFs. In California, thousands of DPFs have been funded through

the Carl Moyer program, and have been installed in response to existing regulations targeting urban buses, transit fleet vehicles, solid waste collection vehicles, vehicles owned by public agencies, drayage trucks, and others. Experience to date has demonstrated that DPFs can be designed, installed, and operated to provide effective, reliable, and durable performance for most engines.

The regulation does not require fleets to use technology that is not proven or cannot be safely installed. Any DECS used to comply with the regulation must be one that has been verified by ARB's Diesel Emission Control Strategies Verification Program. This program is discussed in Section B of Chapter VII of the Technical Support Document. The ARB's DECS Verification Procedure ensures that emission reductions achieved by a control strategy during the verification process are both real and durable.

The ARB's verification program is designed to evaluate the effectiveness of a retrofit device to reduce PM or PM and NOx emissions from specific diesel engines. As part of that evaluation, the compatibility of the device with the engine is considered through testing that includes durability testing on operating vehicles. The device manufacturer must also demonstrate that the emission control device does not damage the engine and does not hinder the vehicle's ability to perform its normal functions. Also, the device manufacturer is required to provide a warranty against engine damage caused by the DECS. The warranty requirements for on road verified diesel emission control strategy (VDECS) are summarized in Table VII-5 of the Technical Support Document.

The verification process, in conjunction with the required warranty should provide the fleet owner with confidence that a verified device will perform as advertised, or in the event that a VDECS malfunctions, that they have recourse through the warranty. ARB's Verification Procedure ensures that every VDECS will be compatible with the engine family for which it was verified.

10. Comment: FedEx experience is that PM BACT technology fails in 1-2 years, because frequent stops prevent exhaust from reaching temperatures required for success. Our OEM manufacturer has stated that not even our 2007-2009 vehicles can be retrofitted to meet the 2010 NOx standard. NOx BACT requires replacement with a 2010 certified truck. In light of this, FedEx has concluded it is an inefficient use of resources to invest in PM BACT for a truck that will be replaced in 1-3 years. PM BACT is not a simple matter of attaching a filter and retrofitting a technology is always more difficult. To put this in perspective, our OEM conducted a recall campaign to repair an engineering design flaw in the emission system of our 2007 certified vehicles, despite years of lead time for the design process. Expecting fleet operators to achieve success in the timeframes contained in the rule, in a retrofit environment, with an array of different vehicles is overly optimistic. (FEDEX)

Agency Response: The DPF on an original equipment emissions device is under warranty for 150,000 miles and for a verified DECS the warranty period is 150,000 miles or two years of unlimited mileage if typically driven more than 100,000 mile per year. Any failures occurring during this period would be reconciled by the manufacturer. All

2007 and new engines are require to meet stringent PM emission standards which currently can only be accomplished with diesel particulate filters.

A recall problem with a single engine manufacturers emissions control technology does not support a claim that the technology does not work. A 2007 model year engine or newer complies with the regulation until 2021. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Fleets are not required to install retrofit technology that is unproven, see response to comment 1 through 9. PM retrofits have been used successfully in California and in other parts of the world.

11. Comment: With the present rule, the retrofit DPF device is essentially the only acceptable solution. However, the word "best" in “best available control technology” is an oxymoron. The technological "best" is a 2010 engine with matched SCR filter. A mandate toward a retrofit filter may not provide the overall solution being sought as it will relegate limited economic resources toward a retrofit technology which may include an upgraded engine – these engines which were not designed for the retrofit filter from a backpressure standpoint or an oil consumption standpoint. (RDOR)

Agency Response: The regulation defines NOx BACT to mean either a 2010 engine or a 2010 emissions-equivalent engine. The 2010 emissions-equivalent engine requires the use of verified retrofit devices on an existing engine to achieve a reduction in NOx emissions down to a level near the level of 2010 engine. Verified DECS can only be installed on vehicles that meet the requirements of the executive order which generally requires engines to be well maintained and no consume oil beyond manufacturers’ specifications. All verified DECS are warranted to work on any engine meeting the executive order’s terms and conditions.

The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. A level 3 PM retrofit installed on an existing engines is essential as effective at reducing diesel PM emissions as a new engine originally equipped with a PM filter.

b) Technology for Older Engines

12. Comment: Caterpillar, Inc., Huss Filters, and Sean Edgar (CA Refuse Removal Council) independently have said that it is not feasible to install a passive or active diesel particulate filter (DPF) on pre-1994 mechanical fuel injection trucks and expect them to work. (CFA1)

13. Comment: The only verified filter that will work on relatively "clean burning" mechanical fuel injection diesel engines (opacity score of <25) is the Huss active filter and generally if the engine is over 250 horsepower then it will require two filters at a cost of 42-45 thousand dollars per engine. There are currently 5 manufacturers representing 6 verified filters for on-road diesel trucks covering ranges of model year engines varying between 1993 and 2006 according to CARB's Web Site. Due to de-verification by CARB of 3 of those filters at the end of December 2008, the number of verified filters will be down to 3. Following is independent personal communication from Glenn M. Luksik, Marketing Consultant, Global Regulatory Affairs, Caterpillar, Inc., Sean Edgar, CA Refuse Removal Council, and Richard Neet, Huss Filters, regarding performance of DPFs. Mr. Luksik does not believe there is currently any DPF application that is proven to work on a pre 1995 mechanical fuel injection engine. Sean Edgar believes that only active filters could even be considered for a pre 1995 mechanical fuel injection engine and he does not recommend it. Richard Neet believes that only extremely clean burning pre 1995 mechanical fuel injection engines might work with an active filter. Testing would be required before Mr. Neet would consider installing one of the Huss filters on a pre 1995 truck. CFA believes CARB has removed the Donaldson, Johnson Matthey, and Cleaire Horizon diesel particulate filters from the verified list as of end of December 2008. (CFA1)

14. Comment: The older trucks' engines were not designed to accept particulate filters as proposed by this rule. Even if the engines were able to accept the particulate filters, they are extremely costly, hang too low under the truck and would be ripped off weekly or possibly daily on the rough, low ground clearance logging roads we travel. (RWT)

Agency Response: Currently two devices have been verified to work on a wide variety of model engines including pre-1994 mechanical fuel injected engines. Both the HUSS system and the Cleaire Horizon are verified to work on older engines. All engines must meet the requirements of the executive orders and must not create a safety hazard as a result of the installation. Theses devices can only be installed on engines that meet these conditions. In the event the no verified DECS is available for a particular engine, the regulations have provisions allowing fleet owner to request an extension of the compliance deadline. We expect VDECS to be available for most engines to meet the requirements of the regulation. PM retrofits are not required if not available for an engine or cannot be safely installed. As long as a suitable PM retrofit is not available no other action is required to meet the PM reduction requirements until 2018. The vehicle will remain subject to the NOx reduction requirements unless it qualifies for an exemption or delay.

15. Comment: A majority of rural trucks are mechanically injected engines of pre-1993 emission year engines. There are two options to compliance with the proposed rule, first to buy a new truck at $120,000 or put on a Diesel Particulate Filter (DPF). As of this hearing there are 6 DPF's listed on CARB's webpage as being verified. In actuality the Cleaire Longview, Donaldson and Johnson Mathey have become de-verified due to not meeting the 2009 nitrogen dioxide requirements. The de-verification of these filters leaves CARB and the trucking industry with 3 verified filters as of this date to base the economic impacts of this regulation upon.

The Cleaire Horizon will not work on a mechanically injected engine, has a 370 horsepower limit, requires a 208 volt service for regeneration which takes five hours and is required after every eight hours of service. There's virtually no trucks that run around here – that run in this state for an eight-hour period and then can take five hours of down time. Engine Control Systems' Purifilter, according to the Executive Order, is only verified for engines with PM emission levels of 0.1 to 0.01 grams per brake horsepower-hour. That's an electronic engine. The cost of the Cleaire Horizon is 22 to $25,000 per filter; Engine Control Systems' Purifilter is $16,000. Those two will work on an electronic engine. HUSS, an active filter, is the only one that will work on a pre-1993 mechanical engine. It has to be a relatively clean mechanical engine with an opacity score of less than 25, and a horsepower limit of 250 horsepower. This means that nearly all trucks will require two filters. Each filter costs between 21 and $23,000. That's $45,000 for a truck with a mechanical engine. It's not feasible. (ALOG3) (ALOG5)

Agency Response: VDECS are available for most engines. PM retrofits are not required if not available for an engine or cannot be safely installed. As long as a suitable PM retrofit is not available no other action is required to meet the PM reduction requirements until 2018. The vehicle will remain subject to the NOx reduction requirements unless it qualifies for an exemption or delay. The NOx requirements do not start until 2013 for large fleet and 2014 for small fleet. By that date, a fleet can meet both the PM and NOx requirements with a 2007 model year engine that will be at least 6 years old. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Any vehicles that operate exclusively in less polluted areas of the state are exempt from the NOx reduction requirements until 2021, but remain subject to the PM filter requirements, see response to comment 98 in the Regulatory Provisions section.

c) NOx Retrofits

16. **Comment:** Staff has recommended that we need particulate traps and a NOx device that will reduce NOx by 85%. Our major concern is that only one current device reduces NOx by 40% which falls short of the required reduction of 85%. (BJSC1)

17. **Comment:** NWSC is concerned with the facts, stated in the staff report, that there are only two retrofit technologies available today that will provide verified NOx reductions to Level 3. The Cleaire Longview will reduce NOx by 25% on a limited number of trucks with model years of 1993 through 2003. The Cleaire verified device will not be a solution for trucks with model years between 2004 and 2006. The Johnson Matthey EGRT will reduce NOx by 40% on one International engine, a small group of Cummins engines from 1998 through 2002, and two Detroit Diesel engines. Here again, the Johnson Matthey verified device will not be a solution for trucks with model years between 2004 and 2006. NWSC's major concern is that only one device reduces NOx by 40% which still falls short of the required reduction of 85%. (NWSC1)

18. **Comment:** The proposed regulation includes BACT options to utilize DECS that reduce NOx exhaust emissions to specific targets for specific year models. Please note that at this time there are no CARB verified technologies that meet these parameters. We are very concerned this regulation includes NOx BACT options that are not currently available, not technically proven, and/or not economically feasible. (GCI1)

19. The staff report states that despite the potentially substantial NOx reductions SCR can provide, exhaust temperatures (or duty cycle limitations) will likely dictate the actual suitability of certain vehicles to use SCR or other NOx-control technologies in exhaust retrofit applications. (BJSC1) (NWSC1)

20. **Comment:** The rule fails to account for the difficulty in aftertreatment and vehicle design/configuration in applying any possible NOx BACT retrofit to a vehicle that already incorporates such an integrated engine/diesel particulate design. Assuming that the originally installed PM aftertreatment [DPF] is unaltered on the vehicle, the NOx BACT aftertreatment would need to be installed somewhere after the DPF. There may, or will, be little available space on the vehicle to accommodate the NOx BACT device. (NAV3)

Agency Response: The costs of the regulation and compliance timelines and flexibility in the regulation were made with the expectation that fleets would comply with vehicle replacements and installation of PM exhaust retrofits, and if additional NOx control technology become available fleets can use them to comply at a lower cost. Although not as mature as PM control strategies in general, significant research into NOx control strategies that may be suitable for retrofit use is being conducted and a number of NOx control strategies for diesel engines are nearing commercial readiness. Staff believes by the time fleet operators are required to reduce their NOx emissions there will be NOx control strategies available. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the

vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

Selective Catalytic Reduction (SCR) systems are just now emerging as a retrofit option in the United States and are expected to be widely used to meet U.S. EPA new on-road engine standards starting in 2010. SCR system can achieve NOx reductions on the order of 50 to 90 percent.

Staff acknowledges despite the potentially significant NOx reductions SCR can obtain, exhaust temperatures (or duty cycle limitations) will likely dictate the actual suitability of certain vehicles that the use of SCR or other NOx control technologies in exhaust retrofit applications. In general, SCR systems need to operate in temperature ranges similar to those required for passive DPF systems. No level 2 or 3 systems in conjunction with SCR are currently verified.

Staff acknowledges there may space constraints on vehicles to mount a NOx BACT device. The regulation does not require the fleet owner add a NOx VDECS to an engine with a PM filter. The compatibility of the two retrofit systems is a primary issue. Two systems that are designed for use with the same diesel engine is not equivalent to being suitable for use with each other. Consequently, the verification procedure requires that a system composed of multiple components be tested and submitted for evaluation as one system.

A 2007 model year engine or newer complies with the regulation until 2021; therefore, we do not expect a fleet owner will seek to install a NOx control device on the engine for some time. Also, by 2021 the fleet could meet the NOx BACT requirement with an eleven year old replacement vehicle that will have a very small cost difference with a 13 year old vehicle. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

d) Availability of Retrofits

21. Comment: The rule offers diesel particulate filters (DPFs) as much-needed relief, but does so in a marketplace in which many filters have been de-verified on the basis of being unable to meet CARB requirements. Meanwhile, there is strong uncertainty about the availability of remaining filters for the massive number of trucks that will require them – and about the availability of enough technicians to

service those filters when they break down, which happens with great frequency. (ACLOG1)

22. **Comment:** Our members (companies represented by Associated California Loggers) have concerns about filter availability and affordability. (ACLOG2)

23. **Comment:** Does the filter and engine industry truly have the ability to supply in excess of 200,000 units for retrofit in a timely manner. (ACG1)

24. **Comment:** Presently there is no certainty that our custom built vehicles have retrofits available or when they are likely to be available. (BCC2)

25. **Comment:** I own a 1998 tractor customized for a light weight specialized trailer. It has been overhauled with Cummins engine with low-NOx overhaul kit and installed with an APU. I run about 150,000 miles a year and about 10,000 miles are in CA. I would be happy to install a particulate filter, but nobody has one that would work with my truck. The APU costs me $1,389.96. Before you adopt the regulation that would run me out of business, check to see if equipment is available for complying with new regulations or give the manufacturers and trucking companies a fair amount of time to develop the retrofits to comply with the new law. (BPAQ)

Agency Response: PM retrofits are not required if not available for an engine or cannot be safely installed. As long as a suitable PM retrofit is not available no other action is required to meet the PM reduction requirements until 2018. The vehicle will remain subject to the NOx reduction requirements unless it qualifies for an exemption or delay.

Staff acknowledges that at the time these comments were submitted, some DECS were de-verified because they did not meet the 2009 nitrogen dioxide emission limit in the Verification Procedure. However, since then many verified Level 3 and Level 2 DECS have been made available and ARB expects more DECS to be available in the future. These include: Cleaire Horizon, Cleaire Longview, Cleaire Vista, Donaldson LNF, Donaldson SEF, Engine Control System Purifilter, Engine Control System Purifilter, Engine Control System Combifilter, Engine Control Systems Purifilter Plus, HUSS, Johnson Matthey ACCRT, Johnson Matthey CRTreformulated, Johnson Matthey EGRT, SK Energy Co. Econix DPF, Donaldson Flow Through Filter, and Lubrizol PuriNOx.

During the first few years of the regulation, the projected increase in demand for verified PM DECS (typically diesel particulate filters) in California is less than 38,000 units per year, which is about 15 percent of the total number of diesel particulate filters sold nationally each year (including those sold with new engines). Staff has contacted several diesel particulate filter manufacturers inquiring about their manufacturing capacities, and they have indicated that their manufacturing facilities are capable of producing over a million diesel particulate filters on an annual basis. However, in the unlikely event that there is an unanticipated disruption in the manufacturing, distribution and supply for diesel particulate filters, the regulation contains a provision to allow for manufacturing delays such that fleets are not penalized for such.

26. **Comment:** Under the off-road diesel regulation, it was perceived that the retrofit manufacturers would "step up to the plate" for designing new technologies that would be available to equipment owners well in advance of the compliance deadlines. As we have observed this has not quite happened which has left many equipment owners with limited or no retrofit options. Industry is concerned there will be similar retrofit issues with vocational vehicles in particular and with non-vocational vehicles as well. The DTCC alternative should help alleviate this issue by allowing a more reasonable regulatory timeline while still meeting the same end goal of the ARB. ARB should adopt the more reasonable compliance schedule in the DTCC alternative and an exemption for trucks that cannot generate the power and engine interface to prevent retrofit after plugging. (CCIMA1)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comment 3 to 8 in the Need for Emissions Reductions section. The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. Fleets are not required to install retrofit technology that is unproven, see response to comment 1 through 9 in the Technology section.

e) Safety of Retrofits Installations

27. **Comment:** Another issue that needs to be addressed in the proposed regulation is the recent Cal/OSHA determination that the installation of some diesel particulate filters is unsafe for in-use on off-road equipment under certain circumstances. CARB must ensure that the requirement to install DPFs on trucks will not create similar safety issues with the on-road truck regulation. (CIAQ1)

28. **Comment:** We've had some safety issues from retrofits and off-road equipment. And while it's better on the on-road equipment, you can still have engines that can be retrofitted with a DPF but it doesn't work on that particular vehicle. And construction has a lot of specialty vehicles that make this difficult. (CPASC)

29. **Comment:** Further clarification by ARB of criteria used in granting exemption from retrofit requirements for applications or installations deemed to be unsafe would be useful to ensure that implementation of the proposed regulations are accomplished with minimal administrative delays or judgments. (MECA)

Agency Response: Staff agrees that the regulation should address the issue of safety of installations of verified DECS. A fleet owner may request an annual exemption from complying with the PM requirement if he/she can document that a DECS cannot be safely installed. Under certain conditions, the Executive Officer may issue a determination that there is no highest level DECS available.

A DECS manufacturer can state that there is no safe or appropriate method of mounting its DECS on the requesting party's vehicle, then the DECS will not be considered safe. In the absence of such a declaration by the DECS manufacturer, the requesting party can provide other documentation to support its claims. This documentation includes published reports and other findings of federal, state or local government agencies, independent testing laboratories, engine manufacturers, or other equally reliable sources. The request will be considered only if the requesting party has made a thorough effort of finding a safe method for installing and operating the DECS, including various mounting locations. ARB will work with industry in establishing a process for addressing exemption requests. The Executive Officer will review the request and make a determination.

Any party whose request has been denied may request a hearing for the Executive Officer to reconsider the action taken. A hearing will be heard by a qualified and impartial hearing officer appointed by the Executive Officer. The hearing officer will consider the totality of the circumstances of the denial, including the credibility of witnesses, authenticity and reliability of documents, and qualifications of experts. Within 30 days of the conclusion of a hearing, the hearing officer will submit a written proposed decision to the Executive Officer. The Executive Officer shall render a final written decision within 60 working days of the last day of hearing.

30. **Comment:** We are concerned that the solution you have chosen, PM filters, could actually cause our engines to run less efficiently, possibly malfunction, and burn hotter and more dangerously for off-road agricultural use. Before the ARB finalizes this rule, we ask that more information be developed and made available about the fuel efficiency and safety of an engine retrofit with a PM filter. Such information should be compatible with your needs as well. (CCAA)

31. **Comment:** The requirement for particulate matter (PM) traps is a no-win situation for more than just agricultural vehicles in California, a no-win for businesses and jobs, and a no-win toward a cleaner, safer environment, here's why. PM traps will cause our engines to burn more diesel fuel rather than less. With PM traps, our engines will burn hotter and less safely. This is not a good scenario for trucks performing jobs in and around farm fields and near potentially flammable materials such as crops and other vegetation. Who will be liable when an ARB-required and ARB-verified PM trap causes afire and harms life and, property? (CCAA) (FCOAL)

32. **Comment:** The mandated exhaust systems will provide a source of ignition for any discharge which will create an extremely hazardous condition because we transport flammable gas. (BSGLC)

33. **Comment:** Impaired visibility and added heat exposure when the filters are installed on some pieces of equipment is a major problem that needs to be addressed sooner rather than later. (AGCEUCA)

Agency Response: Staff agrees that a condition may exist where the installation of a retrofit impairs the operational safety of the vehicle. To address the concern, the

regulation included a process allowing a fleet owner to obtain an exemption under such condition. For details about the application and suitability of these devices, please see response to comments 27 to 29. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.

f) Installation Feasibility and Operational Difficulties

34. Comment: While there is no doubt that the on-road diesel retrofit market is more developed than the off-road diesel retrofit market, there are still huge challenges with placing a total reliance on retrofit technology. Similar to what is found in off-road equipment; diesel trucks in some applications simply don't match well with retrofit technology. Coincidentally, these potential problem retrofit applications apply to many of the low-use support vehicles described earlier in this letter. Mechanics' trucks, fuel/lube trucks and other vocational trucks have the potential to operate a power take-off unit for an extended period of time. This situation would lead to filter plugging and other operational issues associated with currently available DPF retrofits. Verified active DPF systems that can regenerate themselves, create operational and safety concerns, and are simply unacceptable at this point.

The newer trucks equipped with OEM-engineered DPF systems can account for low-load situations through pre-programmed regeneration parameters, but retrofit DPF systems do not have the capabilities to interface with the engine control system and compensate for low-load filter plugging. Trucks in applications that are likely to lead to filter plugging issues need to be exempted from the current retrofit requirements until such time that retrofit systems are verified that can interface with engine software. (GCI1)

35. Comment: At the present time we do not have a satisfactory system which is engineered for most of our diesel trucks. Further, I am told that our mechanics will not be authorized to service the exhaust system. (BSGLC)

36. Comment: We question whether the technology exists to accomplish what the proposed regulation requires. Our trucks spend a large part of the time in a stationary position (loading-unloading, etc.). We have serious doubts that the passive filters will not be constantly clogged. (FRMI)

37. Comment: Our members have a lot of different fleets and are affected by this regulation in different ways. Typical fleets, such as the ready-mix concrete mixer trucks, are generally traveling short distances - the average job is within a 15-mile radius. They have complex equipment that's difficult to retrofit. And they often operate under the power take-off unit, which reduces the engine performance and leads to plugging of the filters. (CCIMA2)

38. Comment: Granite owns and operates about 600 heavy-duty diesel trucks in California. The majority of Granite's trucks are support equipment in nature. They're service trucks, fuel lube truck, trucks that service heavy equipment and support our jobs. It is very difficult to retrofit those trucks. In the low load

application in many instances, a retrofit is just not possible. So I would ask that you consider the challenges that we face with retrofitting vocational duty vehicles and make the appropriate adjustments in those applications. (GCI2)

39. **Comment:** There are technical problems with retrofitting tow trucks due to the hydraulics involved on the units. Obviously we have idling time because we can't function without that. (CTTA3)

40. **Comment:** This technology has not yet been tested and the long term effects on engines and the equipment itself is not known. Please do not force me to add unproven and untested equipment to my truck that may affect the reliability of the truck. (RPLO)

41. **Comment:** Industry continues to be concerned about a rule based on technologies-and particularly retrofits-that may not be available or provide operational difficulties. As mentioned above, the complexity of our trucks and their equipment make application of retrofits problematic or unsafe in many instances. These fleets often operate power take-off units for an extended period of time, which means insufficient horsepower is generated and passive diesel filters become plugged. Also, active diesel PM filters and NOx retrofits have additional difficulties and are not yet an option. (CCIMA1)

42. **Comment:** I'm not opposed to putting these products on the new manufactured trucks. I'm totally opposed to the retrofit device. I have installed every device that was ever approved in this state on automobiles and light trucks. The retrofit devices for NOxs created nothing but problems. People had no power in their units. They pinged, and they would heat up dramatically. At the same time, the manufacturers of the new cars kept making progress. And right now we can probe the tailpipes of these cars and come up with zero practically every time. I firmly believe the trucking industry can do the same thing. The people putting out these devices told me that they're going to work on these trucks, but I'm very concerned about the metallurgy in the engines and the radiator capacity and the heating that it's going to cause. (COT)

43. **Comment:** In looking at truck upgrades, I have been told by engine manufacturers that they are simply pulling out of the California market and our current only engine choice is Cummins. We have experience with two trucks equipped to meet the new standards and they have been a nightmare to try and operate. (GRAY)

44. **Comment:** These new trucks have so many issues. It's very ironic to see a 2008 truck breaking down so much, and all of these failures being related to all the new technology or results of the new technology that these trucks are equipped with. I think some of this new technology is not working. (PVMT)

45. **Comment:** Over the last two years, we bought nine new trucks. And even today there's one in the shop. Of the nine trucks we got, almost every day one of them is in the shop because it won't run. Caterpillar is the manufacturer of that engine. They did not give enough time to the manufacturer of that engine so it will work in

the time that we need. And if we can go a little bit slower, Rome wasn't built in a day. (REI3)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. PM retrofits are not required if not available for an engine or cannot be safely installed. As long as a suitable PM retrofit is not available no other action is required to meet the PM reduction requirements until 2018. The vehicle will remain subject to the NOx reduction requirements unless it qualifies for an exemption or delay.

All of ARB approved PM retrofit were thoroughly evaluated by Diesel Emission Control Strategies Verification Program staff and were found to be effective in collecting PM contaminant. These retrofits were designed and verified for specific engine families, operating conditions, and applications. Engines that do not meet the verified requirements are not qualified for the retrofit installations. Staff agrees that suitability is very important when selecting a verified PM retrofit.

To determine whether a retrofit will work with a specific engine, the conditions contained in the Executive Order (EO) must be followed. The EO lists the engines by engine family and other conditions of verification, such as minimum engine exhaust temperature. Additional evaluations may then be needed, such as data logging the duty cycle of the vehicles to determine its temperature profile or opacity test to determine the engine out PM loading of the vehicle. In addition, it is very important after the retrofit is installed that the vehicle be maintained and properly tuned as most problems with filters clogging up are due to engines not properly maintained. Because diesel PM is a toxic contaminate, long term occupational exposures to diesel exhaust would increase the relative risk of lung cancer. Any issues involving retrofit service or system malfunctions should be reported to professionals authorized by the retrofit manufacturers.

The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section.

46. Comment: I have just replaced four pre-1977 diesel school buses with an average cost of $173,000. Invoice for a CNG bus is $222,500 and $227,700 for hybrid electric. Shop labor is $55 per hour. My shop believes it will take 2 hours to clean or change the DPF device plus down time for the school bus while we cook off the device. Replacing turbos cost $3,000 each. We lost two last year with Level 1 devices. We see oil leaks because of increased engine pressure. To stop some of these leaks required replacement of gaskets requiring in-frame overhauls costing $10,000 to $15,000 for parts and labor. On some of the older

buses due for replacement, we just steamed them off, added more oil and kept them rolling in hope they would run one or more years until the replacement arrived. We have to insure that no visible accumulation of oil or grease is present or we can be in violation of Title 13 with the CHP. (STC)

Agency Response: Engines that are leaking oil or burning oil are not operating properly, proper engine maintenance is a key part of staying in compliance with ARB's in-use diesel fleet regulations and is critical to ensuring that a vehicle equipped with a retrofit device continues to operate without problems.

g) Verification of Retrofits

47. Comment: We continue to believe that more can be done to further streamline the verification process by continuing the cooperative effort to harmonize the application and test plan approval process with U.S. EPA in an effort to move toward true reciprocity of the two processes. The workload will continue to increase as verification maintenance of existing verified devices will combine with the demand for new verifications of advanced integrated technology solutions. More and more verified devices will enter the in-use compliance phase of the verification process. Existing devices will need to be re-verified to comply with the recently adopted unidirectional flow requirements. These verification maintenance functions will demand resources above and beyond those needed for new verifications. We urge ARB to increase their verification staff in order to efficiently deliver proven retrofit technologies to the significant California market created by ARB's Diesel Risk Reduction Plan. Technologies to Reduce Diesel PM and NOx Emissions The "ARB Technical Support Document for In-Use On-Road Diesel Vehicles" provides a summary of emission control technology options available to reduce PM and NOx emissions from existing on-road vehicles. (MECA1)

Agency Response: ARB appreciates manufactures' efforts in making DPF devices available for customers to implement and comply with the regulation. However, the purpose of this regulation is to reduce emissions of diesel particulate matter (PM), oxides of nitrogen (NOx) and other criteria pollutants, and greenhouse gases from in-use diesel-fueled vehicles. This rulemaking is not the appropriate forum to address Verification Procedure and ways of streamlining the verification process.

h) In-Use Performance of Retrofits

48. Comment: I know that many of the current verified DPF devices are not producing the CARB's reported result and have been removed from the verified list as a result. Those truckers who bought those devices are out the money on devices that do not operate as advertised. (HTC1)

Agency Response: In January 2007, ARB staff amended the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines in March of 2006. The amendments required that the DECS not increase nitrogen dioxide (NO2) emissions by more than 30 percent of the baseline oxides of nitrogen emission level beginning January 1, 2007, and by no more than 20 percent beginning January 1, 2009.

DECS that did not meet the 2007 limit or did not have adequate emissions data to support compliance were no longer considered verified. However, if a DECS was purchased and installed prior to December 31, 2008, that DECS satisfies BACT, this requirement does not require DECS owners to replace them.

i) Engine Warranty Issues

49. Comment: The rule (2025(c)(11), 2025(d)(1), 2025(d)(45), 2025(d)(48), 2025(d)(69)(C), 2025(e)(6), 2025(f), 2025(g), 2025(h)) requires model year 2006-2009 engines to undergo NOx reductions (i.e., NOx BACT) at some point in time during the compliance period. Navistar specifically notes that a Navistar engine in model year 2006 and all of its model year 2007-2009 engines use an integrated engine and after treatment control system to actively regenerate the originally installed diesel particulate filter. Any modification or removal done to the originally installed after treatment systems would alter the engine operation and, therefore, the emissions from the certified engine configuration. As such, removal or modification of Navistar's original diesel particulate filter could (1) within the warranty period, void the original manufacturer's warranty; (2) within the regulatory useful life period, change the originally certified configuration and, therefore, possibly be considered tampering and a violation under the Clean Air Act; or (3) outside the regulatory useful life period, change the underlying emissions and/or operational performance of the engine. Also, removal of an existing DPF system would result in the illumination of the required failure warning indicator (MIL) for EMD engines (see 13CCR1971) if the engine is not recalibrated. (NAV3)

50. Comment: The regulation suggests that the installer and manufacturer of the emission retrofit will determine the OEM warranty. And that is wrong. The original engine manufacturer will determine that warranty. And they'll generally determine that warranty at the time of failure. That's important because, as it applies to '06-'07 and through '09 engines, those engines - as far as manufactured by International - have an integrated DPF and engine control technology to regenerate the DPF. Removal or replacement or changing that after treatment system can affect and will affect emissions performance of that engine. Because we manufacture trucks that go into various configurations, we are concerned at Navistar that the truck configuration with this after treatment may not be applicable in all circumstances. So we're willing to work with the ARB staff to see what we can do to make the rule applicable to these considerations. (NAVI2)

51. Comment: The rule (section 2025(d)(34)) provides that the retrofit manufacturer and dealer/installer will determine the applicability of the original equipment manufacturer's warranty. However, only the original equipment manufacturer can make that determination (13CCR2035 et al). Moreover, an original engine/vehicle manufacturer does not make determinations that an aftermarket part (such as DECS) would void a warranty PRIOR to its installation. In fact, the warranty regulations and federal case law prohibit an original equipment manufacturer from voiding a warranty just because an aftermarket part was placed onto an engine (see Specialty Equip Mkt Ass'n v. Ruckelshaus, 720 F.2d 124, 133-34 (D.C. Cir.

1983). The applicability of warranty is determined at the time of a failure of the equipment and, if the failure can be attributed to the aftermarket part (i.e., DECS), the warranty can be voided. (NAV3)

Agency Response: The regulation does not require the fleet owner add a NOx VDECS to an engine with a PM filter. The compatibility of the two retrofit systems is a primary issue. Two systems that are designed for use with the same diesel engine is not equivalent to being suitable for use with each other. Consequently, the verification procedure requires that a system composed of multiple components be tested and submitted for evaluation as one system.

A 2007 model year engine or newer complies with the regulation until 2021; therefore, we do not expect a fleet owner will seek to install a NOx control device on the engine for some time. Also, by 2021 the fleet could meet the NOx BACT requirement with an eleven year old replacement vehicle that will have a very small cost difference with a 13 year old vehicle. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

The removal of the OEM diesel particulate filter will void the engine manufacturer's warranty; however, retrofit manufacturers must warranty their products as required by the ARB Verification Procedure. If verified DECS fails while under warranty and ultimately causes damage to engine damage, the retrofit manufacturer is responsible for the cost of repairing the damage to the vehicle including the engine.

j) Engine Warranty and Fuel Economy

52. Comment: My truck has a retail value of less then $15,000.00. This new filter that these regulations are requiring will cost $15,000 to $30,000 to retrofit my truck. This is more then my truck is worth! If this new filter should pre-maturely lessen the life of my engine, which is designed to run up to 600,000 miles and to help clean the air, then what? Who is responsible for the cost of my engine if it pre-maturely blows up because of back pressure (or some other unknown reason that may arise) on my engine caused me this new filter? No one has been able to answer this question for me. Also this new filter will most likely cause a fuel mileage reduction which could shorten my per gallon mileage from 5 miles to the gallon to 3 miles per gallon. Fuel is the single largest expense in this business and this could nearly double it. It seems counter productive to me. While everyone is trying to get more miles to the gallon this regulation nearly cuts our fuel mileage in half. (PAT)

Agency Response: Installing a PM filter is a cost effective way of reducing emission regardless of the value of the truck. Older engines generally have higher emissions and can achieve more emissions reductions for the amount spent.

Staff does not have any data indicating that proper use of a PM filter can shorten the useful life of a diesel engine. If, however, verified DECS under warranty becomes defective and ultimately leads to engine damage, the retrofit manufacturer is responsible for the cost of repairing this damage. This is clearly stated in the warranty statements published by all verified retrofit manufacturers owner's manuals. The commenter indicates that equipping his/her truck with a filter can reduce the fuel economy from 5 miles per gallon to 3 miles per gallon, which is a 40 percent reduction. This reduction is over 10 times greater than the effect of filters on fuel economy that is observed during both engine and chassis dynamometer-based emissions tests. Based on all data available to staff, a reduction of 40 percent is unprecedented and indicative of a serious engine problem. According to the staff's estimates in the Technical Support Document, a two percent loss of fuel economy is typical.

k) Lead Time for Manufacturers

53. Comment: Additionally, the rule (2025(d)(34)) only provides 10 months prior to a compliance date to ensure that the DECS will be (1) evaluated on the actual vehicle application and route to ensure proper operation pursuant to the DECS Executive Order (e.g., temperature and time requirements); (2) manufactured; and (3) installed onto the vehicle (and in the case of school buses, (4a) approved by the vehicle manufacturer or (4b) separately tested for safety with (5) state inspection approval) by the compliance date. Navistar does not believe the 10 months is enough time to make that determination, receive appropriate approvals, and install the necessary equipment. Navistar proposes to change the time in Section 2025(d)(34) to 18 months prior to the compliance date. (NAV3)

Agency Response: Experience with retrofit installations in other in-use regulations shows that a retrofit device can be evaluated and installed within a 3-6 month time frame. Staff continues to believe that 10 months is enough time to evaluate, and install the DECS on a specific engine. However, there is a compliance extension for emissions control device manufacturer delays. An owner who has purchased, but has not received, a DECS, a replacement engine, or vehicle in order to comply with this regulation will be excused from immediate compliance if the VDECS or vehicles have not been received due to manufacturing delays.

l) Availability of Vehicles

54. Comment: Your findings said that the dealers said there would be plenty of used trucks that meet the standard for the market. You have not looked at the market. I have looked at my fair share of used trucks and I must say maybe a few are available but no where near what we will need to get through this. (JFIL)

Agency Response: Staff found over 100,000 used trucks for sale on just two popular used vehicle websites (Truckpaper.com, 2008 and Commercialtrucktrader.com, 2008), with about 60 percent of the listings being vehicles that were 8 years old or newer. Based on the rate of new vehicle listings that are posted each month, staff estimates that over the course of the year, over 150,000 used vehicle listings for near-new used

vehicles would be made on just these two websites alone. Since staff estimates that the proposed regulation will necessitate the purchase of an additional 13,000 near-new used vehicles each year, and considering California represents about 10 percent of the vehicle market, staff believes that there will be sufficient used vehicles to meet the demands of fleets to comply with the regulation.

m) Fuel Additives

55. Comment: Recently there was an advisory sent out that states that you cannot use an aftermarket fuel additive in a VDEC. They don't seem to have any source of information in the technical support documents to state why this is so. There's already state laws and EPA laws that state if a fuel additive could raise emissions or damage any emissions control devices, it's against the law and you could ban them. So you don't really need to write a new regulation for something that already exists. But what worries me is an aftermarket additive can become a viable additive if the VDEC manufacturer says so. So in other words, the industry that the fuel additive industry competed with or tried to several years ago now has control over it. So there's a whole lot of fuel additives that are on the market that are needed to keep fire trucks and ambulances running that are getting banned along with some of the flaky ones. I think ARB needs to come back and look at another mechanism to get these additives approved. (SFRS3)

Agency Response: Although this comment does not pertain to this regulation, ARB staff met with Mr. Cohen to address his concerns.

n) Alternative Diesel Fuel

56. Comment: I wanted to just mention that we continue to be a leader in alternative fuels and technology particularly biodiesel. I want to remind the Board there is no NOx retrofit that we know of. NOx retrofits is an issue that will be worked out still. But there is no NOx retrofit approved for use with biodiesel. That's something we're concerned about if we want to try to use vehicles after retrofitting. Second, there's no USTs as we understand it approved for use for B20, underground storage take. And we have to keep the B20s somewhere. We have a lot of B20s we use. I know that's a Water Board issues, but it's certainly something -- especially since B20 is one of your low-carbon fuel standards potentially, that's something we have to work out. (MCIW)

57. Comment: We've been one of the leaders in B20. We sponsored Senate Bill 975 a few years ago to protect our ability to use B20. I know the staff has said in the past that prospectively any verifications of control technology will be required to be verified with B20. I would just like to put in the record here and to get the commitment from you that that in fact will be part of this rule that any control technologies that are done under this rule will be required to be verified for B20 as well. I think in your low-carbon rule and the early numbers we've seen, I think you are recognizing that B20 and biodiesel is one of the most promising alternatives for low carbon fuel and for having substantial greenhouse gas benefits. I think we want to make sure that we can continue to meet our federal requirements which mandate the use of biodiesel consistent with your programs. (USN)

Agency Response: Biodiesel by itself is not currently verified as a retrofit technology. There is concern that the use of biodiesel may actually increase NOx emissions. While there are PM emissions reductions associated with the use of biodiesel, currently, less than four percent of all California on-road and off-road diesel vehicles use biodiesel. Biodiesel makers may apply for verification just like any other diesel control strategy. If biodiesel becomes verified, then emission reductions achieved with biodiesel would count just like any other verified control strategy. Currently, diesel emission control systems are verified for use with B20. More information is available at: http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf

o) Statements by Manufacturers of Exhaust Retrofits

58. Comment: Adopting this regulation as proposed will provide manufacturers with a level of certainty in the market for retrofit technologies for on-road vehicles so they can focus resources on verifying technologies specific to this category of vehicles and engines. New products are continually added to ARB's list of verified technologies. Several manufacturers are closely engaged in verifying integrated retrofit technology with ARB and these efforts should lead to additional commercial, verified combined NOx and PM reduction technologies prior to the implementation dates of this rule. Beginning in 2009, tighter regulations on retrofit technology will require lower NO_2 emission from retrofit devices. In order to obtain a plus designation, a PM retrofit device can emit no more than 20% higher NO2 than the baseline engine-out emissions. Manufacturers have been active in re-

verifying retrofit PM reduction technologies to the plus designation to comply with this change in regulation. The availability of DECS is predicated on efficient and effective retrofit verification protocols. (MECA1)

59. **Comment:** Our industry is providing emission control technology solutions for new 2007 and 2010 trucks as well as a large variety of retrofit technologies that are available already on California's verified list to provide options for compliance with this regulation. With respect to retrofits, by our count more than 250,000 diesel particulate retrofit filters have been installed successfully on trucks and buses around the world today. And not only do our members develop and verify and manufacture technologies, but we have extensive experience with the safe application of retrofit technologies on both on-road and off-road equipment, and we pledge our support to work with your staff to make sure we put together a good set of safety guidelines with respect to the applications of retrofits on both on-road and off-road equipment. (MECA2)

60. **Comment:** Johnson Matthey is a technology company that's been providing solutions for emission control for a long time. The product that we have available for this rule is a retrofit product that provides both NOx and PM control. We expect that the devices will be able to get ‘98 through 2006 model year engines down to 2007 emission levels. What that means is that those vehicles would not have to be touched again until 2020. Additionally, we would be looking at SCR only systems for 2007 to 2009 engines. And they would then be compliant through 2022. So the staff is working on verifying my product. I'm sure they'll keep you updated. (JMC2)

61. **Comment:** An important requirement for installing emission control technology on on-road vehicles is to ensure that the device can withstand the vibration and/or extreme operating conditions associated with the operation for hundreds of thousands of miles at highway speeds. Emission control technology can be designed, installed, and operated to provide effective, reliable, and durable performance under these extreme conditions. (MECA1)

62. **Comment:** “Proper integration of emission control technology on on-road vehicles and equipment is important for three reasons: 1) to ensure the system is installed at the appropriate place in the exhaust system to optimize effectiveness, 2) to ensure the system physically fits in the available space, and 3) to ensure safety. Over 30 years of experience in integrating emission control technologies on a variety of diesel and spark-ignition vehicles and equipment ranging from <25 hp to over 750 hp provides a clear indication that emission control technology can be successfully integrated on a wide range of vehicles to meet ARB’s proposed standards and ensure the safety of the vehicle operator and others. In addition, exhaust emission control technology has been integrated on to vehicles to address special operating concerns and environments. For example, where equipment is used in explosive operating environments, such as underground coal mines, emission control technology has been designed to meet special surface temperature requirements. Surface temperature measurements conducted by

MECA members have demonstrated that DPF surface temperatures are no higher than the OEM mufflers and in some cases actually lower. (MECA3)

Agency Response: ARB appreciates retrofit manufacturers' ongoing efforts to provide diesel emission control technologies, many of which may be used to comply with the regulation. They also provide information on performance of their technologies.

5. Regulatory Provisions

a) Compliance Options

10. Comment: CARB has made it very confusing and difficult to even try to understand exactly what all needs to be done to meet the requirements that they are proposing, we are faced with the demanding daily challenges of this industry, which consumes all of our energy and time, not trying to make sense from all these emission requirements is foreign to us it needs to be addressed by someone knowledgeable in that field in order to achieve our goal of better quality of air. (JBTI1)

Agency Response: Because the regulation would affect so many stakeholders in so many different industries and businesses, and because it affects such a diverse set of vehicles, the regulation was designed to include options for fleets to determine the best approach for their own business and situation. The regulation has three primary compliance options to allow for different compliance strategies to meet the needs of various fleets. The first option specifies by engine model year when the engine needs to have a PM retrofit installed and when the engine needs to be replaced with a cleaner one. No reporting is required if fleets comply with this option. This option is straight forward but is not the best option for all fleets. The other two options and all of the flexibility provisions provide maximum flexibility and are therefore by necessity somewhat complex. The regulation reflects to a large extent the input of the industry and their preference for flexibility. Staff will develop compliance tools, training classes, and other material to assist fleets in determining a compliance strategy that is best suited for their needs.

Each company can find a mix of compliance actions that is most cost-effective for their particular situation. The actions an individual company would have to take to comply with the regulation depends on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices.

In general, the regulation requires owners to reduce PM and NOx emissions from their fleets by upgrading the vehicles by taking advantage of any of the three compliance options and various other provisions in the regulation. PM reduction requirements are phased in starting in 2011 such that by 2014 nearly all engines have the best PM filter available. NOx reduction requirements begin in 2013 and requires the phase-in of cleaner engines so that by 2023 all engines will be either a 2010 model year engine or newer or will have equivalent exhaust emissions.

As discussed in the staff report, staff expects most fleets to comply with the NOx reduction requirements by replacing vehicles and to meet the PM reduction requirements with a combination of PM exhaust retrofits and vehicle replacements. However, if other methods are available to achieve the same NOx and PM reductions fleets can also receive full credit. The regulation provides for the installation of verified DECS on older engines to reduce emissions of NOx to levels equivalent to that of a newer engine. The regulation specifies the minimum NOx reductions needed for older model year engines to have NOx emissions that are equivalent to newer engines that were certified to cleaner engine certification standards. Currently, there are only a limited number of technologies verified to reduce NOx available, but the regulation does not require NOx reductions until 2013 and the regulation has not been in place long enough to allow device suppliers the time to develop, demonstrate, and verify new NOx retrofit technology that will meet the regulation's NOx BACT requirements. Fleets also have the option to comply by replacing an existing engine with a newer cleaner one, by retiring older vehicles, or by designating them as low use vehicles. The regulation also has a number of compliance delays or extensions to address a variety of situations and provide compliance flexibility.

The regulation never requires the purchase of new vehicles and is structured so that the requirements can always be met through the purchase of used vehicles. In fact, if a used vehicle with a cleaner engine is not available, the unique vehicle provisions in the regulation exempt the vehicle from the NOx reduction requirements until 2021The regulation provides compliance flexibility, allowing fleets to choose from among three different options to comply with the regulation. Any of the three options can be used to meet the PM requirements and any of the three can be used to meet the NOx requirements. The compliance option need not be the same for both pollutants and can change from year to year.

The BACT schedule specified in Table 1 of the regulation identifies which engine needs to be equipped with the highest level verified DECS to reduce PM and which is required to meet the NOx BACT and PM BACT requirement based on the engine model year. Fleets that comply with this schedule do not have any reporting requirements. In general, this option never requires the installation of a PM filter on a vehicle with an engine that is fewer than 7 years old, nor requires NOx reductions from a vehicle with an engine fewer than 11 years old. Fleets with engines that are about 7 years old or newer will always meet the requirements of this schedule. The NOx reduction requirement in the schedule could be met by replacing the vehicle/engine with one having a 2010 model year engine or newer to meet NOx BACT or by replacing the vehicle/engine with a used engine that has a future compliance date on the schedule. For example, the schedule specifies that a 1994 engine would need to meet the NOx BACT requirement by 2013, if the fleet owner replaced the vehicle with a 6 year old vehicle with a 2007 model year engine instead of a 2010 engine, the replacement vehicle would not meet NOx BACT but would comply with the regulation until 2021 at which time it would need to replaced or upgraded to meet NOx BACT. Replacing with used vehicles lowers the upfront capital investment substantially compared to new vehicle replacements. Also, if exhaust retrofits can achieve the same NOx and PM

reductions on existing engines so that the exhaust emissions are equivalent to a newer engine certified to cleaner emissions standards, as specified in the regulation, the engine/retrofit combination will be treated as if it were a newer model year engine in determining compliance with the BACT schedule. In other words, if a 2004 model year engine were retrofit with a combination NOx and PM control technology that reduced NOx by 40 percent, then the regulation specifies that the engine has emissions equivalent to a 2007 model year engine and would be treated the same as a 2007 model year engine on the schedule, which has until 2021 before it would need to meet the NOx BACT requirement. Similarly if the same engine were equipped with a combination NOx and PM control technology that reduces NOx by 85 percent, the vehicle would meet the final NOx BACT requirement of the regulation.

The second compliance option specifies the minimum percentage of the engines that must meet PM BACT and the minimum number of engines required to meet the NOx BACT requirement (2010 model year engine emissions or equivalent) each year. PM BACT requirements begin in 2011 and the NOx BACT requirements begin in 2013. PM BACT can be met by the use of a best available verified PM DECS on an existing engine or with engines originally equipped with a diesel particulate filter by the manufacturer. The NOx BACT requirement can be met with 2010 model year engines or newer or with the use of NOx and PM retrofits that reduce existing engine emissions to be equivalent to 2010 model year engines. This option allows a fleet to decide the order in which the vehicles will be retrofit and/or replaced, regardless of their age and allows vehicles that are already equipped with PM filters to count towards meeting the fleet percentage requirement. If the NOx and PM BACT percentages are met, the remaining vehicle engines can be of any model year. This option provides additional flexibility to fleets if they need to keep some older, more expensive or specialized vehicles in their fleet longer than would be allowed under the BACT schedule, so long as the annual percentages are met. For example, even in 2022 when a fleet using this option needs to demonstrate that 90% of the engines meet the 2010 model year emissions criteria, the remaining 10% of the engines could still be of any model year provided the engine has been equipped with a level 2 or level 3 VDECS to meet PM BACT. Fleets using this option must report their fleet information each year.

The third compliance option is a fleet averaging option that allows a fleet to gradually reduce their fleet emissions by meeting a fleet average emissions target for PM and one for NOx. The fleet emission targets decline over time so that by 2014 nearly all engines will meet PM BACT and by 2023 all engines will meet NOx BACT. The fleet average option allows fleets to select which vehicles to upgrade or retire rather than having to follow a prescribed schedule. It provides more flexibility to buy used vehicles to comply with the proposed regulation, and provides a mechanism for fleets to take advantage of NOx control technologies that, while not achieving the maximum NOx emissions reductions to meet NOx BACT, would nonetheless lower fleet emissions and delay when other vehicles would need to be upgraded. Fleets using this option must report their fleet information each year. This compliance option also provides credit for alternative fueled vehicles and hybrid vehicles.

Other provisions in the regulation reduce the requirements or provide more time for fleets that have downsized, agricultural vehicles, low-use vehicles, unique vehicles and for those operating in less polluted areas of the state. These and other provisions delay some or all of the requirements for one or more years.

11. Comment: We are a small trucking company in the north Sacramento valley. We have 10 full time drivers, and during our busy season we also employ owner operators. Our trucks run about 60,000 miles per year. If we were to restrict our trucks back to miles proposed, we would not be able to keep our trained quality drivers. We do not run the miles to make it cost effective to change out trucks as often as the over the road freight companies. (DLEE)

Agency Response: The regulation does not restrict the miles that a vehicle can operate, but it includes optional provisions that delay the NOx BACT requirements for low use vehicles that operate below specified thresholds. The regulation does require NOx emissions reductions which can be met in a number of ways. Fleets who chose to comply by replacing vehicles can do it without purchasing new vehicles and have several options to keep some existing older vehicles in their fleets past 2020, see response to comment 10 about the compliance options.

12. Comment: Under the annual emission reduction targets required by the current ARB proposal, many truck owners will be required to first retrofit an engine, only to have to turn around a few years later and replace those trucks. (FORM3) (FORM3) (FORM3) (AHEA)

Agency Response: The optimum compliance option for a fleet will vary based on the fleet composition, normal replacement practices and other factors. Fleets that replace their existing vehicles with new vehicles within a seven year cycle will always meet all of the requirements of the regulation. Fleets that replace existing vehicles with new vehicles within ten years will need to install some PM retrofits to meet PM BACT but will always meet the BACT schedule. Fleets that normally replace their vehicles on longer replacement schedules or with older used vehicles will need to take action to reduce NOx and PM emissions. The BACT schedule requires some engines to be retrofit and then to be replaced after 4 years; however, with the flexibility provided in the regulation most fleets that may have to install an exhaust retrofit should be able to comply with that vehicle for anywhere from 4 to 13 years before needing to reduce the engine emissions, see response to comment 10.

13. Comment: Truckers who now want to go to California have to retrofit their trucks in order to meet air standards. (NBUT)

Agency Response: The requirements of the regulation apply equally to fleet vehicles that operate in California whether or not the vehicles are registered in California. How an individual fleet is affected will depend on a number of factors. For more information on the compliance options, see response to comment 10.

14. Comment: We are the largest refrigerated carrier in the nation and Transport Topic's 36th largest for hire carrier. We believe that freight destined for California

is broad enough in its origin throughout the country that this rule basically would require us to implement a full fleet implementation, not just an isolated California fleet implementation. Transloading is not an option with most of the food products that we haul. (CREI3)

15. **Comment:** These regulations, as proposed, have impacts that reach much farther than just California state borders. Fleets with partial activity in California will be faced with full fleet implementations of these requirements if they wish to continue to operate in California. To recover costs, some fleets could start implementing a "California Surcharge" that will result in higher costs of goods to California consumers. We urge CARB to consider the far reaching impacts of these regulations to carriers that operate partially in California. C.R. England is opposed to both regulations. We fully support the written statements submitted by the California Trucking Association on October 3rd and December 4th that challenge CARB's assumptions on both proposed regulations. (CREI2)

16. **Comment:** The Board should consider the adverse economic effect to the carrier's business planning regarding the sale of used equipment (both trucks and refrigerated trailers). Prospective buyers of this equipment reduce the purchase price to compensate for the retrofits that the Board will require. As an example---a reefer unit on a trailer costs about fifteen thousand dollars. Retrofitting the unit cost about seven thousand dollars. This translates to a loss to the seller of nearly the current value of the equipment when adjustment is made by the buyer anticipating the cost of upgrading to current regulations. The net result will be that the functionally and economically obsolete pieces of equipment will be kept on the road---the Board will have invested much needed capital in an obsolete piece of equipment. The sellers of the equipment will have to increase freight rates to compensate for the loss in trade-in value. Is it not wiser to regulate in a fashion so that the manufacturers of the equipment will initiate the improvements to the diesel engines to accommodate the buyers need to comply with regulation? These will then be purchased and introduced into the cycle---resulting in reductions in emissions and removal of substandard equipment as a result of the economic cycle. We trade at three years and most over the road trucking companies do likewise. Local truckers are able to purchase our used equipment which is functional for local use. The result will be an upgrading which occurs in a timely manner and thru innovation and engineering by the manufacturers that already have the personnel and expertise in house. It is almost never wise to expend new money in a functionally and economically obsolete piece of equipment. (CREI1) .

Agency Response: The regulation does not apply to transport refrigeration units and does not make any modifications to exiting requirement for transport refrigeration units. We do not agree with the interpretations made by the various commenters affiliated with the same company because the arguments are inconsistent with what the regulation requires for fleets that have a three year vehicle replacement cycle that is typical for this company and others like it. Commenter CREI1 states, "we trade at three years and most of the over the road companies do likewise." The three year vehicle replacement cycle for many long-haul fleets is consistent with the data we have gathered about out of state long haul fleets and consistent with discussions staff have had with

representatives of the motor carrier making the comments. First, a fleet that replaces it vehicles with new vehicles within a 7 year cycle will always meet the BACT schedule and will not need to change its business practices to comply with the regulation. There are also no reporting requirements for fleet that comply with the BACT schedule. Second, the effect of the regulation on the sales price of newer used trucks will likely result in an increase to the truck's value rather than to decrease it. The regulation is expected to increase demand for newer used vehicles because used vehicle replacements provide a lower cost option to comply with the regulation than new vehicle replacements. Therefore, three or four year old newer used trucks sold into the secondary or local market should have a higher value rather than a lower value if sold for operation in California. Used truck replacements are expected to be a common compliance option used by local or short haul fleets to meet the regulatory requirements when replacing their older vehicles. For example, in calendar year 2010 a three year old vehicle with a 2007 model year engine that is originally equipped with a PM filter already meets the PM reduction requirements and reduces the number of PM retrofits a fleet would need to install on existing engines. The engine also complies with the NOx reduction requirements until 2021 in the BACT schedule and improves the NOx and PM fleet average for fleets that plan to comply with the fleet averaging option when the NOx reduction requirements begin in 2013. Similarly, three year old used vehicles being sold in 2013 and beyond will have 2010 engines that meet the final requirements of the regulation; therefore, there is no basis to suggest that the demand for these vehicles should decline. Third, given that the regulation should not change the normal vehicle replacement practice of most long haul fleets and the resale value of newer used equipment should increase as demand for more late model equipment increases, the concerns raised in the comments about needing to upgrade the national fleet, a need for a California surcharge, the concerns about transloading, disruption of the secondary used vehicle market, and concerns about investing in obsolete equipment would seem to not apply. Also, because there are no costs attributable to the Truck and Bus regulation, there are no overlapping costs with the existing transport refrigeration unit regulation.

The DTCC proposal would achieve roughly half of the emissions benefits that would be achieved by the regulation which would not be enough to meet California's SIP commitments. The staff analysis of the DTCC proposal is detailed in TSD Chapter XVIII and in Appendix N.

17. Comment: I'm an owner-operator on the north coast. In 2007, I priced a power unit to replace the one I have equipped to do the work I do. The price tag is $200,500. Now, in my little niche I can run under 50,000 miles a year and support my lifestyle. If I buy that 2007 truck, my annual mileage is going to have to go to 110,000 miles a year. That's 60 to 70,000 miles more than my normal low mileage. (STRT)

Agency Response: The regulation does not require any new vehicle replacements and has compliance delays from and PM or NOx reduction requirements for fleets with 3 or fewer vehicles until January 1, 2014. Beginning January 1, 2014, a small fleet may have one vehicle that has a 2004-2006 model year engine with a PM filter (or equivalent

emissions) until January 1, 2019. Any other vehicles in the fleet would need to meet the BACT schedule starting January 1, 2014. Alternately, if a small fleet with 2 or 3 vehicles has a 2010 model year engine or equivalent by 2014, some of the requirements may be delayed for one of the other vehicle's in the fleet. A small fleet may elect to comply with the same compliance options as other fleets if that works to the fleet's advantage. For example, if the fleet has a 2007 or newer engine originally equipped with a PM filter, the engine would not be subject to any requirements until 2021. Finally, small fleets can also take advantage of other special provisions in the regulation if they apply.

Since the north coast is in a NOx exempt area, if the operation of the truck is limited to that area, the owner would not have to replace the older truck until January 1, 2021, provided and the truck meets the PM control.

The price stated in the comment appears to be the full cost for a truck and attached bed and trailer. The regulation only applies to the engine emissions. If the fleet owner needs to replace the truck to meet the emissions requirements of the regulation, the existing bed can be removed and placed on a new or used truck and pull the existing trailer at a much lower cost than purchasing new replacement equipment. Transferring a body to another truck is a common practice and the costs associated with transfering the bed were included in the staff analysis in determining compliance costs attributable to the regulation.

18. Comment: The proposed regulation will require our business to replace/retrofit trucks that are not worth the retrofit due to age/condition. We replace 2 trucks annually. This will require us to replace 5 trucks for the next 3 years and retrofit 22 by 2014. We tried to get B1 funding; however our trucks do not meet the funding requirements. (BDC)

Agency Response: The commenter has not provided specific enough information about the nature of the fleet or the company's standard replacement practice to allow us to provide more than a general statement on the compliance actions that would be required for the fleet in question. Please see the response to comment 10 for a discussion of a fleet's compliance options and how compliance actions required for different fleets would depend on the nature of each fleet and their normal replacement practices. As we indicated in that response, fleets have choices for complying with the regulation. We expect that each fleet will evaluate various compliance strategies before choosing the most effective strategy for its particular situation. We expect that if a vehicle is near the end of its normal life, fleets may find they are better off replacing it. The fleet averaging option and the BACT percentage limit option would allow the fleet the flexibility to retrofit the vehicles it intends to keep longer and replace those closest to the end of their useful life. Funding opportunities exist for fleet that take early action to comply with the regulation, for more information on funding options available, see response to comments 738 and 739 in the Funding section.

b) Changing Compliance Options

19. Comment: The rule (sections 2025(f), 2025(g), and 2025(h)) is not clear as to whether a fleet can change between compliance paths during the compliance periods. Other rules (such as the Transit Fleet rules) were originally designed to lock in the fleet's compliance choice path. At this time, retrofit technologies that meet NOx and/or PM BACT requirements of engine replacements are not available for all engine and/or vehicle designs. Because of the uncertainty of available designs and replacement costs, Navistar proposes that ARB allow a fleet to freely change between compliance paths to ensure the greatest compliance flexibility by the rule. (NAV3)

Agency Response: Modifications were made to section 2025 (r) (5) of the regulation during the first 15-day comment period from August 19, 2009 to September 3, 2009 to clarify this issue consistent with the comment so that a fleet does not need to identify which options is being met provided any one of the three compliance options are met for the PM requirements and any of the three are met for the NOx requirements. The compliance option need not be the same for both pollutants and can change from year to year.

c) BACT Compliance Schedule

20. Comment: The ARB's Best Available Control Technology strategy seems flawed in its layout, as the ARB schedules many newer trucks to be compliant with 2010 MY NOx emissions equivalents" before many of their older counterparts. It does not seem sensible to require some of the newer model trucks to comply with particulate matter (PM) constraints (MY2005-2006) before older trucks (MY2000-2002). The ARB's BACT schedule is not chronological and does not seem to offer the best quality of emissions reductions in the time constraints that it is looking for. The DTCC's alternative schedule structurally follows the ARB schedule, but is organized in a more chronological order and accounts for the present unavailability of some reduction technologies (for NOx) thus far. This schedule cleans the oldest, dirtiest trucks first and leaves the newer trucks more time to run before retrofitting or replacing. The majority of the ARB's compliance schedule will remain intact. This solution allows owners more time to seek retrofit devices (especially for NOx) and still helps clean air quality at a progressive rate. (MCA4)

Agency Response: The BACT schedule is a straight forward compliance option in which no reporting is required. As suggested in the comment staff evaluated schedules that would be chronological and more intuitive; however, staff determined that the schedule would be the best means to achieve the SIP commitments that require substantial NOx and PM reductions by 2014. Refer to comments 3 to 8 in the Need for Emissions Reductions section. To meet the 2014 SIP commitment it is most cost effective to require PM filters on essentially all engines to reduce directly emitted PM and then to phase out enough engines that have high NOx emissions to reduce smog forming emissions that also contribute to secondary PM formation. The NOx emissions from new engines did not decline significantly until the 2003 model year, and the only

way to achieve sufficient NOx reductions is to control emissions from most engines produced prior to the 2003 model year engine.

With the current BACT schedule, the only high NOx emitting engines that are allowed to operate in 2014 without reducing NOx emissions are the pre-1994 model year engines. By 2014, the number of pre-1994 engines is expected to be small and typically would be traveling fairly low annual miles compared to newer vehicles. The current BACT schedule allows older vehicles to be retrofit with PM filters for 4 years before needing to meet the NOx reduction requirements. A chronological schedule such as in the DTCC proposal would allow most engines with high NOx emissions to continue to operate in 2014 without reducing NOx emissions and would not achieve similar PM or NOx emissions reductions as the approved regulation, see response to comment 1 in the Consideration of Alternatives section. Finally, fleets also have the other two compliance options that allow individual fleets to determine which engines to control first, see response to comment 10.

d) PM Reduction Requirements

21. Comment: While certain sections of the rule allow compliance with the PM BACT (2025d57A), the rule does not allow use of an originally installed diesel particulate filter to demonstrate compliance with the PM fleet average target (2025(h)(3)(B)1 and Appendix Table 1A) nor account for difficulties noted above in retrofitting such Navistar diesel particulate filter equipped Model Year 2006-2009 engines. Navistar proposes that engines in model year 2006 equipped with an active regeneration diesel particulate filter and in model years 2007-2009 below 1.6 g/bhp-hr NOx be credited with reduced emissions for compliance purposes." (NAV3)

Agency Response: The definition of PM BACT has been modified to add engines certified to meet the 0.01 g/bhp-hr certification standard. The new language was made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009. Section 2025(d)(57)(A) was also renumbered as 2025(d)(62)(A). Any engine that meets PM BACT has met the final PM reduction requirements and no further modifications would be required to further reduce PM.

Regarding receipt of credits for retrofitting model year 2006-2009 engines with NOx retrofits to meet the NOx requirements of the regulation, staff disagrees with the comment. First, the fleet average emissions for the engine manufacturers to meet is essentially 1.2 g/bhp-hr and not 1.6 g/bhp-hr. Second, engines produced below the average provide the engine manufacturer credits that results in more engines being sold with emissions above the average. Making a change as suggested would result in an increase in emissions. Also see the response to comment 20 in the Technology section that addresses this issue raised by Navistar.

e) NOx Reduction Requirements

22. Comment: Navistar proposes that ARB allow any diesel particulate filter equipped engine to be 2010 NOx BACT equivalent as follows:

(a) 2025(d)(1)(B) "….by more than 70 percent; or

(b) 2025(d)(1)(C): Any 2007 and newer model year engine equipped with a diesel particulate filter; or

(c) 2025(d)(1)(D): Any 2006 and newer model year engine equipped with an original engine manufacturer's diesel particulate filter that uses an active regeneration; or

(d) 2025(d)(1)(E): Any Hybrid Vehicle, as designated by 2025(o)(8).

(e) 2025(h)(2)(B) EF(MHD) = The NOx emission factor as defined in Appendix A for each medium heavy duty (MHD) vehicle subject to the NOx requirements, or adjusted as applicable, according to paragraphs 1. through 4. below.

(f) 2025(h)(2)(B)1. "…. that are verified; or

(g) 2026(h)(2)(B)2. The fleet owner may exclude any 2010 Model Year NOx Emissions Equivalent engines from the fleet average calculation for any compliance year; or

(h) 2025(h)(2)(B)3. For any 2006 and newer model year engine equipped with an original engine manufacturer's diesel particulate fileter that uses an active regeneration, use a NOx emission factor of 2.0; or

(i) 2025(h)(2)(B)4. For any 2007 and newer model year engine equipped with an original engine manufacturer's diesel particulate filter and is at a NOx FEL or below 1.16g/bHpHr, use a NOx emission factor of 1.5.

(j) 2025(o)(8)(B) …the fleet shall receive a credit that double counts the number of hybrid vehicles … (NAV3)

Agency Response: Responses to comments (a) through (j) are set forth below:

(a) The change to the definition of "2010 Model year NOx Emissions Equivalent." was made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009. The section cited by the commenter has been re-lettered as 2025(d)(4(B).

(b) The NOx BACT definition is for engines that have emissions equivalent to the lowest NOx emissions or best available. 2007-2009 model year engines as a group have NOx emissions that are at least four times higher than 2010 model year engines. It is inappropriate to define NOx BACT equivalent as proposed because it is a lesser standard than is required by the regulation. These engines must be equipped with a VDECS that reduces NOx exhaust emissions by more than 70 percent before they can be deemed to have equivalent NOx emissions to a 2010 model year engine. This definition is given in 2025(d)(4)(B).

(c) NOx emissions from 2006 model year engines are even higher than 2007-2009 model year engines. Engines in this model year group can only be considered 2010 NOx emissions equivalent if they are equipped with a VDECS that reduces NOx exhaust emissions by more than 85 percent as described in 2025(d)(4)(A).

(d) The regulation treats vehicles with equivalent emissions the same. The existing language already treats diesel vehicles with engines certified to 2010 engine emission standards, including hybrids, as 2010 equivalent. Similarly, older hybrids

that were certified to the prior engine model year standards will be treated the same as other vehicles. As required by section 2025(o)(8), the emissions factors used to determine emissions from diesel hybrid vehicles will be based on the engine model year or standard to which the engine was certified. Any hybrid vehicle that uses a fuel other than diesel will not be subject to the requirements of the regulation. We expect that there will be some reductions in PM and NOx exhaust emissions from most hybrid vehicles compared to similar conventional vehicles if there is improved fuel economy, and credit is already given in the regulation for such a case. Staff have no basis to conclude that emissions from an older hybrid will be similar to a 2010 model year engine and cannot accommodate the request.

(e),(f) and (g) The concept encompassed in comments (e),(f) and (g) has been incorporated in the modifications to the regulation language that were made to section 2025 (h) (2) (B) and made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009.

(h) As discussed in response to comment 34 in the Regulatory Provisions section, cleaner engines certified below an engine family emissions average used to comply with an average banking and trading program earns engine manufacturer credits at the time of engine certification, which allows the manufacturer to sell more engines that have emissions higher than the certification standard which offsets any emissions savings from having produced the cleaner engines. Similarly, the use of an active PM filter would reduce PM and likely meets PM BACT, but will not result in any NOx reductions. Hence, the suggested change is inappropriate in that there is no basis for finding that NOx reductions have occurred.

(i) Again, this suggestion would be inappropriate because cleaner engines certified below an engine family emissions average used to comply with an average banking and trading program earns engine manufacturer credits at the time of certification, which allow the manufacturer to sell more engines that have emissions higher than the certification standard which offsets any emissions savings from having produced the cleaner engines.

(j) The regulation already includes such language so it does not appear a change is being suggested.

23. Comment: We would like to propose that the Board make a modification to the NOx requirements in the proposed regulation to reflect the current available technology. The regulation requires the installation of VDECS that will reduce NOx from 40 to 85 percent. Today there are only two technologies that will reduce NOx at all. That's 25 percent and 40 percent on a small group of engines. Forty percent is far away from 85. Without the development of an 85 percent VDECS, that will limit the life of our vehicles. What we are proposing is that whenever we have to start buying diesel particulate filters in 2010, why can't we buy diesel particulate filters that have NOx control already. This might be 25 percent. Then we would be in compliance with the regulation generating NOx reductions early. (NWSC2)

Agency Response: As discussed in the staff report, staff expects most fleets to comply with the NOx reduction requirements by replacing vehicles and to meet the PM

reduction requirements with a combination of PM exhaust retrofits and vehicle replacements. If other methods are available to achieve the same reductions such as exhaust retrofits to reduce NOx, or engine replacements fleets can also receive full credit Currently, there are only a limited number of technologies available that have been verified to reduce NOx, but the regulation does not require NOx reductions until 2013 and the regulation has not been in place long enough to allow device suppliers the time to develop, demonstrate, and verify new NOx retrofit technology that will meet the regulation's NOx BACT requirements.

The regulation provides for the installation of verified DECS on older engines to reduce emissions of NOx to levels equivalent to that of a newer engine. Section 2025(d)(4) of the regulation specifies the minimum reductions needed for specified model year engines to meet the definition of 2010 NOx emissions equivalent. As the commenter recognizes, currently there is no verified NOx control device that will provide this high level of emissions reductions. As stated in Chapter 7 of the TSD, SCR systems can achieve NOx reductions on the order of 50 to 90 percent. Staff anticipates verification of SCR technology for on-road applications in the near future that would allow many vehicles to have both a PM and NOx control device installed simultaneously. In the meantime, retrofits that achieve a 40 percent reduction in NOx emissions would allow a 2004 to 2006 model year engine to be deemed equivalent to the 2007 engine emissions and be in compliance until 2021. While neither the systems verified to reduce NOx emissions by 25 percent can achieve the reductions required to meet NOx BACT, fleets may take advantage of these NOx control technologies to lower fleet average emissions and delay vehicle replacements. The suggestion to redefine 2010 NOx equivalent to a lesser emissions reduction standard predicated strictly on existing NOx retrofits would result in very little NOx reduction and in the State not meeting its SIP targets and cannot be made. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

24. **Comment**: NWSC's suggestion is to modify the NOx emissions equivalent to the current verified technologies. This would allow fleet owners the opportunity to purchase one VDECS that would reduce PM and NOx early. While fleet owners are purchasing PM devices to comply with the regulations, they could invest in NOx devices at the same time. NWSC has experienced problems with repowering equipment because the engine, transmission, drive lines, PTOs and other components do not marry up. Staff will make the argument that they will need the NOx reductions. This modification will generate early NOx reductions. If the regulation is not modified and a fleet owner had a fleet of 2004 through 2006 trucks, this fleet owner would be required to change trucks because no VDECS have been developed to meet the 85% requirement… (NWSC1)

Agency Response: The regulation already provides credit for fleets to use NOx control technology to lower their NOx emissions. As described in response to comment 10, the fleet averaging compliance option provides credit for NOx reductions from the use of verified NOx control technology based on the effectiveness of the device and the regulation also defines what engine and NOx control retrofit combination has equivalent emissions to cleaner engines that have a later compliance date on the BACT schedule. Installation of combination NOx and PM control retrofits will lower the fleet averages for PM and NOx at the same time. However, the emissions reductions needed to meet the SIP commitments are greater than what can be accomplished with existing exhaust retrofit technology alone. Engine replacements in existing vehicles are not expected to be feasible for most vehicles and are not expected to be a lower cost option for most fleets; however, fleets can do engine replacements and receive full credit for having reduced the emissions. The actions required by a fleet to comply will vary based on engine age, fleet composition, and compliance option chosen, and are described in detail in response to comment 10 in this section. With respect to relying solely on existing NOx technology see response to comment 23 in this section.

The example of a fleet of 2004 to 2006 model year trucks in calendar year 2008, would appear to be replacing their vehicles with 1 or 2 year old replacement vehicles within a 5 year replacement cycle. If this is the case, the fleet would always be ahead of the regulation and would not be required to take any action beyond normal replacements. Fleets that replace with new vehicles within a 10 year replacement cycle would need to install some PM filters but would not need to reduce NOx emissions. Fleets that replace their vehicles within a 15 year cycle would need to install PM exhaust retrofits on some vehicles and would need to also reduce NOx emissions from some vehicles.

25. **Comment:** The proposed regulation exempts school buses from all the NOx requirements. The staff report states, "School age children are an especially vulnerable segment of our population to the affects of air pollution." In addition, school districts are allowed to use 1977 model school buses forever if retrofitted with a VDECS by 2014. If the regulation is not modified and a fleet owner had a fleet of 2004 through 2006 trucks, this fleet owner would be required to change trucks because no VDECS have been developed to meet the 85% requirement, while school buses dating back to 1977 are allowed to operate near school age children four times a day. (NWSC1)

26. **Comment:** Staff will argue that they need 85% NOx reductions to meet their SIP. This may be true, however they have exempted school buses from needing any NOx reductions at all! The staff report states, “School age children are an especially vulnerable segment of our population to the affects of air pollution.” However, school districts are allowed to use 1977 model Tier “0” school buses forever if retrofitted with a VDECS by 2014, with zero NOx reductions. (BJSC1)

Agency Response: School districts operate under a unique set of circumstances and therefore a separate compliance schedule that takes this into account is provided in the regulation. However, school buses would be required to achieve the same PM reductions as vehicles in other fleets and would not have a localize diesel PM exposure

risk higher than for other vehicles. Although, NOx reductions would not be required from school buses, school bus fleets also do not have the same ability to pass on their costs as most other fleets. The owner of a truck with a 2004 to 2006 model year engine would not face a replacement requirement for some time. The owner would be required to install a verified DECS on a 2004-2006 engine and could operate it at least until 2015 or 2016 if in a fleet of 4 or more or up to 2019 if in a fleet of 3 or fewer before being required to replace it to reduce NOx emissions. If the vehicle meets the requirements for the low use provisions it can operate until 2021.

27. Comment: Small fleets are exempt from the NOx performance requirement until 2018 in the proposed regulation and small fleets represent nearly 50% of the in-state vehicles. Agricultural vehicles that operate below specified mileage thresholds will be exempt from the proposed PM and NOx performance requirements. (NWSC1)

Agency Response: Small fleets are exempt from the pm and NOx reduction requirements until 2014, see response to comment 17. As discussed on page 253 of the Technical Support Document, small fleets tend to operate older vehicles relative to larger fleets, but would not benefit from the flexibility provided by the fleet average option or the BACT percent limit option because of the limited number of vehicles. Because of the economic challenges facing small fleet operators, staff believes it is appropriate to provide additional time for compliance, and to establish somewhat lesser regulatory requirements for small fleet operators during the first years of the program. However, while additional time is provided, these vehicles will still ultimately need to meet the same NOx and PM performance standards as a vehicle owned by a larger fleet operator. As such, staff believes that the proposed small fleet provisions will reduce the initial costs to small fleets to comply with the proposed regulation in the near term, but will still provide substantial emission reductions from these vehicles in the long run. See response to comment 103 regarding the agricultural vehicle provisions.

28. The proposed regulation would require the fleet owner to purchase a PM VDECS from one vendor and later purchase a NOx VDECS from another vendor and attempt to make them work together. (NWSC1)

Agency Response: The proposed regulation does not require the fleet owner to purchase the PM and NOx VDECS and then attempt to make them work together. The compatibility of the two retrofit systems is a primary issue. Both systems being verified for use with the same diesel engine is not equivalent to being verified for use with each other. Consequently, the verification procedure requires that a system composed of multiple components be tested and submitted for evaluation as one system. NOx control technologies are an option for fleets to use to defer or eliminate any early vehicle or engine replacements and are not required.

f) Fleet Average Calculation

29. **Comment:** "The ARB announced the fleet average compliance option to the BACT schedule so that large fleets might meet engine compliance in a manner that is more controlled by the fleet owner. The problem with this option is that the

ARB's emissions factor numbers make it impossible for properly retrofitted vehicles to ever meet Fleet Targets.

(g) All PM retrofits (85%) to engine model years prior to MY2007 will only reach a minimum 0.122 PM Index (0.110 is required)

(h) All NOx retrofits (85%) to engine model years prior to MY2007 will only reach a minimum 1.8 NOx Index (1.6 is required)

(i) All NOx retrofits (70%) to engine model years prior to MY2010 will only reach a minimum 2.1 NOx Index (1.6 is required)" (MCA4)

30. Comment: After spending considerable time attempting to apply the ARB's fleet average model, I have found that the numbers are inaccurate. Using the calculations provided – and attached to this letter – I recognized that trucks that use Tier 3 PM DPFs and proper NOx filters will never meet the highest level of emissions reduction, even though the regulation states that they will. The numbers fall short of the ARB's requirements and could affect entire fleets in the future. These numbers and calculations need to be revised (along with the ARB's online calculators) so that they help retrofitted trucks meet the ARB's standards. (MCA4)

Agency Response: First, the fleet can demonstrate it has met any one of three compliance options to meet the NOx requirements and any three to meet the PM requirements. The compliance option can change from year to year. A fleet is not expected to meet more than one option for each pollutant in a compliance year. The regulation also defines what combinations are deemed equivalent to cleaner engines even if the emissions factors calculated with the given combination do not perfectly match the emission factors for BACT. The concerns raised in the comment pertain to the final fleet average emission targets for PM and NOx in the regulation and do not make a substantial difference in the actions required in the earlier years of the phase-in periods. When the final fleet average targets apply, the fleet will be meeting the BACT criteria and will fully comply with the regulation whether or not the fleet has met the fleet average target. For example, if a fleet has the best available PM filters on all engines including pre-2007 engines by 2014, the fleet does not need to meet the 2014 fleet average because it fully complies with the BACT criteria. In other words, the fleet meets the final goal of the regulation for PM and would not need to take any further action to reduce PM. This would also be true in the case where level 2 PM retrofits (that achieve 50% PM reductions) are the best available at the time of installation even though the fleet average emissions average for the fleet would be higher than in the first example.

The same concept applies for meeting the NOx requirements, once all engines have met the definitions that are deemed equivalent in the regulation; the fleet has met the final goal. However, staff modified the regulation to address statements (b) and (c) regarding compliance with the NOx fleet targets. The changes to the regulation were made available with the August 19 2009 Notice of Availability of Modified Text. Statement (a) regarding the PM fleet target is not affected by the modifications to the regulation.

In the modification to the regulation, staff added language to section 2025(h)(2)(B) that allows the NOx emission factor for 2010 and newer engines to be used for "2010 model year NOx emissions equivalent" engines in the calculation of the NOx index of the fleet. A fleet of "2010 model year NOx emissions equivalent" engines would now meet the NOx fleet target. A "2010 model year NOx emissions equivalent" engine meets the definition of NOx BACT given in section 2025(d)(54) of the regulation and each NOx BACT-compliant engine would continue to count towards the number of engines required to meet the requirements of the BACT percentage limits option.

Future compliance assistance tools will be made consistent with the final regulation.

31. Comment: In May 2008, CARB posted an Excel spreadsheet (Fleet Average Calculator) on the agency's website. Statements on the website and in the ISOR imply that CARB intends for the "calculator" to be used by parties interested and/or affected by the regulation to determine how the regulation could impact them and as a means of investigating alternative compliance strategies. It is reasonable to expect that the participation of these parties and the nature of their comments could be directly affected by their reliance on the calculator to ascertain the impacts of the proposed regulation. The fleet average calculator published by CARB for use in evaluating regulatory compliance requirements contains errors, and could mislead users regarding the actual regulatory requirements. The errors identified with the calculator are described below.

(20) The calculator has a formatting error for the cell in the "inputs" worksheet containing the target year 2012 NOx fleet average. It does not produce bold red text indicating non-compliance when the average is exceeded – this could lead one to assume a fleet is in compliance when, in fact, it is not.

(21) The calculator computes/reports target fleet rates on a year-end basis (e.g., the target rate reported for "2010" represents December 31, 2010); the regulation, however, specifically defines compliance with target rates on a year-beginning basis (i.e., January 1). This could lead one to assume a fleet is in compliance when, in fact, it is not.

(22) The "Read Me" worksheet incorrectly states the expiration date of the low-mileage NOx exemption as December 31, 2017; in defining compliance for this exemption, however, the computations on the "Inputs" worksheet of the CARB calculator use the correct expiration of December 31, 2020. This inconsistency may cause confusion for users.

(23) The calculator does not address retirement credits, as was confirmed with CARB staff (who indicated that this would be corrected in future revisions to the calculator). CARB staff indicated that retired vehicles should be omitted from the calculator; however, in following this approach, any retirement credits would not be properly included in the calculator's compliance evaluation, rendering that evaluation inaccurate.

(24) The calculator does not correctly handle hybrid credits in all instances. Whereas the calculator does correctly calculate the hybrid credit for the target PM average and the target NOx average calculations, the calculator incorrectly addresses the hybrid credit for both the %BACT PM and the %BACT NOx calculations.

(25) The model-year-specific emission factors contained in the calculator are different from those contained in the regulatory documentation, i.e., the ISOR and the Technical Support Document (TSD). The calculator factors are shown in the online Excel spreadsheet[48] and the TSD emission factors are reported in Tables A-1 and A-2 of Appendix A of the TSD. Because the calculator values are higher for the 2010 and 2011 model years than those apparently used in assessing compliance with and the benefits of the regulation in the regulatory documentation, this could again lead to confusion on the part of calculator users in determining the impact of the proposed regulations. (SRES2)

Agency Response: The fleet average calculator was modified and updated several times to reflect changes made to staff's proposal. A number of changes the staff proposal were made after May 2008 and the changes have been reflected in updated versions of the fleet calculator. Although we recognized there may be a potential for some confusion as the proposal was modified, staff believe that it was important for fleets to have a tool to understand the compliance options associated with each version of the proposal as it was modified.

32. Comment: I work for a company that will need to meet the requirements of the ARB's new Truck and Bus Rule. I have examined the language and numbers of the proposed regulation and have found some numbers that seem to be incorrect. The numbers in the fleet calculator further prove my point. The numbers are such that no HHD truck older than engine model year 2007 will ever meet the required PM emissions target of 0.110 g/mile, even with a DPF that cuts emissions by 85%. All of the trucks with Engine MY1994-2006 will only reach 0.122 g/mile of PM. The Fleet Calculator shows that a fleet of MY1994-2006 engines will meet BACT 100%, but the numbers do not show that. On the opposite end of the spectrum, I can insert an incredibly old engine model year (MY1923 in my example) into the calculator and still return 100% BACT compliance even though the Fleet Average PM level would be 0.504 g/mile.

As for the NOx emissions, the greatest reduction as required by the Truck and Bus Rule will only get a MY2006 Engine (85% NOx reduction) down to 1.80 g/mile of NOx. The NOx target is below that number at 1.60 g/mile NOx. In fact, even a MY2011 engine will not meet MY2010 emissions requirements, as the numbers show that it still emits 2.50 g/mile NOx. The numbers must be addressed before this rule is approved. As it currently stands, the ARB's numbers for calculating

[48] Statewide Heavy Duty Truck and Bus Fleet Calculator v.3 (released May 13, 2008) http://www.arb.ca.gov/msprog/onrdiesel/documents_archive.htm

emissions targets and averages are conflicting in the both the language of the rule and the fleet calculators. I believe that one way to repair this conflict is to change the numbers in the Appendix A section of the rule (page A-45). (For instance, in Table A-1 of Appendix A, the MY1994-2006 HHD PM emissions factor should be changed from 0.81 to 0.73). If the numbers stay the same, then the ARB will have to require further PM and NOx reduction from filters that are already required to eliminate 85% of PM emissions and 20-85% of NOx emissions. Please consider these conflicts when you meet to finalize your regulation. These types of errors could create immense problems with the implementation of the ARB regulation and require a complete overhaul of the rule. (MCA2)

Agency Response: As noted in the response to comment 30, fleets do not need to meet the final fleet average targets for PM nor for NOx to meet the final requirments of the regulation. With respect to the differences in the fleet average emissions factors from prior versions of the fleet calculator compared to the current proposal, see response to comment 31.

33. Comment: When determining emissions, the current "unit based" fleet averaging formula only accounts for the emissions technology used in a vehicle. The emissions technology used in a vehicle is instructive, but does not reflect its actual emissions. Unless lower-emission vehicles are driven in lieu of higher-emission vehicles, the current formula will be ineffective. As such, to encourage use of lower-emission vehicles, the Board should include a fleet averaging formula that is "miles weighted". The "miles weighted" formula will weigh the emissions factor of a vehicle according to the number of miles it drives in California. Thus, the emissions factor of a vehicle that logs 100,000 miles in California will weigh more than a vehicle that logs only 5,000 miles. We believe a "miles weighted" approach is aligned with the Board's objectives. Moreover, for many companies, the necessary information to calculate a "miles weighted" formula is already accessible through its International Registration Plan (IRP). If a company does not submit an IRP or does not choose to track such information, it can use the existing "unit based" approach. Thus, if adopted, companies would be able to choose from two formulas under the fleet averaging approach; "miles weighted" or "unit based". Other than a general framework, we are still trying to determine the best way to define a "miles weighted" formula. (YRCWI)

Agency Response: Although the general framework on the surface seems reasonable, the concept would add considerable complexity and would create a compliance option that is impractical to implement and would also result in situations where a fleet would be out of compliance because of unexpected changes in annual miles travelled than what was originally expected. Each year, for vehicles that have emissions factors above the targets, the fleet would need stay below the annual miles estimated and for engines that have emissions factors below the targets, the fleet would need to operate above the annual miles estimated. Because the PM and NOx targets change at different rates this approach becomes impractical as a compliance option and impractical to implement and enforce.

34. Comment: The rule fails to account for the phase-in/phase-out and early incentive (average banking and trading [ABT]) provisions of the 2007 rule (see 13CCR1956.8). As noted in USEPA's original ABT rule, the ABT program provides an incentive for the early introduction of lower emission engines and, more importantly, a direct "environmental benefit". 55FedReg30584 (7/26/1990). The phase-in/phase-out provisions between 2007 through 2009 allow for engines to be certified at a variety of emission levels. Currently, Navistar has an engine family certified at an emission level of 0.85 g/bhp-hr NOx (EO A-004-0331, 8NVXH0466AGC). Under the current rule (2025(d)(2)A and B), Navistar's 2006 engine (6NVXH06, 4AGA at 1.16 g/bhp-hr NOx) would require NOx BACT retrofit emission reduction of over 85% to an emission level of 0.17 g/bhp-hr NOx, actually below the phase-in 2007 standard. It is entirely conceivable that engine manufacturers, such as Navistar, may actually introduce engines at a phase-in emission level prior to 2010. Under those situations, the rule would require the engine emission reductions of 70% on a engine of 0.50 g/bHpHr or lower NOx, i.e. to be below a retrofitted NOx level of 0.15 g/bHpHr which is below the phase-in 2007 standard." (NAV3)

Agency Response: Cleaner engines certified below an engine family emissions average used to comply with an average banking and trading program earns engine manufacturer credits to sell more engines that have emissions higher than the average, but such credits do not result in overall lower emissions from all of the engines produced than meeting the standard without credits. Although the potential for the situation described in the comment may exist, the regulation would also require the same percent reduction from the engines that were sold with higher emissions because of the credits earned. The only other option to achieve the same emissions reductions would be to identify which engines were certified with higher emissions than the average and which were certified with emissions below the average. This would create a discrepancy for fleets with the same model year engine when the fleet could not have reasonably have known in the past whether the engine purchased was a cleaner or dirtier engine for the given model year. Staff's proposal for 2010 model year and newer engines was modified during the regulatory development process to Navistar's concern that all 2010 model year engines and newer engines should be treated exactly the same even though some will be certified at levels more that twice the standard because of earned credits. The approach taken for existing engines is consistent with this approach and would become inconsistent if modified as suggested.

g) Adding Vehicles to a Fleet

35. Comment: "If a fleet does not meet the BACT requirements of the section 2025(f), before the fleet may operate a newly added vehicle in California, it must within 30 days of adding the vehicle file a report with the Executive Officer that it has added a new vehicle, and demonstrate that the fleet, as newly constituted with the requirement of section 2025(n)(2)(A) and (B)." Fleet owners will purchase several new vehicles at the beginning of the year, but will receive the new vehicles throughout the year. The proposed regulation would require fleet owners to file several reports each month to the Executive Officer to remain in

compliance with the regulations, this is very labor intensive. BJS suggests to modify the proposed regulation stating that the addition of new 2010 model trucks, which do meet the final requirement, will not be required to file a report with the Executive Officer. The addition of new 2010 model trucks to a fleet will help the fleet move closer to compliance. This modification will reduce costly red tape built in to the proposed regulation. (BJSC1)

36. **Comment:** The current proposed regulation states that before a fleet may operate a newly added vehicle in California, we must file a report with the Executive Officer within 30 days of adding the vehicle. What we suggest is a modification of the proposed regulation stating that the addition of 2010 model trucks or newer would be reported in the annual update to the Executive Officer. The addition of new 2010 or newer model trucks to a fleet is going to help the fleet move closer to compliance anyway. This modification would reduce some of the administrative cost – ours and yours. (BJSC3)

Agency Response: Section 2025(o) of the regulation was modified so that fleet owners complying with the flexibility provisions that require reporting, would not be required to report the addition of vehicles with 2010 or later model year engines until the next reporting date. Similarly, staff also made another revision that would reduce fleet reporting requirements until January 1, 2017, if a fleet owner adds vehicles with 2007 through 2009 model year engines to the fleet. The addition need not be reported until the next reporting date unless the fleet is increasing the size of the fleet from three to four or more or the fleet is utilizing the retired vehicle credit. This option for 2007 through 2009 model year engines expires on January 1, 2017. The modification to the regulation language was made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009.

h) Credit for Retired Vehicles

37. **Comment:** From our perspective, DTCC expects that full credit be given toward the rule for emission reductions occurring now. We do not wish to be stuck in the same situation that was created in the Off-Road Diesel Rule where equipment owners who are reducing their fleet in advance of the March 1, 2009 inventory date cannot count their reductions toward the equipment turnover requirements. (DTCC1)

38. **Comment:** The Rule does not address fleet downsizing. Fleet reductions and replacement with non-diesel trucks will result in PM and NOx reductions that should be considered in compliance calculations. Reduction in fleet size is of particular concern in this economic environment, which has seen the Fed Ex fleet decrease by almost 5% over the last year. Consider that replacing a truck will result in greater emissions than eliminating a truck entirely. Similarly, replacement of a diesel truck with a gasoline truck would eliminate diesel PM emissions entirely. Also, the use of catalytic NOx controls for gas engines is fully mature and achieves reliable reductions. (FEDEX)

39. **Comment**: A credit for early retirement of vehicles was included in the Off-road diesel rule and should be, again, in the On-road rule, since many of the

construction materials fleet types are limited to local use, they would be logical ones to provide this type of incentive or credit. (CCIMA1)

Agency Response: A new provision has been added to the regulation that would grant retirement credits until January 1, 2014 to fleets that retire vehicles on or after July 1, 2008. The modification to the regulation language was also made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009. This credit is available to fleets that elect to comply with the fleet averaging option or the BACT percentage limits option. The regulation now includes a definition – "2008 baseline fleet" – which establishes criteria for vehicles that may be included in the determination of the fleet size as of July 1, 2008. If the diesel vehicle fleet size on any compliance date before January 1, 2014 is smaller than the 2008 baseline fleet, the difference in fleet size would determine the number of vehicles retired. For each vehicle retired, the credit granted in the BACT percentage limit option of section 2025(g) is equivalent to one 2010 engine equipped with a PM filter for purposes of determining the fleet percentage meeting NOx BACT and PM BACT. For the fleet averaging option, the emission factors for a 2010 engine are used to determine PM and NOx indices and target emission rates for each retired vehicle. Section 2025(k) of the regulation provides the instructions for determining the credit and also points to the reporting requirements beginning March 31, 2010 for fleets utilizing this credit.

40. **Comment:** Please do not penalize the bus industry. We are removing vehicles from the road. The ruling should allow any bus currently registered in California to continue operating until it is retired or sold out of state. The ruling as proposed is in effect retroactive. Purchases we made as late as two years ago are affected under the proposed regulation. These coaches were $425,000 each and our small company purchased two that will need to be replaced before they hit half of their normal life cycle. (AST)

41. **Comment:** As a non-profit in the midst of the worst economic crisis since the Great Depression, we will be forced to dispose of our coach long before it's useful life has been expended. We will not be able to afford to replace or retrofit this vehicle in order to meet your standards. Since our bus travels less than 15,000 miles per year and is maintained to impeccable standards I feel it poses little to no threat to our air quality. Today there is virtually no access to capital within lending institutions or our church for these retrofit costs. We are grateful for the efforts expended in the cause of clean air in California. We are also aware that our economy depends the ability to truck products and people across the state. We must be careful not to forfeit this ability for the sake of insignificant amount of emissions produced by a small non-profit organization such as Parkside Church. (PARK)

Agency Response: Staff modified the original proposal to provide more time for motor coach fleets to come into compliance with the NOx or replacement provisions. Because of the expense associated with replacing these vehicles and the fact that most motor coach fleets do not have other lower cost vehicles that can be cleaned up first, motor coaches are exempt from the NOx BACT requirements until 2017, but must meet the

same PM reduction requirements. Beginning January 1, 2017, motor coaches must meet a different (NOx) phase-in schedule than other fleets, but by 2023 motor coaches must meet the same requirements as other trucks. The change was part of the amended proposed regulation order that was made available at the Board hearing on December 11 and 12, 2008. The modification to the regulation language was also made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009.

The regulation has optional small fleet provisions that delay the PM retrofit and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014, see response to comments 70 to 89. The delay provides more time for the economy to recover and improves the ability of fleets to meet the requirements with lower cost used vehicle replacements.

i) Verified Emissions Control Strategies

42. Comment: Expand text in the rule to explicitly recognize that diesel particulate filter technology may not be proven or verified with CARB particularly for certain older trucks (particularly pre 1994 mechanical fuel injection) and therefore the CARB Executive Officer should waive both NOx and PM performance requirements until technology is verified and commercially available. Also expand text in the rule to explicitly state that any truck retrofitted with a DPF that at some future time is de-verified will not have to replace the DPF. (CFA1)

Agency Response: We do not believe the proposed changes are necessary since the regulation already contains provisions that address the issues raised. Verified DECS are already available for most engines and fleets are never required to use unproven technology.

Staff recognizes that not every vehicle subject to the regulation can be retrofitted; therefore we have included a provision in the regulation that would allow a fleet owner to receive a one-year extension of the compliance deadline for the PM BACT requirement if the highest level VDECS is not available or cannot be installed on a particular vehicle. The fleet owner would have to apply to the Executive Officer for an extension each year that the retrofit is unavailable from January 1, 2011, through January 1, 2017. The engine would remain subject to the NOx reduction requirements. We do not believe it is appropriate to waive the NOx reduction requirement if a PM retrofit is not available. The emissions reductions and the costs of the regulation were justified based on vehicle replacement costs. Cleaner engines are already available and are technologically feasible options to comply. Newer engines with substantial NOx reductions are already equipped with PM filters and will reduce PM at the same time.

An engine will not be allowed to operate on or after January 1, 2018 without a PM retrofit and may need to be replaced. At that time, the cost to replace the vehicle with a used one having a 2010 engine may actually cost less than purchasing a PM filter.

We do not believe there is a need to add language to the regulation to address de-verification of a VDECS currently installed on a vehicle. Changes of this nature should be address as part of any modifications to existing regulations for the verification program and should apply consistently for all existing in-use retrofit regulations. Current practice has been that if a VDECS is installed and later becomes de-verified because a standard has changes, the fleet may keep the de-verified device installed and continue to count the device in their fleet and would be considered to be in full compliance because the device installed was the best available at the time of installation. For example, if the device was originally verified as a Level 3 VDECS, which achieves an 85 percent reduction in particulate matter (PM), the fleet may still count an 85 percent reduction in PM from the vehicle on which the device is installed. This is consistent with the policy for other existing regulations. Therefore, if a VDECS becomes de-verified, a fleet will not automatically be considered out of compliance. However, if the de-verified device fails and cannot be repaired, it must be replaced with a verified device in accordance with the VDECS failure policy located in section 2025(p)(10) of the regulation. Although unlikely, there may be cause to have a device de-verified because it is defective or has been recalled, and if that were to happen the device may not receive credit in the regulation and staff would work with affected fleets to address the situation.

43. Comment: We understand that the rule as drafted allows companies to obtain exemptions from the rule when filters are unavailable, or unsafe for use with their trucks. We strongly urge the Board to direct CARB staff to make these exemptions readily available for use by companies during the life of the rule. Staff must be ready to approve these exemptions on presentation of proof. We request a delay in the vote on these regulations so that time may be taken to develop the filter technology necessary for compliance. (ACLOG1)

Agency Response: Exhaust retrofit technology is already available for most engines and there was no reason to have delayed the vote. In the first seven years of the regulation, no additional action is required by the fleet to reduce PM emissions if a suitable exhaust retrofit is not available. Staff could not anticipate all circumstances where exceptions would be warranted and included provisions so that they could be addressed appropriately. Staff will address any such issues in a timely manner as they arise. Staff will be working closely with affected industry to address unique circumstances and expect to develop advisories on how to address issues that are common to certain situations. Also see response to Comment 42.

44. Comment: Staff has recommended that we need particulate traps and a NOx device that will reduce NOx by 85%. BJS major concern is that only one current device reduces NOx by 40% which falls short of the required reduction of 85%. The staff report states that despite the potentially substantial NOx reductions SCR can provide, exhaust temperatures (or duty cycle limitations) will likely dictate the actual suitability of certain vehicles to use SCR or other NOx-control technologies in exhaust retrofit applications. BJS suggests that we adopt a regulation that allows industry to purchase currently available PM traps with lower NOx levels, and allow them to be operated until 2017 without any other modifications. This

would allow industry to purchase currently available technology and operate the vehicles for 8 years, without any other major expense for add on's, until we could replace them with newer vehicles. (BJSC1)

Agency Response: The regulatory requirements and cost analysis was based on early vehicle replacements with new or used vehicles and was not based on NOx retrofit technology. Staff acknowledges there currently are not combination NOx and PM control retrofits that achieve the maximum 85 percent NOx reduction to make many older engine emissions equivalent to a 2010 model year engine emissions. However, the NOx reduction requirements do not begin until 2013. This provides additional time for manufacturers to bring additional technology to market that may achieve substantially more NOx reductions than is currently available. Most 2010 engines will use exhaust after treatment technology to meet the new engine standards, and similar technology is likely to become available for retrofit applications. The fleet average option in the regulation is structured to allow fleets to take advantage of an array of NOx control technology to delay vehicle or engine replacements. Depending upon the fleet characteristics, it is possible that the regulation, as currently structured, would allow a fleet to comply with the regulation as described in the comment without accelerated vehicle replacements.

j) Alternative Fuel Vehicles

45. Comment: CCEEB suggests that a definition of "Alternative Fuel Vehicle" be added to the proposed regulation, consistent with the definitions for "Alternative Diesel Fuel" and "Alternative Fuel". (CCEEB1)

46. Comment: The proposed regulation defines "Alternative Fuel" by example and without reference to established specifications. CCEEB recommends that, to the extent alternative fuel specifications have been established by the Board (for example, sections 2290, et. seq. of title 13,CCR) be incorporated by reference. (CCEEB1)

47. Comment: We suggest the following definitions and technical corrections.

- Define "Alternative fuel vehicle"
- Define "other criteria pollutants" and "greenhouse gases"
- To the extent alternative fuel specifications have been established by the Board, they should be incorporated by reference. (CCEEB1)

48. Comment: The purpose of the proposed regulation is to reduce emissions of diesel particulate matter, oxides of nitrogen and other criteria pollutants, and greenhouse gases from in-use diesel-fueled vehicles. The definition section of the proposed regulation contains a definition for particulate matter and oxides of nitrogen but fails to include a definition for "other criteria pollutants" and "greenhouse gases." Since operation of the proposed regulation may, in certain situations, lead to some increase in other criteria pollutants and greenhouse gases, CCEEB recommends these terms need to be defined for purposes of the proposed regulation. (CCEEB1)

Agency Response: Section 2025(d)(9) is a definition of "Alternative-Fueled Engine" that is consistent with the definition of "Alternative Fuel." The definition of an alternative-fueled engine also serves to distinguish engines fueled by an alternative fuel from those fueled by an alternative diesel fuel. An alternative-fueled engine is exclusively fueled with an alternative fuel – a non-diesel fuel like natural gas, propane, ethanol, methanol and others listed in section 2025(d)(8) of the regulation. Examples of alternative diesel fuels are biodiesel, Fischer-Tropsch fuels and diesel-water emulsions as listed in section 2025(d)(7). Engines that can be fueled with an alternative-diesel fuel, are not alternative-fueled engines and are subject to the same requirements as diesel-fueled engines. Staff do not agree the regulation will result in increases of other criteria pollutants and greenhouse gas emissions. It is well established that increased use of catalyzed PM retrofits results in decreases in carbon monoxide and hydrocarbon emissions. Also, the regulation has provisions that encourage the use of alternative fueled vehicles and fuel efficient hybrids that would lower CO2 emissions, and staff's analysis of impacts associated with the regulatory requirements result in no significant reductions in greenhouse gases as discussed in TSD Chapter XII. We do not believe there is any basis for defining the terms "other criteria pollutants" or "greenhouse gases" in the regulation since the terms are not used in the regulation.

49. Comment: "Westport Innovations wishes to seek clarification on the status of CARB 2004 certified heavy-duty pilot ignition engines under this ruling and additionally the Port Drayage Truck Rule, passed on November 24th, 2008. There are currently approximately 120 of these engines operating in heavy-duty vehicles in California at this time. The engines are CARB certified with Executive Order A-343-0003. These particular engines have a NOx reduction of over 50%, and PM levels below the 2004 certification levels. Additionally greenhouse gas emissions reductions of approximately 18 percent over diesel-fueled engines are achieved with this engine, contributing to the goals of this regulation.

According to the current language of the ruling there is a credit available to fleets running "alternative-fueled engines" or heavy-duty pilot ignition engines" in their fleet. This credit is outlined in definition 9 of the rule. With credit being given to these engines effectively taking their PM emissions as zero, Westport understands that these engines are exempt from this fleet rule as it is written. Thus Westport understands that this exemption should also apply to the subsequent Port-Drayage Truck rule. Westport would like to see CARB supply wording to the current rules to clearly define these engines as being exempt. (WFSI)

Agency Response: Staff does not believe additional wording is necessary to define Westport's certified heavy-duty pilot ignition engine as exempt from the truck and bus regulation. We believe that the regulation's statement of scope and applicability and the definition of a heavy-duty pilot ignition engine are sufficient to establish that heavy-duty pilot ignition engines are exempt from the truck and bus regulation. Section 2025(b,) which describes the scope and applicability of the regulation, states that affected vehicles are those that operate on diesel fuel, dual-fuel, or alternative diesel fuel. Alternative fuel vehicles are not included in the scope and applicability and are therefore not subject to the regulation. As defined in the regulation, a heavy-duty pilot ignition

engine is designed to operate “using an alternative fuel, except that diesel fuel is used for pilot ignition at an average ratio of no more than one part diesel fuel to ten parts total fuel on an energy equivalent basis”. An engine that can operate or idle solely on diesel fuel at any time does not meet this definition. Westport’s certified heavy-duty pilot ignition engine is therefore an alternative-fuel vehicle that meets the definition given in the regulation of would not be subject to the regulation.

Although alternative fuel vehicles like those operating with Westport’s heavy-duty pilot ignition engines are exempt from the requirements of the regulation, a fleet may count these vehicles in their fleet to reduce the average emissions of the fleet. The provision in the regulation for alternative fuel vehicles is intended to be an incentive to fleets gives credit for alternative fueled engines that burn cleaner than diesel fueled engines. Also, for fleets using vehicles equipped with alternative fuel or heavy-duty pilot ignition engines, credit would be granted for the purpose of calculating the NOx and PM fleet average target rates towards compliance with the fleet average. In using this credit, the PM emission factor would be zero, and the NOx factor would be based on the emission factor corresponding to the engine standard to which the engine is certified.

The drayage truck regulation has been amended to make the definition and scope consistent with the truck and bus regulation. This means that drayage trucks operating with Westport’s heavy-duty pilot ignition engine or any other alternative fuel engine are exempt from the drayage truck regulation. The amendments to the drayage truck regulation were approved by the Board at the December 2008 public hearing.

k) Why Reduce Emissions from Existing Vehicles

50. Comment: These are trucks that were approved as "Meets California Emissions" when manufactured. (RWT)

51. Comment: How can the State of California possibly require an emissions retrofit on a medium or heavy duty vehicle, i.e, a 2004, to a stricter standard than that engine was ever designed or intended? (SWAR)

52. Comment: I have been an owner-operator for 28 years. What I can't understand is when I bought my 1994 truck it met all of the EPA standards of the year it was built. I do not see anything wrong with having new emissions on vehicles. So why can't the rules be like for autos? By year model, and in time all the old trucks (just like the old autos) will disappear. If CARB passes this rule, we will be out of business and probably moving out of the state where business is more profitable. (MATT)

53. Comment: We primarily haul raw bulk carrots from the field to the packing shed. We weren't there when these standards were set when we purchased this equipment. But yet now we're being penalized and having to rectify this problem. I think where this need to be directed is at the manufacturer, who's more familiar on how to fix this. All this grant and funding money should be given to them and let them try to figure out the most effective way of reaching our goal of attaining better air quality. (JBTI2)

54. **Comment:** CARB needs to allow one entity (engine manufacture) to dedicate his expertise, knowledge and ability to find the most cost effective technology to efficiently better the quality of our air. Treat this like a recall, starting with the most pollutant to the least. That's exactly what needs to be done. This need to become a recall, not a consumer problem. When these trucks were being assembled we had no part on setting emission values therefore we should not be held accountable for something we played no role in. We must not forfeit our California's Economy for the sake of the environment. That's why we must work diligently together, across the industry sectors to develop a feasible solution that achieves the states air quality goals while keeping California's economy moving forward. I ask that you evaluate our alternative proposal and work with the industries impacted by this rule to adopt a final product or method that will achieve better quality of air. (JBTI1)

55. **Comment:** I don't think this subject is even close to being fair how can the government expect us as owners to pay for their mistakes? If these trucks weren't compliant when they were built, why let them be sold to begin with? Also how can it be legal to make us retro-fit our trucks to meet emissions when they were approved for operation before on public highways? If they plan on going ahead with particulate systems and CARB action, then the government should be able to pay for all expenses and retrofits because they allowed them to be manufactured to begin with. (MDS)

56. **Comment:** I would like to lodge the very strongest possible protest against the plan to compel diesel truck owners to retrofit our trucks to meet newer, smog standards. I am an 83 year old retired teacher living on a fixed income. I bought my truck in 2005. I figured this truck would last me for the rest of my life. I believe it is extremely unfair to expect truck owners to be held responsible for laws that were enacted after the fact. (MDAV)

57. **Comment**: If CARB would have done their job years ago, all the new engines I have purchased would be clean today. Shame on CARB! It is not the trucking companies' fault we have bad air and people are dying, it is CARB's fault! Build cleaner engines now!!!....problem solved. (THON)

58. **Comment:** The rule includes mandated scrappage which would eliminate the economic value of much of the existing equipment and most of those trucks were purchased under the assumption that they were compliant with the environmental rules at the time. The Board should recognize the intent that was made by those fleet owners and should help further compliance with the rules as they change them in the future. (AEG2)

Agency Response: Diesel PM was identified as a toxic air contaminant and is a primary contributor to adverse health impacts throughout the state, and a major contributor to ambient risk levels, including an estimated 70 percent of the average cancer risk from all toxic air contaminants. The use of PM retrofits are cost-effective and feasible methods of limiting the exposure risk. The Truck and Bus regulation is just one of many in-use regulations approved by the ARB since 2003.

In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

Additionally, California law authorizes ARB to adopt controls on in-use emissions as explained in response to comment 1 in the Legal Comments section. Also, the regulation does not constitute as a takings as described in response to comments 2 and 3 in the Legal Comments section.

Staff worked with industry for more than two years in developing the regulation. During such time, staff had met with industry groups and conducted seminars to educate the affected stakeholders. For details of staff's outreach effort, see response to comment1 to 4 in the Outreach section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section.

59. Comment: I strongly encourage the Board to create exemptions for companies whose engines and equipment met the requirements when registered, do not exceed a certain number of miles and/or hours per year, and are in good working order. It is imperative that the Board amend requirements to reflect the realities of small businesses in California. (CASS)

Agency Response: The regulation has provisions to address lower use vehicles. Truck tractors or vehicles with gross vehicle weight rating (GVWR) greater than 33,000 pounds that operate fewer than 7,500 miles per year are exempt from any NOx reduction requirements until 2021; however, they do need to meet the PM reduction requirements. If a truck uses power take off (PTO) to perform work while stationary, the annual engine hours would also need to be fewer than 250 hours to qualify. All other vehicles would be eligible for the same delay if operated fewer than 5,000 miles per year (and fewer than 175 hours per year if PTO is used while stationary). Vehicles that operate fewer than 1,000 miles per year, and fewer than 100 hours per year in California, are exempt from any clean-up requirements. The thresholds were established such that the needed emissions reductions would still be achieved.
In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of

air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

l) Requirements for Dealers

60. Comment: I am a one truck company in the construction industry. Dealers do not have to do the retrofits before sales. I do. This is against everything you have stood for since the smog programs began. Would you do this at a car dealership? I think not! (JFIL)

Agency Response: Unlike a vehicle being used in a fleet, a vehicle that is on a dealer lot is not generating emissions. A vehicle owned by a dealer and awaiting sale is exempt from the regulation if the dealer does not intend to operate the vehicle in California or to offer the vehicle for hire for operation in California. As prescribed by section 2025(p)(6) of the regulation, the vehicle may be operated while awaiting sale only to demonstrate functionality to potential buyers or to move short distances for purposes such as maintenance or storage. The dealer would not need to report the vehicle or comply with any of the PM and NOx requirements of the regulation.

A vehicle may be sold by the dealer without a PM retrofit and the vehicle may be operated legally in the State depending on the compliance options chosen by the fleet purchasing the vehicle. For example, a vehicle of any model year purchased for a small fleet may be operated in the State in compliance with the regulation until January 1, 2014. Another example is a vehicle purchased from the dealer without a retrofit and designated by the buyer for use as a replacement low mileage agricultural vehicle operating less than 10,000 miles per year. This vehicle may be operated legally without a PM retrofit until January 1, 2023. A fleet that needs a backup vehicle that will be operated less than 1000 miles and 100 hours is not required to have a PM retrofit at all.

The BACT schedule prescribes which vehicle must be retrofit or replaced based on the engine model year. If the BACT schedule were the only means of compliance, the actions of fleets would be more predictable. However, the compliance flexibility allowed by the fleet averaging option, the BACT percentage limit, and the many special provisions of the regulation means that vehicles may operate without a retrofit on an individual fleet's timeline that is different from the BACT schedule. Consistent with this compliance flexibility for fleets, the regulation allows the dealer to determine whether it is prudent to retrofit a vehicle before sale.

Dealers that hold vehicles for sale and do not operate them or offer them for rent must comply with the requirement of section 2025(w) that applies to anyone selling a vehicle with an engine subject to the regulation. A seller has the obligation to disclose in writing to the buyer that the buyer may be subject to the truck and bus regulation. Section 2020(w) of the regulation provides the language for the disclosure. Dealers that hold vehicles for sale and also rent them out or lease them would also be responsible for compliance as required for rental and lease companies.

m) Drayage Truck and Utility Vehicle Requirement

61. Comment: "PG&E is requesting the following minor clarification that we believe will have no impact on the meaning or effect of the regulation. The intent of the clarification is to avoid possible confusion in the future by making certain points explicit. The proposed revision is underlined.

Section 2025(e)(4) should be amended to read:

(4) A drayage truck <u>or utility vehicle</u> must comply with the requirements of section 2025(k)." (PGE)

62. Comment: At page A-15 of the proposed regulation the first line should read:

(4) A drayage truck or utility vehicle must comply with the requirements of section 2025(k)." (CCEEB1)

Agency Response: The change requested by PG&E and CCEEB has been made. It was part of the amended proposed regulation order that was made available at the Board hearing on December 11 and 12, 2008. We agree that the clarification is needed to avoid confusion regarding the scope of the regulation. The modification to the regulation language was also made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009.

63. Comment: For the most part, the trucks that are producing the most pollution are those that run short-haul from the ports to distribution centers outside of the port areas. The trucks going into the ports are very old, not maintained to the same degree as most over-the-road trucks are; and they are subject to fewer in-depth inspections because they rarely cross a scale where they can be inspected periodically. (LDT)

64. Agency Response: The Board recognized the serious impact of air pollution generated by older vehicle used in port operation and in response approved the In-Use On-Road Diesel-Fueled Heavy-Duty Drayage Truck Regulation on December 7, 2007 to aggressively clean up port trucks. Tractors entering and intermodal rail yards must register with ARB and must meet stringent performance requirements to enter the facility starting in late 2009. The ARB is dedicated to protect public health and provide safe, clean air to all Californians by reducing emissions of air contaminants through the fair, consistent and comprehensive enforcement of statutory and regulatory requirements. ARB enforcement inspectors randomly audits the maintenance and inspection records of fleets and tests a representative sample of vehicles to ensure compliance all applicable regulations including vehicles in drayage operation.

65. Comment: We ask that CARB remove the amendment that port drayage trucks meet the Private Fleet Rule. (GSCL4)

Agency Response: As discussed in the Technical Support Document, page 259, when the Drayage Truck regulation was initially proposed and adopted, staff working on the drayage rulemaking were concerned that the regulation not be incompatibile with the then planned Truck and Bus regulation because it was uncertain what the final

regulatory proposal would be for non-drayage trucks. The changes to the drayage truck regulation align the requirements between the two regulations. These changes help meet the State's PM emission reduction commitments and ensure that uncontrolled trucks will not cycle into the drayage fleet to delay meeting the requirements of the Truck and Bus Regulation. The amendments to the regulation require that drayage owners and operators install verified diesel emissions control strategies (DECS) on 2004 model year engines by 2012 and on 2005 or 2006 model year engines by 2013. Adding drayage trucks to the scope of the Truck and Bus Regulation starting in 2021 will require drayage trucks meet the same requirements as other fleets.

66. **Comment:** My company employs over 150 drivers at our logistics facility within the Port of Oakland. Many of our drivers have purchased 2004 tractors, attempting to abide by existing CARB regulations. The Private Fleet Rule will be devastating to port drayage drivers because their 2004 tractors will be in violation of CARB's regulations after December of 2011. All port drivers have financed their 2004 tractors over a minimum of 60 months and could not trade it in for a newer tractor if the Private Fleet Rule is implemented. Fundamentally, the drivers would be out of business. (EGI)

67. **Comment:** As the compliance manager for GSC Logistics I have always been given the directives from day one to be proactive, take initiative, and use the resources that are available in order to educate and help our valued contracted independent owner operators stay in compliance. I along with our management team have been working diligently with our owner operators for the last 12 months to meet the upcoming "Drayage Regulations". GSC Logistics along with our 150 partnered Owner Operators were on track to meet the upcoming regulations. It was no easy task to have our team of Owner Operators buy into the "drayage regulations". And after months of discussion explaining the costs involved from either retrofitting or replacing their equipment, our owner operators have been complying with little or no help from the grant funds that would lock them into a contract. Now you are telling me that I have to go back to these hard working people which I feel are the most important part of the commerce chain and tell them that the rules have changed again and they will have to spend several more thousand dollars to continue operating their businesses. How can you tell our industry and the thousands of people involved in this economy to spend more money? I urge you to withdrawal the added drayage regulations portion from the private fleet rule. (GSCL2)

68. **Comment:** I am President, CEO and owner of Pacific Rim Recycling. Pacific Rim is a 65 employee company located in Benicia, California and processes residential recyclables for over 500,000 people. In addition, I am President, CEO and Owner of P and R Trucking, an Oakland based an inter-modal trucking company with 35 trucks in and out of the Oakland Port 50-100 times per day, primarily hauling recyclable commodities from not only our facility but from dozens of recycling facilities around northern California. I am here to tell you, "the recycling industry is upside down." Everyone is losing money, big money. Adding additional expense to our operations at a time when we are struggling to survive is unwise. The

CIWMB had a hearing just yesterday to try and figure out what to do with this latest crisis. (PRR)

69. **Comment**: The Private Fleet rule and the Drayage rules are in conflict. Many owners and owner operators purchased 2004 newer trucks which should qualify up through 2013 based on the Drayage truck rules. The differences in the two rules are in conflict. The Private Fleet rule decreased the time allowed on a 2004 vehicle to operate. This increases the cost to the owner who purchased under the Drayage rules. A 2004 truck costs in the range of $45K, which many operators have purchased expecting to be compliant up to 2013. This is now not the case under the Private Fleet rules. Consistency in the rules and the agencies is of paramount importance. (FORM2)

Agency Response: Staff agrees that there will be economic impact associated with the amendments to the Drayage Truck regulation for owners of drayage trucks with 2004-2006 model year engines. Although we recognize the challenges with the current economic climate, the amendments do not impose additional requirements until 2012. The costs attributable to the drayage trucks category are estimated in Appendix J and include the costs attributable to the amendments made to the Drayage Truck regulation and the costs attributable to adding drayage trucks to the scope of the Truck and Bus regulation starting in 2021. Although we recognize the impact of the economy on businesses, ARB must balance the cost to stakeholders against how to best achieve federally mandated reductions of smog forming pollutants and hazardous particulate matter (PM) emissions.

The amendments to the regulation requires that drayage trucks with 2004-2006 model year engines be equipped with the highest level verified DECS for PM according to the same schedule as all other trucks subject to the Truck and Bus regulation. See response to comment 65 regarding the rationale for the amendments.

The Drayage Truck regulation already requires all drayage trucks to have 2007 model year engines or equivalent by 2014. Accordingly, a drayage truck owner who plans to continue in drayage service with a 2004-2006 model year engine must already be planning to replace the vehicle or engine prior to 2014. The additional investment required for a drayage truck owner with a 2004-2006 model year engine is associated with the amendment that requires the installation of a verified DECS by January 1, 2012 and 2013, respectively, for 2004 and 2005-2006 drayage trucks. A substantial portion of this additional cost is likely to be recouped when sold for non-drayage use in the state. 2004-2006 model year engines with verified DECS that do not operate at ports or intermodal rail yards will be able to operate at least until 2015 or 2019 or longer depending on the fleet size and a number of other factors. As a result, 2004 to 2006 model year engines already equipped with verified DECS should have higher value than a similar vehicle that will need to be equipped with a verified DECS. In the event that a drayage truck owner, with a 2004-2006 model year engine, chooses to discontinue operation in drayage service, the vehicle will immediately be subject to the Truck and Bus regulation and will need to be equipped with verified DECS to meet the same requirements and schedule as other non-drayage trucks. In addition, some drayage

trucks may also qualify for public financial assistance for installation of verified DECS which could substantially reduce or eliminate the economic impact of the amendments.

n) Small Fleet Requirements

70. Comment: I'm for the new diesel rules that you will hopefully vote in favor of on December 11th. But I hope you will also consider easy and obtainable standards for the many independent and commercial truckers who move our materials and products across our state highways. We all definitely want cleaner air, but in turn we don't want to loose any of our freight-haulers who have huge investments in their trucks. An acceptable time frame and a reasonable cost factor should be considered. (BING)

71. Comment: I operate an older 1991 Peterbilt tractor, I specialize in local hauling via semi end dump and flat bed services. If I have to update my tractor to 2007 or new, it would add an additional $3K per month of expense. Simply an expense at this time no one in this industry can absorb. (DGRA)

72. Comment: A large percentage of the trucks, even the big companies, are owner/operators like me. What you are proposing this time is too much and much too expensive. I think you will find most companies will no longer haul in and out of California. So far, I have been able to meet the current requirements, but I cannot afford new trucks and the updates you are proposing. (CTA5)

73. Comment: I have owned a dump truck since 1986 and have been paying taxes, permits, fees, insurance, and registration for 22 years. In 1996, I purchased a new truck, its clean, well maintained, and looks great. The last three years in construction has been slow and it has been tough to make a profit. We may have three more rough years ahead of us. Many of us will not survive. It will be many years before I can afford to up grade into a newer truck, well after your proposed deadline of 12/31/11. At this time, I could not afford any truck payment. If you pass the proposed time lines, I will be put out of business and rather then paying taxes, I will be collecting unemployment. (REGG)

74. Comment: I have been in the trucking business for 35 years and have been through many ups and downs in this business. I regret to say that CARB's proposals will put many trucking companies out of business. We are barely making ends meet now. This will be the straw that breaks the camels back, not only to the trucking industries, but to all of California. My truck is a 2001 model with 232,408 original miles. (SDISA)

75. Comment: These proposed diesel emission rules will put me out of business. They are onerous and punitive. I own a 10 year old transfer dump truck with 240,000 miles on the odometer. I will be forced to spend from $20k to $60k to comply. (STRF)

76. Comment: One of my main concerns is that many of these people don't have year-round work. If you had a brand-new truck, you'd have to have insurance on the truck year-round. If these people don't have year-round work, they wouldn't be

able to afford an insurance payment or a truck payment. I'd just like you to take that into consideration when you're taking your vote. (CCT)

77. **Comment:** California truck owners/operators are essential to the growth and prosperity of California. Chances are very good that the very computer I used to send this message was delivered by a California truck owner/operator. These owner/operators are a major part of the lifeline of California. Without them, goods would be priced out of reach. We should all be supporting our California truck owners/operators, instead of trying to put them on skid row. (SCOR)

78. **Comment:** Macy Movers is a small company with about 15 employees with a fleet of less than 4 diesel trucks. The proposed CARB regulations would require our small business to spend dollars that we simply do not have. Our moving company does local moves around the Bay Area, and usually does not involve driving more than 10 to 20 miles per day, per truck. We would be severely hampered by the costs of retrofitting or replacing the trucks. (MMOV)

79. **Comment**: California Air Resources Board is mandating companies like mine, which is a small independently owned family business with 32 employees, to dispose of equipment and assets before their useful life is completed, and purchase new equipment before it is needed. Many companies have already begun the process of purchasing new equipment or retrofitting their fleets, however the bulk of trucking companies in California is made up of small companies with fleets of 5 or less trucks, which in most cases are the sole assets of a family run business. (SLOPE)

80. **Comment:** The ARB is currently considering the adoption of an on-road diesel truck and bus regulation that will create even more impact on the California economy. Our company is in favor or reducing emissions and clearing up the air quality but you need to be reasonable in your requirements. You will be putting independent truckers and small fleet sized businesses out of business because of the cost involved. (FSTI)

81. **Comment:** Many of California's trucking companies have already begun the process of retrofitting or replacing their fleets, whether in the normal course of their business cycle or in anticipation of these regulations. However, the smaller owner/operators – those with fleets of five trucks or less – who make up more than 55 percent of all trucks registered in the state, will be severely hampered by the costs of retrofitting or replacing trucks that, in some cases, are the sole assets of their family-owned businesses. Additionally, many of these companies simply do not have the resources or access to capital to retrofit their engines and may be forced to sell off their trucks or shut the company's doors. We must not forfeit California's economy for the sake of protecting our environment. (DHE1)

82. **Comment:** The smaller owner/operators – those with fleets of five trucks or less – who make up more than 55 percent of all trucks registered in the state, will be severely hampered by the costs of retrofitting or replacing trucks that, in some cases, are the sole assets of their family-owned businesses We must be careful not to forfeit California's economy and ability to move goods across the state, build

construction projects and bus our children to and from school for the sake of protecting our environment. (MSTE)

83. **Comment:** Many of California's trucking companies have already begun the process of retrofitting or replacing their fleets, whether in the normal course of their business cycle or in anticipation of these regulations. However, the smaller owner/operators – those with fleets of five trucks or less – who make up more than 55 percent of all trucks registered in the state, will be severely hampered by the costs of retrofitting or replacing trucks that, in some cases, are the sole assets of their family-owned businesses. (IWPI) (MRLLC), (NAVL)

84. **Comment:** Many of California's trucking companies have already begun the process of retrofitting or replacing their fleets, whether in the normal course of their business cycle or in anticipation of these regulations. However, the smaller owner/operators - those with fleets of five trucks or less - who make up more than 55 percent of all trucks registered in the state will be severely hampered by the costs of retrofitting or replacing trucks that, in some cases, are the sale assets of their family-owned businesses. (GVSI)

85. **Comment:** Many of California's trucking companies have already begun the process of retrofitting or replacing their fleets, whether in the normal course of their business cycle or in anticipation of these regulations. However, the smaller owner/operators – those with fleets of five trucks or less – who make up more than 55 percent of all trucks registered in the state will be severely hampered by the costs of retrofitting or replacing trucks that, in some cases, are the sole assets of their family-owned businesses. Many of these companies simply do not have the resources or access to capital to retrofit their engines and may be forced to sell off their trucks or shutter the company's doors, ultimately costing jobs and revenue to the state's economy. (CMSA2), (DLOP), (CBI), (LFSI), (FORM3)

86. **Comment:** Smaller owner/operators, fleets of five trucks or less, who make up more than 55 percent of all trucks registered in the State, will be severely hampered by the costs of retrofitting or replacing trucks, that in some cases, are the sole assets of their family-owned businesses. (FORM3)

87. **Comment:** Many of California's trucking companies have already begun the process of retrofitting or replacing their fleets, whether in the normal course of their business cycle or in anticipation of these regulations. However, the smaller owner/operators – those with fleets of five trucks or less – who make up more than 55 percent of all trucks registered in the state, will be severely hampered by the costs of retrofitting or replacing trucks that, in some cases, are the sole assets of their family-owned businesses. (DBAR), (HEPRO), (ATS1), (FMAY)

88. **Comment:** Many of California's trucking companies have already begun the process of retrofitting or replacing their fleets, whether in the normal course of their business cycle or in anticipation of these regulations. However, the smaller owner/operators - those with fleets of five trucks or less - who make up more than 55 percent of all trucks registered in the state: will be severely hampered by the costs of retrofitting or replacing trucks that, in some cases, are the sole assets of

their family-owned businesses. We must be careful not to forfeit California's economy and ability to move goods across the state, build construction projects and bus our children to and from school for the sake of protecting our environment. (DCI1)

89. **Comment:** I am a three dump truck operator, one of which is parked. Just the proposal of this rule has wiped out my equity. I cannot afford to retrofit three trucks. I can't afford to buy new trucks. My two employees are going to lose their sole source of income, their health benefits. They'll get other jobs, but it will be a while. The State of California is not going to suffer when I go out of business. But I'm one of thousands, not only in the dump truck industry but other industries and we employ thousands. (JPT)

Agency Response: The Board recognized that because of the limited number of vehicles, small fleets are typically not able to effectively take full advantage of flexibility options provided in the regulation. At the hearing, the Board extended the compliance date for small fleets with three vehicles or fewer to January 1, 2014. Therefore, a small fleet would not be required to reduce NOx or PM emissions until 2014 and may keep one vehicle that has a 2004-2006 model year engine with a PM filter until January 1, 2019. A small fleet may also elect to comply with any of the three compliance options and take advantage of special provisions like other fleets, if the fleet will receive greater benefits by so electing.

The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities available through such programs as the Carl Moyer Program and Proposition 1B. At the hearing, changes were also made to the Carl Moyer Program Guidelines to more effectively assist small fleets. These changes would make small fleets eligible for incentive funding to comply with the January 1, 2014 compliance deadline through the end of 2010. In addition, the first vehicle in a small fleet could be eligible for incentive funding up to January 1, 2014, if being replaced with one having a 2010 model year engine. Through Proposition 1B or the Goods Movement Emissions Reduction Program, small fleets may be eligible for funding to replace their truck two years in advance of regulatory requirements.

Fleets with 4 or more vehicles will need to meet the performance requirements starting in 2011. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10.

90. **Comment**: My one truck is operated less than 2,000 miles annually (and passes the smoke test). With the proposed rule, at the end of 2012 it will need a filter. There is no filter available for the engine so we must change the engine and add a

filter – big bucks necessary with no financing options and not able to pass the cost on for the mileage utilized. (RDOR)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for small fleets until 2014, see response to comments 70 to 89. Vehicles that operate fewer than 5000 miles per year are also exempt from the NOx reduction requirements until 2021, but remain subject to the PM filter requirements. If no suitable level 2 or level 3 filter is available prior to the compliance date, no further action is required to reduce the PM emissions. Each year the vehicle owner would need to check if one becomes available. If by 2018 the vehicle still cannot be equipped with a PM filter the engine would need to be replaced with one that could.

91. Comment: I am against the new proposed diesel regulations due to the extreme financial hardship it will cause me to replace my one truck. I have been an owner-operator since 1972 and operate one tractor and trailer. Since I am caught in a time period that I am too young to retire but too old to seek employment as a driver or anything else and if I am forced to replace my equipment I cannot afford in order to stay in business. My operation only requires me to travel 15-20K miles a year to service my customers and my income cannot justify the huge additional expense of a new truck or a very expensive retrofit that, at best is unproven and unreliable. (RPLO)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for small fleets until 2014, see response to comments 70 to 89. By 2014, the fleet owner can comply with 6 year old used truck having a 2007 model year engine originally equipped with a PM filter and operate it until 2021 or can comply with a 9 year old truck with a retrofit PM filter until 2019. As discussed in TSD Chapter VII exhaust after treatment technology is already proven and available in all new trucks sold in the United States and there are tens of thousands of exhaust retrofits in use today.

92. Comment: We currently own one 1990 three axle tractor and four semi end dump trailers. Three years ago, prior to any available knowledge regarding CARB's plans, we had Caterpillar put a rebuilt 1990 motor in our tractor at the cost of $25,000.00. Our average mileage is 40,000 per year. We currently have three gentlemen pulling trailers for us. Currently #1 and #2 have no idea how they can possibly afford new(er) trucks by the end of 2012 and do not have skills to start new careers. #3 determined he must fully retire (no part time work) no later than the end of 2012 without option. As for my partner/husband and me, retirement at age 63 would be a luxury I can't see how we can afford. But, payments on a new(er) truck for 5 or maybe 3 years respectfully also plays out as crippling even with a conservative retirement plan. The 2008 economy (recession) destroyed our construction work season and we are looking at 2009 being as severe (probable recession), relegating survival as our only realistic goal. Saving for and obtaining a loan towards truck replacement will continue to be extremely difficult, if not impossible until the construction economy stabilizes and grows. Current economic

conditions alone, demonstrate the current CARB on road timeline to be unrealistic and unreasonable. (PTCDTOA)

93. **Comment:** I own and operate a 1999 International diesel ten-wheel dump truck. I am very concerned about pollution, global warming, and health. I believe the regulations are being implemented too fast for the industries involved due to the recent high fuel prices -which will rise again. The retrofit is very costly and is only a short term fix. A new vehicle or even a newer used vehicle is out of my financial reach. I would like to see a slower implementation of retrofit and vehicle replacement the economy must be in a lot better shape for business to survive and upgrade! A change in qualification for aid is also needed. It is not structured for vehicles that put on more hours than miles. (CDTOA8)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for small fleets until 2014, see response to comments 70 to 89. The delay provides more time for the economy to recover and improves the ability of fleets to meet the requirements with lower cost used vehicle replacements. By 2014, a small fleet owner can comply with 6 year old used truck having a 2007 model year engine originally equipped with a PM filter and operate it until 2021 or can comply with a 9 year old truck with a retrofit PM filter until 2019.

94. **Comment:** The rule should be renamed the: "On-road Vocational & Small Fleet Replacement Rule" – This rule is clearly aimed at small intrastate vocational fleets (construction, agriculture and local distribution) and owner-operators both intra and interstate who have older fleets or trucks. In fact, according to the 2006 DMV data CARB presented recently, 32 percent of all trucks registered or paying IRP fees to the state are owned by 1-truck owner-operators, 10 percent of the fleets have 2 trucks and 6 percent have 3 trucks. So, about 50 percent of all the trucks in the state are fleets of one to three trucks in size. According to CDTOA fleet surveys, the median age of these trucks are 1997-98 model years. By contrast, only 16 percent of the trucks operated here are by companies with 10 or more trucks.

The irony in this rule is that it is really not focused at high mileage fleet freight trucks because those companies will be able to replace their equipment under one of the available options which fits easy within many of these fleets' normal truck replacement schedules. Most truckload and LTL freight companies, which tend to run higher-mileage, already have 6-7 year or sooner truck turn-over cycles that will easily fit within the CARB's fleet averaging option. The irony or prejudice of the rule is with the incentive funding schemes available to those who the rule is directly aimed at, these small, low-mileage trucks seldom qualify for any funding help due to low operating mileage. It's an unreasonable Catch-22! (CDTOA11)

95. **Comment:** There are 60 members in the San Fernando Valley California Dump Truck Owners Association and most of them are owner-operators. They're all going to be put out of business, because they won't be able to buy new trucks or retrofit old trucks. Most of their trucks are pre-'94s. To buy just the truck is one thing, but to buy the equipment that goes on the truck is another. Also, to buy a box for a dump truck is $30,000. We just don't have the margin as an owner-

operator with our work down 50 percent at least. But I want to let you know when the rain comes and the mud starts sliding, the levees start breaking, they call us to go take that away and we aren't going to be there. We're short haulers--we don't go 100,000 miles a year and we don't pollute that much. We'd like some kind of resolution to give us more leeway and let the technology come. We will sooner or later get new trucks and hopefully not pollute that much. (DLST)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for small fleets until 2014 and improve the opportunities for small fleets to take advantage of available funding opportunities, see response to comments 70 to 89. With respect to the comment on emissions, fleets that run high annual miles, normally replace their vehicles within a short period and will have the cleanest engines available. Compared to the cleanest engines available in 2010, existing engines can have NOx emissions that are more than 13 times higher and more than 30 times higher for PM emissions. Therefore, an existing engine that operates 30,000 miles per year would still have 4 times the NOx emissions and 9 times the PM emissions of a 2010 model year engine running 100,000 miles per year. Replacing an older engine early or installing an exhaust retrofit is technologically feasible and cost effective in reducing emissions; whereas, reducing emissions from the cleanest engines available is not a practical or technologically feasible option. Agricultural fleets have provisions for certain agricultural vehicles, see response to comment 103.

96. Comment: I own two pre-1991 dump trucks that cannot be repowered or retrofitted. They have lost approximately 75 percent of their value due to this pending regulation and the depressed economy. One of my trucks is 20 years old, and it has only gone 310,000 miles. That's an average of 15,500 miles a year and that is more than what your proposal allows. I've worked the disastrous hills fire and the Loma Prieta earthquake. I found out late yesterday from Cascade Sierra Solutions that I have been awarded a $50,000 grant towards a new truck. But I can't except this grant. Financing the balance of the truck would be completely impossible in this economic climate. With no work, I would not be able to pay the higher insurance premiums, the registration fees, much less try to make the payment on it, which is going to be well over $800 a month. (DSTR)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for small fleets until 2014 and improve the opportunities for small fleets to take advantage of available funding opportunities, see response to comments 70 to 89. If the vehicles are used for emergency operations, the emergency use can be excluded in determine whether the low use provisions may apply. When determining the costs attributable to the regulation we estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because NOx reductions are not required until 2013 and no vehicles or engines would need to be replaced for several years the effect of the regulation on value of existing equipment cannot compare to the effects of the current world wide recession. In consideration of the economy, the regulation was structured to delay the requirements to phase-in cleaner engines for several years and credits were introduced that can delay some or all of the requirements for fleets who have been

affected by the current recession and have downsized since 2008, see response to comment 10.

97. Comment: I have a single-truck trucking operation and I haul construction materials. The economic timing of the proposal really couldn't be worse for most of us. At the conclusion of 2006 in our area, there were 25 trucks like mine hauling around our area. At the present time, there are 8. Some people's trucks have been repossessed. Others have either walked away from the payments or just parked their trucks. I purchased a brand-new truck in 2006. I usually trade my trucks off every seven years. Under the current proposal, I won't make it till seven years before I have to retrofit the truck to be able to trade it in. I could trade it in earlier, but the dealer won't take it because they have to spend the money to retrofit the truck. (MTRA)

Agency Response: The truck replacement can occur at the same 7 year replacement cycle described in the comment and will not need to be retrofit or replaced early. Fleets with 3 or fewer vehicles do not have to meet PM or NOx reduction requirements until January 1, 2014. The small fleet owner will need to report in 2013 if the truck has a 2005 or 2006 model year engine and the vehicle has not already been replaced. If the owner purchases a new vehicle in 2013, the final requirements in the regulation will have been met early and no other action or reporting will be required. See response to comments 70 to 89 for more details about the optional small fleet provisions. The delay provides more time for the economy to recover and improves the ability of fleets to meet the requirements with lower cost used vehicle replacements. The resale value of a 2006 model year truck, like the one presently owned by the commenter, by 2014 should be good since a small fleet is allowed to have one vehicle equipped with a 2004-2006 model year engine that is equipped with a PM filter. The small fleet can operate such a vehicle until 2019; therefore, in 2014 the vehicle should be in high demand.

o) NOx Exempt Area Provisions

98. Comment: The Rule should establish separate, less stringent performance requirements for rural counties, which will dramatically reduce the cost of implementation while still providing for the emissions reductions needed in the San Joaquin and South Coast air districts. (CFA1)

99. Comment: We're an independent petroleum marketer in Eureka, California. As a small business, we have a fleet of trucks that are about 95 percent local. They don't run more then 30 to 35,000 miles a year making deliveries to our customers. There's no way in the world that we can go out and spend the kind of money it takes to buy these trucks and get our value out of these trucks, our return on investment, in the six or seven years that you're proposing here. (RPETR)

Agency Response: Most trucks registered in the state do not travel more than 30,000 miles. The regulation has provisions delaying the NOx reduction requirements for vehicles that operate in less polluted areas of the state. Any vehicle that operates exclusively in less polluted areas of the state, identified in the regulation as a NOx Exempt Area, is exempt from the NOx BACT requirements until 2021, but remains

subject to the PM BACT requirements. The areas are the counties of Alpine, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Monterey, Plumas, San Benito, San Luis Obispo, Santa Cruz, Shasta, Sierra, Siskiyou, Trinity, Tehama, and Yuba. There are no mileage or usage limits for this provision, but there are record keeping and reporting requirements.

100. Comment: The proposed Air Toxic Control Measure does not take into account the unique operational demands and equipment usage of agricultural and timber operations in rural communities. Siskiyou County residents are solely dependent on Heavy Duty On-Road Diesel Trucks for the delivery of goods. (SCNRS)

101. Agency Response: Any vehicle that operates exclusively in less polluted areas of the state is exempt from the NOx reduction requirements until 2021, see response to comment 98. With respect to provisions for agricultural vehicles including logging trucks, see response to comment 103.

102. Comment: Our logging firms, already challenged in so many areas, will at the very least be required to install GPS devices so they can prove they don't leave a non-attainment area. Not only is this a very "Big Brother" situation, but they have to pay to be watched. The special "long haul" job out of the area, the one that just might make the financial difference for them that year, will no longer be an option. (IVCC)

Agency Response: Although GPS is one method to document usage remains within an attainment area the regulation allows for an alternative method to demonstrate compliance. Staff will work closely with industry to determine other effective methods to ensure compliance. If using GPS to document location of vehicle usage, fleets will need to make monthly reports available to the ARB upon request and would not be monitored otherwise. With regard to the special "long haul" outside an attainment area, vehicles that do not meet the full requirements of the regulation will not be allowed to operate outside the attainment area, without being subject to the general requirements of the regulation. Fleets do not need to designate vehicles that will remain in NOx Exempt areas until 2013 because there are no NOx reduction requirements until then. However, most fleets would normally have some vehicles that meet the full requirements of the regulation and could operate them outside the NOx exempt areas. At that time, fleets that can take advantage of the NOx Exempt area provisions described in response to comment 98 and will need to determine whether to designate some or all of their vehicles as being restricted to those areas.

p) Agricultural Vehicles

103. Comment: An irony that must be pointed out is that so many people say they would prefer to buy their food from the small, local farmer. Unlike almost all other industries, farmers and ranchers can never pass on increased costs to their customers. Regulations like this one, supported by well-meaning but unaware folks, will get rid of small farmers faster than any corporate take-over. (FCOAL)

104. Comment: As the bill is written, the most economical way to abide by the law would be to retrofit diesel engines. This could be fatal to California's agricultural industry. (RDA)

Agency Response: Careful consideration was given to each industry affected by the regulation and the requirements modified to account for their specific situation. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicles provision see response to comment 134 in the Regulatory Provisions section.

105. Comment: We appreciate that the Air Resources Board (ARB) recognizes the importance of agricultural vehicles and the functions they perform. We strongly encourage you to increase the mileage thresholds for vehicles 1995 and older in the final rule. You have provided extra time for compliance for agricultural vehicles that operate below specific mileage thresholds. But the proposed thresholds are not going to help us keep our carefully maintained, older vehicles that we actually use for day to day farming activities. Without more miles these agricultural vehicles will become unusable and it will be impossible for smaller, family-based farming operations to keep going. (FCOAL), (CCAA)

106. Comment: My small farm is at the 4600-foot level. I use my truck mostly on the farm with occasional trips to town for supplies. At the time I bought the truck, I bought it in good faith. I had no idea that I would ever have to pay out thousands of dollars to have it retrofitted to newer standards. I live in the mountains above Bakersfield, California in an area, where I understand there is a reduced smog requirement. (MDAV)

Agency Response: Staff set very specific mileage thresholds that cannot be exceeded in order to qualify as an agricultural vehicle. The number of vehicles that would qualify as agricultural vehicles and their emissions were estimated and emissions impact evaluated. As a result, the fleet size and mileage thresholds were set to ensure that operation of these vehicles would not jeopardize the anticipated emission benefits such that the State would not meet its SIP commitments. The analysis of the agricultural vehicle inventory provided staff the necessary information to segment the agricultural vehicle population by mileage threshold as a basis for ensuring that the SIP benefits would not be compromised and that localized risk would be minimized. Bakersfield is in the San Joaquin Valley and is a non-attainment area.

107. Comment: Vehicles driving under 10,000 miles a year should be required to install a filter by January 1, 2015 and meet the 2010 NOx engine standard by January 1, 2023. This allows additional time before a replacement vehicle would have to be purchased. Yet, by requiring the more affordable PM retrofit, PM exposure would be dramatically reduced. The rule currently requires all trucks to have a PM retrofit by January , 2014. By adding an additional year before requiring a retrofit, agricultural interests are also given another year to acquire incentive funding. (CTBRC)

108. **Comment**: While we recognize that the agricultural industry is unique and special considerations may be warranted, what is currently on the table must be more health protective. Reducing the mileage threshold, requiring PM filters, limiting fleet size, and not expanding the definition of agricultural vehicle to include trucks owned by ancillary businesses will allow for flexibility and protect public health. Instead, we offer the following counter-proposal: Limit the size of the fleet subject to the agricultural provision to three vehicles or fewer. This is consistent with ARB's definition of a small fleet for the entire rule. A cap on the fleet size will help to specifically protect the family farmer and smaller farming operations. Do not expand the definition of agricultural truck to include fertilizer, pesticide, and other farm chemical trucks. If a truck breaks down, the replacement vehicle must have a filter. This is another measure to improve the health benefits of the rule that will also bolster a market for older, retrofitted trucks. Please see Appendix A for a more detailed explanation of our concerns and what we propose as an alternative. Note that several of the undersigned organizations – specifically Association of Irritated Residents; Center on Race, Poverty & the Environment; East Yard Communities for Environmental Justice; Environmental Health Coalition; Madera Coalition for Community Justice; Merced/Mariposa County Asthma Coalition; Moms Clean Air Network (Moms CAN); Rose Foundation for Communities and the Environment; Save the Air in Nevada County; and West Oakland Environmental Indicators Project – do not support any kind of exemption for agricultural vehicles. (CTBRC) (EDF1)

109. **Comment**: Our main concerns with the October 24, 2008 proposed regulations involve the agricultural exemptions. These exemptions are far too broad and compromise the health protections of the regulation for those living or working near the agriculture industry, especially the Central Valley. We suggest reducing the mileage threshold, requiring PM filters, limiting fleet size, and not expanding the definition of agricultural vehicle to include trucks owned by ancillary businesses. This will still provide special consideration to the agriculture industry, but will better protect public health. (CAFA1), (LBCPTA) (SOLAC), (SJC)

110. **Comment**: We recommend amending the regulation (1) to restrict the proposed exemptions for agricultural trucks and (2) to provide a margin of safety for meeting SIP commitments. The proposed agricultural exemption will still allow for local exposure to unhealthy air. To protect public health as much as possible, we concur with the suggestions to (1) limit fleet size to small fleets of three vehicles or lower, (2) reducing the mileage threshold for delayed PM filter requirements (2015) and delayed 2010 NOx engine standards (2023) to vehicles driving under 10,000 miles a year, (3) not including chemical trucks, and (4) requiring that replacement vehicles must have a PM filter. (BCA1)

111. **Comment:** We ask the Board to consider restricting the proposed exemptions for agricultural trucks and provide a margin of safety for meeting SIP commitments. Our main concerns with the October 24, 2008 proposed regulations involve the agricultural exemptions. These exemptions are far too broad and compromise the health protections of the regulation for those living or working near the agriculture industry) especially the Central Valley. We suggest reducing the mileage

threshold, requiring PM filters, limiting fleet size, and not expanding the definition of agricultural vehicle to include trucks owned by ancillary businesses. This will still provide special consideration to the agriculture industry, but will better protect public health. (TCAC1)

112. Comment: The San Joaquin Valley Air Pollution Control District adopted a PM2.5 plan that relies heavily on the successful implementation and enforcement of the diesel truck rule. At the time, ARB reported that for our region approximately 1,300 annual premature deaths are linked to PM2.5 exposure. Conservative estimates link 250 San Joaquin Valley premature deaths to diesel pollution exposure. The diesel truck rule before you is essential to cleaning up California's air and the air within our region. I also ask that you reject the agricultural vehicle provisions as proposed in the regulation. We need a rule that provides much greater health protections from ag related diesel sources. This can be done by reducing the mileage threshold, limiting the fleet size to three vehicles or fewer, requiring PM filters, and not defining farm chemical trucks as agricultural trucks. We cannot afford to delay clean air. (FMMIN)

113. Comment: We ask the Board to consider restricting the proposed exemptions for agricultural trucks and provide a margin of safety for meeting SIP commitments. We feel the proposed regulations involving the agricultural exemptions are far too broad and compromise the health protections of the regulation for those living or working near the agriculture industry, especially the Central Valley. We suggest reducing the mileage threshold, requiring PM filters, limiting fleet size, and not expanding the definition of agricultural vehicle to include trucks owned by ancillary businesses. This will still provide special consideration to the agriculture industry, but will better protect public health. (SFATF)

114. Comment: We believe the Board can allow for flexibility for agriculture, recognizing its unique characteristics will also restore health benefits. We simply request the Board do the following: Limit the ag provision to small fleets to truly help the small farmer, eliminate chemical and fertilizer trucks. These vehicles have never been considered an ag truck, and that shouldn't start now. Also reduce the mileage threshold to 10,000 miles and require PM filters by January 1, 2015. This will achieve direct health benefits. If installing a retrofit isn't an option for some vehicles because of their age, there will be a growing market for used trucks that are fitted with a filter. These trucks will be available at more reasonable price as compared to buying a brand-new truck. This time line will also allow additional time to access incentive funds. When specifically asked this question, the unequivocal response from CARB air districts staff from Sacramento and San Joaquin was that there will be money available for ag trucks and it's historically been the case starting next year. California agriculture is successful, because it has been innovative. This sector has demonstrated its ability to meet the challenge of reducing emissions. This rule will help clean up the air and protect those that make the farm run and will provide cleaner, newer vehicles that also make the farming operation more efficient. (EDF3)

115. Comment: We are concerned about the existing provisions for agriculture. We would like to see those strengthened. Specifically, we're interested in provisions for the small farmer. If you're three or smaller fleets, ensure there is a mileage cap at 10,000 miles a year. Making sure that we're still protecting communities from the deadly impacts of diesel pollution, we need those traps on agricultural trucks. Let's also narrow that definition of agricultural trucks. That should not include the pesticide trucks or the chemical trucks. That's just not what we would consider a farm truck. (CCAIR3)

Agency Response: We understand that provisions for agricultural vehicles are less stringent than for vehicles that do not qualify for these provisions. The decision to exempt agricultural vehicles of certain model years that drive less than the established thresholds was made as a result of careful analysis of these vehicle's emissions and locations in which they operate. Data were collected regarding the number of agricultural vehicles and their emissions. Information was also collected on the time of year that these vehicles operate, the location where they operate, and types of operations they perform. After all the data were collected, staff analyzed a number of different scenarios to determine the impact each would have on the state's ability to meet its SIP commitments.

Staff sought to ensure that the definition of an agricultural vehicles would be narrow enough as to only include vehicles essential to the agricultural industry and not allow non-essential vehicles to qualify for the is provision. By limiting the number of vehicles that could qualify under the agricultural provision, staff was able to select mileage thresholds that would exclude higher mileage vehicles while allowing the agricultural community some relief from the requirements of the regulation so that they can perform necessary functions in support of the local economy. As a result, not all agricultural vehicles qualify for the agricultural provision. Many agricultural vehicles exceed the mileage thresholds and will be required to install diesel particulate filters and upgrade these vehicles to meet the NOx BACT standard as any other vehicle.

Staff did not limit the agricultural provision by fleet size. Instead staff recognized that the agricultural industry uses many different types of vehicles that are often modified to perform specific functions. It is not uncommon to find a variety of vehicles used in one agricultural operation. Instead of using fleet size, staff chose to limit vehicle mileage.

Crop protection and fertilizer vehicles were included in the definition of agricultural vehicles because they are essential to growing crops. The definition is very narrow and only allows vehicles that are dedicated to serving the agricultural community. Vehicles that supply fertilizer or crop protection chemicals to other businesses would not qualify as agricultural vehicles. Any vehicle delivering to both agricultural and non-agricultural business must install diesel particulate filters and meet NOx BACT like any other vehicle.

Vehicles that transport harvested crops from the field to the first point of processing fall under the definition of an agricultural vehicle. These vehicles provide an essential service to the agricultural community. Again, the mileage thresholds were established at levels where not all vehicles will qualify as agricultural vehicles. It is anticipated that

many crop transport vehicles will not be able drive less the established thresholds and will need to install diesel particulate filters or upgrade their vehicles in order to comply with the PM and NOx requirements. In addition, the number of vehicles is capped based of the fleet inventory as of January 1, 2009; all replacement vehicles must be newer. Fleets can not expand the number vehicles in their fleet in an attempt to drive more vehicles fewer miles and thereby exploit the agricultural vehicle provisions.

Finally, staff performed a health risk assessment screening to assess the localized risk from exposure to diesel PM emissions emitted from uncontrolled agricultural vehicles. Staff assessed the risk from two "generic" agricultural processing facilities, one in Bakersfield and one in the city of Commerce, which might receive agricultural vehicles utilizing the agricultural vehicle provisions. The findings were not sufficient enough to delay the regulatory proposal; staff found that further analysis was justified. As a result, staff will be analyzing the impacts of several facilities in close proximity to each other and routes taken by agricultural vehicles as they transport crops to the processing facilities. Staff have begun these studies and will continue to collect information in 2010. Finding and recommendations will be presented to the Board.

116. Comment: According to ARB's inventory, the current proposal would exempt about 70 percent of agricultural trucks from any emissions controls until 2017 and then exempt 50 percent of agricultural trucks from 2017 to 2023. ARB broadly defines an agricultural vehicle as an on-road vehicle used in agricultural operations, which includes harvesting crops, cutting or removing timber and other wood products, transporting any horticultural or livestock product from the farm to the point of processing, and delivering fertilizer or other crop protection chemicals (ARB Proposed Regulation for In-Use On-Road Diesel Vehicles, Appendix, pg. A-3). While we recognize that the agricultural industry is unique and special considerations may be warranted, what is currently on the table must be more health protective. (CTBRC), (EDF1)

117. Comment: We do not support the agricultural vehicle provisions, or exemptions. They are far too broad and compromise the health protections of the regulation for those who live or work near agricultural operations or the roads used by agricultural trucks to transport their goods. These provisions could result in acute PM exposure for many years but the potential localized impacts resulting from the proposed provision are unknown (CTBRC) (EDF1)

118. Comment: Low mileage trucks have nothing to do with agriculture necessarily, and therefore should not be exempt without further proof of agriculture involvement. Logging trucks have nothing to do with agriculture, since we do not eat logs, nor do we feed them to any of our livestock! Do we even have logging farms in Merced? (MBCM)

119. Comment: While we urge adoption of this regulation, we also ask that the Board restrict the proposed exemption for agricultural trucks. (NPCA1) (CCP2)

120. Comment: The National Parks Conservation Association strongly supports the diesel truck rule and we urge you to reconsider the exemptions for agricultural vehicles. (NPCA2)

121. Comment: Ag vehicles are exempted from air quality rules even in the biggest agricultural valley in the state. (KVSI2)

122. Comment: Because I live in the Central Valley, I urge no exceptions for agricultural vehicles. (BCOH)

123. Comment: My organization supports a strong truck rule without an ag provision or exemption. The point is there is no rationale basis for this provision. No other industry has this exemption, and ag trucks are no different than any other trucks that are being required to follow this rule. This just goes along with the history that ag has had in getting out of rules and regulations for clean air. Just yesterday, AB 32, the Scoping Plan was passed by this Board with no ag provisions in it. You may remember the forklift rule which ag got an exemption from. These exemptions or provisions disregard the SB 700 series which is based on recognition that ag should not be exempted from these rules for clean air. It is time for agriculture to take its part in cleaning up the air. I would say that this ag provision impacts those communities, those rural, poor, minority communities more than any other community. Staff's looking at the impacts of these communities and the ag provision on these communities after the provision has already passed is not good enough. (CRPE3)

124. Comment: I oppose the agricultural exemptions in the proposal. The slides of your staff presentation from yesterday, specifically slides 21 and 27, really speak to the localized impact that many residents of Madera County and the San Joaquin Valley will face in these agricultural trucks are not cleaned up, particularly slide 27 which shows the increased cancer risk that people in those localized area are going to face. (MCCJ)

Agency Response: The agricultural provisions are only available to businesses that have vehicles involved in agricultural operations or specific supporting operations. The narrow definition of agricultural vehicles limits the number of vehicles that can utilize the agricultural vehicle provisions. The limited nature of the agricultural vehicle provisions only allows certain pesticide and fertilizer delivery vehicles, certain agricultural crop transport trucks, certain farm trucks and a limited number of specialty vehicles, all of which have strict annual mileage limitations.

Agricultural vehicles that meet the strict definitions are not exempt from the regulation but have different compliance dates. Consistent with SB 700, agricultural facilities are subject to all SIP control measures and beyond the requirements of SB 700, all vehicles owned and operated by agricultural business are subject to the provisions of the regulation. While some agricultural vehicles are treated differently in the regulation, no agricultural business is exempt.

Vehicles owned by small farms that are used mostly on the farm or to obtain farm supplies will fall under the definition of agricultural vehicle be eligible to utilize the agricultural vehicle provisions.

125. Comment: We suggest an amendment to the language defining “agricultural vehicle” to clarify the definition in recognition that vehicles must make a round-trip

from the distribution center (to the farm and return to the distribution center), and to provide clarity that vehicles delivering supplies and equipment used in fertilizer and chemical application are included in the definition. Section 2025 (d) (5) Agricultural Vehicle (A) An on-road vehicle that is specifically dedicated to and used to provide fertilizer or crop protection supplies or services for use in agricultural operations from a distribution center to a farm, and is owned by a business holding a valid fertilizer or pest control license. We request an amendment to the language to clarify that while the vehicles may display a Department of Transportation (DOT) placard, it is only to be displayed at the appropriate time, e.g., when a chemical which requires a placard is being transported and not displayed on the return to the distribution center when the chemical is no longer being transported. (2) Such vehicles must exclusively carry products or equipment defined under one of the following, and display an appropriate placard, as required by the United States Department of Transportation. In keeping with the definition of "agricultural vehicles", we suggest adding two additional documents - a valid fertilizer or pest control license - which may be used as proof that the primary function of the business is agricultural. (r) Record Keeping (4) Agricultural Fleets (A) Fleets utilizing the agricultural fleet provision must keep and make available upon request proof that all agricultural vehicles were used exclusively in agricultural operations. This may include records used to support proof to other governmental agencies that the primary business function was agricultural. Such documentation may include IRS or Board of Equalization tax forms, bills of lading, or a valid fertilizer or pest control license. (WFS)

Agency Response: We understand that vehicles are prohibited by law from exhibiting warning placards when hazardous or dangerous materials are not being transported and have modified Section 2025(d)(6) to remove the requirement that pesticide or fertilizer vehicles display warning placard when returning from a delivery without any hazardous or dangerous materials. New language was made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009 to clarify the original intent. Transporters of these chemicals are required to hold a valid fertilizer or pesticide license and may be required to produce these licenses to demonstrate that the vehicles qualify as an agricultural vehicle. The suggested changes regarding reporting and documentation are already addressed in the regulation, and we believe it is adequate.

126. Comment: I'm concerned about the special provisions proposed and delays in compliance for agricultural vehicles, especially the inclusion of pesticides, fertilizers, and logging trucks on this list. These vehicles are older and release more emissions than other vehicles. People exposed to these trucks, mostly people from the San Joaquin Valley, should have the same benefit from this rule as Californians in other regions. Allowing some of this fleet until 2023 to come into compliance is six years past the date we have all come to hope for. (GVHC)

127. Comment: The agricultural component of this rule is critical in helping us be compliant in helping the San Joaquin Air District meet their SIP requirements. (CCSM)

Agency Response: In drafting the agricultural vehicle provision, staff was keenly aware of the need for the state to meet its SIP commitments and made sure that those commitments were not jeopardized. The provision was developed so as to not adversely impact localized risk. The proposed agricultural vehicle provisions meet or exceed the SIP commitments in all years evaluated despite a small loss in emission benefits as a result of the provisions.

128. Comment: Agriculture has been voluntarily trying to reduce our emissions for a long time, but since 2004, we're being mandated because of SB 700. I just want to keep this in mind as we go forward, that the stationary sources that have been around for a long time, since the beginning of the Clean Air Act since 1970, have had a long time to comply. We're doing a lot in a very short period of time - permits on our farms, dust permits, cleaning up our forklifts, cleaning up our irrigation pumps, now our trucks, and next our tractors. So I just want to make sure you understand we're trying to do a lot in a short period of time (CAFBF)

Agency Response: Staff recognizes that the agricultural community has been required to achieve certain level of emission reduction for meeting the federal ambient air quality standards in concert with all businesses, large and small, the motor vehicle industry, the fuels industry, and all the sources of emissions that create pollution in the San Joaquin Valley and the rest of California. Staff also recognizes that some industries comply with several air quality regulations in addition to safety, labor, and water regulations. Every effort is being made to align air quality regulations where possible and to streamline the reporting process.

129. Comment: The bottom-line concern of the table grape and tree fruit growers and shippers is that all agricultural trucks will have to be replaced under this rule. As you may know, financing options even for those in agriculture are grim. We hope that you acknowledge the maintenance for agriculture-specific sectors those proposals which they will need in order to make sure that they can have enough time to adapt to this rule. (CGTFL)

Agency Response: Limited-mileage agricultural vehicles must be upgraded to meet the PM and NOx requirements by January 1, 2017 and by January 1, 2023, for low-mileage agricultural vehicles. However, staff believes it is reasonable to require the agricultural community to invest in improving air quality as will the rest of businesses in California. The requirement to upgrade agricultural vehicles to 2010 model year engines by January 1, 2017, provides a delay in compliance for up to six years. This means that the agricultural community can purchase seven year old vehicles where fleets that do not qualify for the agricultural provision may need to purchase some vehicles as new as three years old. Staff believes that agricultural vehicles should not be exempt from complying beyond the established dates.

130. Comment: Most of our agricultural trucks are low mileage. ARB staff's estimate of the cost effectiveness is an average. When you look at the low mileage trucks, we're not talking about a few dollars per pound. For example, for the 15 or 20,000 mile-per-year trucks; we're talking about more than $100,000 per ton.

Some of our trucks are highly specialized. For example, a brand-new cotton module mover truck is $193,000. They're so specialized that there is no used vehicle market. I can't go to the dealer and buy a used one. I have to buy brand-new. So there had to be some special considerations given to those trucks. It's also important to note that the majority of agricultural trucks are not eligible for the incentive funds that we've talked about. They're below the weight limit. With the low mileage, they're not going to rank high enough on the priority list to get the funding. The ones that drive more miles are going to be higher on the priority list and get the funding. We would oppose anything that makes this rule any more stringent than what it is today. (CCGGA)

131. Comment: The proposed new diesel emissions regulations will have a significant negative impact on agricultural trucking. The current regulations only add cost and bureaucratic obstacles to utilizing our existing over the road tractor fleet. (CCAA)

132. Comment: We are writing to provide comments on the proposed regulation to reduce emissions from on-road heavy-duty diesel trucks. These comments are submitted on behalf of the 2,500 California rice growers that produce premium quality rice on approximately 500,000 acres. About 95 percent of these acres are located in the Sacramento Valley. Since initial staff proposals, the California Rice Commission (CRC) has been concerned about what appeared to be disproportionate economic impacts on agriculture from the regulation. Accordingly, we joined a comprehensive coalition of agricultural groups to work with your staff and analyze the impacts of the various staff proposals. Emerging from our analysis were several conclusions regarding how the initial proposals would have caused a disproportionate impact on agriculture: Agriculture depends heavily on older, pre-owned trucks with its fleet being approximately eight years older than the statewide fleet. The fleet of agricultural trucks represents approximately four percent of statewide emissions while the staff's early regulatory proposals would have resulted in agriculture shouldering about twenty percent of the cost. Many agricultural trucks are operated seasonally and travel relatively few miles from fields to the first point of processing. (CARC1)

133. Comment: I own a local farm input supply business that supplies local farms in my area with commercial fertilizers used during the busy planting season. This rule will cost my business a substantial amount of money. Most of my trucks will fall under the rule. However, the agricultural provisions will provide a more economically viable time frame in which to replace the specialty vehicles that deliver these necessary products into the field for our growers. (AGPR)

134. Comment: I have trucks that run seasonally and in support of the state's Ag economy (which you are also trying to regulate out of business) they get very few miles and last for decades. My oldest and still fully licensed and road worthy vehicle with a motor, is a 1984 and it pulls a 1990 trailer. Another is a 1989 truck that pulls a 1976 trailer. I expect that a couple of my newer units, 2000 models will be servicing businesses and Ag for decades to come. It is my decision to buy and when to do so as it is my money. I am trying to keep the dozens of families employed in this business. I know you want to change that (though you will deny

that in public). You will say that you are just trying to save the environment from us who have supported you and your driving habits and agriculture since my grandfather's days in the 30's. (DATW)

Agency Response: Staff recognizes that requirements of the regulation will result in significant costs to the regulated community. These costs will include the installation of diesel particulate filters and vehicle replacement beyond normally planned. However, these costs can be delayed for vehicles that qualify as agricultural vehicles. Vehicles that do not qualify as agricultural vehicles may need to install diesel particulate filters by 2011, whereas limited mileage agricultural vehicles need not comply with either the PM or NOx requirement until January 1, 2017 compared to non-agricultural fleets. This is a considerable cost savings to agricultural vehicles that qualify. For vehicles traveling less than 10,000 miles per year the compliance date is not until January 1, 2023 with significant cost savings.

Special use vehicles include agricultural vehicles manufactured to perform very specific functions such as moving cotton modules, refueling aviation trucks, or feeding cattle. In recognition of the special nature of certain ag vehicles, staff developed a special provision for a limited number of these vehicles. Cotton module movers, along with a limited number of other body types, may be considered specialty agricultural vehicles and utilize the provision specifically developed for these vehicles.

135. Comment: I would like to see a broader definition of specialty agricultural vehicles that is more inclusive of the dollars that have to be spent to specially retrofit certain types of equipment for specialty uses on the farm. Specifically, we've got cotton modules movers listed as specialty agricultural vehicles, and I respect the fact that that is a significant investment on the grower's or the harvester's part. But we also have the same cost for something as simple as a silage truck. We cannot simply take a replaced highway truck and use it to collect silage in the field. It requires most of the time around $45,000 to upgrade to where it will actually last in the field. Also, regarding the provision for feed trucks used at feedlots, a feed truck is a feed truck and livestock is livestock. (CDCAMP)

Agency Response: Staff agrees that upgrading a truck to a silage truck can involve considerable expense; however, the cost of moving an existing silage truck bed from an older truck to a newer truck is considerable less. By comparison, cotton module mover bed can not easily be transferred to another truck. The extended trucks frames are often difficult to find and need to be special ordered new. Staff also recognizes that silage trucks do not accrue many miles since most of their operations occur locally. In addtion, silage trucks fall under the definition of an agricultural vehicle because it transports harvested crops from the farm to the first point of processing and therefore are eligible to utilize the agricultural vehicle provisions which exempt qualifying vehicle from both PM and NOx BACT until either 2017 or 2023 depending on the annual mileage. The regulatory language was modified in the 15-day change to explicitly state that trucks use to harvest crops for silage meet the definition of an agricultural vehicle which can utilize the agricultural vehicle provisions. See response to comment 35.

136. Furthermore, I believe the end of 2009 is far too long to wait for your staff to come back with further details about what those localized impacts are really going to be. Because as many people have said before me, at the end of the day, what we're here to accomplish for everyone is clean air. I believe that clean air is a fundamental human right. Unfortunately, most residents of the San Joaquin Valley -- in fact all of us don't enjoy that privilege yesterday. I'm concerned that adding this ag exemption is going to mean we're going to wait even longer before we breathe clean air. I urge you to pass the strong truck rule and urge you to remove or tighten the agricultural exemption. (MCCJ)

137. **Comment:** We have significant concern about the proposed agricultural truck provisions. It reaches too far and does not provide the needed health protections. Under the proposal, 70 percent of ag trucks will have no controls until 2017 and half will continue to emit diesel soot from 2017 to 2023. This will disproportionately affect farm workers and profession and residents of rural areas. The provisions provide no early protections for acute exposure to fine diesel particulate. This pollution affects some of the most vulnerable populations who have the least access to health care. (EDF3)

138. **Comment:** We do not support the agricultural vehicle provisions, or exemptions, that are in the proposed regulation. These provisions could result in acute PM exposure for many years but the potential localized impacts resulting from the proposed provision are unknown. While ARB staff is planning to study the localized impacts, the results of those studies may not be available to inform the adoption of this regulation and ensure adequate protections for workers and residents of these communities. (CTBRC), (EDF1)

139. **Comment:** Diesel pollution from agricultural vehicles is as toxic or more toxic that emissions coming from vehicles passing through the Valley that leave their pollution behind for all of us to breathe. A strong rule does not give an exemption to an industry that impresses disproportionate burden on the most sensitive populations. Agricultural vehicles often operate during the smoggiest time of year and also in close proximity to homes, schools, and people. Residents of the San Joaquin Valley deserve to learn, live, play, and earn a living without worrying about getting sick. Please don’t leave the San Joaquin Valley behind. Please pass a strong rule without exemptions to ensure that all Californians breathe clean air. (MMCAC3)

Agency Response: To evaluate the potential risk from staff’s proposed agricultural vehicle provisions, staff performed a health risk assessment of two “generic” agricultural processing facilities that might receive vehicles that do not meet the PM performance standards of the proposed regulation. For its analysis, staff modeled two generic facilities, one in the Bakersfield area, and one in the city of Commerce. Cancer risk was estimated as a function of the number of “uncontrolled” truck trips and the distance from the roadway or processing facility. It is unclear as to the actual impact of staff’s proposal on sensitive receptors near agricultural processing facilities. Staff’s analysis looked at individual facilities, but it was not able to understand the cumulative impact of several facilities located in close proximity to one another. Staff intends to continue

their evaluation of the potential risk impacts of this proposal over the next 12 to 18 months, and, if appropriate, develop recommendations to ensure that the proposal does not result in an unacceptable impact on risk to communities. For further information regarding staff's analysis see Chapter XVI of the Technical Support Document.

140. Comment: I think there are concerns that the agricultural vehicle inventory is largely based on the industry's own survey data. There's also concerns about the localized impacts. And while we appreciate the language in the resolution, it doesn't go far enough. And I think those staff resources to evaluate localized impacts would be better used for enforcement. We would like to see enforcement be a key cornerstone of ARB's efforts. (CCAIR2)

Agency Response: To assess population, we compiled the survey results and extrapolated the survey sample to a statewide population using the numbers of acres farmed and other metrics collected in the survey as scaling factors. The results were adjusted to be consistent with the DMV data and is the best estimate possible. The methodology is described in Appendix G of the TSD.

Staff's analysis of the localized health impact due to the agricultural provision showed that the cancer risk due to PM exposure increased as a function of the number of "uncontrolled" truck trips and the distance from the roadway or processing facility. While staff does not believe that these findings are sufficient to delay the provision, we do believe it requires further studies. Therefore, staff will perform an evaluation of the potential health risk impacts and develop recommendations.

Staff is coordinating with the enforcement division to ensure that compliance is evenly applied throughout the state. The enforcement division has many years of experience in enforcing air quality regulations and will train its personnel to enforce this regulation as all others.

141. Comment: There is a serious loophole and other possible problems. Corn silage harvest trucks that spend many hours per day idling under load through fields while being loaded by a harvester such as a combine. These trucks then quickly deliver the harvested crop to a nearby dairy or feedlot and return to the field again to slowly pick up another load. The hours spent in the field represent many more miles than what the vehicle's odometer will show and gives the truck the equivalent of thousands of extra miles. These extra hours could effectively put the vehicle over the limits shown above but without hour meters on the engines no one would know. The owners of these trucks used almost exclusively in harvesting may find it cheaper to buy several old trucks and keep their individual mileage under the 10,000 miles, or other mileage exemptions, instead of purchasing a newer truck that meets the new guidelines for emissions. (AOIR)

142. Comment: In addition, the mileage provision is a concern for me, because many of these trucks in the orchards and fields are not necessarily putting on a lot of

miles. Sometimes, they're sitting in the orchards idling for hours, which is releasing emissions that are I'm very concerned about. (MCCJ)

Agency Response: The development of the mileage thresholds for agricultural vehicles was based on average vehicle operation and not any one sector of the agricultural community. Vehicle idling is part of the normal operation of many heavy-duty diesel vehicles such as cement trucks, boom trucks, and other trucks that operate which stationary or very slow speeds. These emissions are included in the overall emissions inventory that is developed for mobile sources. In addition, current regulations limit unnecessary idling to less than ten minutes.

Agricultural vehicles are used in a wide variety of operations ranging from harvesting corn to delivering harvested crops to processing centers. The agricultural provisions prevent businesses from adding vehicles to their fleet for the purposed of driving more trucks fewer miles thereby staying below the mileage thresholds. The provisions limit the number of low or limited mileage agricultural fleets to the size of the fleet as it was on January 1, 2009. This prevents fleet owners from adding trucks to their fleet that drive fewer miles than the low or limited mileage thresholds in an effort to take advantage of the agricultural vehicle provisions. Any additions to the fleet would not qualify as low or limited agricultural vehicle and would need to comply with the requirements of the regulation like a non agricultural vehicle.

Specialty agricultural vehicles, including vehicles that dispense feed at cattle and calf feedlots, represent a special inventory of vehicles which information is relatively well known. The number of cattle and calf feedlots is relatively small and the locations rather fixed. By comparison, cattle and calves being fed outside of feedlots tend to be numerous and wide spread. As a result, vehicles feeding cattle and calves in feedlots will potentially drive fewer miles when compared the amount of miles a feed truck would need to travel to take feed to cattle outside of a feedlot. Trucks delivering feed to the feedlots for distribution by the feed trucks would likely not qualify to utilize the agricultural provision, leaving only the trucks at the feedlots to qualify as specialty agricultural vehicles. In addition, the number of these specialty vehicles is limited to 2200 state-wide and 1100 in the San Joaquin Valley.

143. Comment: I'm a beekeeper and mechanic. We manage between 10 and 12,000 colonies in that area. We have 12 trucks we run, and five of them are pre-1990. I am troubled with some of the language in here as far as beekeepers are concerned, whether we fit into the agricultural exemption. I would ask that some of that be clarified and specified for our industry and our business. (CHONEY)

Agency Response: Staff agrees that beekeeping business should be considered as agricultural operation. As such, the definition of Agricultural Vehicles, Section 2025(d)(6), has been modified to include vehicles used to transport bees from one farm to another. New language was made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009 to clarify the original intent.

144. Comment: I live in the Imperial Valley how are you going to control all the farm equipment (tractors, crawlers, swathes, pumps, field harvesters etc) just driving around. In 2 days I counted 89 pieces of equipment blowing diesel exhaust. And California is a one big farm field spotted with a few cities. (BPAQ)

Agency Response: Farm equipment, distinct from agricultural vehicles, is not subject to the Truck and Bus regulation and will be handled separately. We will be working with stakeholders in developing of agricultural tractor and equipment regulations. We plan to hold workshops and meetings as part of the development process to determine what control strategy is appropriate for farm equipment.

145. Comment: "Clean green" products made from organic waste that is diverted from landfills should be given the same extension as chemical fertilizers. (GSWMI)

Agency Response: Staff does not believe the agricultural provisions should be used for clean green trucks because expanding the number of vehicles eligible for the agricultural vehicle mileage provisions would result in higher emissions and the regulation would not meet the SIP commitments.

146. Comment: In regards to blood mobiles. We are requesting more flexibility in the mileage exemptions given the large number of our vehicles with low mileage and the cost of purchasing new or retrofitting existing vehicles. More flexibility in this area would benefit the blood centers given the age, replacement costs, the overall low mileage and retrofit costs of the mobile engines as well as the lack of available compliant engines until much later in the decade. Our request is based on the following which provides an overview of our engine age and mileage information. (BCC1)

147. Comment: With regard to blood mobiles. Presently, it appears only farm vehicles or cab-over engine truck tractor qualifies for the specialty/dedicated use vehicles exemption. We are requesting a broadening of the definition of specialty/designated used vehicles to include blood mobiles. Blood mobiles clearly can be designated as specialty/dedicated vehicles given the use and the modifications required for them to meet the needs for blood donations, thus we are requesting a broadening of this definition to allow blood mobiles to qualify under this section: Blood mobile - a vehicle built, outfitted and used exclusively for the collection of blood and blood product donations from volunteers. There is an early incentive exemption however; few of our centers are now financially able to purchase new mobiles. A few of our centers report that they have purchased 2007 mobiles but even these engines don't meet the proposed NOx requiremets. (BCC1)

Agency Response: It is inappropriate to allow blood mobiles to qualify for the agricultural vehicle provisions, in part, because blood mobiles tend to operate in populated areas where the PM exposure risk would be higher than from many of the agricultural vehicles that predominantly operate in less populated areas. Blood mobiles currently qualify for the unique vehicle provisions. The unique vehicle provisions specify that if a used replacement vehicle with a 2007 model year or newer engine that

performs a similar function is not available, then the vehicle will not be required to be replaced until 2021, but will still need to meet the PM reduction requirements. See response to comment 149 for a more detailed description of the unique vehicle provisions.

q) Unique Vehicles

148. Comment: The "Unique Vehicle" category was created to provide some relief for those of us with specialized vehicles that are not readily available in the used equipment market. Unfortunately the definition is not consistent with the intent. The intent was to provide relief if the only option available to be compliant was a new truck, yet the definition states "a suitable cab and chassis upon which the truck bed could be mount is not available". This subsection is easily construed to not rule out the purchase of a new vehicle which was the point of the definition. If money and availability was no problem we would all operate brand new trucks. The definition (d) says "the vehicle's engine is equipped with the highest level VDECS." Again this misses the intent. The rule should state "engine is equipped with the highest level VDECS if available". (ALOG2)

Agency Response: New language was made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009 to clarify the original intent. Section 2025(d)(74)(B) was modified to insert the word “used” when referencing a replacement cab and chassis. The regulation now reads, “a used suitable cab and chassis upon which the truck bed could be mounted is not available, and.”

149. Comment: CFA greatly appreciates CARB staff recognizing that there are MHD and HHD diesel trucks, other than agriculture specialty trucks, that are “unique” because of the need for heavy duty frame rails, heavy duty rear suspensions, heavy duty rear differential and axle sets, and severe service cabs. However, the definition of unique vehicle is unclear and should be eliminated. (CFA1)

Agency Response: While the regulation was written to allow the purchase of used vehicles to lower the overall costs of the proposed regulation, staff recognizes that certain types of vehicles that perform special functions are less common and that a used replacement vehicle may not exist. In this case, the fleet owner would have no option other than to purchase a new replacement vehicle. To assure new vehicle replacements would not be required if lower cost used ones were not available, staff believes it is appropriate to delay the compliance with the NOx BACT performance requirements of such vehicles until January 1, 2021. This means the vehicle would not need to be replaced with a new one and the engine would not need to be replaced with a cleaner one even if available. Although the definition does not identify a specific list of vehicle types it does allow the ARB to work with fleets to identify likely uncommon situations where the only option would be to replace with a new vehicle that could not have been anticipated when the regulation was approved. The provision still requires a fleet to meet any of the compliance options with the exempt vehicle still included in determining the fleet compliance and is not expected to result in a noticeable loss in emissions benefits. The provision guarantees that a new vehicle replacement is never required.

150. Comment: Since about half of the forestry fleet is special order trucks, CARB staff recognized that a “Unique Vehicles” category was appropriate. However, forestry unique vehicles and all other older trucks in rural counties will have to have diesel particulate filters by January 1, 2014. Hence, all of the unique vehicles and any pre-1994 trucks that are not replaced with 2010 or newer will have to install diesel particulate filters. There is not enough existing diesel particulate filters in the marketplace that are proven to work on pre-1994 mechanical fuel injection trucks. Repowering old trucks with 2007 or newer engines is prohibitively expensive and may not fit in an older chassis, leaving the only option to be purchasing 2010 or newer trucks. Replacing all the pre-1994 trucks with 2010 or newer trucks by January 1, 2014 will drive most rural county in-State fleet owners (and perhaps most of the 150,000 in-State small business fleet owners) out of business. Even if it can be demonstrated to the CARB Executive Officer that proven DPFs are not available, only the PM performance requirement can be waived on an annual basis; the NOx requirement is not waived (CARB Report, p. 32). (CFA1)

Agency Response: The unique vehicle provisions exempt or waive the NOx BACT requirement until 2021 in the event a used replacement vehicle is not available with a 2007 model year engine or newer. This means the unique vehicle would not need to be replaced with a new one and the engine would not need to be replaced with a cleaner one even if available. See response to comment 149 for a more detailed description of the unique vehicle provisions. Vehicles that operate exclusively in the attainment areas also are exempt from the NOx requirements until 2021 as described in response to comment 98. Finally, if a suitable verified DECS is not available in advance of the annual compliance date, no further action is required for that vehicle until 2018 at which time the engine or vehicle would need to be replaced.

151. Comment: One of my biggest obstacles that is unique to my company is the unique specification and unusual configuration of the majority of my power units. To do the kind of work I do properly my normal specification truck is a cabover engine body style with an extremely long wheel base and high horse power engines. This makes my trucks irreplaceable with what's available today in regard to the cab design that I need for the many 80-foot to 140-foot loads that I haul on a regular basis. If I were to do away with all of my cabovers and replace them with the trucks that are available through the manufacturers today at the pace CARB has set forth in their plan, I would surely be unable to service the majority of my customers.

A huge concern to me is my largest customer; a precast concrete products manufacturer has installed on 30 of my trucks a hydraulic crane for the purpose of off-loading their product at the jobsite. In order to maintain the load space on the truck in addition to having the crane mounted as it is currently would not only be impossible now that the cabover engine truck is unavailable by any supplier, but in addition it would be astronomically expensive to remove these permanently installed cranes and re-install them on a new chassis. (RTC)

Agency Response: The unique vehicle provisions may apply in this situation, and if they do, the vehicle replacement requirements would be delayed until 2021. However, it is unclear from the information in the comment if the oversized load could be delivered by other truck configurations that could be purchased used. Since the comment indicates there are other common vehicle types in the fleet, the fleet owner can take advantage of the various compliance option in the regulation to replace the more common vehicles first which would defer replacements of the unusual or more expensive vehicles. See response to comment 10 for a description of the compliance options to phase in the requirements.

r) Emergency Use Vehicles

152. Comment: The availability of leased fire-fighting equipment caused by these proposed regulations is reduced. (GCBOS)

Agency Response: The usage accrued by any vehicle while used for an emergency operation can be excluded when determining the annual usage for the vehicle. This means that a vehicle that is dedicated for emergency use would have no other usage and would remain below the 1000 mile and 100 hour limit to be exempt from any of the NOx reduction or PM retrofit requirements. Similarly, the status of a vehicle that operates below 7500 or 5000 miles per year and qualifies for the NOx exemption would continue to qualify for the exemption if the emergency use were to cause the vehicle to exceed the applicable mileage limit.

s) Three Day Pass

153. Comment: We have already lost a substantial amount of business this year from rate cutting, mostly from out-of-state carriers that come in. I'm concerned about the three-day provision for the out-of-state carriers, because typically what they do is they come into California, deliver their load, perhaps in the Bay Area. In order to reposition the truck in Los Angeles, they'll take a load at below cost to get to Los Angeles. So you have intrastate carriers here that need those loads at a fair profit in order to do these things. (MET2)

Agency Response: The three day Pass provision is limited to one truck per fleet per year for a single three day period each year. It allows a fleet with an unanticipated load in California to enter the state without meeting the engine replacement or retrofit requirements. Because this is a very narrow exception, staff believes any potential competitive disadvantage will be insignificant.

t) Alternative Fuels

154. Comment: The proposed regulations as currently written place an unfair burden on the use of clean fuel technology, particularly Natural Gas. Conversion of existing in-use diesel powered Buses and Trucks to run on Natural Gas is a widely adopted technology outside of the United States. Unfortunately, current certification for VDECS and BACT make no mention of Natural gas conversion as a viable option. This is due to CARBs definition of Diesel versus “Large Spark Ignition Engines.” Essentially any diesel motor converted to run on Natural gas,

that now has a spark ignition, is now considered a Large Spark Ignition motor, and must be certified as a BRAND NEW motor and meet 2010 on road emissions standards. This is not the same criteria used for certifying VDECS and BACT for existing older engines and, in addition, certification of these converted motors must be then done on a model year, make and engine designation basis, rather than just for engine families as for current VDECS and BACT.

The advantages of converting these exact motors/vehicles to Natural Gas from both an environmental and economic standpoint have been well documented in other countries. The current regulations, as written, eliminates any chance of California being in compliance with AB 32 and puts an economically insurmountable barrier to certification of Natural Gas conversion technology solidly in place. Adoption of this technology in California is the only possible way we can meet the AB 32 Global Warming Act deadlines. The emissions strategy as currently outlined in this proposed regulation will place an economic burden upon California business owners for which there will be no possibility of economic benefit. Conversion to Natural Gas for these fleets, where possible, will actually save these fleet owners in fuel and maintenance costs, with 100% conversion ROI usually realized with in the first year of operation. This cannot be said for any other emissions strategy. Before you adopt any further regulations for emissions of existing in-use engines, you must level the playing field for Natural Gas Conversion technology to compete against exhaust after treatment systems as an emissions strategy. (OENG)

Agency Response: This regulation does not apply to large spark ignition engines and does not modify existing requirements for engine certifications, engine conversions, nor for in-use large spark ignition engines. Thus, the regulation does not pertain to the issues raised regarding natural gas conversions with respect to meeting AB 32 goals and requirements.

The regulation gives fleets credit for replacing existing diesel fueled vehicles (or engines) with alternative fueled vehicles. The provision is optional, for fleets who choose to add alternative fueled vehicles to their fleet to demonstrate compliance. In using this credit, the PM emission factor would be zero, and the NOx factor would be based on the emission factor corresponding to the engine standard for which the engine is certified. The fleet can also claim retirement credit if a diesel engine is retired from a conversion to an alternative fuel and do not wish to consider the alternative vehicle as part of the fleet for purposes of demonstrating compliance.

155. Comment: The proposed regulation requires the Executive Officer of CARB to grant an incentive to a fleet owner for adding an alternative fuel vehicle to a fleet. The fleet is allowed to use the NOx emission factor for the engine model year for which the AFV engine has been certified in calculating the fleet NOx index. For PM, the fleet is allowed to assign zero for the fleet PM index. CCEEB does not object to the concept of providing incentives for the addition of an alternative-fuel vehicle (AFV) to a fleet for the purpose of reducing emissions. CCEEB is concerned, however, that assigning zero for the PM index of an AFV is

problematic, given the diversity of fuels defined as "alternative fuels" that do, in fact, emit PM. In light of the Board's ongoing concern over the health effects of ambient PM, granting a blanket PM exemption for AFVs would seem, at best, ill-advised. CCEEB therefore recommends that the proposed regulation be amended to authorize the Executive Officer to grant an incentive for alternative fuels based on the NOx index described in the proposed regulation and to predicate the PM index on the degree to which the alternative fuel reduces PM, when compared to diesel fuel. CCEEB also recommends that the proposed regulation document the anticipated emission impacts attributable to any proposed AFV incentive. (CCEEB1) (CCEEB3)

156. For the alternative fuel vehicle, the regulation provides the incentive of counting the PM index as zero. Well, at some point some of this alternative fuel vehicles I think that you'd want to go from -- maybe kick-start it with a zero credit for PM. But all of the alternative fuels have PM, I mean with the Board's concern over health costs. (CCEEB4)

Agency Response: The main objective of this regulation is to reduce diesel PM to reduce public exposure to toxic air contaminants and to reduce ambient PM levels and to reduce NOx emissions that contribute to secondary PM formation and smog. We acknowledge that alternative-fuel vehicles emit some PM emissions, however these emissions do not contain diesel PM emissions, therefore, a value of zero can be assigned for the engine PM emissions of an alternative-fueled vehicle in a fleet.

157. Comment**:** It must not be overlooked here today that no matter how many filters we require, or new diesel trucks we introduce, diesel fuel and diesel trucks are inherently toxic. The burning of alternative-fuels on the other hand do not produce toxins and also produce fewer GHGs. The economy of California has a strong foundation based upon the resourcefulness and vibrancy of its citizens. (CCP2)

Agency Response: We acknowledge that the burning of alternative-fuels produces no diesel PM emissions and that there will always be some diesel PM emission from a diesel engine regardless of the control technology employed to control them. However, the regulation already achieves major diesel PM reductions and encourages the use of alternative fueled vehicles with the credits provided. This provides fleet owners the opportunity and flexibility to use several options to comply. The regulation allows fleet owners to include natural gas vehicles in their fleet for purposes of calculating the fleet average emissions for both PM and NOx to comply with the regulation. The fleet can also claim retirement credit if a diesel engine is replaced with an alternative fueled engine and do not wish to consider the alternative vehicle as part of the fleet for purposes of demonstrating compliance. This provision of the regulation could have a positive impact on climate change if fleet owners use alternative fueled vehicles in their fleets.

158. **Comment:** While a significant amount of emissions reductions anticipated from the adoption of the proposed regulation are dependent on the use of alternative fuels, it is unclear as to how CARB may ensure that qualified alternative fuels are used in complying with the proposed regulation. In light of the credits and

incentives granted for the use of alternative fuels vehicles, and in order to protect a fleet owner's investment in alternative fueled vehicles, it is imperative that CARB develop procedures to ensure that only alternative fuels meeting CARB's specifications are, in fact, being used in the operation of alternative fuel vehicles. CCEEB recommends that prior to the effective date of the proposed regulation, CARB develop safeguards ensuring that only alternative fuels meeting CARB standards are used in the affected fleets. (CCEEB1) (CCEEB3)

Agency Response: Although the regulation provides credit for vehicles that use alternative fuel, it does not change the existing the alternative fuel standards or the enforcement of their use in heavy-duty vehicles

u) Hybrid Credits

159. Comment: The Proposed Regulation requires the Executive Officer of CARB to grant a fleet owner credit for each hybrid vehicle added to the owner's fleet if the manufacturer has improved fuel economy by at least 20% when compared to a similar diesel powered vehicle. The proposed regulation provides that the credit for a single added HV will count as two vehicles for the purpose of calculating compliance with fleet averaging requirements for PM, NOx or both. CCEEB does not object to the concept of providing incentives for the addition of an HV to a fleet when reduced emissions are established. CCEEB is concerned, however, that the two-for-one incentive could have the unintended effect of increasing emissions and could also undermine any incentive to manufacture hybrids achieving a greater-than 20% improvement in fuel economy. We believe that such an incentive should be based on vehicle performance corresponding more closely with demonstrated emission benefits of the added HV. CCEEB therefore recommends that the proposed regulation authorize the Executive Officer to grant a credit of up to two-for-one at his discretion, taking into consideration the fuel economy of an HV and other appropriate factors. We also recommend that the proposed regulation document the anticipated emission impacts attributable to the proposed HV incentive. (CCEEB1) (CCEEB3)

160. Comment: The regulation requires the Executive Officer to provide credits for hybrid vehicles if they provide at least 20 percent greater fuel economy. I'm wondering if that's a disincentive for somebody to try to provide 40 percent or 80 percent. (CCEEB4)

Agency Response: The credit was designed to serve as an incentive for fleets to purchase fuel efficient hybrid vehicles. The credit is not expected to offset most of the incremental costs compared to a conventional vehicle, but to influence purchase decisions to help develop the market for hybrid vehicles. We do not believe that hybrid vehicle manufacturers would develop or design hybrids because of the hybrid credit alone. Hybrid vehicles have the opportunity to result in significant fuel savings, to lower operating costs, and to achieve additional emissions reductions compared to conventional vehicles and will eventually become the more cost effective option for many applications. Manufacturers will likely have a competitive advantage for manufacturing hybrid vehicles with higher fuel economy than their competitors and are

likely to develop products their customers want. Because we do not believe the hybrid credit is a market driver, we do not believe the regulation will have a primary role in determining vehicle design or efficiency goals.

161. Comment: Hybrid credits should not expire. The introduction of hybrids reduces greenhouse gas emissions as well as PM and NOx and should be encouraged as strongly as possible. FedEx is strongly committed to hybrid technology, and operates the largest hybrid fleet in the transportation industry. In 2004, we introduced the first hybrid trucks into revenue service in Sacramento. Our hybrid fleet has now accumulated over 3 million miles. Unfortunately, the continued high incremental cost continues to present a market barrier for hybrids. Phasing out the hybrid credit will have a damping effect on investment in hybrids. (FEDEX)

162. Comment: Heavy-duty hybrid vehicles have lower emissions than the non-hybrid counterpart. This is readily apparent through the fuel economy savings produced by hybrids. However, for model years 2007-2009, hybrids fail to benefit from these emission reductions. Navistar proposes that the rule promote hybrid introduction and provide any benefit throughout the hybrids operational life. (NAV3)

Agency Response: Staff disagrees that the hybrid credit should be modified. The hybrid credit is intended to be a small incentive to facilitate early expansion of the hybrid heavy-duty vehicle market. Staff agrees that a hybrid vehicle compared to a similar conventional vehicle can reduce greenhouse gas emission as well as PM and NOx emissions because of more efficient use of the engine and improved fuel efficiency. However, the credit in the regulation also allows other more polluting diesel vehicles to operate longer in the fleet. The double credit for NOx emission are set to expire January 1, 2018 to ensure air quality goals are met and because hybrid vehicles are likely to be common by 2018 and will no longer need incentives to develop the market. Hybrids with 2007 to 2009 model year engines may have lower emissions than a similar conventional vehicle with the same engine model year, but staff has no basis to expect that the emissions would be equivalent to a conventional 2010 model year engine.

v) Motor Coach Provisions

163. Comment: I am director of bus ministries at Parkside Church in Auburn. We currently have one 1991 MCI coach that is a viable piece of equipment used throughout the community in service to hundreds of needy people and other non-profit organizations such as ourselves. Our bus is in very good condition and runs very clean. This regulation will absolutely shut down our non-profit ministry services. This will profoundly impact our ability to help our community and those in need. I suggest language within the regulation that makes allowance for non-profit ministries such as ours who own 3 vehicles or less and travel less than 20,000 miles per year per vehicle. (PARK)

Agency Response: Staff has already provided the provisions in the regulation for small fleets (three or fewer vehicles in their fleet) and for motorcoaches. Small fleets are exempt from any of the PM requirements or NOx reduction requirements until January 1, 2014 The delay provides more time for the economy to recover, improves

the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89. Motor coaches are exempt from the NOx reduction requirements until January 1, 2017 but would remain subject to the PM requirements. This addition is documented in the first 15-Day Notice of Public Availability of Modified Text dated from August 19, 2009 to September 3, 2009 into the Section 2025 (l) of regulation.

If the 1991 motor coach is the only vehicle in the fleet, the fleet owner would need to install the best available PM filter by January 1, 2014. If the bus operates fewer than 7500 miles per year starting in 2017, no further action would be required until 2021 at which time the bus would need to be replaced with one having a 2010 model year engine or equivalent. If in 2017 the bus need to be operated more than 7500 miles per year, the engine would need to be replaced or have at least a 2004 model year engine or newer with a PM filter installed or would need to be replaced with a newer bus that complies with the BACT schedule.

w) Low Use Provisions

164. Comment: There should be an exemption for low use vehicles, vehicles used 45 days or less a year, these should not be under the same constraint as the other vehicles. (JTOG)

Agency Response: The regulation has provisions to address lower use vehicles. Truck tractors or vehicles with gross vehicle weight rating (GVWR) greater than 33,000 pounds that operate fewer than 7,500 miles per year are exempt from any NOx reduction requirements until 2021; however, they do need to meet the PM reduction requirements. If a truck uses power take off (PTO) to perform work while stationary, the annual engine hours would also need to be fewer than 250 hours to qualify. All other vehicles would be eligible for the same delay if operated fewer than 5,000 miles per year (and fewer than 175 hours per year if PTO is used while stationary). Vehicles that operate fewer than 1,000 miles per year, and fewer than 100 hours per year in California, are exempt from any clean-up requirements. The thresholds were established such that the needed emissions reductions would still be achieved.

165. Comment: In my business we can run a truck for twenty years. Currently I have a 15 year old truck with 273,377, 1519 miles per month, the motor was rebuilt in the last twelve month, no smoke or visible particulate. I have a 12 year old truck with 309132 miles, 2146 miles per month, motor was rebuilt in the last six months, no smoke or visible particulate. I have a ten year old truck with 169,099 miles, 1409 miles per month, not yet rebuilt, no visible smoke or particulate. The 24 year old spare truck has less than 600 miles this year, and it is used on the holiday route, ten days a year and if another truck needs repair in a shop for a few days. Let me sum up what I have stated above, small businesses cannot afford to take on several new trucks in a very short time. If a truck runs only limited mileage it should be exempt, as driven, we are not the target market to effect a large change on air quality that will be for trucks that drive more than 1000 miles per week.

Please focus on these individuals as the greatest improvement to air quality will be seen sooner than a one size solution for all of us truck owners. (JTOG)

Agency Response: Increasing the mileage limits would not allow the state to meet the federal attainment standards. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The regulation has provisions to delay some of the requirements for low use vehicles, see response to comment 164 in the Regulatory Provisions section.

166. Comment: Establish a new “low use vehicle” category for all MHD and HHD vehicles >14,000 gross vehicle weight (gvw) in the 5 north coast ozone attainment counties that put on less than 25,000 miles/year. This category would be exempt from all performance requirements of section 2025(e). (CFA1)

167. Comment: Emission benefits are being given away for "low use" interstate trucks. We believe that providing low mileage exemptions for trucks whose primary business is interstate is not warranted. In fact, it is hard to envision IRP trucks that are economically viable that travel under 7500 miles per year. Such a finding should not violate the spirit of the Interstate Commerce Clause because local trucks like most MHD and short use HHD trucks do not compete with interstate or even in-state motor freight carriers. (ARA1)

Agency Response: Allowing vehicles to operate up to 25,000 miles without any PM reductions would result in unacceptably high PM exposure risk. Low-use vehicle that is operated less than 1,000 miles and 100 hours per year in California would be exempt from all performance requirements regardless of their origin. As discussed in the TSD Chapter XVI, most interstate trucks are expected to be newer and will have cleaner engines than the regulation will require. A small percentage of interstate vehicles may have older higher emitting engines; however, we expect that few will be able to operate fewer than 1000 miles in California on an annual basis and the emissions impact of the provision will be negligible. The low use threshold is consistent for all vehicles and does not treat out of state vehicles differently than instate vehicle. This approach also assures the interstate commerce clause cannot be an issue to present a challenge to

the regulation. Refer to response for comment 164 in the Regulatory Provisions Section for NOx exemptions for the low mileage vehicles.

x) Other Comments

168. Comment: In 2005, I purchased an F-550 truck with a P/U box to carry a camper only. I have a smaller truck for hauling stuff. The way the regulation is written I must make an unreasonable investment in the 2005 truck to meet the rule should I want to haul a fifth wheel rather than my camper. I purchased this truck with a GVWR of over 14000 because of recreation loads and safer brakes. More leeway is needed in the rule for these types of trucks and uses that are provided to older diesel motor homes / RV's. Too much discrimination exists in the rule for the perception of differences and uses between diesel trucks over 14000 GVWR and those under this rating in the rule. Those trucks under are given a free pass yet the emissions are in essence the same for RV use. The over 14000 GVWR with the same engine is mandated to make a large upgrade cost to comply. I have followed this rule and have tried to get reasonable provisions for my truck and others like me for RV use. My prior requests for an exception element in the rule have been met with the limits of the DMV registration process. I feel this was a put off and can be incorporated in the rule with an application affidavit approved and carried with the vehicle. Please include a process for RV use of older diesel trucks over 14000 GVWR to be provided an exception or exemption from the rule. You have some smart law types that can write this in. (KAUB)

Agency Response: The regulation was amended and now includes an exemption for trucks with a GVWR of 19,500 pounds or fewer with an originally equipped pick-up bed that is used exclusively for personal, non-commercial, non-governmental use and is exempt from the regulation. This addition is documented in the first 15-Day Notice of Public Availability of Modified Text dated from August 19, 2009 to September 3, 2009 into the Section 2025 (c) (13) of regulation.

169. Comment: We are a small commercial driver training company with a fleet of 30 trucks in the 1989-2000 age range with trucks that average about 7500 miles per year and drive just short distances to and from our training yards. Most of our time is spent in the yards backing up. Our trucks do not haul loads, go to ports or traverse the highways more than a few miles per day. Our trucks, by design, are "tortured" by new drivers. As such, we get as many miles out of our trucks as we possibly can, due to ongoing maintenance costs and necessary cost vs. return formulas. The need to have a brand new or nearly new fleet for our application simply isn't feasible. In fact, to do so would require such a sizable increase in tuition costs to offset that equipment purchase that most students couldn't afford to go to school. Commercial driving schools are a critical asset to the California transportation industry and the poor economy will be further exacerbated by a growing shortage of drivers here.

Your suggestions today that we simply all go out and buy newer$50-60K+ trucks to replace our fleet is absolutely not feasible in any business model I can generate.

The different compliance options that have been introduced certainly do give a bit of headroom. However no compliance model portrayed by CARB allows us latitude on the PM filters by the end of 2010. That cost alone shuts the doors of this 33 year old California based company. The overall cost of putting a $20K filter on a $15-20K truck and absorbing $600K in expenses is overwhelming and un-manageable. That is nearly 25% of our GROSS revenue's in any given year. Forced with that much of an impact, we would have no choice but it will force us to either leave the state or close most of our locations. I'd ask that some further consideration for our particular business "model" be given, perhaps as either a new classification or under the proposed exclusion for emergency vehicles, military tactical vehicles or personal use motor homes; all of which put more miles on California's highways annually than any of our training trucks do. (WTS2)

Agency Response: The regulation has provisions to delay the NOx reduction requirements for low use vehicles and no vehicle replacements would be required until 2021, see response to comment 164 in the Regulatory Provisions section. Thee fleets is considered as any other fleet with low mileage exemptions. All authorized emergency vehicles are exempt from the in-use diesel vehicle regulations per CVC, section 27156.2 because it does not allow installation of motor vehicle pollution control devices. Personal use motor homes are exempted because they are for personal use and can not charge fees to offset the retrofit cost. Also, no fleet is required to have PM filters on more than 25 percent of their engines by January 1, 2011. The PM reduction are needed to minimize the risk from exposure to diesel PM emissions.

170. Comment: What about other two-engine vehicles? The proposed modifications to the Portable Diesel Engine ATCM acknowledges the existence of two engine cranes and street sweepers and the necessity for both the propulsion engine and auxiliary engine to be regulated under the same State ATCM. There are many other types of vehicles that also have two engines, one for propulsion and one for auxiliary use; examples include jet-vac trucks, air-vacuum excavation systems, vacuum trucks, cold planers and milling machines, street strippers, drill rigs, man lifts, and hay balers, What State ATCM are both the engines associated with these vehicles subject to? (SDAPCD)

Agency Response: During the regulation development process staff determined that two engine street sweepers and two engine cranes needed to be addressed differently than other two engine vehicles for a number of reasons. The primary reasons were that cranes have balance and safety certification issues associated with modifications to upper engines and street sweeper auxiliary engines are integrated into the vehicle and would have a sufficiently high cost to control. The Truck and Bus regulation with amendments to existing regulations for these vehicles will ultimately result in additional emissions benefits. Similar issues do not exist for other vehicles that have auxiliary engine mounted on the vehicle, but are not integrated into the vehicle design. The rationale and discussion of the changes to other existing regulations are discussed in detail in TSD, Chapter XVI. The Truck and Bus regulation and amendments to existing regulations did not modify any other requirements for existing portable engines.

171. **Comment:** We are a small trucking company with twenty power units and Forty-five 57' trailers. To meet the length laws we must use a 75" cabover tractor with a sleeper berth as our truck and trailers are governed by a 65' overall length law. A conventional truck body and 53' trailer are allowed to be 75' in overall length. Using the sleeper cab allows us to meet the hours of service rules. The 75" sleeper cabover was discontinued in 2004 by all manufactures. The non-sleeper cabover was discontinued in 2005. Since no manufacturer builds our cabovers we are unable to replace our trucks and meet the 65' length law. Since we can no longer purchase the cabovers, we're being required to retrofit or replace the engine, or purchase conventional tractors and 53' trailers. I can retrofit with the particulate filters and my fleet would be in compliance with particulate requirements until 2023. However, this would do nothing to meet the nox requirements of 2012. In 2012 I will be required to add nox filters to meet the 2010 engine standards. While a particulate filter can be routed under the truck a nox filter can not. It will cost $10,000 per unit to add the particulate filters for a total of $200,000. This investment would have the fleet compliant for only two years due to the nox requirements. Since the company presently operates on a 95% to 105% operating ratio, I would need to raise my rates by 10% to pay for this expense. Shippers are most reluctant to pay higher freight charges and often give the freight to someone else. Should we make the change to 53' trailers our rates would need to remain the same for less freight shipped, but we would probably need additional rate increases to pay for new equipment. The shipper would be getting less service for their money. (CDMTC1)

172. **Comment**: We are a small company with 20 power units and 45 57-foot trailers. We are a specialty carrier in the fact that we have just 57-foot trailers and haul empty food and beverage containers. The proposed rules, as they a currently written, will effectively outlaw 57-foot trailers in California. The companies that use this type of trailer are required to maintain an overall length of 65 feet or less. This requires a small cab over engine truck with a cab no larger than 75 inches. There is no truck maker in North America building any of these trucks any longer. All production appears to have ceased in 2004. The NOx retrofit kits will not fit on these trucks and still be able to maintain the 65 foot rule. Newer engines will not fit into the engine compartment as they are too large for the available area. This leaves the few carriers that use these trucks with only 2 options: buy new conventional trucks and new 53-foot trailers or go out of business. If we can afford to re-equip our entire fleet in such a short time period, we will need to place an extra 3 trucks on the road to be able to haul the same volume of product we are hauling now. This, of course, would be at a greater cost to the customer because it is 3 more loads than what we are currently hauling. In 2012, I will be required to add NOx filters to meet the 2010 engine standards. While a particulate filter can be routed under the truck a NOx filter cannot. It will cost $10,000 per unit to add the particulate filters for a total of $200,000. This investment would have the fleet compliant for only two years due to the NOx requirements. Since the company presently operates on a 95% to 105% operating ratio, I would need to raise my rates by 10% to pay for this expense. (CDMTC1), (CDMTC2)

Agency Response: As discussed in the TSD Chapter XVI staff considered the issues raised in the comment and evaluated the costs of compliance for businesses that pull 57 foot trailers with cab-over tractors. Staff determined that the associated losses with a smaller payload and the cost of early trailer replacement in addition to tractor replacement costs would impose a disproportionate cost if a provision in the regulation were not included. As such, cab-over engine truck tractors that exclusively pull 57 foot trailers are eligible to delay the NOx performance requirements until January 1, 2018 provided the engine is a 2004 to 2006 model year engine. The engine would still be subject to the PM requirements. All other vehicles in the fleet would need to meet the BACT performance requirements if the fleet does not comply with the other compliance options. NOx control retrofits may provide a lower cost option for fleets to comply if suitable for the vehicle. We recognize few NOx control retrofits are available today, but expect that a number may be available in the next few years.

The compliance option that is best for a fleet depends on the fleet size, engine age, and a number of other factors. The BACT schedule never requires the replacement of a vehicle in less than four years after a PM filter is required to be installed. Other compliance options allow filters to be used much longer than 4 years and will depend on the characteristics of the existing fleet and compliance strategy used by fleets. See response to comment 10 for a description of the compliance options.

173. Comment: By industry standards, we're a pretty small company. All of our 20 power units are cab-over engine trucks that exclusively haul 57-foot trailers. Under the rules that I've read here today, our company is not eligible for the exemption of 57 footers. Based on the research I've done over the last two weeks, approximately 30 trucks that haul these trailers would be eligible. However, they work for a mixed fleet trucking company. They do not haul exclusively 57s. We are the only carrier out of approximately seven carriers that are exclusively 57 footers. Ninety percent of the 57-foot fleet will be out of business in 2012 and the remaining 10 percent will be out of business in 2018. We have to either completely re-equipped our fleet with trucks and trailers, and then we cannot service our customers the way we are now. Our company cannot afford this change. (CDMTC3)

Agency Response: It is somewhat unclear as to why the commenter states the company would not be eligible for the provision for cab-over engine tractors that exclusively pull 57 foot trailers. The provision is narrowed specifically to tractors that exclusively pull 57 foot trailers, in part, because conventional cab tractors cannot pull the trailers because of length limits. The provision is available for mixed fleets that have cab-over tractors dedicated to pulling 57 foot trailers, but would not apply if the tractor also pulls shorter trailers than can be pulled by any conventional cab tractor. See response to comment 172 regarding the provision. Additionally, with the flexibility in the regulation fleets have other options to lower their emissions and may be able to operate older trucks longer by reducing emissions from others, see response to comment 10.

174. Comment: Diesel biofuels could be made more available along major interstates. The biofuels have already proven to be less polluting. (PMCG)

Agency Response: Although biodiesel produces less PM emission, it does emit higher NOx emission. It can be used in conjunction with a PM control device and be verified as a part of a verified DECS to satisfy the regulation requirement. ARB is currently working with the ASTM to establish a standard for biodiesel.

175. Comment: Due to the large capital investment required for the removal of the equipment, NWSC is suggesting a modification to the proposed regulation to allow body load trucks to receive the same special mileage thresholds given to agricultural vehicles. If body load trucks operate below specified mileage thresholds, they would be exempt from the proposed PM and NOx performance requirements ranging from 15,000 to 25,000 miles per year until 2017. Staff will make the argument that they cannot make a special exemption for body load trucks.

Staff is making modifications to the Portable Equipment Registration Program (PERP), Portable Air Toxic Control Measure (ATCM), and the Off-Road ATCM to develop a special exemption for two-engine cranes and two-engine sweepers. One of the reasons for these modifications is the cost of the new cranes and sweepers. From the discussion above, you can see that there are all kinds of body load trucks with the same problems that cranes and sweepers have. The proposed regulation has a delay of the NOx performance requirement until 2018 for cab-over engine truck tractors that exclusively pull 57-foot trailers. The reason for this delay is due to the fact that cab-over engine truck tractors are not being built anymore. (NWSC1)

176. Comment: Body load trucks are vehicles that have permanently mounted machinery on the back frame of the truck in order to perform a specific job function. They may have an auxiliary engine mounted on the rear of the unit or they may be operated in PTO mode by the highway engine. These vehicles have a fixed load that normally can not be removed in one large piece because it is constructed onto the truck frame, using the frame as a backbone of the unit. This is done to conserve weight by not having a separate frame, to keep the truck DOT weight legal for the highway. Note that because the machinery is built onto the frame of a body load truck, it is often more expensive to remove it and replace it on a new truck than the cost of the new vehicle. Due to the high cost of transferring body load equipment from one truck to another. BJS suggests that we allow body load trucks to be included in the special mileage limitations provided for agricultural vehicles. If body load trucks operate below specified annual mileage limits of 25,000 miles they would be exempt from PM and NOx requirements until 2017. BJS requests that body load trucks are given the same consideration due to large capital expense as CARB has allowed to dual engine cranes & sweepers, cab over trucks pulling 57-foot trailers. (BJSC1)

177. Comment: Due to a large capital investment for body-load trucks, BJ Services would like the Board to ask staff to give body loads the same consideration that they've given to dual-engine cranes and sweepers, agricultural trucks and school buses. BJ Services would like the Board to modify the proposed rule to allowed body-load trucks to be included in the special mileage limitations that were

provided for agricultural vehicles. This would allow the body-load trucks that operate below 25,000 miles per year to be exempt from the PM and NOx requirements until 2017. A body-load truck is a truck that has specially designed machinery built on to the back of the truck to perform a specific job. They are not designed to haul a load up and down the highway. We're asking for this modification because of the very large capital investment to manufacture a new body-load truck. They range from $600,000 to $1.1 million, depending on the truck. And, also, the additional expense to transfer the machinery from an old truck frame to a new one normally costs an additional 150 to $250,000 above the price of the cost of the truck. (BJSC2)

Agency Response: Staff acknowledges that the body-load trucks are hard to replace and therefore, provided multiple compliance options for fleets to comply with the regulation. Staff does not believe the agricultural provisions should be used for body-load trucks because expanding the number of vehicles eligible for the agricultural vehicle mileage provisions would result in higher emissions and the regulation would not meet the SIP commitments.

The situation for fleets with body load trucks is different than for most fleets with street sweepers and cranes. Sweeper and crane fleets generally do not have a range of other truck types in their fleets whereas our understanding is that body load trucks are generally a small percentage of the trucks in a fleet that owns them. Staff is aware of the high costs associated with transferring the body load equipment to another chassis; however, staff believes that the flexibility provided in the regulation will allow body load trucks to operate for their normal useful lives if other trucks are cleaned up first. The BACT fleet percentage option was developed to address cases such as these where a fleet had more expensive, or specialized vehicles in their fleet and needed an option to keep these vehicles as long as possible or to the end of their useful lives for various reasons. A fleet complying with the BACT percent limit option needs to demonstrate that a portion of the fleet has 2010 model year or newer engines or equivalent emissions, the remainder of the fleet can be of any model year. If suitable NOx controls are not available for the fleet, the fleet can still comply by replacing the lowest cost vehicles first to meet the NOx BACT percentages that start in 2013 and all of the other vehicles can be of any model year. The NOx BACT percentages gradually increase and the percentage of older vehicles gradually decreases until 2023 when all vehicles must meet NOx BACT. Since most fleets only have a relatively small percentage of high cost or specialized equipment, fleets will be able to keep some of this equipment until 2023. Other compliance options may also provide flexibility to keep certain equipment longer, see response to comment 10. Additionally, it is our understanding that some of the body load trucks would qualify for the unique vehicle provisions and would not be subject to any replacement requirements until 2021, see response to comment 149 in the Regulation Provisions section.

178. Comment: CARB has not explored an alternative of exempting trucks that exclusively operate outside of the San Joaquin and South Coast Air Districts. For the forestry fleet of the State operating from the forest lands to first point of processing, over 97 percent of the mileage is outside of the 2 non-attainment air

districts. We believe that trucks operating exclusively outside of the non-attainment air districts should not be required to install, operate and maintain expensive diesel particulate filters unless a State subsidy program is put in-place to absorb the total cost. We believe that a more orderly common sense financial approach is to concentrate any investment, to reduce diesel emissions outside of the 2 non-attainment air districts, on replacing trucks with 2010 or newer models, rather than investing billions in diesel particulate filters. Over the life of the Rule, the cost of compliance to in-State fleet owners could be reduced dramatically by stretching out the compliance schedule for truck replacements and eliminating the need for costly DPFs. We request a new section all existing MHD and HHD diesel trucks >14,000 gvw that operate less than 60,000 miles per year shall not be required to install a diesel particulate filter and shall not have to be 2010 or newer to meet the performance requirements of section 2025(e) until the end of year 2023. These vehicles would have to be "declared" by the fleet owner with ARB by January 1, 2010 that they would not enter the San Joaquin or South Coast air districts for the life of the Rule. Electronic tracking under this Rule should be eliminated. The same outcome can be attained by simply reporting odometer readings at the end of each reporting period and requiring in-cab trip-by-trip log books. (CFA1)

Agency Response: Although GPS is one method to document usage remains within an attainment area the regulation allows for an alternative method to demonstrate compliance. Staff will work closely with industry to determine other effective methods to ensure compliance. If using GPS to document location of vehicle usage, fleets will need to make monthly reports available to the ARB upon request and would not be monitored otherwise. With regard to the special "long haul" outside an attainment area, vehicles that do not meet the full requirements of the regulation will not be allowed to operate outside the attainment area, without being subject to the general requirements of the regulation. Fleets do not need to designate vehicles that will remain in NOx Exempt areas until 2013 because there are no NOx reduction requirements until then. At that time, fleets that can take advantage of the NOx Exempt Area provisions described in response to comment 98 in the Regulatory Provisions section and will need to determine whether to designate some or all of their vehicles as being restricted to those areas.

179. Comment: Material producers have two primary fleet types impacted by the proposed rule: (1) concrete mixer delivery trucks; and 2) vocational trucks, which Include crew & foremen trucks, dump trucks, water trucks, mechanics trucks, fuel lube trucks, crane trucks, and drill rigs.

A common characteristic of these fleets is that they are primarily used locally and have much lower mileage than a typical long haul fleet. As such, their emissions are lower, life is longer, and don't need to be replaced as often. They are also complicated vehicles, for which there are not always simple retrofit solutions. For these vehicles a broadened low use mileage provision is needed. The ARB proposal provides a low mileage provision only if a vehicle is used less than 1,000 miles or less than 100 hours per year. The DTCC alternative provides relief for

vehicles used up to 30,000 miles and without an hour restriction. The average concrete mixer truck operates up to 20,000 miles and 1,740 hours per year. Vocational vehicles commonly travel about 30,000 miles in a year and operate up to 2,000 hours per year. Request: ARB should adopt the more reasonable compliance schedules and the expanded low use mileage provisions In the DTCC alternative. (CCIMA1)

Agency Response: Staff recognizes that most trucks do not operate more than 100,000 miles per year. Trucks that operate more than 100,000 miles per year are regularly replaced within 3 to 7 years and have the cleanest engines available. Vehicles that operate fewer miles are replaced less frequently and have considerably higher emissions per mile. An old truck operating 10,000 miles per year can also generate much higher annual emissions than long haul trucks operating 100,000 miles. New engines are already controlled to maximum extent possible and the only technologically feasible way to reduce emissions from diesel vehicles is to install exhaust retrofits on older engines or to replace older engines with newer ones.

The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section.

180. Comment: The ARB has steadfastly denied fuel additives a place in the emissions reductions business, although the Technical Support Document (TSD) for the proposed Truck and Bus Regulations does state up to 50% reductions in PM are feasible. Understandably, VDCES are more effective: therefore ARB wrote regulations supporting that industry. The only mention I can find in the TSD that might be a source of ARB's concern is one brief note of ash being formed by fuel additives, although the TSD then states that the majority of ash that impacts VDECS comes from lubricating oil additive packages, not from fuel additives. Both the EPA and CARB have laws in place that make it illegal to sell or use a fuel additive that can harm emission control equipment or that raise emissions. (CFRS1)

Agency Response: The use of fuel additive has not been denied through the Truck and Bus regulation. The regulation requires diesel emission control strategies (DECS) that provide verified PM emission reduction of equal to or greater than 85 percent (Level 3 device) or the best available control technology (BACT). It is possible that the BACT for a particular application may be a fuel additive, even if the additive only provides 50 percent PM reduction (Level 2 device). Fuel additive may also be used in conjunction with verified DECS devices if approval for use was obtained by including the fuel additive within device's verification Executive Order.

181. Comment: Many small companies and owner operators have leased vehicles, with the timeline many of these vehicles would be due to come off lease within 24 months of the regulations becoming effective. Can we put forth to the ARB an

exemption with penalties if not followed correctly, to help ease the financial burden in these situations? (ACG1)

Agency Response: The regulation requires lease contracts with effective dates later than January 1, 2010 to specify in which fleet the vehicle will reside. The regulation will treat rental and lease companies just like any other fleets. For vehicles leased before January 1, 2010, for a period of a year or less, if a rental or lease company and the lessee agree in the lease agreement that the vehicle will be the responsibility of the lessee, it may be excluded from the rental company's fleet that year and included in the fleet of the lessee. Vehicles under a long term lease period of a year or more that was in place before the regulation takes effect would be the responsibility of the lessee rather than the leasing company. Small fleets with 3 or fewer vehicles do not have NOx or PM reduction requirement until 2014, and have ample time to address any new contracts as appropriate.

182. Comment: Vehicles traveling from Northern California to another attainment area must past thru a non-attainment area. This has not been addressed by the Air Board. One attainment area to another within the mileage parameters set forth in the rule. (CCAA)

Agency Response: Starting in 2013, vehicles that are identified as operating exclusively in NOx exempt area and are exempt from the NOx requirement must stay in the NOx exempt area exclusively with the only exception being to service a vehicle. Such a vehicle traveling outside the NOx exempt area for any other reason would be a violation of the provision.

y) Groundwater Fleet Comments CGA

183. Comment: We note that the proposed On-Road Diesel Truck and Bus regulation has agriculture industry provisions that provide exemptions for specialty agricultural vehicles and extension of compliance dates for both low-mileage and limited-mileage agricultural vehicles. Certainly, the reasoning that resulted in the agricultural provisions would also apply for the groundwater industry that provides water for agricultural, domestic, municipal and industrial uses. In fact, a recent air emissions study prepared by a groundwater manufacturer determined that water well equipment accounted for 0.019% of all total emission hours in the US in 2007. CGA requests that the California Air Resources Board delay approval of the On-Road Diesel Truck and Bus regulation and direct CARB staff to develop, and include in a subsequent revision, provisions that provide exemptions for specialty groundwater industry vehicles and extension of compliance dates for both low-mileage and limited-mileage groundwater industry vehicles. (MMAX) (PPE)

184. Comment: Please modify the rules as per the California Groundwater Association requests and allow the drilling industry and its associated businesses to survive in a harsh economy. I want to see our air quality improve for the good of all but there must be a reasonable compromise that will allow our businesses to continue supporting our state. (HBDCI)

185. Comment: Please consider the California Groundwater Association request for rules. (CGA3)

186. Comment: The proposed regulation includes agriculture provisions, and certainly the reasoning that resulted in those provisions could definitely apply to the groundwater industry, which provides water for agricultural, domestic, municipal, and industrial uses. An air emissions study done by a manufacturer very recently stated that water well equipment in the United States covered only 2/10 of 1 percent of the total emissions. And we ask that you delay the regulation and ask for conditions for the groundwater industry. (CGA10)

187. Comment: CGA requests that the California Air Resources Board delay approval of the On-Road Diesel Truck and Bus regulation and direct CARB staff to develop, and include in a subsequent revision, provisions that provide exemptions for specialty groundwater industry vehicles and extension of compliance dates for both low-mileage and limited-mileage groundwater industry vehicles. CGA stands ready to assist staff in the development of these new revisions. While CGA proposes specific provisions for the groundwater industry to help avoid catastrophic impacts on needed current and future water supplies. (CGA1)

Agency Response: Staff do not believe the agricultural provisions should apply for groundwater drilling fleets. First, groundwater drilling fleets frequently operate in highly populated areas whereas most agricultural vehicles do not. Second, a high proportion of the groundwater fleet operates in the South Coast air basin where reducing both PM and NOx emissions are critical to meeting the federal attainment deadlines. Third, many of the groundwater fleet vehicles frequently operate in highly populated area that will have high diesel PM exposure risk where most agricultural vehicles that operate below the mileage limits predominantly operate on or near farms away from populated areas. Finally, expanding the number of vehicles eligible for the agricultural vehicle mileage provisions would result in higher emissions and the regulation would not meet the SIP commitments. Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section.

6. School Bus Requirements

a) School District Budget Limitations

1. **Comment:** Mid-Placer Public Schools Transportation Agency services 7 school districts in both urban and rural environments. Your proposed regulation is financially flawed in terms of poor timing for the state of California and the schools of California. (MPPSTA1) (MPPSTA2)

2. **Comment:** As you are aware, the State budget and school funding are in their worst crisis in decades. Now is not the time to impose these rules on school districts. (CASTO1) (WCTA1) (CASTO2)

3. **Comment:** We will not be able to borrow money to pay our cash flow in February. We can't even get bond money to do the school facilities and the state transportation facilities. The state does not need another potential liability right now. The fiscal community does not need to see this. (SESE2)

4. **Comment:** The Legislative Analyst Office (LAO) predicts it could be as long as 2013-14 before schools transportation funding returns to its present levels. Therefore, we can expect our members to continue to feel the financial constraints that we are feeling today. For these reasons Mid-Placer opposes the inclusion of school buses in the retrofit plans as proposed in section 2025. (MPPSTA1)

5. **Comment:** I represent the School Transportation Coalition. You were hoping that this economy might turn around in 2010. It's not. Legislative analysts did a report last month, said that state revenues would not reach last year's revenue levels until the year 2013-14, five years from now. Education is going to take between a 5 and an 8 percent cut this year. This year, in the middle of the year. It's a major crisis for the state. It's a major crisis for education. (MPPSTA3)

6. **Comment:** The Riverside County Schools Advocacy Association is opposed to the proposed school bus regulations that will be considered during the California Air Resources Board's next meeting scheduled for December 11 & 12, 2008. As you know, the proposed regulations would mandate that every school bus built on or after 1988 (with the exception of two strokes) be fitted with a retrofit device, or replaced by January 1, 2018. The estimated cost for these mandates is $517 million.

   California's already tight fiscal condition is being compounded by the depressed economy. As a result, the Governor is proposing mid-year budget cuts to schools. Riverside County school districts are facing at least $138 million in current year funding cuts per the Governor's proposal. Furthermore, we anticipate school districts will continue to see the erosion of school dollars into and possibly beyond the 2009-10 fiscal year. In fact, the Legislative Analyst's Office recently stated that California's schools won't return to current year levels until 2012-13.

   RCSAA must strongly oppose the mandated costs involved in the proposed regulations due to the state's dire fiscal climate. This is a terrible time to saddle school districts with new costs when they are facing historic cuts. (RCSAA)

7. **Comment:** Almost all school districts are facing a horrendous budget crisis. Even though this year has seen huge increase in gasoline prices, our school transportation program had to be reduced because the state budget that was passed in September gave us the same amount of funding as last year, 2007-08. Now, both the Governor's special session proposal and the legislature's alternative is going to make mid-year reductions almost 5% or over $320 per child or almost $6.9 million. These reductions are based on proposed revenue increases. If those increases do not occur, the reductions will double. (MUSD1)

8. **Comment:** SSDA opposes Agenda Item 08-11-3 proposed regulations because school transportation state funding has been proposed for cuts by the Legislative

Analyst and the Legislature in the November special session. Schools will face significant current year and budget year operational cuts no matter how the current state fiscal crisis is resolved. The proposed regulations hinder rather than help school districts to meet these fiscal challenges while providing quality education programs. (SSDA)

9. **Comment:** The failure of the recent November Special Session last week was extremely disappointing. It will mean 1) less revenue from any tax proposal because at least another month or two will be lost in 2008-09, 2) school districts would have less time to make mid-year reductions, 3) an increase in the uncertainty, 4) a greater probability that there will be no additional tax revenues, and 5) an consequently, a greater probability of increased mid-year reductions for education. In placing additional fiscal requirements on the state and on school districts, ARB needs to be aware that is the worst fiscal crisis for the state and for education in modern times.

The LAO states that our schools will be cut in 2009-10 by $3.8 billion or 6.4% from this year's level. The LAO notes that schools will not receive the statutory cost of living adjustment (COLA) of $3.6 billion. The total cut according to the LAO for our schools in 2009-10 will be $7.4 billion or 12.7%. Both the Governor and the legislature are proposing mid-year cuts in education of $2.5 billion for the remainder of 2008-09. Those cuts will increase to a possible $4.4 billion if there are no new revenues. This is on top of the statutory COLA of $2.8 billion, which has already been cut. Our schools may be cut by $7.2 billion this year. The consequence of the above is that it will take education and the state years just to return to current year funding levels. For example, according to the LAO, our schools will return to current year levels in 2012-13.

The LAO states that it will take until 2012-13 (a full four years) before the education funding levels for our schools will be restored to the current levels. Do not underestimate the magnitude of the current crisis. The state and our schools will be fighting for their survival. This is not the time to place additional costs and requirements on school districts. The rule making for school buses should be placed on hold until the economy and the finances of the state and our schools have had time to rebound. (STC) (SESE1)

10. **Comment:** Your regulations do not take effect until 2010-11; however, the Legislative Analyst in his most recent report has stated that it will be until 2013-14 before the state general fund revenues exceeds the levels in 2007-08. Education is not only facing incredible huge reductions this year that will take us years to recover, but we will continue to face extremely difficult times for the next five years. That is the major problem that we have with your proposed regulations.

Almost all school districts are facing a horrendous budget crisis. Even though this year has seen huge increase in fuel prices, our school transportation program had to be reduced because the state budget that was passed in September gave us the same amount of funding as last year, 2007-08. The school district has cut service to the bare bones, walking distances of three miles, reduced service in

rural areas of our district creating riding times of over an hour and a half, one-way, less funding available for training, supervision and maintenance.

Now, both the Governor's special session proposal and the legislature's alternative is going to make mid-year reductions almost 5% or over $320 per child or almost $16 million. These reductions are based on proposed revenue increases. If those increases do not occur, the reductions will double.

Your regulations do not take effect until 2010-11; however, the Legislative Analyst in his most recent report has stated that it will be until 2013-14 before the state general fund revenues exceeds the levels in 2007-08. Education is not only facing incredible huge reductions this year that will take us years to recover, but we will continue to face extremely difficult times for the next five years. That is the major problem that we have with your proposed regulations. (SUHSD1)

11. **Comment:** Just this month, we were faced with a decision of replacing a 1993 bus with 130,000 miles or replacing a failed transmission. The cost of replacing the transmission will be about $6000. Under the proposed regulations the bus will need an active particulate filter within three years at a cost of $16,000. Mid-Placer purchased the bus used two years ago for $20,000 when the district merged with one of our members. Given the current economic times the decision was made that we need to spend $6,000 now to keep using this bus, even if it means only be able to use it for the next couple of years. Two months ago, we chose to replace an engine in a bus with 450,000 miles because the Agency and its member districts cannot afford to replace the entire bus. (MPPSTA1) (MPPSTA2)

12. **Comment:** School transportation is under funded by 55%. School districts are constantly faced with making an all too familiar decision, books or buses. Last year home-to-school transportation encroached on the General Funds of California schools by approximately $650,000,000 and now the ARB wants to add in the neighborhood of $500,000,000 to that figure, unconscionable. (SWESC)

13. **Comment:** We fully support the health and safety of students that we transport and students all through California. But we oppose the rule primarily because there isn't funding existing. In California, school transportation operations were fully funded over 30 years ago. Twenty-five years ago, the State capped what we received for school transportation, and we only sporadically receive capital funding. In California, because of that funding problem, where over 55 percent of our funds are coming from school district general funds and there's this incredible pressure on school districts to utilize their funds for testing and accountability standards, districts are making the tough decision as to whether or not the buses are going to roll or kids are going to come to classrooms. And in all cases, districts are reducing school transportation or eliminating that service. (WCTA3)

14. **Comment:** The District only receives $1.5 million or only 29% from the state. We have not had the funds to upgrade our school bus fleet. The result is a school transportation fleet that is old. We do support the state's attempts to provide additional funds for school bus replacement. We have seen some progress, but not enough. (MUSD1)

15. **Comment:** We have aggressively pursued any and all grants available to modernize our fleet and address emission issues, but we will have buses that will need to be replaced, engines that will need to be repowered and retrofitted for which there are no funds available. With the state's current budget crisis it does not appear that there will be this type of funding available for years. (WCTA2)

16. **Comment:** ARB and the education community should be working together to obtain additional funding for school transportation and transit. (STC) (SESE1)

17. **Comment:** Our district serves approximately 5,174 high school students in rural Shasta County. Shasta Union High School District covers a geographical area that is almost 1800 square miles or viewed another way slightly larger than the State of Rhode Island. SUHSD buses log double the annual mileage of the average California school bus while traveling this expansive area. Additionally close to 35% of our students qualify for free and reduced meals, the poverty indicator established by the federal government. The real poverty measure is actually higher because many high school students are ashamed to admit that they qualify for the federal program. Our annual per student funding is approximately $6,700 and with additional categorical funds provides our District an operational budget of about $50 million dollars. Approximately 80% of these funds are used for employee salaries and benefits. The balance is used to support the educational program and the infrastructure needs of the District. Our state approved school transportation budget for 2007-08 was $1.48 million. This funding does not include sporting events and field trips. It only includes the approved cost of transporting children to and from school. However, in 2007-08 our district only received $747,000 from the state to operate our transportation department. Every year, we must take an additional $750,000 from the classroom to support home-to-school transportation, curricular and sports field trips are an additional expense.

    In the last seven years SUHSD has been very fortunate to qualify for funding from the Lower Emission School Bus Program. We have used these funds to replace older, less safe buses that produce greater emissions. SUHSD used a significant portion of the money to purchase and operate the largest fleet of natural gas buses in Shasta County. However, the result is still a school transportation fleet that is too old. The Department of Education has estimated that the maximum age for school buses is fifteen years. Unfortunately, over 34% of SUHSD buses exceed that maximum age. We do support the state's attempts to provide additional funds for school bus replacement. We have seen some progress, but not enough. (SUHSD1)

Agency Response: Staff recognized that the current economic situation is challenging for everyone in California and especially school districts choosing between transportation and other programs. We applaud school transportation officials' efforts to make the difficult choices required to run a school transportation operation. However, the ARB must take action to protect the health of school children.

The Truck and Bus Regulation, which includes regulatory provisions for school buses, is one of the last diesel risk reduction measures developed in response to the ARB's identification of diesel exhaust particulate matter (PM) as a toxic air contaminant. The regulation only requires PM reductions that can be achieved with the use of PM VDECS and does not require replacements, except for pre-1977 model year buses. Even where PM VDECS cannot be installed on school buses because they are too old, new vehicles are not required since compliance can be achieved by using a used buses that are available in the market that are either already equipped with PM VDECS or or can be retrofitted. . Nothing in the regulation requires school district to purchase new school buses. As such, the expense of complying with the regulation should be much less than the commenter's have suggested.

Postponing or excluding regulation of diesel exhaust PM from school buses results in the loss of significant emission benefits, adds to increased exposure along with resulting detrimental health effects for school children and the neighboring community, and increases health care costs. Pages 162 to 164 of the TSD discuss the health effects of PM and of exposure to diesel exhaust and diesel PM with further details discussed in *Appendix D: Health Impacts from On-Road Diesel Vehicles* of the TSD. As noted in the TSD, for the entire regulation, staff estimates that the cumulative emissions reductions over the lifetime of the rule will result in approximately 9,400 fewer premature deaths, 1,100 fewer hospital admissions due to respiratory causes, 1,200 fewer hospital admissions due to cardiovascular causes, 150,000 fewer cases of asthma-related and other lower respiratory symptoms, 12,000 fewer cases of acute bronchitis, 950,000 fewer work loss days, and 5,500,000 fewer minor restricted activity days.

ARB acknowledges that there is a cost to complying with the Truck and Bus Regulation; however, the health benefits lost from not regulating far exceed the estimated cost of the regulation presented in on page 22 of *Appendix J: Cost and Economic Analysis Methodology* of the TSD. The estimated statewide benefits over 2010 to 2025 from these reductions in adverse health effects is $69 billion using a 3 percent discount rate or $48 billion using a 7 percent discount rate. As with any regulation, ARB anticipates that costs for compliance will be born by the regulated community. ARB is fortunate to have some funding available to assist with compliance through the Lower-Emission School Bus Program, in addition to local funding assistance.

b) Delay Regulation

18. Comment: School bus portion of the regulations should be delayed until the state can afford it. The LAO predicts it could be as long as 2013-14 before schools transportation funding returns to its present levels. Therefore, we can expect our members to continue to feel the financial constraints that we are feeling today. (MPPSTA2)

19. Comment: The California Association of School Transportation Officials urges your rejection or postponement of these rules relative to school buses that would deal a crushing financial blow to school districts and students throughout the State. California froze school transportation operational funding over twenty-five

years ago and has only occasionally granted it a COLA. Other than occasional and sporadic programs like the Low Emission School Bus Program (LESBP), the State does not provide capital funding for school transportation. Currently the State, on average, funds only 45% of the operating costs for school transportation forcing school districts to rob from their classroom funds to operate buses. (CASTO1) (WCTA1) (CASTO2)

20. **Comment:** West County Transportation Agency is a joint powers agreement of sixteen school districts in Sonoma County. We were formed to provide safe, cost-effective, coordinated and child-centered school transportation service in light of the State's significant reduction to school transportation operational costs. We receive about 50% of our funding from the State and the remaining comes directly from our members' classroom budgets. All of our member school districts are in declining enrollment, further impacting their funding. West County Transportation Agency urges your rejection or postponement of these rules relative to school buses that would deal a crushing financial blow to our sixteen school district members. (WCTA2)

21. **Comment:** The rules should be made contingent upon available funding for school buses. If you're not going to make it contingent, I would take these rules and I would just wait until the end of this fiscal crisis that the state is in right now until the spring and then adopt it. (MPPSTA3)

22. **Comment:** This year, there is a major crisis for the state. There is a major crisis for education. You should make your rules in education contingent upon available funding for school buses. (SESE2)

23. **Comment:** Make the regulations contingent on available funds or postpone the rulemaking. Because of the magnitude of the potential state cost, we would recommend caution before these regulations are adopted. Our priority would be to make the regulations contingent on available funds so that we could work jointly together to obtain the necessary funds. (STC) (SESE1)

24. **Comment:** I encourage you to delay implementation of this and to look for other funding sources before you implement it. (MUSD2)

25. **Comment:** SSDA recommends the ARB review the Proposition 1B school bus replacement regulations and defer action on Agenda Item 08-11-3 proposed regulations. SSDA believes the proposed regulations need more study in light of the issues raised by the School Transportation. (SSDA)

Agency Response: Staff recognizes that the current worldwide recession impacts both the private and public sector's ability to finance today's projects and makes budgeting for the next fiscal year difficult. However, the requirements of the regulation require the installation of diesel particulate filters on 2000 and newer school buses by January 1, 2011, not to exceed more than 25 percent of the fleet. Newer buses will likely be able to be retrofitted with the least expensive passive DPFs and are eligible for funding through the Lower-Emission School Bus Program. As a result, the impact on the school

district's budgets may be lessened through strategic planning and utilization of the funding mechanism available to pay for emissions control technology.

The benefits from reducing PM and NOx emissions include the reduction of risk to the public to exposure of toxic chemicals found in diesel PM, and contribution to the attainment of the federal PM and ozone ambient air quality standards. Public health will be improved and costs savings will achieved through the reduction of exposure to toxic chemicals and lower levels of ozone. The costs associated with compliance of this regulation will be offset by lower health and warfare costs associated with public exposure to air pollution. The regulation was designed to minimize the financial impact to school districts by delaying the costly school bus replacement requirements to future years, while requiring the less expensive diesel particulate filter requirement in the earlier years. This provides school districts the opportunity to develop future year transportation budgets with compliance plans that will minimize the impacts to the overall budget.

Postponing or excluding regulation of diesel exhaust PM from school buses results in the loss of significant emission benefits, adds to increased exposure along with resulting detrimental health effects, and increases health care costs. Pages 162 to 164 of the TSD discuss the health effects of PM and of exposure to diesel exhaust and diesel PM with further details discussed in *Appendix D: Health Impacts from On-Road Diesel Vehicles* of the TSD. As noted in the TSD, for the entire regulation, staff estimates that the cumulative emissions reductions over the lifetime of the rule will result in approximately 9,400 fewer premature deaths, 1,100 fewer hospital admissions due to respiratory causes, 1,200 fewer hospital admissions due to cardiovascular causes, 150,000 fewer cases of asthma-related and other lower respiratory symptoms, 12,000 fewer cases of acute bronchitis, 950,000 fewer work loss days, and 5,500,000 fewer minor restricted activity days. The estimated statewide benefits over 2010 to 2025 from these reductions in adverse health effects is $69 billion using a 3 percent discount rate or $48 billion using a 7 percent discount rate. The health benefits lost from not regulating far exceed the estimated cost of the regulation presented on page 22 of *Appendix J: Cost and Economic Analysis Methodology* of the TSD.

c) State Should Fund Regulation

26. Comment: A reasonable comparison is that the ARB has identified that you will incur new costs to administer this program. Surely you have identified a revenue source to pay for this. However, you are imposing these rules on school districts without proposing a funding source for their compliance. LESBP has provided funding for some bus replacements and some retrofits but falls far short of total funding necessary.

These new rules do create a new and unfunded burden on all school districts in California whether they operate their own buses or contract for the service. As noted above, if the State provided funding for reasonable bus replacement, we would already be in compliance with new and clean-emission buses. (CASTO1) (WCTA1) (CASTO2)

27. **Comment:** Although your staff has worked to try to respond to concerns that have been raised, we are concerned that several elements will prove to be tremendous burdens to our Agency. These rules create new and unfunded burdens on our Agency and our member school districts. If the state adequately funded school bus replacement we would already be in compliance with new and clean-emission buses. That of course is not the case. Although we understand the need to clean up our air and address global warming, mandating new regulations that will dramatically affect our school districts without providing funding is unconscionable. The state and our school districts are facing their worst budget and funding crisis in decades. This is not the time to place added burdens on school districts without funding them. (WCTA2)

28. **Comment:** In my school district we have approximately a $15 million budget, of which $1.5 million goes to school pupil transportation. That's money that's diverted directly from the classroom to transportation because it's considered a necessary service in our large rural area. We're also experiencing a $2 million reduction in funding this year, thanks to the $14 billion deficit in the State of California. We're anticipating another $2 million deficit or $2 million reduction in funds next year.

    Fifty-four of the 220 school buses in our county are pre-'87 and an additional 50 are pre-'94, which means there are over a hundred buses that require retrofits and/or replacement. Shasta County received $4 million in funding for which we can retrofit approximately 50 to 65 vehicles and replace approximately 17 school buses. As you can see, that leaves a lot of school buses in my county that need retrofit and replacement and we're not going to get 95 percent of them. That money's got to come from some place. It's going to come from the General Fund. (SUHSD2)

29. **Comment:** We got 30 school buses to replace. That's almost half our fleet under the rule. And we would like ARB and the education community to work together to obtain funding for that. (KCUT2)

30. **Comment:** With midyear cuts, schools will be unable to come up with the match funds for bus replacement. The only way we can comply with this regulation is if the buses are fully funded. (LUSD3)

31. **Comment:** Under the proposed ruling before you today Kings Canyon Unified would potentially need to replace 30 school buses by 2018. Under the current state of our educational funding this does not appear to be an option unless there is full mandated funding or additional bond or grant funds for bus replacement available. (KCUT1)

32. **Comment:** The Manteca Unified School District serves about 23,000 students in south San Joaquin County. I'm here today to relate to you that I believe this regulation equates to a mandated cost to impose this on school districts in tough economic times. I would suggest that as you go forward you tie this to funding. Maybe under the Lower Emissions School Bus Program or something like that for implementation. My main concern is this is going to affect students. (MUSD2)

33. **Comment:** Consequently, we would urge the ARB Board to make all their requirements on school buses contingent on available funding. We would work hard with ARB to obtain that funding. (SUHSD1)

34. **Comment:** I encourage you to fully fund this new regulation, which appears to be mandated. (LUSD2)

35. **Comment:** The implementation of 2025 regulations should be contingent on available funding. (MPPSTA2)

36. **Comment:** Any new regulations should be contingent upon funding. (RCSAA)

37. **Comment:** ARB and the education community should be working together to obtain additional funding for school transportation and transit. (MPPSTA2)

38. **Comment:** Simply stated, the only way that our school district can comply with these regulations is if the Air Resources Board provides full funding for bus replacement and or retrofits. (LUSD2)

39. **Comment:** Move the date up. Let's make it contingent upon funding and let's get funding to replace them. (MPPSTA3)

40. **Comment:** Adopt rules only when subsequent phases of the Lower Emission School Bus Program funding are available for us. (WCTA3)

41. **Comment:** If you intend to mandate that we replace these buses and pull them from service, you must provide the funds. (ELKGROVE)

42. **Comment:** SSDA further believes no new unfunded mandated costs should be applied on school transportation until there is adequate reimbursement for the home-to-school transportation program. (SSDA)

43. **Comment:** The proposed regulations mandate that the 74 pre-1977 school buses must be retired by 2012. The Prop 1B funds do provide $140,000 per replacement school bus. The actual cost will be greater. Because the retirement is mandated by the regulation, the excess cost or even the total cost is a state reimbursable mandate. This provision could cost the state up to $12.5 million. (STC)

Agency Response: Staff recognizes that the budgeting process for school districts requires difficult choices. However, school district budgets will need to include funds to comply with requirements of the regulation. Budgets differ from district to district and while some have a greater ability to fund the costs associated with complying with regulation than others, the timing of reducing public risk to the effects of air pollutions cannot be aligned with the budgets of the many different school districts. The need to protect public health, especially school children, cannot wait until every school district in the state has budgeted for improved transportation systems. Every effort has been made to ease the burden on school districts, including providing incentive funding though the Carl Moyer incentive funding program and the Lower-Emission School Bus Program.

The regulation only requires PM reductions that can be achieved with the use of PM VDECS and does not require replacements, except for pre-1977 model year buses. Even where PM VDECS cannot be installed on school buses because they are too old, new vehicles are not required since used replacement that can accept a PM VDECS is sufficient and used buses are already available that are originally equipped with PM VDECS. Nothing in the regulation requires school district to purchase new school buses. As such, the expense of complying with the regulation should be able to be included in the school district budgets.

ARB acknowledges that there is a cost to complying with the Truck and Bus Regulation; however, the health benefits lost from not regulating far exceed the estimated cost of the regulation presented on page 22 of *Appendix J: Cost and Economic Analysis Methodology* of the TSD. The Truck and Bus Regulation is not a reimbursable mandate and is further discussed in the response to comments 6 through 9 in the Legal Comments section. As with any regulation, ARB anticipates that the costs for compliance will be born by the regulated community. ARB is fortunate to have some funding available to assist with compliance through the Lower-Emission School Bus Program, in addition to local funding assistance.

d) School Bus Transportation Service Reduction

44. Comment: State school transportation funding is already so woefully underfunded that districts are being force to drastically reduce home to school transportation or eliminate it altogether. In Riverside County, state funding only cover 37% of the average districts' actual costs- forcing us to redirect dollars to transportation that could otherwise go to our core mission of raising student achievement. (RCSAA)

45. Comment: The Air Resources Board's proposed regulations will cause additional reductions and may force school districts to eliminate school transportation programs. This article is indicative of what is happening throughout the state. When programs are eliminated or reduced, it has a double impact of worsening air quality and reducing the safety of our schoolchildren because of the increased congestion caused by more cars and the longer walking distances. As bad as the cuts to school transportation and education have been and they will increase. The state's main focus needs to be on the California economy and the fiscal condition of the state. This is not the time to put the state at risk for $500 million.

Even if your regulations do not result in a state reimbursable mandate, although we are positive this is the case, the estimated cost of over $500 million is then the out-of-pocket cost the school districts will have to pay if your regulations are adopted. Our schools simply do not have the funds and will not have the funds in the near future.

It is in the best interest of air quality and student safety for the state to have a vibrant and up to date school transportation system. Instead, we have a system that is last in the nation and is slowly dying. School districts representing the more

affluent communities of the state are actually eliminating their school transportation system. (STC) (SESE1)

46. **Comment:** The Small School Districts' Association (SSDA) is writing to request that the Air Resources Board (ARB) defer the ARB proposed regulations in Agenda Item 08-11-3. SSDA represents the more than 500 school districts that have 2,500 or fewer students. Most of these districts are in rural California with declining student enrollment, reduced employment and declining property values. Rural small school districts rely upon home-to-school transportation for students to attend school. Many of our districts are reducing their transportation services because of inadequate state funding for transportation costs. These districts have to choose between keeping teachers and textbooks or maintaining transportation services while they receive less state funding because of declining enrollment. Because there are few regional public transportation services in these rural areas, the result is less school transportation, more single-trip automobile transportation and greater pollution.

Enclosed is a computer run highlighting local school encroachment (paid by classroom funds) as a dollar amount per district and as a percent of the districts total revenue limit (classroom discretionary) funds. (SSDA) [A sixteen page spreadsheet is attached that outlines each member districts and certain individual school's small reimbursement amount: http://www.arb.ca.gov/lists/truckbus08/964-david_l._walrath.pdf]. (SSDA)

47. **Comment:** This proposed regulation could not have come at a worse time. California schools should not have to choose between books and buses. Lakeport is a small, rural town located on the west shore of Clear Lake in Lake County, approximately 100 miles northeast of San Francisco. The population of incorporated Lakeport is approximately 5,100. Our community is primarily made up of families with school-age children and retired senior citizens. The Lakeport Unified School District is comprised of Lakeport Elementary School (grades K-3), Terrace Middle School (grades 4-8), Clear Lake High School (grades 9-12), Natural High Continuation School, and Lakeport Unified Home School. We have approximately 1660 students that attend our schools and about 625 students ride our buses to school daily.

Students are subject to a required walking distance. Only students living beyond the walking distance will be eligible for bus riding privileges. Students in grades K– 5: 3/4 mile walking distance, grades 6, 7, 8 – 1 mile walking distance, and grades 9 - 12 have a 2 mile walking distance. The majority of the 625 students we transport rely on the bus service we provide, as they live beyond two miles and many of the families do not have cars. It is imperative that we maintain our current level of service. In 2003 we had to eliminate two bus routes due to a reduction in funding which put over 200 students on the streets, most without sidewalks. The collection of fees for transportation is not an option as 65% of our children qualify for free and reduced programs. In addition, our district is experiencing declining enrollment which is what our funding is based on. Our school district does not have the funds to comply with new PM regulations. (LUSD2)

48. **Comment:** Agenda Item 08-11-3 proposed regulations would exacerbate this situation of reduced school transportation. The Item would mandate new costs that will not be funded because there are no funds available for school mandate reimbursement. This fiscal fact means school districts will have to further reduce school transportation services (meaning layoffs in a recession), if they have to comply with a new costly transportation mandate. The proposed regulations are counter-productive. (SSDA)

49. **Comment:** The state apportionment for transportation covers 53% of Mid-Placer's expenses (2007-08). The balance must be borne by the member districts from their general funds. Increasing the cost of transportation will further pull money from schools general funds, and thence out of the classroom. The schools are funded based on students attending class. School buses help get them to school and preserve school funding. For these reasons, reducing transportation has an impact of increasing class size. (MPPSTA1) (MPPSTA2)

50. **Comment:** The Yellow School Bus has been an essential part of providing public education to the children of Lakeport. It is part of the fabric of this American institution, the very foundation in how we educate our children. In California we have developed a system that has proven to be the safest form of transportation in the world. We have the strictest regulations relating to the construction and use of the school bus and the education and training of our drivers. I encourage you to not increase the price of operating school busses to the point that we can't afford to transport our children. (LUSD2)

51. **Comment:** We transport over 650 students daily. Sixty-five percent of our students are from low income families. Due to budget, we've been forced to increase walking distances up to two miles. (LUSD3)

Agency Response: Staff recognizes that school districts have difficult choices to make regarding the transportation service they provide to their students. The installation and maintenance of diesel particulate filters represents an additional cost. However, DPFs are standard equipment of all new school buses and their maintenance would have to be added to the school district's budgets if new school buses were added to the fleet either as a result of complying with the regulation or as a result of the natural fleet turnover. Additional costs to school districts would be the cost of DPF installation on existing buses and the cost of replacing buses where DPFs cannot be installed. Replacement can be done through purchase of newer used buses that have PM VDECS already installed or that can be retrofitted with VDECS after purchase, which effectively reduces the cost of the regulation below what many commenter's have suggested. Additionally, the cost of the regulation is spread out over four years, which should provide the time needed for school districts to add these costs to their budgets.

Staff does not believe that school transportation services will need to be reduced because of the regulation. ARB acknowledges that there is a cost to complying with the Truck and Bus Regulation; however, the health benefits lost from not regulating far exceed the estimated cost of the regulation presented in on page 22 of *Appendix J: Cost and Economic Analysis Methodology* of the TSD. As with any regulation, ARB

anticipates that costs for compliance will be born by the regulated community. ARB is fortunate to have some funding available to assist with compliance through the Lower-Emission School Bus Program, in addition to local funding assistance.

Student transportation has been declining steadily since 2002 as school districts across the state have reduced or eliminated school transportation services. Staff does not anticipate that the regulation will have an impact on this trend. Staff will continue to monitor, and if appropriate, consider alternatives to ensure the safety of the school children.

The Truck and Bus Regulation is not a reimbursable mandate and is further discussed in the response to comments 6 through 9 in the Legal Comments section. Also, refer to the Agency Response to comments 26 through 43 in this section.

e) Impact on Safety

52. **Comment:** The proposed regulation has the potential to scuttle school bus transportation in California. School buses provide the safest and most economical transportation to bring students to school. Without school buses, parents will be driving their children or more children will be riding bicycles, both of which place students at greater risk. The increased trips by private automobiles will have an impact on air quality as well. (MPPSTA1) (MPPSTA2)

53. **Comment:** Nationally 800 students lose their lives annually while being transported back and forth to school by means other than a school bus compared to 6 students lives lost annually going back and forth to school in a school bus. So I don't know what the cost methodology is for figuring that out, but I'd like to see somebody do it. (SUHSD2)

54. **Comment:** I am concerned that we have a number of students in rural areas. Implementation of this rule and costs passed on to the school district will result in them losing their transportation. We simply don't have the budget to do it and are facing further cuts this year. This will affect students' safety. If we remove students from school buses, the safest form of transportation and place them in private passenger cars, they will be less safe. (MUSD2)

55. **Comment:** If I take one bus out of service, between 30 and 60 kids will be on the road in their parent's cars. And we haven't done anything for air quality and we certainly haven't helped them with safety. (ELKGROVE)

56. **Comment:** The Southwest Transportation, which serves eight school districts in the Fresno County, California, ranks last in the nation in the percentage of children that ride school buses, even though school buses are the safest form of transportation. The concern is that additional regulation and mandates rules will result in fewer children riding school buses. (STRAN)

57. **Comment:** California ranks last in the nation for the number of public school children that ride a school bus. Yet, a ride on a California school bus is the safest

form of surface transportation in the nation. Given the fact that a ride on a California school bus is the safest, but why is the number of students that ride a California school bus on the decline? Adding more unfunded mandates to school transportation will do nothing more that [sic] further reducing the number of students who ride the bus; thereby, exposing kids to even greater peril. (SWESC)

58. **Comment:** As a policy-making body, you and we should be working together to figure out ways at the highest levels of government to train our students, our next generation to ride school buses and mass transit rather than turning them away and showing them the only option is individuals and single cars. We would ask you and urge you to look at your staff recommendation to monitor the progress of school transportation with these potential new rules. (WCTA3)

Agency Response: Staff agrees that safety of students is important. The safe keeping of our lives comes in multiple forms, including protection from disease. The health benefits of the regulation, mentioned in the response to *section a) School District Budget Limitations* and in the response to *section g) Cost Analysis*, are estimated at $48 billion to about $69 billion. This dollar amount represents cumulative emission reductions over the lifetime of the rule associated with approximately 9,400 fewer premature deaths, 1,100 fewer hospital admissions due to respiratory causes, 1,200 fewer hospital admissions due to cardiovascular causes, 150,000 fewer cases of asthma-related and other lower respiratory symptoms, 12,000 fewer cases of acute bronchitis, 950,000 fewer work loss days, and 5,500,000 fewer minor restricted activity days. See pg 164 of the TSD and page 9 of *Appendix D: Health Impacts from On-Road Diesel Vehicles* of the TSD. The Truck and Bus Regulation requires all pre-1977 model year school buses to the replaced. These high-polluting school buses that pre-date minimum federal motor vehicle safety standards will be replaced with safer, cleaner school buses. The ARB is fortunate to have some funding available to help offset most of the costs of the regulation and to replace all eligible pre-1977 model year school buses. Because school bus fleets have several opportunities to have all or most of the costs paid for through incentive programs. Staff does not believe that districts will need to reduce their transportation services because of the regulation. Staff will be monitoring the situation and reporting back to the board.

f) Impact on Air Quality and Health

59. **Comment:** Forcing school districts to repower, retrofit or replace school buses without providing funding will ultimately leave local school trustees with little choice but to park buses, reduce or eliminate school transportation service. This will, on average, place an additional fifty cars on the road for each bus taken out of service, causing more congestion and emissions. (CASTO2)

60. **Comment:** What effect does this rule have when we take ten buses out of a rural school and replace it with 250 to 300 motorists? When the school bus comes in, it shuts down to prevent idling. These are going to sit in congestion and create more air quality problems. (MUSD2)

Agency Response: Because most existing school buses have few emissions controls, the NOx and PM2.5 emissions from one bus is significantly higher than the emissions

from a fleet of cars carrying an equivalent number of children. In addition, due to the high toxicity of diesel particulates, a single diesel fueled bus has a greater impact on health than a fleet of gasoline fueled passenger cars. Student's exposure to diesel particulate while commuting on diesel school buses is significant and therefore the exposure should be reduced.

g) Cost Analysis

61. **Comment:** The school bus regulations should be delayed until the following question can be answered to the satisfaction of the board: Is the state cost, or for that matter, the school district cost, over $500 million? (SESE1)

62. **Comment:** The school bus regulations should be delayed until the following questions can be answered to the satisfaction of the board: Does it make economic sense to require an active retrofit on a bus that is over 20 years old? Will the total cost of the retrofit cost more than the school bus? Has ARB done a total life cycle cost for the active and passive retrofits? (SESE1)

63. **Comment:** Your proposed regulations will cost our public schools $500 million in the next ten years for the trap requirement and for the school bus requirement. $500 million is the amount that the state or we will have to pay for the mandated traps and for the mandated school buses. Your staff has made cost assumptions, many of which we do not agree with, based on the current value of the school buses. The most important part is that no matter what assumption one uses, our school districts, or the state will have to come up with $500 million to pay for the cost of the traps and cost of the new school buses. We do not see where these funds are going to come from. (MUSD1) (SUHSD1)

64. **Comment:** Does the cost analysis take into account the reduced capacity on the school buses because of the recently implemented seat belt regulation. We're trading in 84 passenger buses for 50 passenger buses. (SUHSD2)

65. **Comment:** We believe there are at least three flaws in the staff's school bus methodology. The first flaw is that future costs are converted to the "cost value of money in 2008 dollars". In that calculation, the staff assumes that the cost of the retrofits and cost of school buses are static and do not change over time. That is simply not the case. In fact, we know that the cost increases for school buses will be greater than the cost increase of money. Their methodology greatly underestimates the costs. A far simpler method would be to just express everything in today's dollars. That will still underestimate the costs, but it will provide a much more reasonable estimate than the staff's methodology.

The second flaw is the assumption that a new school bus will cost $140,000. That cost is completely unreasonable. The cost of a new CNG school bus is $185,000. The cost of a diesel bus with air is around $165,000. The cost of a hybrid electric is $225,000. The cost of a zero emission electric bus should be in the approximately $300,000. If 50% of the new school buses are diesel, and if 35% are CNG, and if 10% are hybrid electric and if 5% are zero emission electric, then the average cost for a new school bus is $185,000. In addition, the staff also assumes that the average cost of the passive

trap is $11,000 and the cost of an active trap is $15,000. We also believe these estimates are too low.

Third, the staff assumes that the pre-1987 school buses (1,769 school buses) will automatically be replaced by the school districts when they are 30 years of age. That is a naive assumption. To begin with, that will only happen if the school districts have available' funds. We do not see that happening. Because of the reimbursable mandate caused by your regulation, school districts will keep those school buses running until 2018. Instead of a cost of zero; the state mandated cost for those school buses will be $315 million.

In calculating the replacement cost of the 688 (two stroke) pre-1993 school buses, staff prorated the cost based on the remaining life of the school bus. Again, it was assumed that school buses would be retired when they were 30 years of age. Staff determined that the cost of those 688 school buses were $8.8 million, which is an average cost of less than $13,000 per school bus. That is not how the reimbursable mandate claim process will work. School districts will be reimbursed by the state for the full cost of the school bus because that is how much the regulation is going to cost the school district. The state cost for these 688 school buses will be $127 million. The total state cost for the replacement of all the pre-1993 (two-stroke) school buses, including the pre-1987 school buses, will be $455 million. (STC)

Agency Response: As noted on page 1 of *Appendix K: Cost and Economic Analysis Methodology* of the TSD, the cost attributable to the estimated 8,312 private and public school buses in California still needing to become compliant with the Truck and Bus Regulation in 2010 is estimated to be $69 million, with $27 million in costs attributed to the public school bus fleet and $42 million in regulatory costs to be incurred by the private school bus fleets. Below, *Table 3: Cost of Truck and Bus Regulation for School Buses* summarizes those anticipated costs to the school bus fleet in California.

Table 3: Cost of Truck and Bus Regulation for School Buses

	Public Fleet	**Private Fleet**	**Total**
Replacement Costs	$8.8 million	$2.6 million	$11.4 million
Retrofit Costs	$18 million	$39 million	$57 million
Total	$27 million	$42 million	$69 million

Compressed natural gas (CNG), hybrid electric, and zero emission electric buses are not required for compliance. Currently, a conventional styled diesel-fueled school bus with air conditioning and a wheel chair lift can be purchased for $110,000. The transit style buses are more expensive but can be purchased for $140,000 without air conditioning and without a wheel chair lift. Thus, staff's use of $140,000 as the cost associated with a school bus requiring replacement to be compliant with the Truck and Bus Regulation is an appropriate amount.

Staff used a bus service life of 30 years in the cost analysis and new bus replacements to reflect a conservative approach. The regulatory costs associated with the 1987 to 1993 model year two-stroke engine school bus replacement are prorated to the

remaining service life of the school bus. Staff has attempted to separate out the amount of the cost attributable to the Truck and Bus Regulation from the cost of normal replacement. For example, the full cost of bus replacement can not be attributed to the regulation if it was only replaced one year early. Although staff understands that the full price of the school bus replacement is charged to the State in the year of the purchase whether or not there is a regulation.

In addition, staff estimates that a substantial number of school buses will use diesel particulate filters to meet compliance. Staff used retrofit costs of $11,000 for a passive-style diesel particulate filter and $15,000 for an active-style filter. These costs do not include operating and maintaining a diesel particulate filter. ARB staff acknowledges that there are costs associated with filter maintenance such as regeneration of active filters including the cost of electricity or fuel used per regeneration. Typically buses operate in a duty-cycle that would require the use of an active system. Buses that are twenty years or older have limited options when it comes to DPF choice, for there is only one system verified for use on school buses, it is an active system. Staff moved the compliance date for older buses to the last compliance year, therefore providing additional time for school districts to determine other options for these buses, such as repowering or replacing with a used bus. Even with such costs considered, the estimated $48 billion to $69 billion statewide benefits over 2010 to 2025 from the reductions in adverse health effects, as addressed on pg 164 of the TSD and on page 9 of *Appendix D: Health Impacts from On-Road Diesel Vehicles* of the TSD, far outweigh the costs of the Truck and Bus Regulation.

The Truck and Bus Regulation is not a reimbursable mandate and is further discussed in the response to comments 6 through 9 in the Legal Comments section. The cost analysis of the Truck and Bus Regulation does not take into account the reduced capacity on the school buses because this cost impact is not limited to replacement of school buses required by the Truck and Bus Regulation, but occurs any time a school bus is replaced.

As stated, staff estimates the costs to the school districts to comply with the regulation to be $69 million. This cost includes both replacement of school buses and retrofitting existing school buses. The decision to retrofit older buses that are scheduled to be replaced is one for the districts to make. In some instance it may make sense and others if will not. Staff has researched the total life cycle cost of using DPFs to reduce diesel PM and find that no better option exists to reduce public expose to harmful diesel PM emissions. Cost assumptions as based on an actual installations of DPFs on a variety of vehicles including school buses, but bus replace cost do not consider changes in the number pupils that the bus can carry as a result of current seat belt law.

The costs associated with compliance were converted in to 2008 dollars which takes into consideration the time value of money. Future annual costs are converted in to 2008 dollars so that comparisons can be made with other cost. This is an industry standard method of comparing projects and determining costs. It takes into consideration opportunity costs, inflation and future costs.

Staff researched the cost of both new buses and DPFs, both passive and active. A wide variety of sources were used to collect information about DPF costs including surveys, retail price guides, and actual invoices from fleets where DPFs were installed. School bus costs were obtained from bus manufacturers and actual invoices submitted for reimbursement under various funding programs.

School buses, like all vehicles, eventually wear out and have to be replaced. As they age, they become less dependable and less able to ensure the children arrive at school on time. In addition, maintenance cost increase dramatically as buses age. The average life of school bus that was used in the analysis was 30 years which based on industry standards is conservative. As a result, the analysis was based the remaining life of the vehicle when it is required to be replaced. The value of a new school bus is spread out over its useful life because it continues to provide utility far beyond the day it was placed into service.

h) Operational Costs

66. Comment: It also does not account for or fund the electrical power costs to burn off soot in active devices, which is approximately $5,000 per bus per year. Spare filters and cleaning costs account for some need, but will not address all operator's needs. (CASTO1) (WCTA1) (CASTO2)

67. Comment: Funds to clean diesel particulate filters only cover the cost for a finite period of time. The on-going cost of paying for the electricity for active filters is unfunded. We find it costs us $5,005 per bus, per year. The LESBP only funds a small percentage of our Agency's need to come into compliance with your proposed rules. (WCTA2)

68. Comment: Additional retrofit costs include: cost of traps $18,000 for a hybrid active/passive system; de-ashing station $13,000; electrical $20,000 ($44,000 for 5 years); or contract for de-ashing 5 years for 15 buses at $37,500. The trap cleaning machine cost $8,000 plus shipping cost of $610. In 2003, we received a grant from SQAQMD for 31 traps. Each trap was $6,500. Each time a trap is removed, a new gasket has to be replaced. The cost of the new gasket is $160. The cost of the electrical infrastructure is approximately $2,000 for the first outlet and $1,000 for each additional. The electrical power to burn the soot off active devices cost $5000 per year. The actual cost of electricity for cleaning is not known. However, each active unit requires approximately 375 hours of regeneration annually with an electrical requirement of 2800 watts of 208 volts 60 HZ. Positive units $12,000 each for parts and labor. Active units cost $16,500 each for parts and labor. Other costs include:

- Removal and cleaning labor = $180.00
- Routine inspection and maintenance =$60.00
- Parts, supplies and materials:: $80.00 d.
- Total annual Maintenance Cost:: $320.00

Cost of disposal of the waste/pollution from the traps is $10 per unit per year. Low sulfur diesel fuel is now required and standard for all states since 2007. The cost of low sulfur diesel fuel is approximately 4 cents per gallon higher. There have been no significant increases in engine repair resulting from additional back pressure. However, trap cleaning and trap replacement is expected to increase as the engines reach higher miles. The annual cost for a bus being out of service for particulate filter maintenance is $200.00 per unit. The actual state cost of the retrofits for the 1,730 public school buses is greater than the staff estimate of $18 million (average cost of $10,400). Assuming that the cost of the retrofits will increase at the same rate as the cost of money shows the cost to be $22 million. However, school districts will be reimbursed for the full cost of the trap over the life of the school bus. The total reimbursable cost will easily exceed twice or three times the $11,500 cost of the trap. The conservative, very conservative, range will be between $23,000 and $44,500 over the life of the school bus. ARB staff assumed an average cost of $11,000 for a passive retrofit. (STC)

Agency Response: As stated in the response to Comments 1 through 17, ARB anticipates that costs for compliance will be born by the regulated community, as with any regulation. ARB is fortunate to have some funding available to assist with compliance through the Lower-Emission School Bus Program, in addition to local funding assistance. The Lower-Emission School Bus Program provides funding opportunities for retrofitting buses and includes 5 years of maintenance costs as part of the total grant.

Chapter XIII of the Technical Support Document describes the annual operating and maintenance cost used in the staff analysis to be about $400 per year per vehicle for PM retrofits. Included in these costs are electricity costs associated with regeneration of active filters, decreased fuel economy, and annual maintenance. These costs did not include the capital cost of any filter cleaning equipment since filter cleaning can be accomplished through vehicle dealerships, parts houses, repair shops or mobile DPF cleaning businesses.

The Truck and Bus Regulation is not a reimbursable mandate and is further discussed in the response to comments 6 through 9 in the Legal Comments section. The cost analysis of the Truck and Bus Regulation does not take into account the reduced capacity on the school buses because this cost impact is not limited to replacement of school buses required by the Truck and Bus Regulation, but occurs any time a school bus is replaced

i) Estimated Costs for Retrofit Devices

69. Comment: Under your regulations, you will require the school districts to pay for 75% of the retrofits or $40 million by 2012-13. (STC) (SESE1)

Agency Response: See response to comments in section g. and h. above. The costs attributable to the regulation are on page 53 of the Initial Statement of Reasons for the Truck and Bus Regulation estimates the impact of the proposed regulation on school

districts to total about $27 million for public school bus fleet over 8 years (2010-2017). As stated in the response to Comments 1 through 17, ARB anticipates that costs for compliance will be born by the regulated community, as with any regulation. ARB is fortunate to have some funding available to assist with compliance through the Lower-Emission School Bus Program, in addition to local funding assistance. The Lower-Emission School Bus Program provides funding opportunities for retrofitting buses and includes 5 years of maintenance costs as part of the total grant.

70. Comment: We find it particularly distressing that ARB will be imposing traps on very old school buses that were built before 1993. The cost of the traps may exceed the cost of the old school buses. These traps are the so-called active traps that are much more expensive to buy and to maintain. (FCAM)

Agency Response: While in many instances the value of the school bus may be less than the value of the DPF, the value of the existing busses are not material to the value of reducing emissions. The diesel PM is highest from these older engines, and it is more cost effective to reduce emissions from these dirtier engines than from 99 MY and newer. The value of reduced risk to the public resulting in lower health costs offsets the cost of DPFs.

j) Environmental Justice

71. Comment: The school bus regulations should be delayed until the following questions can be answered to the satisfaction of the board: Who are the children that will be riding in the pre-1987 school buses? What school districts are they from? What is the ethnic breakdown of these students? How many of the students are eligible for free and reduced lunch? Are there any environmental justice issues associated with these regulations? (SESE1)

72. Comment: Your regulations are actually a step backwards. Because of the interaction of the mandate and the 2018 date, you are requiring that over 130,000 students, most of whom are the poorest children in the state, will be destined to ride the oldest and most polluting school buses in the nation for the next ten years. (STC) (SESE1)

Agency Response: ARB is committed to integrating environmental justice in all of its activities. The proposed regulation would require cleaner fleets of in-use on-road diesel vehicles to be used throughout the State, which would reduce emissions in all the communities of California, including those with environmental justice concerns. Staff is currently working to inform those in environmental justice communities of the proposed regulation and how final implementation would reduce exposure to diesel PM and protect public health in their communities.

k) Buses Should Be Replaced, Not Retrofitted

73. Comment: A priority has to be replacing our oldest school buses. California voters recently recognized this and passed Prop 1B that provides funding for less than half of the eligible buses in the state. There is a flaw in the cost assumption

that school districts will replace these buses on their own because if that was the case, we wouldn't be driving them now. (ELKGROVE)

74. **Comment:** Our issue with the ARB regulations is a long lasting issue. ARB's priority has always been on the requiring diesel retrofits or traps as oppose to the replacement of old pollution school buses. In this regulation, ARB is proposing that all school buses manufactured between 1987 and 2006 be required to have diesel retrofits or traps installed. School buses manufactured prior to 1987 are required to be replaced by 2018. We believe that ARB's priorities are backward. Pre-1987 school buses contain no particulate controls. The replacement of these school buses should be the state's highest priority. Why do we want to have over 120,000 children ride in these school buses for the next ten years? (MUSD1) (SUHSD1)

75. **Comment:** We are extremely excited about some of the new school bus technology that is currently available or will be available in the very near future. For example, the new hybrid electric school buses may be cost competitive with the CNG school buses. A zero emission school bus will be available in the very near future. This is the direction that California should be moving. Requiring questionable traps on old pre-1993 school buses is the wrong approach. We should be replacing these school buses with the newer exciting technology. ARB should be helping us do it right, we cannot afford to do it wrong. (MUSD1)

76. **Comment:** Diesel particulate filters are good idea for 2004 model year and newer engines. The state's focus should be on replacing old buses, not just retrofitting. For these reasons Mid-Placer opposes the inclusion of school buses in the retrofit plans as proposed in 2025. I urge you to consider the following recommendations for inclusion in your staff proposal: The first priority of ARB and the regulations should be read on replacing the old school buses in the state. (MPPSTA1) (MPPSTA2)

77. **Comment:** Under your rule, 1,769 pre-1987 buses that do not have any particulate standards as it relates to PM do not have to be replaced until the year 2018. 2018 kids are going to ride in those school buses. Those school buses are more cost effective from an air quality perspective to replace those than it is to put traps on new buses. That should be your number one priority. (MPPSTA3)

78. **Comment:** If ARB wants to improve air quality, they should do everything within their power to replace old school buses and secure additional funding for school transportation. Replacing the pre-1987 buses would protect the health of our children and would be more cost efficient than traps. Forcing school buses to retrofit these traps would just make another cottage industry wealthy at the expense of our children. (STRAN)

79. **Comment:** If the ARB truly wanted to improve air quality they would do everything within their power to spend every current dollar on replacing school buses and securing additional dollars to significantly increase the number of students who ride a California school bus. Wasting one red cent on mufflers is making another cottage industry wealthy at the expense of our kids. I urge the Board to truly put

the kids first and not a fictitious notch on some myopic staff member(s) air quality belt and remove school buses from this rule and prohibit the purchase of glorified mufflers. (SWESC)

80. Comment: I encourage you to spend all of the funds only on new school busses. (LUSD2)

Agency Response: Various compliance options are available for school bus fleet owners to follow, including: a prescribed schedule based on the existing engine model year, a minimum percentage of the fleet to be in compliance by a certain date, and a fleet average emission rate option. The Truck and Bus Regulation requires any school bus manufactured before April 1, 1977, to be retired from service no later than January 1, 2012. All remaining school buses must have Best Available Control Technology (BACT), which requires engines equipped with the highest level verified diesel emission control for PM that is available. School bus owners may choose to replace all buses instead of utilizing retrofit devices and are not prohibited from replacing their oldest and most polluting school buses prior to 2018. Typically, school buses with 1987 and newer model year engines can be retrofitted or will be originally equipped with PM control devices, while 1986 and older model year engines that cannot be equipped with PM control devices will be replaced by a newer model year engine that can be equipped with a PM control device.

ARB encourages retrofitting buses where feasible since seven retrofit devices can be purchased for the price of one new school bus, maximizing the health benefits achieved per dollar spent.

Replacing school buses is more expensive than installing diesel particulate filters. Many more buses can be retrofit with DPFs than school buses can be replaced. Also, older school buses are more likely to be replaced as a general course of business because they are closer to the end of their useful life. The most cost-effective use of scarce resources and to obtain the larges reduction of PM emissions is to require DPFs to be installed on the buses serve the greatest number of children and will continue to operate for many years to come.

Although some fleets may keep buses older than 30 years old, it is not typical, nor representative of the average statewide school bus fleet. Please see page G-34 of the Technical Support Document.

l) School Bus Funding Programs

81. Comment: Kings Canyon Unified may not be able to participate in on-going funding of Post 1977-1986 model school buses. Given the current economic condition of our state and the uncertainty of the proposed education cutbacks, many school districts may have difficulty attaining the $25,000 match requirement on these school buses. Please consider funding all replacement diesel school buses to $140,000 and CNG/Hybrid Electric Alternative fueled buses to $180,000. (KCUT1)

82. **Comment:** Lower Emission School Bus program spare filter ratios do not address the variety of sizes and types that may be necessary. (WCTA2)

83. **Comment:** The Lower Emission School Bus Program money is not divided up equally among the state, with a dollar or two dollars going towards every bus. It's predominantly aimed at the southern part of the state. As an example, my district operates 10 percent of the 220 school buses in Shasta County. We have not been awarded any retrofit money under the Lower Emission School Bus Program. (SUHSD2)

84. **Comment:** We would like to see the CNG and the hybrid electric buses pricing at 180,000 for the new school bus program. (KCUT2)

85. **Comment:** Our district is in Lake County and we are a full attainment air quality district, so we cannot access the Assembly Bill 928 money. I recommend that when you're looking at school bus retrofits and bus replacement that we go fully toward replacing with new school buses. Please fully fund the school busses so we can keep kids coming to school. (LUSD3)

86. **Comment:** Presently the proposal only 20% of the busses that are funded are eligible for match waivers for air districts that comply totally with air quality standards. Lake County Air Quality District cannot receive Assembly Bill 923 funds from DMV fees. This means less revenue for all Lake County school districts to comply with lower emissions program. It is imperative that the match waiver be extended to all bus replacements grants.

    Lake County is unique, as it is the only county in the state that is in compliance with state air quality standards. The funds allocated to Lake County should be spent on bus replacements only. Each school district would be able to replace at least 2 busses each, based on the funds allocated. These busses would be on daily runs immediately, and would deliver the best performance (cleaner exhaust, longer range and fuel economy). In addition they would last for the next 20 years. It does not make good sense to spend $20,000 on a retrofit device on a bus that has used up ½ to 2/3 of its life. (LUSD1)

Agency Response: The Lower-Emission School Bus Program is a voluntary grant program, administered by the ARB and implemented by local air quality management and air pollution control districts (air districts). The program provides funds to purchase new buses that replace old, high-emitting public school buses, and to equip in use diesel school buses with retrofit devices that significantly reduce toxic particulate matter (PM) emissions. The LESB program will supply 1 spare filter for up to every twenty DPF's awarded to a school district. Because of this constraint, a school district must determine if awarded funds for a spare filter, which spare will suit their needs.

$200 million was allocated to the Lower-Emission School Bus Program by passage of Proposition 1B. Current funding allocations are prescribed by Senate Bill 88 (SB88; Stats 2007 Ch 181) which specifies that once funds are set aside to replace the pre-1977 model year school buses, the remaining funds are to be allocated to air districts based on their share of the 1977 to 1986 model year school bus population. Up to

$10,360,000 of the $200 million in Proposition 1B funding will be used to replace approximately 74 pre-1977 model year school buses, 38 of which are located in the seven largest air districts and 36 are located in the 29 small and medium air districts. This results in a large proportion of the LESB program funds being allocated to the South Coast and San Joaquin air basins, because their percentage of the buses that determine funding allocation amounts are the largest. *Appendix B of the 2008 Lower-Emission School Bus Program Guidelines* provides a complete breakdown of each air districts' funding allocation.

To maximize use of State funds, the Lower-Emission School Bus Program requires $25,000 in match funding for each new school bus received that replaced a 1977-1986 model year school bus. There is no match funding amount required when replacing a pre-1977 model year bus. Match funding may come from the school district, air district, or any source other than the Proposition 1 B funds, which are insufficient to replace and retrofit the entire population of the California public school bus fleet. ARB has granted Lake County Air Pollution Control District, an air district not able to collect local fees, the authority to use Proposition 1B funds to pay for a full waiver for the match requirement for 20 percent of the buses funded in its air district. Additionally, State funding cost caps have been set in place for both replacements and retrofits.

New school bus purchases are capped at $140,000 for funds used from Proposition 1B. A CNG or hybrid schoolbus purchase can receive up to the $140,000 from LESB funds, school districts have the option to provide the additional $40,000 to purchase a $180,000 CNG or Hybrid bus. A cap of $140,000 was set to maximize state funds.

87. Comment: SSDA appreciates the ARB's efforts to replace the oldest, least safe, and most polluting school buses that were manufactured prior to 1977. We were surprised that the $200 million in Proposition 1B funding will be used to replace only ten of these buses. We are confused that ARB staff determined only ten buses were eligible for replacement funding. We hope this is just the first round, but fear that school districts did not apply because of the required match and reimbursement cap, SSDA opposed those provisions and in this time of economic challenges for school districts, the adopted replacement regulations may have been counter-productive. (SSDA)

Agency Response: Up to $10,360,000 of the $200 million in Proposition 1B funding will be used to replace around 74 pre-1977 model year school buses, 38 of which are located in the seven largest air districts and 36 are located in the 29 small and medium air districts. When fully funded, the LESB program will provide enough funds to replace approximately 1,100 school buses, and retrofit an additional 3,500 buses with DPF's. See response to comments 81 through 86 for allocation amounts to the air districts.

88. Comment: The Department of Education has a small school district bus replacement program – a grant program that's not applicable to any school district in the State of California that has more than 2500 students. So my district would not qualify for that since we have 5,000 kids. (SUHSD2)

Agency Response: The Department of Education has responsibility for the small school district bus replacement program. However, ARB administers the Lower-Emission School Bus Program, a voluntary grant program -- in which your district may participate -- implemented by local air quality management and air pollution control districts (air districts). The program provides funds to purchase new buses that replace old, high-emitting public school buses, and to equip in use diesel school buses with retrofit devices that significantly reduce toxic particulate matter (PM) emissions, and is discussed more in the response to comments 81 to 86 in the School Bus Requirements section.

m) Alternatives to the School Buses Requirements

89. **Comment:** Low mileage bus exemptions should be increased to 5,000 miles per year. (CASTO2) (WCTA2)

90. **Comment**: Currently the regulation allows an exemption for buses that accumulate 1,000 miles per year or less. This regulation should be increased to 2,000 miles per year to allow school districts to use these busses as back up busses to fill in when the daily operating busses are out of service for safety inspections and repairs. (LUSD1)

91. **Comment:** I encourage you to exempt all school busses from this regulation and let the busses be replaced through attrition. (LUSD2)

92. **Comment:** These regulations would basically cripple the school pupil transportation industry in California; and at a bare minimum we ask that you remove school buses from this regulation. Twelve months ago I was involved in talks regarding these proposed regulations, and I was guaranteed at that time that school buses were not going to be part of this regulation. February 1st, 2008, that all changed. (SUHSD2)

93. **Comment:** Last year at this time, we were told that school buses would not be part of this rule making. (STC) (SESE1)

Agency Response: Staff considered increases in the mileage for all the low mileage exemptions during the development of the Truck and Bus Regulation and considered exempting school buses entirely. These alternatives to the regulation were rejected because they would result in the loss of significant health benefits and emission benefits. The increased diesel PM emissions associated with a low-use threshold higher than 1,000 miles per year would place the public, especially school children, at a greater risk.

The initial concept of the regulation did not include schoolbuses in the proposal. ARB decided to include schoolbuses in the regulation to protect California's school children from the health affects associated with exposure to toxic diesel PM. See response to comments 51 through 58 for health affects associated with exposure to diesel PM.

n) Enforcement

94. Comment: Due to the arcane school financing transportation laws, they receive very little State aid. This is not your problem. But it just shows that they do have less money to spend on buses and transportation. So they have more difficulties. This is one tiny issue I would like to bring to your attention. One of their districts failed to do the annual emissions studies as required by ARB. They thought it was every two years. And so they are going to be fined I think $18,000 with a press release. And I don't know all the specifics of this. But part of the comment that was made was, well, we take this from ARB staff. We take this real serious, because we want to show everybody we're serious about this. $18,000 is still a lot of money for the school district. Maybe they should be fined. But I would just urge the staff to have some appreciation for the conditions of the school districts. When people do something wrong, you should hit them and do something appropriate. But just use a little judgment. (RCS)

Agency Response: The $18,000 fine referenced was for violations of a separate regulation, not the Truck and Bus Regulation. Like any other agency, school districts are subject to numerous regulations. ARB enforcement staff, with the assistance of the CHP and the local air districts, enforce ARB's regulations.

o) Non-Retrofittable School Buses

95. Comment: In our fleet we have four buses with two-stroke engines that cannot be repowered or retrofitted. We have a number of buses that were manufactured between 1987 and 1993 for which there, are no certified retrofit devices. Most of our diesel buses are powered with Caterpillar engines. Because they are going out of business there will be no replacement engine. Bus manufacturers most likely will not certify repowers with other engines. (WCTA2)

96. Comment: Caterpillar will no longer be manufacturing diesel engines for school buses. For buses with older Caterpillar engines, an engine repower to a newer engine may no longer be an option. Bus manufacturers may not grant the allowance (required for a variance from the original equipment engineering). (WCTA2)

97. Comment: Although your staff has made some adjustments to the proposed rules for school buses since the initial proposals were announced, there are still elements that prove to be tremendous burdens to California school districts: Two Stroke diesel engines generally cannot be repowered and retrofit devices are not certified for them. Many 1987-93 school bus engines do not have certified retrofit devices. (WCTA2)

Agency Response: The Truck and Bus Regulation provisions for a school bus that cannot meet BACT are that the bus must be replaced or repowered with an engine that can be retrofitted with a diesel particulate filter. Additional time is provided for these buses, whereas buses that can be retrofit must be brought into compliance by 2014 or before. Owners have until January 1, 2018, to bring buses that cannot be retrofitted into compliance with the regulation.

p) Inside Air Quality in School Buses

98. Comment: The school bus regulations should be delayed until the following questions can be answered to the satisfaction of the board: Do the traps increase the air quality pollution inside the school bus? Has this been studied? (SESE1)

Agency Response: Indoor air quality is not covered by the regulation. The regulation will provide benefits to the ambient air quality by reducing people's exposure to toxic diesel PM. The following reports recommend installing retrofit devices to improve the indoor air quality on a school bus:

Solomon, G. M., Campbell, T. R., Ruderman Feuer, G., Masters, J., Samkian, A., Paul, K. A. 2001. No breathing in the aisles. Diesel Exhaust Inside School Buses. Natural Resources Defense Council. Coalition for Clean Air.

Fitz, D. R., Winer, A. M., Kozawa, K., Pandratz, D., Bumiller, K., Gemmill, D., Smith, M. 2003. Characterizing the range of children's pollutant exposure during school bus commutes. Final Report to California Air Resources Board, Research Division, Sacramento, CA.

Fitz, D. R., Winer, A. M., Kozawa, K., Behrentz, E., Pandratz, D., Gemmill, D. 2006. Evaluation of mechanisms of exhaust intrusion into school buses and feasible mitigation measures. Final Report to California Air Resources Board, Research Division, Sacramento, CA.

q) Highest Level VDECS Requirement

99. Comment: Section 2025(j)(3) regulating school buses appears to require installation of the highest level VDECS available to be used on any engine, regardless of whether that VDECS is actually approved for that engine. Navistar notes that a VDECS can only be placed on an approved engine, and not on any engine. Navistar believes that ARB intended to require a level 3 VDECS to be installed on the school bus by 2014 and that, if a level 3 VDECS could not be installed on that school bus, that the engine must replaced by 2018 with an engine that could have a level 3 VDECS installed.

Navistar proposes the following language to clarify this section:

(j) Section 2025(j)(3): By January 1, 2014, all diesel-fueled school buses shall be retrofit with an applicable level 3 VDECS, regardless of the compliance option chosen. Engines equipped with a diesel particulate filter by the engine manufacturer as original equipment are considered in compliance with this requirement.

(k) Section 2025(j)(5): If a school bus engine cannot be retrofit with a level 3 VDECS under section 2025(j)(3), that engine shall be replaced, as may be possible, with an engine that can be retrofit with a level 3 VDECS by January 1,

2018. This school bus may be exempted from the compliance method calculation described in section 2025(j)(2). (NAV3)

Agency Response: Any diesel emission control strategy used to comply with the regulation must be one that has been verified by ARB's Diesel Emission Control Strategies Verification Program. ARB's verification process assures that a device is appropriate for a given engine or engine families; therefore, the device can only be used with the engine or engine families for which it was verified.

It was not the intent of the regulation to require only Level 3 devices for school buses. Section 2025(j)(3) of the regulation requires diesel-fueled school buses to be retrofitted by January 1, 2014 with the highest level VDECS available. According to the definition of "highest level VDECS" in section 2025(d)(40), this is a level 3 VDECS (diesel particulate filter) or if a Level 3 VDECS is not available, a Level 2 VDECS is acceptable. If neither a level 3 VDECS nor a level 2 VDECS can be installed on that school bus, then by 2018 the engine must be replaced with an engine that can be retrofitted with the highest level VDECS. The commenter's proposal would not allow the use of a Level 2 device.

We also disagree with the proposal to exempt buses that cannot be retrofit from calculation of fleet compliance with the BACT Percentage Limit or the Fleet Averaging option. The regulation is intended to get the maximum PM reductions as early as possible where feasible. The commenter's proposal would reduce early PM emissions reductions by delaying the installation of retrofits on engines for which retrofitting is feasible.

7. Costs and Cost Methodology

a) Effect of the Recession

188. Comment: CARB is proposing this multi-billion dollar regulation during the worst economic crisis since the Great Depression. California truckers, particularly moving companies, are struggling to make ends meet in the face of a massive slow down in the residential real estate market. The proposed legislation will require small businesses to spend dollars that they don't have, in a market where there is virtually no access to capital for businesses, large or small. (GVSI)

189. Comment: I have been notified that our company is going to receive Prop 1B funding for five replacement trucks. That's $250,000 of public money that's going to be given to my company. For the first time in 20 years, I hope I can secure a new line of credit. We're having trouble with the bank. We've never had that trouble in the last two decades. (RTRU2)

190. Comment: The current economy has already impacted my business and we are currently operating at 50% of our normal business. This regulation will drop that by another 50%. (KFIT)

191. Comment: Our company, a small business enterprise, was started up in March of 2007. We are fighting hard to provide jobs and keep ourselves afloat in these

tough times. We understand the importance of clean air and emissions that affect our environment. We have analyzed the costs impacts to our company to retrofit or sell our equipment in this market and it is an economic impact that could cause our company financial distress and potential ruin. (PDON)

192. Comment: This rule comes at a time when California truck owners are struggling to make ends meet in the most severe economic climate we've experienced in decades – skyrocketing diesel prices, record home foreclosures, a 17-year low in housing starts, a credit crisis and the imminent threat of a full-blown recession. (FORM3), (FORM3), (LFSI), (CBI)

193. Comment: This regulation is being proposed at a time when California diesel truck and bus owners are struggling to make ends meet in the most severe economic climate we've experienced in decades -- skyrocketing diesel prices, rising food costs, record home foreclosures, a 17-year low in housing starts, a credit crisis and the imminent threat of a full-blown recession. (DTCC3)

194. Comment: Based purely on current economic conditions, fleet owners or the State of California or the Federal Government are all in poor financial positions to spend the type of money required for adoption of this bill. I propose that this bill be delayed until all parties are better prepared to fund this project. Review this again in 6 months and make further recommendations. (JSHA)

195. Comment: This the worst possible time for this regulation. I urge you to delay this rule for three more years to give our economy and financial markets to recover. People will lose their jobs and foreclosures will grow. (WEST)

196. Comment: Business is already very slow. We cannot raise our prices in this economic environment and expect to get any business. (CGA5)

197. Comment: Dalton Trucking, Inc. is committed to operate in an environmentally friendly manner. This year we have purchased 16 new compliant trucks. However, the economy is as such that we have had to alter our plans for future fleet upgrades until the construction industry improves. (DTICTA)

198. Comment: Please heed the news from industry concerning any new regulations that would apply to buses and diesel trucks. I respectfully ask that your organization consider the dire economic impact this would have on California's economy. Now is not the time to implement any new laws because simply put; California will fall and this could impact neighboring states economies as well. I am for clean air and applaud what has been done in our fine state, but please understand that programs like you are considering must be delayed until California has a better financial base to stand on. (WGROV)

199. Comment: I know that the economy will return to a normal growth rate sometime in the future. But please consider how most companies weather the recession; spending cash to retain employees, tapping credit lines to cover daily operating costs. This debt requires some time to "catch up". Cash and debt that would otherwise be used for equipment replacement. This translates to more then just a

year or so after the economy rebounds. That rebound is predicted to be no sooner then 2011 for the construction industry. (BSTS1)

200. Comment: Please consider the economy and the disastrous effect on small family owned business if you pass the current recommended regulations. We have less than 5 trucks and cannot afford to upgrade at this time and stay in business. (CRENT)

201. Comment: This year our maintenance shop director began using the fleet-average calculator to consider how the regulation would affect our fleet-maintenance and purchasing budget decisions. Our truck dealer has explained that since an effective NOx filtration system does not yet exist, and that the regulation's financial consequences on state businesses and the economy are so dire, state trucking associations are working to get modifications to the regulation. (LGM)

202. Comment: The State and the Nation are facing an economic crisis of historic proportions. Falling home prices, escalating foreclosures and declining consumer confidence have hit the construction industry very hard. Backlogs have disappeared and future work prospects look bleak. Every week brings news of more construction projects delayed or cancelled. As a result, our roofing contractor members are struggling to stay afloat until the crisis passes. (ARC)

203. Comment: I am a single truck owner operator raising a traditional family on my income. My wife is an educated professional, recently a victim of economic times and was laid off a job she held for seven years. As I read through your proposals for truck modernization, I ask that you stop and look around at what is happening to our economy. The lack of projects within the housing and commercial developments, the State of California's budget reducing construction funding, the lack of private projects due to lending restrictions, all affect our businesses. (DGRA)

204. Comment: CARB is proposing this multi-billion dollar regulation during the worst economic period we've seen in many decades. Many of the trucks that normally serve the construction trades are sitting idle until the economy changes for the better. When these companies find that they'll have to spend an amount equivalent to the value of their equipment itself, it will be fortunate if they even start up at all. (ETI) (GTI)

205. Comment: My business is already off over 50% because of the confusion around compliance with the proposed regulation and because of the economic times we find ourselves in. (TTL)

206. Comment: In today's economy, we can't afford to take these measures. California will suffer more harm than good at this time. (JSAM)

207. Comment: As a member of the CTA and a business that supports the trucking business in California, we are fighting for our financial life in this current financial crisis. (NATS)

208. Comment: The financing of all new equipment was nearly impossible during the last strong economy. In the foreseeable future, equipment replacement on the proposed schedule will be impossible. (BSTS2)

209. Comment: Please reconsider the approach being taken on existing equipment. The financial burden that it would create will put many out of business, especially in the economic environment existing now. (DSAM)

210. Comment: The economy is the worst we have seen since the Great Depression; are we going to further damage our industry and the State as we try to compete in this global environment? There should be a mutual relationship that exists so that the Board could obtain the goals and help, rather than hamper, a vital part of the State's infrastructure. (YTI2)

211. Comment: With no borrowing power from this devaluation and the current state of the national economy, previously well capitalized business cannot purchase the equipment you are asking them to buy. (EGI)

212. Comment: Please consider what you are doing, especially in this economy, as if it is not bad enough, you are just adding to the problems. (EUCA1)

213. Comment: In these times, another expense to our business is a like a kick in the stomach when you are already on the ground gasping for air. Please reconsider the adoption of these regulations at this time. If adopted now it will only make the recovery of economy worse. (PDON)

214. Comment: With high unemployment, housing foreclosures, billion dollar bail outs, and corruption rampant at the highest levels it appears our leadership has shipwrecked us! We do not need strong currents, and sharks circling. We must think and then react. (RCIA)

215. Comment: I would hope the Board would take into consideration our economic hard times and at the very least consider the alternative set of rules before you. We all want cleaner air and less pollution but with the state of our economy, now is not the time to add any further burden to the very people who work hard everyday and are trying to survive. (CTC)

216. Comment: I'm a trucking broker as well as a trucker. I've worked earthquakes, floods, fire, several freeway widening jobs, and numerous private contractors' jobs through the years. Little over a year and a half ago, I wanted to get the jump on the regulation that was coming before us and purchase two newer trucks to stay within compliance. I have a total of seven power units, five of which I have recently parked because there's little to no work in the south. What is there is going for very, very cheap and it's very difficult for me to compete paying a driver a decent wage, work comp, payroll taxes and on and on, plus medical benefits. (PTERI)

217. Comment: The economy is not in good shape and you want us to spend more money to just put us further into a recession? (MDS)

218. Comment: Please do not pass this regulation. It will kill our business and we will leave the state with our trucks. The California economy is the worst in my 46 years of living here. I own a moving company with 7 diesel trucks. I provide jobs for over 35 Californians. I am lucky to be in business as my fellow moving company owners are slowly going out of business. (PMI)

219. Comment: Right now, the economy of the entire country is in a mess. Things are not going well in California either. In an ideal world everyone would always have the money needed to make desirable changes as soon as possible. This is not that time. (LDT)

220. Comment: You are directing what amounts to punitive legislation towards private enterprise that simply cannot take on anymore financial burdens in this economy. (TCDI)

221. Comment: I have been in the trucking and transportation industry for 27 years and have never seen it as economically depressed as it is in today. (MSTU)

222. Comment: The State of California is in a total economic shambles with very little work going on. (CDTOA10)

223. Comment: With the equipment I have and the upgrading that would need to be done, it will be a death sentence. With the current economy, we have been having trouble keeping our head above water. If this passes I will be forced to give up. This would not only affect my family business but all the businesses we purchase supplies from. It would be a ripple effect. So please reconsider and help keep small business alive! (CGA9)

224. Comment: Tuolumne County Resolution requesting delay due to economy. (TCAPCD)

225. Comment: Our ability to borrow money is seriously handicapped by the current economic crisis, the devaluation of real-estate, and the Colony Collapse Disorder issues that affect our beekeeping industry today. (BSB)

226. Comment: Our company is producing less than half the concrete that it was producing in the past. While our revenue has been cut in half, the operating costs have not gone down nearly that much. (ARMC)

227. Comment: In its current form, the Board's proposed regulation places a significant economic risk on our business today, jeopardizes many of our members future viability in the moving and storage industry, which is already reeling from unprecedented financial turmoil. (NAVL)

228. Comment: The Blood Centers of California (BCC) represent the 18 non-profit and governmental blood centers in California and we provide over 90% of the blood and blood products required in the state. Each center is individually incorporated and operates separately within the various regions of California, BCC as a member organization exists to promote the activities and interests of California's independent, community based blood centers. It is important to note that as health care providers our mission is to provide life saving blood and blood

products; we want our environment and quality of life to be the highest it can be as our donors come from communities throughout California. We must be mindful of what effects these regulations have on the health of our economy generally and specifically on our ability to fully implement our stated goals and objectives - the provision of life saving blood and blood products to Californians. We employ thousands of people throughout the state and last year provided over 1.3 million units of blood and blood products to hospitals from the northern part of the state close to the Oregon border to the Southern California region bordering Mexico. In order to provide this critical service for Californians and to address the space and logistics needs of host sponsors, we use diesel bloodmobiles which are self contained. We are a highly regulated industry, we adhere not only to state laws and regulations but the FDA and AABB (American Association of Blood Banks) govern our operations and any standards generated by AABB become law in California. The regulatory agencies assure the safety of the blood supply and we collect blood and blood products from an all volunteer donor base. Because of the aforementioned, the blood supply is the safest it has ever been. Non-profits are just as affected by the downturn in the economy as most businesses but also as health care providers we face other impediments - competing and retaining licensed health care personnel as well as the critical issues effecting California's health care system. (BCC1)

229. Comment: We had thought that our 2007 year was the worst we would ever have. We thought that until 2008 happened. This year has tested us in all aspects of our business; we are quickly approaching winter with no funds put aside to carry us through this historically slow time of year. Many of our friends have little or no work. (RTCDTOA)

230. Comment: The state of the economy is hitting our construction industry like a sledgehammer and we do not need any more requirements soon. Let our industry recover and give us more time to comply with the requirements that you are more than likely going to approve in the next week. (FSTI)

231. Comment: I cannot believe that during the worst economic crisis since the Great Depression California is considering this type of a job killer proposal. Stidham Trucking is very supportive of reducing particulate matter (PM) and NOx emissions from diesel engines. I agree that we need to work collectively to improve the state's air quality and all of us want to provide as healthy an environment as possible for our families, our employees and all Californians. However, in its current form, the Board's proposed regulation places a significant economic risk on our business today, jeopardizes or future viability in the trucking industry, which is already reeling from unprecedented financial turmoil. (STID)

232. Comment: The state and the nation are reeling from job loss that has hit a peak not seen for 34 years. This year, non-farm payroll employment decreased by 533,000 in November, according to the U.S. Department of Labor. November's drop in payroll employment followed declines of 403,000 in September and 320,000 in October. Employment in construction fell by 82,000 in November, with losses occurring throughout the industry. Since peaking in September 2006,

construction employment has decreased by 780,000. Specialty trade contractors lost 50,000 jobs in November, with both residential and nonresidential components contributing to the decline. As a measure of work drying up, during the first nine months of 2008, permits were pulled for 51,378 homes, down 44% from the same period last year when 91,877 permits had been issued. Single-family permits were down 53% while multi-family permits dropped 29%. Some construction industry analysts are predicting a three to seven-year turnaround for home building in many areas of this state. Commercial construction will not be any better, which means public works will be the only option to survival for many. (CDTOA11)

233. Comment: As painful as it is, there is no doubt this recession and high fuel prices paid and likely to be paid in the future have played an interesting roll in reducing emissions. Both used truck and heavy equipment sales and auctions and the depression in the construction industry has clearly dropped this type of equipments usage across the state. The precipitous declines in the economy suggests that the September, October, November and December diesel sales will also show increased reductions that could be 20% or more. We are also guessing that off-road diesel sales/consumption had similar if not greater reductions. Clearly, a 20% reduction in on-road diesel sales can be easily quantified into major emission reductions not ever anticipated by any CARB regulation. We would hope that CARB does not even attempt to spin this as somehow bad for the environment! (CDTOA11)

234. Comment: Due to the economic crisis, my company reduced its capital budget for 2009 by 70 percent. My company has repowered approximately 400 engines over the past 12 years. Without this capital, that makes us put on our brakes. (NWSC2)

235. Comment: The State of California's economy is severely depressed and the Governor has recently announced a $28 billion dollar revenue shortfall for the current and upcoming fiscal years; and local business leaders have expressed concerns regarding the damage to the local economy, and to multiple businesses. Siskiyou County has been significantly economically impacted by the loss of several large employers; and by high fuel costs, recent wildfires, decline in the timber industry, and the ongoing national economic crisis. Siskiyou County as of September of 2008 has an unemployment rate of 8.7% with a median household income barely half that of California as a whole and is ranked last in the State of California in Economic Well-Being. (SCNRS)

236. Comment: California's economy is severely depressed and the Governor has recently announced a $28 billion dollar revenue shortfall for the current and upcoming fiscal years; and Tuolumne County has grave concerns regarding the damage to the local economy by the adoption and implementation of the proposed Heavy Duty On-Road Diesel Truck Rule. A significant number of businesses in Tuolumne County operate Heavy Duty On-Road Diesel Trucks; which are an essential element of the county's economy; and have been significantly impacted by high fuel costs, recent wildfires, the decline in the timber industry, and the ongoing state and national economic crisis. Tuolumne County currently has an

unemployment rate of 8.2% and climbing; with a per capita income is ranked 29th in the State of California. The County would face an even greater risk of a depressed local economy if businesses and entities are required to comply with the proposed Heavy-Duty On-Road Diesel Truck Rule. (TCAPCD)

237. Comment: There's been a 40% drop in the volume of freight in California. Lumber is not moving because houses are not being built. People have no money for home renovation because the value of their homes has dropped so precipitously. General merchandise freight has slowed because consumers are worried about overspending. When I tell you we are struggling just to keep going, I'm not saying that for dramatic emphasis. I'm saying that as a business owner laboring to keep the doors open the past year. We have borrowed, renegotiated loans, tried to patch old equipment to keep it running a while longer, because there is nothing extra in our budget. (KVSI1)

238. Comment: The economy's in very bad shape. People are losing jobs. It's just not very good timing. (MCTR2)

239. Comment: There is no money. We are in a recession. Fuel usage is down. Mileage is down. Revenue is down. Emissions are down. None of your numbers reflect that. Your data is old. If this rule were being written today, it would look completely different. We need to fix that. (CIAQ2)

240. Comment: While the current economic slowdown will make meeting these goals especially challenging, it has also caused significant reductions in diesel use and corresponding emissions. We believe that CARB should take advantage of this period of reduced emissions to reconsider key aspects of this rule. The Governor has called for a balance between the environmental and economic needs and goals. We at FedEx share this view. FedEx is committed to sustainably connecting the world, and enhancing the long-term share value of the company for our shareholders, and for the communities and businesses that rely on our services. FedEx understands that a sustainable business is intrinsically tied to a sustainable society. To this end, we use innovations and technologies to minimize environmental impacts from our operations and products. (FEDEX)

241. Comment: Now to make thing worse we have an economic problem. I do not know of one trucking company that has not seen their business sales drop by 20 to 50%. Wake up people. The air is 20 to 50 percent cleaner now! (THON)

242. Comment: Once the on road regulation is passed into law, in any form, I will have 82 pieces of machinery governed by California's accelerated and costly regulations. I am also dealing with a tanking construction market that is not going to provide the work or revenue required for me to even keep up with these regulations. (FCI)

243. Comment: New truck sales have dropped in excess of 60 percent in 2008, partly because nobody knows what's happening. There is no market for used trucks. (CTTA3)

244. Comment: During these struggling times in the transportation industry, adding additional costs and deadlines is a sure way to add to the foreclosure and bankruptcy woes. We need to continue research and find additional ways to clean up the air. Though not disagreeing with the plan, I just feel it not timely given the economy. (GAJON)

245. Comment: I have been in the trucking business for 29 years and have not seen such a drastic slow down in work in our industry. I cannot absorb the cost of retrofitting my truck at $16,000.00 in this economy. I will have to shut down my company. I cannot qualify for a grant due to the low miles of a construction truck. (DOHOL)

246. Comment: I own a small business in the towing industry. My trucks are the sole assets of my business. I fully support any initiative to help clean up our states air quality. However, there needs to be a careful study of the impact on businesses that will be immediately affected by the current proposal that CARB is making. There is no doubt that many small businesses like mine would not be able to comply in the time allowed according to the CARB regulation as it now reads. Also, given the current recession that our state and nation faces combined with the prolonged period of time that is being forecast for meaningful economic recovery, it would be financial suicide to force small businesses to spend money that we simply don't have to replace equipment that hasn't had its useful life is used. (SCLA)

247. Comment: This is going to be detrimental to the state economy, especially if this continues the way it does. The contractors we worked for big and small have no projects in the works. I know the Board had said that hopefully, what, 2010, 2013, that's not going to happen. A lot of these big projects require at least five years minimum for it to come through the planning process and engineering and everything. Engineers that we have talked to, the customers we worked with, do not have anything coming through to their desks. So small projects, regular homes and stuff, is about a year out when you start the process. (TLT2)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession. In consideration of the economy, the regulation was structured to delay the requirements to phase-in cleaner engines for several years and credits were introduced that can delay some or all of the requirements for small fleets and for fleets who have been affected by the current recession and have downsized since 2008. Because of the uncertainty associated with the recession and its impact on fleets and emissions the Board directed staff to report to the Board in December 2009. Staff will be reporting on available data to quantify the impact of the economy on annual miles travel, fleet population and age characteristics among other items to quantify how the emissions inventory would change with updated information compared to staff's original analysis.

b) Impact on the Economy

248. Comment: There are environmental and social costs caused by a car-oriented consumer culture and we should deal with those as a society, instead of taking a

short by imposing anti-competitive business laws that will end up hurting our entire state by shrinking our tax base. (KVSI2)

249. Comment: It is a noble thing CARB is trying to do, but it is too drastic. To have a truck that is legal one day and not the next day is ludicrous. Just raise the fee to register them and they will leave the state. But at an easier rate that is better for the economy. But if you insist on your present plan it will cost truck associated business money that they can't afford and many people will lose their job or go out of business. (JPHI)

250. Comment: We would also need to increase our current rates by 10 to 15 percent to cover the cost of new equipment. We do not believe that the current market will bear this cost. A bottle of water that used to cost $1.50 will probably cost $2.00 after this happens. (CDMTC2)

251. Comment: In current form, the Board's proposed regulation places a significant economic risk on our business, today, and jeopardizes our future viability in the concrete, asphalt, aggregate, and road construction industry. (FORM3)

252. Comment: On behalf of its over 550 members companies, I ask that you not move forward with the implementation of this onerous regulation in its present state. This program will cause an undetermined number of California small to medium-size moving companies, some family-owned for two or three generations, to go out of business. This will negatively impact a competitive marketplace that benefits the moving public. If we are able to survive, we will be forced to reduce our workforce, putting further downward pressure on the economy. (CMSA5)

253. Comment: I heard a question about what the cost is of people going out of business -- truckers going out of business. If we take 10 percent of the truckers on the road, which would be about 15,500 truckers, and extrapolate it out, what they would lose -- what the state would lose. Do we want to strap small businesses and run them out of business? The State of California will lose the kind of revenue that you're talking about here, in a time when we need to worry about the coffers of the state. (ACG2)

254. Comment: This isn't just affecting trucking industries and a certain number of businesses. It's going to affect all of us, every citizen of the State of California -- that trickles down through the whole nation. It's an added expense on everything that we consume. (LDR)

255. Comment: My wife and I have been a commercial truck dealer for over 21 years in California. This proposal as currently written will destroy not just the trucks but all the affiliated companies as well as drive the price of goods and services through the roof. California has benefited from lower costs for transportation for years. While my wife and I are also concerned about being green, we also have to look at what are the costs. (RNEL)

256. Comment: Trucking is essential to Siskiyou County and a significant number of businesses operate Heavy Duty On-Road Diesel Trucks; and Heavy Duty Diesel

Trucking provides one of the few well paying year-round employment opportunities available to residents of Siskiyou County. (SCNRS)

257. Comment: The California Air Resources Board (CARB) is considering an on-road diesel truck and bus regulation that will negatively impact companies of our size and the state of California's economy. All of the issues have not been addressed by the Board that will be involved in these new proposals. How negative will the impact be on the supply chain of goods and services as well as the state and local economy? How will this affect the unemployment rates in California counties that already have extremely high unemployment rates? All of the employees that are employed by the trucking companies and their vendors and suppliers in the state would be devastated. They would no longer have jobs, health care or the ability to care for their families. And it is not only the trucking companies and their employees that would be affected. You have not looked at the big picture. There are literally hundreds of vendors, service shops and parts companies that would suffer if trucking companies go out of business. Again, who will take care of their employees, their families and their needs? (FAUL1)

258. Comment: Further diesel regulation now will further serve to damage our economy. We can't handle it. (GAPE)

259. Comment: I have been in the transportation industry as a vendor for over 32 plus years. I believe your regulation in this area is too excessive. I believe it has caused and will cause excessive hardship on California businesses. (JSAM)

260. Comment: The California Air Resources Board (CARB) is currently considering the adoption of an on-road diesel truck and bus regulation that if implemented as presently drafted would have a profound, negative impact on California's economy. The California Moving and Storage Association (CMSA) and its over 550 member companies are very supportive of reducing particulate matter (PM) and NOx emissions from diesel engines. There is no disagreement that we need to work collectively to improve the state's air quality and all of us want to provide as healthy an environment as possible for our families, our employees and all Californians. However, in its current form, the Board's proposed regulation places a significant economic risk on our business today, jeopardizes many of our members future viability in the moving and storage industry, which is already reeling from unprecedented financial turmoil. (GVSI), (FMAY)

261. Comment: It will cost the taxpayers even more as rates for equipment go up. I will be even higher to compensate for new expenses, and when infrastructure improvements are needed to keep the state economy from falling into an even deeper mess. (RBUR)

262. Comment: Currently under consideration by the California Air Resources Board (CARB) is adoption of on the road diesel truck and bus regulations that if implemented in their present form are both costly and ill thought out. I as any other forward looking citizen, parent, and business person certainly want to do the best I can to protect our environment air quality and way of life here in the Golden State. This cannot be done however while disregarding the economic impact of

the regulations as proposed by CARB. The regulations proposed by CARB in the best of economic times were both arbitrary and expensive. Retroactively requiring private citizens to either upgrade or replace assets purchased in the normal course of business with projected life expectancies and depreciation schedules was onerous at best. Moving forward with this type of regulation in the current environment would have a terrible effect on small business owners. (OFMS)

263. Comment: The decisions that are made here will have an impact that reaches far past the individual trucking companies themselves. It will impact myriad vendor relationships like the one that our company enjoys. We rely on a vibrant trucking industry to keep our doors open, hire employees, provide benefits to those employees, participate in charitable organizations and make contributions. (CLIFE)

264. Comment: I have 35 power units and 47 employees. If this goes through, I don't have no choice but to fold up and that's going to put 47 employees out of business that have been loyal to me over the years. We are in Tulare County and the unemployment rate is going higher every day. (FAUL2)

265. Comment: This regulation will surely send many of our type of companies packing and not only will this leave many people unemployed, but it will create a huge gap in the procurement of transportation for the needs of Californians. CARB is "California" Air Resource Board. Really think about "California" as this act will surely cripple our state. I urge CARB to not pass this regulation. (PTI)

Agency Response: Staff believes that the economic analysis that is presented in Staff Report Chapter VIII and TSD Chapter XIV and accompanying Appendix J, is an accurate estimate of the affects of the regulation on California and the applicable industries.

Staff estimated the costs of normal vehicle replacements without a regulation to the cost of complying with the regulation for actual individual fleets over the analysis period of 2009 to 2025. The results of the analysis were scaled to estimate the statewide total cost, and the results were used to determine how the regulation will affect California as a whole. Staff used a computable general equilibrium model to analyze the many complex interactions of the California economy. The impacts were evaluated in the year 2013, when the annual costs to the affected industries were the highest. Staff projects the cost of the regulation would reduce California economic output by roughly $1.3 billion (0.04 percent). Changes in the overall economy on the order of 0.04 percent are not expected to be noticeable.

Additionally, because the regulation would impose a cost on the overall economy, staff expects it could reduce overall employment in California by a less than 0.08 percent, out of the 14.3 million jobs statewide. Therefore, the regulation would not eliminate the creation of new jobs in California, but may slow the rate at which new jobs are created. The estimate is conservative because new jobs that may be created with the expansion of the exhaust retrofit industry are not accounted for in the estimated effect on employment.

266. Comment: The California Air Resources Board (CARB) is currently considering the adoption of an on-road diesel truck and bus regulation that, if implemented as presently drafted would have a profound, negative impact on California's economy. Our business dropped 46% during this year and I am having problems meeting my operating needs. (SOTM)

267. Comment: I can only speak for myself but we cannot afford these regulations at this critical time. We would have to downsize to afford them in a normal economy. Trading clean air goals for unemployment just doesn't seem like the right answer. (GRAY)

268. Comment: The CARB is currently considering the adoption of an on-road diesel truck and bus regulation that if implemented as presently drafted would have a profound, negative impact on California's economy. Small businesses are already suffering, now you want us to dispose of equipment before their useful life has been completed. We just don't have enough money to retrofit all of our engines. Forcing small business into this retrofit will surely force some of us out of business, thereby costing jobs and revenue to the state's economy. (JBSI)

269. Comment: The businesses that would survive would be forced to pass the new costs along to the public. By adding the transportation cost to the public, every commodity would be priced higher in California. Gas would be $8.00 per gallon instead of $3.00. The cost of milk and clothing would double. Every item in the grocery store would cost the consumer more money. At a time when unemployment is at a high, this regulation would guarantee more unemployment, less consumer spending, and less taxable income. That means less money for police, fire, and other essential services for all. As baby boomers ready themselves for retirement and fixed incomes will be the norm, how will the elderly pay for the price increases to every commodity? Even if companies wanted to upgrade their equipment to meet the new regulation standards, they could not get a loan to retrofit or upgrade their engines. If the State of California can't get a loan, then how can a small company get a loan to purchase new equipment? (FORM1)

270. Comment: When the staff put out their analysis while we were in the height of our downturn, although can't stay it was the height then because it's getting worse every day, nothing was taken into account about what's going on with the current economy. Their only reference was to call it insignificant. I think you have heard over the course of the past two days nothing but a lot more than insignificant. (CTA6)

271. Comment: If the regulations are placed into affect as proposed, there will be thousands of people who will become unemployed. If the requirements and timeline are changed possibly, we can continue to operate, not placing a burden on the state or ourselves until the recession is over. (CDTOA5)

272. Comment: In the first three quarters of 2008, 2,690 trucking firms in excess of five trucks went bankrupt in the United States. If this regulation goes into effect as

written, California has a very good probability of eclipsing that number in this state alone. (ALOG2)

273. Comment: It is so disturbing to me, that as we are in the most difficult times since the great depression. Is there any consideration for an industry that supplies us all with the goods that we all need to survive, including all that are employed at ARB. You drive on the roads that we all help build, you go to the market and purchase the food you need to nourish your families, you go to a doctor and all the items used at your visits or given at the pharmacy to help you feel better are most likely delivered by a truck. Do many of you understand how badly you are impacting the industry that actually helps you? We might lose half of these small businesses due to this new law you want to pass. It will hurt many of us, the cost of goods could possibly rise, the deliveries might become slower etc. I cannot express upon you enough to reconsider this action you are proposing. It is the most difficult times in our lives and we just do not need this now. (CDTOA2)

274. Comment: The expense will effect businesses, their employees, and trickle down to the consumer who is already having difficulties in these hard economic times. (ADC2)

275. Comment: Everyone is for clean air but the current changes are overwhelming no matter when they are phased in. They are devastating at a time that couldn't be worse for anyone trying to stay alive in business. If you think this economy is going to be good for California, you think wrong. If you think your regulations are going to improve the air, they might, but at a cost beyond your wildest imagination. (GRAY)

276. Comment: I have read the various literature from CARB and although I know its well intentioned, I don’t think there has been little of any forethought into the financial impact that this will have on every single person in California and beyond. There is not a stitch of clothing, a product of food or any single item that is in the consumer chain that is at some point or another transported by a truck. If you were to implement all that you propose you will unleash a new rise in cost for every single items one might purchase, is this what we need in these already brutal economic times? Logic would dictate that it is not. Think long and hard before you force all these mandates, I fear the upheaval will be tremendous and your tax base will shrink further and your unemployment outlays will rise dramatically. Think pragmatically before you vote. Common sense will serve us all well, if we will only listen. (HVS)

277. Comment: The California Air Resources Board (CARB) is currently considering the adoption of an on-road diesel truck and bus regulation that, if implemented as presently drafted would have a profound, negative impact on California’s economy. As a member of the California Moving and Storage Association (CMSA) and its over 550 member companies, I am very supportive of reducing particulate matter (PM) and NOx emissions from diesel engines. There is no disagreement that we need to work collectively to improve the state’s air quality and all of us want to provide as healthy an environment as possible for our families, our employees and all Californians. However, in its current form, the Board’s

proposed regulation places a significant economic risk on our business today, jeopardizes many of my fellow members future viability in the moving and storage industry, which is already reeling from unprecedented financial turmoil. I have been a witness to 4 moving businesses closing just in the last 3 months from the current economic state. We must be careful not to forfeit California's economy and ability to move goods across the state, build construction projects and bus our children to and from school for the sake of protecting our environment. (CMSA2), (ATS1)

278. Comment: The California Air Resources Board (CARB) is considering an on-road diesel truck and bus regulation that will have a huge negative impact on the state's economy and my company. In today's economic environment, it's unreasonable to impose costly regulations on small businesses already struggling to get by. I'm in favor of cleaning up emissions, but the timing is horrible. I don't have tens of thousands of dollars at my disposal to retrofit my small fleet. (DBAR)

279. Comment: The California Air Resources Board (CARB) is currently considering the adoption of an on-road diesel truck and bus regulation that if implemented as presently drafted would have a profound, negative impact on California's economy. My company supports improving the state's air quality. However, the Board's proposed regulation places a significant economic risk on our business today, which is already under stress from the recent financial crisis. (HEPRO)

280. Comment: California is losing businesses already. Our economy is going to go even more into the dirt with this regulation. What do you think will happen to the farmers, truckers, construction industry workers? A billion dollars to load out is a drop in the bucket. Even though I don't own any equipment that would be effected by this regulation, it makes me want to shut down my business, sell my houses and move out. I don't want to live in such a crazy state. If this passes, it will be the last straw for me. (ACNE)

281. Comment: When the meltdown of the housing industry occurred we suffered a significant reduction in sales that has had a profound effect on the way we operate. The current economic slowdown has only compounded our financial woes and we find ourselves in the position of scaling back in all areas just to attempt to break even at the end of the year. As you are aware, many businesses are facing bankruptcy and the employees that still have jobs are wondering how long that will continue. CARB is proposing this multi-billion dollar regulation during the worst economic crisis since the Great Depression. California truckers, construction companies and bus operators are struggling to make ends meet in the face of a massive slow down in the construction sector due to falling home prices and home foreclosures, declining consumer confidence and spending, and a freeze in the credit markets. (MRLLC)

282. Comment: The Northern California Engineering Contractors Association is very supportive of reducing particulate matter (PM) and NOx emissions from diesel engines. There is no disagreement that we need to work collectively to improve the state's air quality and all of us want to provide as healthy an environment as possible for our families, our employees and all Californians. However, in its

current form, the Board's proposed regulation places a significant economic risk on businesses today, jeopardizes our future viability in the Engineering Construction industry, which is already reeling from unprecedented financial turmoil. (NCECA)

283. Comment: Given the current economic crisis and resulting dramatic decrease in jobs, the enactment of this On-Road Regulation will hurt our business while crippling the industry. (JJAI)

284. Comment: Our country is currently in a state of economic panic. Our unemployment rate in the state of California alone is up over 8.2%; the highest it has been in over 14 years, and is currently the third highest in the country. Imposing a regulation that would cost companies an insurmountable amount of money would cost even more people their jobs and livelihood. Ultimately bringing us even deeper into the recession and even closer to having another depression. Why would we as a state knowingly put our families in that sort of situation? (TLT1)

285. Comment: This will also have a huge ripple effect on all California citizens. They apparently have no idea how the trucking industry effects every aspect of their lives, and by extension, have no idea how those aspects are about to come to a screeching halt. These ripples will further harm an already limping economy. (CEWR)

286. Comment: Shutting down the construction industry in today's economy through mandate is redundant. Other than the Prop IB projects (i.e., money borrowed) by the State, it already is. Shutting down the transportation industry (on-road diesel engines) should finish off any possibility of California recovering from the current recession (depression?). Your Legislative Analyst Office admits the $20B annual deficit goes out at least 5 years, an optimistic view in my opinion as there is no evidence that the LAO has a clue about what CARB mandates will do to economic conditions, precluding any possibility of recovery. The loss of tax base from these industries assures this. Truckers cannot replace equipment at the mandated rate any better than contractors. Massive unemployment in the transportation industry will be the result. As the trucks owned by contractors are not the real producers of income (they provide mainly support to the heavy equipment), contractors will not replace them. The loss of availability of these trucks again limits ability to continue operations (read again, loss of taxes to the State). It's a crying shame to destroy a competent California business of some 65 years, after having done nothing wrong but follow the business model (buy and use equipment to supply a good to the economy all the while employing workers, providing them with a good wage, health care and retirement programs along with paying substantial taxes to the State and Federal Governments). Typically, Delta has paid or caused to be paid (through employment) 14% of its annual volume in taxes to these agencies (quantum calculated by audit). This amount does not include taxes paid by suppliers or subcontractors to Delta. Our volume was cut in half from 2006 to 2007 (along with the taxes paid) due to economic conditions and 2008 has been worse than 2007. The light at the end of the tunnel for 2009 has been turned off. I

have retired employees after personally employing them over 35 years and have two with me at 30 years currently. (DCI1)

287. Comment: I believe at this time and in this economy it will be devastating to many trucking companies if this proposal were allowed to go into effect. Our industry has seen quite a few of our members lose their businesses because of high costs and if this proposal is put through many more will follow. I have been in business for 30 years and this is the worst I have ever seen it. The high fuel prices almost single handedly destroyed the trucking industry. We simply cannot afford to comply at this time. (HSTI)

288. Comment: This is not the time to invoke costly truck emission rules during a deep economic crisis. These draconian rules would especially harm our members' small trucking businesses and could result in massive job loss and state revenue losses. Please don't forfeit California's economy for sake of protecting the environment. (MCC3)

289. Comment: The proposed ruling to reduce emissions could not have come at a worse time. We are in the middle of the "perfect storm" in the construction trucking industry. The combination of the lack of work, the high cost of buying new equipment or retrofitting current equipment, and the rates for work decreasing instead of increasing, has been the kiss of death for many companies. We have been in this business over forty years and have never had to layoff any employees. Now, we have no choice but to cut our work force and hope we can hold on until the economy recovers. We have lost a lot of good workers. We all want cleaner air, but the cost to obtain it should not wipe out thousands of companies. Please delay this decision and do some more investigation and come up with a solution that everybody can live with. (TCTP)

290. Comment: If the current economic problems continue, we will all be approaching these replacement requirements in dire financial positions. The ramifications are that the financial position of small businesses affects the economic stability of the entire State. (GTRU1)

291. Comment: Our company, a moving and storage firm, is facing tough financial times. If we need to replace/retrofit our trucks, it would be an impossible task to do all at once. If we need to replace our low mileage trucks in the order being considered, we would have no choice but to curtail operations which would impact all of our workers resulting in a further blow to the fragile economy that we are presently in. (ATS2)

292. Comment: As a small company with a few pieces of equipment, the new diesel engine laws will impact us at a time when we are just trying to stay afloat. I am sure it will have an affect on the entire economy statewide. (CIAQ1) economyx

293. Comment: We ask simply that greater thought be given to the distress that this regulation would pose on businesses throughout California as well as the economy. We plead with you not to approve of regulations that will result in the end of all that we have created through our hard work over the years. (SSOW)

294. Comment: All-Ways Moving and Storage are members of the California Moving and Storage Association (CMSA) and we would otherwise be supportive in working collectively to improve the state's air quality to provide a healthy environment not only for us, but also for our families, employees and all Californians. However, the Board's current proposed regulation places an even more economical burden on our small business. Due to the financial turmoil of the economy today, the proposed regulation will jeopardize our future viability in the moving and storage industry. CARB is proposing this regulation during the worst economic crisis we've seen in decades. Our small business moving company is struggling to make ends meet in the face of a massive slow down in the residential real estate market, and you are proposing a legislation that will require us to spend dollars we don't have, in a market where there is no access to capital for business. (AWMS)

295. Comment: The 2008 economy (recession) destroyed our construction work season and we are looking at 2009 being as severe (probable recession), relegating survival as our only realistic goal. Saving for and obtaining a loan towards truck replacement will continue to be extremely difficult, if not impossible until the construction economy stabilizes and grows. Current economic conditions alone, demonstrate the current CARB on road timeline to be unrealistic and unreasonable. (PTCDTOA)

296. Comment: What CARB is proposing is an extraordinary action that will hurt every single California consumer and taxpayer by increasing prices and shrinking the tax base. Trucking companies are barely making it in the current business environment and these rules will be the final blow. California can lead and innovate when it comes to environmental issues. But we have to think realistically about the problems we are facing. Putting California transportation companies, out of business isn't the answer. (KVSI2)

297. Comment: The economic upheaval that the State of California is experiencing today is in part due to unnecessary and untimely government regulations. This will accomplish nothing if the businesses left here cannot afford to make changes. (CIOMA5)

298. Comment: I am a small fleet owner who operates 10 trucks mostly in California. We are based on the central coast in Salinas, CA. My business employs 14 people and has been operating continuously for 38 years. We are an on call business that loads & delivers fresh produce and block ice for railroad intermodal and small produce companies. We also haul ice for construction companies making structural concrete for bridges & buildings throughout CA. We haul heavy equipment for produce companies & refrigeration equipment that requires drivers with hazardous material endorsements. Our trucks average less than 35,000 miles per year. Our equipment is mid 1990's to early 2000's and is well maintained, smoke tested and in compliance with all current regulations. If the proposed regulation is passed in its current form, our company simply couldn't continue to operate. Much of our equipment would have to be disposed of before its useful life, and expensive retrofits would be required for the balance. Paying for

the replacement of disposed units as well as retrofit of other units would not be possible due to current financial conditions. To pay for the added investment, we would require more work which is currently not available in our sector of business. We would cease to exist-denying the public a valuable service oriented company that has paid taxes and provided jobs for over 38 years. Trucking companies purchasing new trucks generally expect to run these vehicles in excess of 120,000 miles per year and generally have dedicated routes that they can put these trucks on. While replacement of these vehicles may impose a financial burden on these companies, they will be able to recover this because of dedicated routes. (NTRC) xecononomyx

299. Comment: It is very important to consider the economic impact these new regulations will have on all who must run diesel trucks as part of their business. The added expense will effect many businesses and in some cases put people out of business. The expense will effect businesses, its employees and trickle down to the consumer who is already having difficulties in these hard economic times. Please consider everything and how it will affect the lives of people and their families. This is a very expensive hit to absorb for any industry. (ADC2)

300. Comment: CARB is proposing this multi-billion dollar regulation during the worst economic crisis since the Great Depression. California truckers, construction companies, and bus operators are struggling to make ends meet in the face of a massive slow down in the construction sector due to falling home prices and home foreclosures, declining consumer confidence and spending and a freeze in the credit markets. Today, there is virtually no access to capital for businesses, large and small. (IWPI)

301. Comment: Having been a business owner since 1962 I have found that customers, competition, financing or changing technology are never the biggest obstacle to success. The biggest challenge to prosperity remains government and government sponsored bureaucracies. Business owners are typically too busy creating jobs, meeting payroll, servicing customers and propelling the engine that makes this state and this country work, to have the time to follow the creation of all the rules and regulations being forced on them. Unfortunately, the wakeup may come too late when over 150,000 small businesses will be forced to abandon productive assets or to needlessly upgrade to what is actually poorer performing equipment. I say needlessly because CARB's own presentations admit the On Road Bus and Truck Rule is only a speed up rule. By 2023, pollution will be essentially the same with or without business owners, school districts and local government spending the estimated $5.5 billon required. The cleaner Tier 3 and Tier 4 engines are already in the pipeline yet the proposed plan is to create bigger government and an entire new system of record keeping similar to adding a third tax return. Our state already carries the highest regulatory burden in the nation. Plumas County is a NOx exempt area, so we will avoid some of the timelines, nonetheless we will feel the pain as virtually everything including fuel and food must be trucked in. We will face fewer choices because some firms will now refuse to come to California. We will face higher costs for everything. Of the over one million vehicles that will be affected, none will be affected positively. Some

will be retired or sold out of state. Some will be retrofitted or repowered with devices or engines that will cost more, require more maintenance, use more fuel, provide less power and often times are less safe. All of this means fewer jobs, fewer wages, less profits, higher costs to consumers, and ultimately fewer taxes paid. All of this to meet pollution targets a few years early; a target we may meet early anyway because of recession and high fuel prices. California needs infrastructure, levies rebuilt, water systems and all the other things voters passed bonds to pay for. Raising the cost of everything that moves on wheels means we get less for our bond dollars. I urge you to follow the Governor of New Jersey when he halted all work on new diesel regulations because his state simply could not afford another burden. Lastly, I will point out the fallacy of those that claim the forced abandonment of capital, forced retrofits or forced upgrades are actually better for the economy. Economic teachers will refer to this as the "broken widow fallacy". In short, a thug tosses a brick through a store widow. By replacing the window the store owner is benefiting the window installer, window maker, trucker, tinter, and so on down the line. Fixing the window is thought to be a benefit many times over, yet the store owner himself can no longer purchase something else because he was forced to repair the window. This other purchase would have benefited just as many, but this is no longer an option. The economy as a whole is always worse off because of the lost window. (IVCC)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 265 in the Costs and Cost Methodology section.

302. Comment: While we are supportive of reducing particulate matter from diesel engines, CARB's proposed regulations for replacement and/or retrofitting starting in 2010 is too onerous for our company. Companies like ours are being asked to dispose of equipment and assets before their useful life and purchase new equipment before financially feasible. In this tough economic climate, this is an unreasonable proposal. (ABC)

303. Comment: The economy in its current state has slowed down my business to the point where I am desperately struggling to continue to fund my employees 401(k) and to maintain their benefits at there current levels going forward. This leaves very little capital to allot to more new equipment at this time or in the foreseeable future. (RTC)

304. Comment: I am concerned about air quality. I am also concerned about quality of life in the State of California. My husband is an owner operator trucker and has been in the dump truck business in CA for the last 35 years. We have lived through several recessions and are now experiencing the worst construction downturn we have ever seen in Southern California. The only way we made it through previous slowdowns was by having a savings account, having our equipment paid for, and not making any major expenditure. Each recession

completely depleted our savings but we were able to survive financially because of our extremely low overhead (no truck payments)! There is no way we can afford to buy a 2007 (or newer) truck or spend $15,000 on the unproven retrofitting during this current economic downturn. We just need more time. As "used" compliant trucks become available at reasonable prices truckers will upgrade. Let's try to strike a balance between business and the environment. (DTRI)

305. Comment: Freight is at an all time low. Companies are going under daily. Give us some decent time to comply and manufacturer's time to build equipment needed to upgrade exhaust systems as some of us do not want to be forced to buy high priced trucks. You have to be able to make the money before you can spend it. Right now, with over a million people laid off, there is no money, no purchasing, and no trucks needed to deliver goods. (BPAQ)

306. Comment: We as a small business, in the trucking field, we are struggling to stay afloat. We want clean air; we do our smoke test yearly. If we must buy new trucks, replacing trucks that are perfectly good will shut our doors. I know we are only a small family business; we have 10 families that rely on us for their livelihood. We have been here for 42 years. We want to keep moving on. In this economy we don't need to put more families on the streets. (RGIL)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

307. Comment: I cannot continue to replace two trucks a year and be in compliance by the time you want for us folks to be there. It's just impossible, especially with the economic situation. We don't have contracts to go to a bank and say, "I have this guaranteed income coming in," so that I can guarantee I will be able to pay the loan. (FLFTI2)

Agency Resposne: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Funding opportunities exist for fleets that take early action to comply with the regulation, for more information on funding options available, see response to comments 738 and 739 in the Funding section.

308. Comment: We kind of saw this coming some years back. So we began changing our business model by basically starting to buy brand-new equipment. I believe that by doing that we, being a small company, got into so much trouble because, our monthly payment per truck is 2400 bucks on average. I think we are into some

deep trouble, by making this investment into our company and because of the way we all know the economy is. (PVMT)

309. Comment: Mandating truck replacement without regard to economic utility will be devastating to the small business segment, the largest employers in transportation. This segment is battered by volatile fuel costs, increased permit fees, high repair costs, higher environmental fees and lower business volume. (CIOMA3)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

310. Comment: My trucks are in excellent shape and I cannot afford to replace them with new models as will be required by the CARB regulation. It took me almost 5 years to pay my current truck assets off. I have over 35 employees who will lose their jobs if this regulation passes. My company is the highest rated moving company in San Diego performing over 1,500 moves per year. I am for a cleaner environment but this regulation is ridiculous, ill-timed, and too harsh. The timing couldn't be worse. It will have a severe negative impact on me and companies like me and put hardworking Californian's out of a job. If it passes, I will most likely take my trucks and move my business to another state where I can operate them legally and the jobs will come with me. Everyone knows that California is one of the most difficult states to own a business in. Besides the normal process of fighting for business, I get to fight the onerous regulations from Sacramento that seem to continually throw roadblocks in front of me, like the proposed CARB regulations which will throw the final arrow through the heart of businesses like mine. I beg you to postpone this regulation or kill it. (PMI)

311. Comment: Small businesses stand to be decimated by the "buy new trucks" regulation that is being proposed here. This proposal is unrealistic. In these hard economic times many businesses, both large and small, are failing at record rates. CARB's goal of lowering emissions in our state might have already been achieved with the elimination of these businesses. As many of us struggle to hold on and weather this financial storm, the implementation of CARB's plan will be the final nail in our coffins. (MROC1)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

312. Comment: This will hurt all small businesses operating in the state of California. The trucking industry is already choking to death with over-regulating by states doing their own thing. (DNEA)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

313. Comment: As a small company with a few pieces of equipment, the new diesel engine laws will impact us at a time when we are just trying to stay afloat. I am sure it will have an affect on the entire economy state wide. (IPLAS).

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

314. Comment: The economy is in such drought it affects us all. The work in California especially the construction end directly affects me along with thousands of other small fleet owners. The work just isn't there to justify the upgrade of equipment now. There just isn't anyway to afford a $150,000 dollar piece of equipment when I'm only struggling with $3,000.00 income a month now and shrinking. I've had to get a night job to try to survive and that is slowing down and might even be out of a job by years end. With my savings I can only survive another 4 months and then I'm done. California can't afford more unemployment and need to just suck it up. Put this outrageous proposal aside till the economy picks up. My original plan was to up date my truck by 2015 before CARB went wacky and economy south. Now we can only wait and try to survive till it gets better. Believe me, the majority of us would like a new truck but only when economics can assure it (JDSR)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the

Costs and Cost Methodology section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

315. Comment: There is no disagreement that we need to work collectively to improve the state's air quality and all of us want to provide as healthy an environment as possible for our families, our employees and all Californians. However the proposed regulation places a significant economic risk on this State and jeopardizes future viability in almost every industry. Industries that are already reeling from unprecedented financial turmoil. The economy of this state is on the ropes. Moving forward with these measures at this time will be the final K.O. Your responsibility is not only to the health of the people and our environment but also to their financial welfare. Please prevent this crippling regulation from moving forward. (EUCA2)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

c) Cost Analysis

316. Comment: "The proposed regulation would impose a cost on the overall economy; staff expects it could reduce overall employment in California by a small amount. In 2013, the highest cost year, employment would be expected to decrease by about 4,600 to 13,600 jobs." In the Health Impact Methodology, staff reported the cost over a period from 2010 to 2025. Using the same methodology, the proposed regulation could reduce employment in a range of 89,000 to 244,000 jobs. (BJSC1)

317. Comment: The proposed regulation would impose a cost on the overall economy. Staff expects it could reduce overall employment in California by a small amount. In 2013, the highest cost year, employment would be expected to decrease by about 4,600 to 13,600 jobs. In the Health Impact Methodology, staff reported the

cost over a period from 2010 to 2025. Using the same methodology, the proposed regulation could reduce employment in a range of 89,000 to 244,000 jobs. (NWSC1)

Agency Response: The estimate of decrease in jobs in any year is the total number fewer in that year and is already a cumulative total including prior years fewer jobs. They cannot be added together like the annual emissions reductions can be added. For example if there were 10,000 fewer jobs than otherwise expected in one year and 4,000 fewer jobs the next year, one cannot state that 14,000 were lost. At best 6,000 jobs were lost for 2 years and 4,000 were lost for 1 year.

318. Staff also stated that fleets naturally replace their vehicles on a regular basis that is faster than what the regulation would require. Many fleet owners like NWSC will utilize the vehicles in their inventory from 10 to 25 years. (NWSC1)

Agency Response: Regarding vehicle replacement cycles, staff's cost methodology analysis evaluated fleets with a wide range of replacement intervals and estimated the costs of complying with the regulation to the normal replacement costs that would be expected without a regulation. The analysis ranged from long-haul fleets that would replace their vehicles with new ones within three years to fleets that would normally buy 10 year old replacement vehicles and keep them until they were more than 25 years old. See cost methodology description in TSD chapter XIII and supporting appendix J.

319. **Comment:** The presentation showed that a new truck would be $800 a month. That's not even close. Three times that amount - $2400 a month is about an average payment on a new truck. So just realize that your numbers, your statistics need to be quadrupled. (FTSA) x800x

320. **Comment:** The $800 truck is a myth. It was humorous last night watching your staff explain how somebody is going to buy a four-year-old noncompliant truck, spend 20 to $40,000 on a retrofit, and then replace it a few years later. That's a bad financial decision. These guys aren't going to do that, and you wouldn't do it either. But that $800 truck has to exist on paper or the cost balloons somewhere close to $8 billion. You need to fix that. (CIAQ2) x800x

321. **Comment:** We run 12 trucks and employ 15 people. We have an annual payroll salary of a half a million dollars. We pay approximately a million dollars to our outside vendors for our product -- for fuel and the rest of our expenses. In the past two years we've replaced four our 12 trucks, approximately $300,000 of capital outlay. These cost us approximately $1800 a month, which are way in excess of the $800 that we heard earlier in the testimony. (FLFTI2) x800x

322. **Comment:** I'm a third generation petroleum marketer. I have four trucks in the 1980s, eight in the 1990s, and I have seven pre-'07 and three '07s. I am one of those guys who have been long time family business. We saved all of our money and invested in our trucks. A lot of the trucks are paid for. Nobody wants to loan money for an upgrade to a truck. They might loan money for a new truck, but I just sold a 2007 truck because I didn't want the $5,000 a month payment. I'd love to buy a dozen if you have a dozen trucks for sale for 800 bucks a month. (VDPE)

323. Comment: In five calendar years, after you pass this regulation I will essentially have to replace each one of my 30 trucks. Now, we can argue with staff and look at details and see if I should retrofit a couple of them. To me, it's not a good use of my money. I'm going to try and stay ahead of this and replace all 30 trucks. That's a $3 million price tag. By the end of the fifth year I will simultaneously be paying on all 30 trucks at one time. That's $900,000 in annual payments. That's inconceivable how we would pay for that. No bank will loan any company that type of capital to make those payments. I heard a number thrown out here today, $800 payments. We're taking delivery of a brand-new truck tomorrow morning, and those payments are going to be $2,052.57. So there's a disparity there. Just in the last two months with the economy tanking and the fiscal markets crashing, things are much different than they were a few months ago. Our employees have not had a raise in years. We have office and capital equipment that needs upgrading. We have been dealing with health care cost increases to the tune of 15 to 20% per year for more than a decade. Sales and use taxes have gone up locally and statewide. Almost every expense has gone up because of energy price increases. These fluctuations are huge challenge for any business but especially for a small business with less than 20 employees. (RTRU2)

Agency Response: At the hearing staff showed examples of how the costs to replace a truck could be lowered to about $800 per month with the use of available incentives or by replacing an existing vehicle with a used vehicle. Staff agrees that a new truck purchased without incentives could be purchased for about $2,400 per month. The first example of the $800 a month payment estimate presented at the hearing is based on a fleet owner obtaining up to $50,000 in grant money and loan financing to extend the loan term beyond 5 years. The second example was of a fleet purchasing a truck with a 2007 model year engine (6 years old) to replace an old truck to meet the NOx and PM requirement in 2013 without any financial incentives. A 2007 model year engine complies with the regulation until 2021.

324. Comment: The CARB analysis has estimated that the state's residents will receive benefits of $48 to $69 billion. These benefits are to be delivered at a net cost of about $6 billion according to the staff's analysis. While this argues for imposing these new rules, it misses a fundamental equity issue about who should be paying for these costs? (AEG1)

Agency Response: As indicated in staff’s analysis much of the cost of the regulation is ultimately expected to be passed on to the consumer and ultimately will not be borne by most businesses that will need to take action to comply. See staff analysis in TSD chapter XIV for detail.

325. Comment: Lack of industry-specific analysis: The analysis shows differential impacts by fleet size and some industries on Table 11 at page J-21. The analysis also shows an estimated cost by industry in 2013 at Table 13 on page J-25. Unfortunately; the analysis does not show the total cost by fleet type AND industry. Combining this breakdown would provide information on the expected costs

across the characteristics of the industries. These are obscured in the current presentation. (AEG1)

Agency Response: The industry specific analysis was done and is described in detail in the TSD Chapter XII and supporting appendix J. The total compliance costs by industry sector are shown in Table 18 on page J-31 of appendix J.

326. Comment: Inaccurate assumptions about cost impact absorption: The manner in which the E-DRAM model is adjusted to reflect the regulations inappropriate models a much more efficient response than will actually occur. It simply treats these costs as a higher uniform tax rather than as a structural change that changes the distribution of the cost structure in each industry. It does not make the differential increases within an industry so that the supply curve for services and commodities becomes steeper. Rather it implies a uniform cost increase regardless of the characteristics of the firm and its fleet. This is contrary to the findings in the rest of the report. (AEG1)

Agency Response: In the E-DRAM model, an industrial sector represents a list of the aggregate purchases and sales of closely related industries. The model is not detailed enough to have information on the cost structure of each industrial sector. Thus, the assumption regarding the cost distribution within the industry has no bearing on the E-DRAM run. In addition, the commentator has not provided any evidence to show that his assertion that the distribution of the regulatory cost will vary significantly within the affected industry. His assertion is neither supported by Staff analysis of over 6,700 vehicles from 688 actual individual company fleets with varying age, vehicle type and weight class, and geographical operation within the state and outside the state.

327. Comment: CARB staff estimated in Appendix M that “For most companies, the cash flow would always remain positive except in a few key years.” Our industry has looked at this under many different scenarios and hired outside CPA’s experienced with overlaying financial data with legislation and have continually found that experienced, previously profitable companies would be unable to survive this rule. (Study attached) Even if a company chooses to take on a million dollars of debt, which is only five sweepers, a finance company looking at CARB’s rosy picture of “except in a few key years” would laugh. We also see in the news everyday what irresponsible debt can lead to. (NAPSA2)

Agency Response: Staff evaluated the industry’s analysis and redid the same industry analysis allowing for the purchase of used vehicles and installation of exhaust retrofits rather than only assuming new vehicle purchases would be made. The results cash flow analysis is dramatically lower when using replacement cost for lower cost used vehicles rather than with new. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements (replacements) starting in 2013 in a manner that is best for their situation, see response to comment 10. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149.

328. Comment: We are a small commercial driving school with a fleet of 30 trucks in the 1989-2000 fleet age range. Our trucks all average about 7500 miles per year and drive just short distances to and from our training yards. Most of our time is spent in the yards backing up. Our trucks do not haul loads, go to ports or traverse the highways more than a few miles per day. Our trucks, by design, are "tortured" by new drivers that don't know how to drive a big-rig. It's why they go to school. In the process, these trucks go through high maintenance costs anyway, with frequent clutches and wear and tear. We are fully state approved and participate in CHP BIT inspections and Smoke tests. We are fully compliant with both. As such, we get as many miles out of our trucks as we possibly can, due to ongoing maintenance costs and necessary cost vs return formulas. The need to have a brand new or near new fleet for our application simply isn't feasible. In fact, to do so would require such a sizable increase in tuition costs to offset that equipment purchase that most students couldn't afford to go to school. As it is, students are having difficulty securing loans in this constricted economy. Either way, we lose as a small business in California. The other commercial driving schools in the state are in similar situations. It is a critical asset to the California transportation industry and economy which will be further exacerbated by a growing shortage of drivers here. Your suggestions today that we simply all go out and buy newer $50K to $60K trucks to replace our fleet is absolutely not feasible in any business model I can generate. It appears that regardless of what we oppose, a regulation is coming. We have no problem with cleaner air, but the impact on small business in California is going to be devastating. With fuel prices and the economy in the state it is now, many small California companies simply will not be able to absorb that cost. I point out that while some latitude for "small fleets" has been allowed, fleets of our size, which is not uncommon in California, are going to be severely impacted. The compliance options that have been introduced certainly do give a bit of headroom; however, no model portrayed by CARB allows us latitude on the PM filters by the end of 2010. That cost alone shuts the doors of this 33 year old California based company. (WTS2)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section.

329. Comment: I would just like to say that for a state with so much to offer the way we deal with our air pollution is tens years behind what Arizona in Phoenix has done. The way this is dealt with in regards to the truck rules and the TRU rules has been unfair and with no regard to the actual technology available when the rules are

made and voted on. This will put this state in harms way. Your own people do not have a grasp of what are the actual numbers to complete the task at hand. (THEI)

Agency Response: California leads the nation with its aggressive air pollution control program. Where California has numerous regulations aimed at reducing diesel emissions, Phoenix has but one. With regard to availability of technology to reduce diesel emissions, ARB has numerous devices that have been verified for use on heavy duty diesel truck engines. Chapter VII of the TSD details the technology currently available as well as technology that will be used in the 2010 engines. The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section.

d) Cost Analysis Results and Cost Methodology

330. Comment: I don't know what genius came up with the figures of financial impact, but what is currently proposed will break the backs of small business as a whole! (CSA)

Agency Response: The cost methodology and cost inputs used in staff's analysis are described in detail in Chapter XIII of the TSD and further detailed in Appendix J. The staff analysis of costs attributable to the regulation are based on the analysis of individual fleets and compares the costs of normal vehicle replacement without the regulation to the actions required to comply with the regulation during the period 2009 to 2030. The individual fleet data used in the analysis was from data collected in a survey of primarily California fleets that included 6700 vehicles from 688 company fleets. The characteristics of the fleets that were included in the analysis varied widely by fleet size, fleet average age, vehicle type, and weight class. The sample included fleets from most industry types ranging from long-haul trucking firms, less than truckload carriers, farming operations, logging fleets, retail businesses, construction fleets, other vocational fleets, and a number of other company types. The sample also included a range of fleets throughout the state including in rural areas and some out of state fleets. The individual fleet costs were scaled up to match the emissions inventory population to determine the statewide costs.

The cost analysis included capital costs based on price curves for more than 50 vehicle types in each of two weight class categories to determine replacement costs without a regulation and the replacement and installed PM retrofit costs with the regulation. In addition to capital costs, various annual operational and maintenance costs that are attributable to the regulation were added. Operational and maintenance costs associated with NOx and PM controls would include annual PM filter cleaning expenses, changes in fuel economy, urea costs for SCR systems originally equipped on 2010 model year and newer engines, and costs associated with regeneration of active PM systems. Annual reporting costs are also included. These annual costs were modeled separately and added to the capital cost estimates to arrive at an overall cost estimate.

Staff provided multiple opportunities for interested parties to evaluate staff's approach and make comment. In July 2008, staff held public workshops with technical discussions regarding details about both the costs methodologies and the emission inventory information. Prior to these workshops, a draft cost methodology paper was released that explained the cost model methodology and input values. Based on the comments received from this workshop and from input throughout the regulatory process, the cost model was modified to incorporate more recent data and made appropriate adjustment. The automated cost model software program was updated and posted on the internet on October 24, 2008 for those interested in using or commenting on the modeled approach. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.
The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

331. Comment: Our concern is that the state is being sold a bill of untested goods. The staff report state that the cost of the traps is the only cost. That is totally wrong. We know the following cost must be included: installation, shipping, cleaning machines, electrical infrastructure, spare cores, taxes, electricity cost, cleaning cost, removing and replacing cost, waste disposal cost, possible engine repair, cost of the bus being out of service, and a possible fuel increase. Many of these costs are not one time costs, but will be ongoing operational costs. (FCAM)

332. Comment: The PM filter costs that you have been given $10 to $11,000 are not correct for many, many applications of short-haul trucks that do not generate the heat. We are, in fact, looking at retrofit PM filters more in the neighborhood of $25,000. (CDTOA13)

333. Comment: We believe the cost of the rule has been substantially understated. Earlier staff showed that 23 percent of a million trucks are going to need filters. We find that filters cost $20 to $45,000 installed per truck, depending on how many filters you have to put on. (CFA2)

Agency Response: The cost methodology described in detail in TSD Chapter XIII and supporting appendix J includes all of the initial capital costs, annual operating costs and reporting costs associated with the regulation. The cost methodology was also presented in a white paper and was discussed in workshops to discuss the cost methodology and input assumptions. For PM filters, the cost of annual cleanings, fuel economy losses, electricity for active systems and other costs were included. The installed PM filter costs were $11,000 for passive filters on medium duty vehicles and $15,000 for active filters on medium and heavy duty vehicle and were based on actual installed prices through existing incentive programs administered by air districts and

other incentive program administrators. The prices used by staff establish an average installed cost for the term of the regulation. The prices are expected to vary based on a number of factors. Staff does not agree that using the highest cost example of an installed retrofit cost is representative of typical costs. By 2011, used trucks originally equipped with PM filters will cost less than $45,000, and after trade-in the cost would be lower. Also, the flexibility in the regulation gives fleets the option to install lower cost PM filters first and counts engines that are originally equipped with PM filters to lower the number of retrofit installations.

334. Comment: How can ARB state the retrofit might be $15,000-$20,000 per truck when CARB has zero research to support the estimate? (MLVSI)

Agency Response: Staff researched the cost of both passive and active DPFs. A wide variety of sources were used to collect information about DPF costs including surveys, retail price guides, and actual invoices from fleets where DPFs were installed.

335. Comment: Diesel particulate filters should be a relatively inexpensive solution however they are not when compared to the market value of the trucks they are being put on. Recent auctions have shown the value of trucks average around $15,000 for a late 1990, clean and low mileage truck. This value is less than any of the verified filters to make these trucks compliant with the regulation presented. (ALOG3)

Agency Response: Diesel particulate filters provide the most cost-effective method of reducing PM emissions. If an older truck traveled the same mileage as a newer truck it would be more cost effective to reduce PM emissions from a older truck. Older trucks are as much as 30 times more polluting than new trucks. As a result, while a DPF may cost more than an older truck is worth, its value in reducing PM emissions is equal or greater than the value of the truck. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

336. Comment: According to the Staff Report: INITIAL STATEMENT OF REASONS FOR PROPOSED RULEMAKING, staff indicates the most impacted sector as a result of this regulation is the Transportation or Warehousing (For Hire). Their estimate of the cost as a percentage<of gross revenue is 2/10ths to 3/10ths of one percent of the gross revenue. For our business we estimate the implementation cost will equal 6.75% of our gross revenue. This is significant as it far exceeds our best case scenario profit margin. See exhibit 1 attached for our analysis of implementation cost. (ALOG2)

Agency Response: Staff do not agree with the costs included in the commenter's analysis, because many of the costs included in the analysis are not required by the regulation. Also the commenter's analysis assumes the truck replacement is paid in full when it is purchased which inflates the impact on the revenue in that year rather than

spreading the costs out in a financial analysis. The value of depreciation is included in the analysis, but does not increase consistent with increased truck purchases.

The analysis is for a 25 truck logging fleet that appears to operate in the designated NOx Exempt areas and normally replaces existing trucks with 2 new trucks per year. The analysis presented by the commenter is based on additional new vehicle purchases and 3 engine replacements starting immediately in 2009. The regulation does not require NOx reductions until 2013, and never requires new replacement vehicles to be purchased to reduce NOx. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Most or all of the vehicles in the fleet are likely to qualify for the NOx Exempt Area provisions which exempt eligible vehicles from the NOx reduction requirements until 2021. By 2021, the fleet will normally have mostly 2010 model year engines or newer in the fleet. A maximum of three trucks may need to be replaced early between 2021 and 2023. The fleet will need to install PM filters on all vehicles by 2014; therefore, the costs for filters on about half of the vehicles in the fleet is appropriate.

337. Comment: Staff expects that the worldwide demand for trucks such that older vehicles will continue to retain much of their residual value, less increased transportation cost to destinations outside California. Staff does not understand the effect of large amounts of used equipment hitting the market all at once and the current economic crisis. (NWSC1)

Agency Response: As described in detail on page 101 of the TSD chapter VII, between 2010 and 2014, staff estimates that regulation would increase demand in California for about 20,000 new or near new vehicles per year. There would be about the same number of used vehicles being sold outside California. Staff also considered the availability of used vehicles. Staff evaluated the used truck market on just two popular used vehicle websites (Truckpaper.com, 2008) (Commercialtrucktrader.com, 2008). Based on the rate of new vehicle listings that are posted each month, staff estimates that over the course of year, more than 250,000 vehicles are sold on the two websites alone. When one considers the number of vehicles that are sold at thousands of dealerships across the country, used truck purchases for export to other countries, auction sales, and the fact that most trucks are sold three or more times in their lifetime, the increased number of vehicles available from California will have a small impact on the total number of vehicles for sale. It is also expected that as more quality used vehicles become available, more fleets outside California may opt to purchase quality used vehicles and delay their normal purchase of new vehicles. This effect would lower the estimated number of used vehicles available for sale. Beyond 2014, staff expects the incremental demand for replacement vehicles to decrease.

Staff also sought input from stakeholders and equipment appraiser on alternative methods on how to determine the potential impact on prices. However, no alternative method was suggested. The approach staff used in estimating the impact on salvage value of older trucks was based on the cost for transporting vehicles for sale out of state is conservative in that the costs were based on only one vehicle being transported at a

time, and staff did not lower the estimates for future years where the impact on supply would be even smaller. We believe the actual costs will be lower than staff's estimate.

338. Comment: In projects in the city of Los Angeles, such as at ports and freeways, 2004 or newer engines are required. The newest dump truck is a 2002 if that. Good luck to the state in finding 2004 or newer trucks to do construction trucking. (MSHE)

339. Comment: The speed that this is taking place seems to be adequate and the plan CARB has come up with would without a doubt put a great burden on people like me not to mention the fact you are asking truck manufacturers to produce a million or so replacement units for the 2003 or older trucks. Truck dealers will be charging a hefty price for these units since they have to be had! (CDTOA1)

Agency Response: The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The regulation has provisions to address manufacturer delays of replacement vehicles, engines or exhaust retrofits, where the fleet would not be penalized if equipment was ordered four months in advance of the compliance date. With respect to the availability of used vehicles see response to comment 337 in the Costs and Cost Methodology section.

340. Comment: You are crushing the economy of California. Is China or India or Russia going to be burdened with these wasteful and meaningless trucks? Will Mexico swap out its fleets? Our used trucks will end up in Mexico. Your estimates on the costs to our economy are so far off. Our State is broke! Arnold has no money to subsidize these trucks. (KLL1)

341. Comment: CARB is proposing a multi billion dollar program which we can not afford in this economy. This regulation devalues our fleet and we will not be able to sell or afford to replace it with new equipment. It is beyond belief that you could not take into account the billions of dollars this modification will require. Going into a financial crisis you are driving thousands of business into closing or bankruptcy. (FORM4)

342. Comment: This regulation could be disastrous to California's economy and will create a financial burden for our company that we may not be able to bear. Another aspect of the proposal as written, it devalues our equipment with no compensation and prohibits their sale in California. The collective impact from the burden on business statewide is one that we don't believe is being realistically considered. (ROCI)

Agency Response: The cost methodology accounts for all potential costs attributable to the regulation and both the detailed methodology and inputs used in staff's estimates were made available to the public for comment in advance of the final staff estimate included in the Staff Report, see response to comment 330. The regulation does not prohibit the sale of used trucks. The various provisions in the regulation allow older trucks to operate in the state, although we expect that many will be sold out of state.

The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

343. Comment: The second issue addresses how the additional costs are likely to impact the state's economy. The current analysis presents a static view that does not capture how the vehicle market is likely to shift in response to the change in demand in supply and demand for used vehicles or how the concentration of increased costs are likely to increase freight rates and other transportation prices across the entire marketplace, leading to windfall profits for out-of-state firms while squeezing in-state businesses. Further, the Staff report does not provide a sufficient breakout to inform the Board about differential impacts to various firms. For example, the impacts on small in-state construction or freight-hauling fleets cannot be identified. (AEG1) xaddress number of trucks purchased

344. Comment: California fuel costs more than fuel anywhere else in the nation and there is no offset for California companies. Agency's calculate the costs whichever way they have to rationalize their rulemaking. One cost is calculated but another is ignored leading to Legislative and regulatory equations which are completely out of whack. (KVSI2)

345. Agency Response: The cost methodology included estimated loss in value associated with older trucks that would be attributable to the regulation. The estimate did not include a supply and demand model for used trucks because the effect would be expected to be much smaller than the cost associated with transporting vehicles for sale out of state. The estimated impact on older truck price varied by vehicle type, see response to comment 354 about the used truck supply estimate. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

Agency Response: Staff disagree that sufficient detail was not provided about the costs to affected industry. Table 11 in Appendix J provides the total estimated costs for 26 different fleet type categories and Table 12 specifies the estimated annualized cost in the highest cost year for 13 business sectors. Additionally, the case studies in Appendix J show what the impact would be on individual businesses and the graphs show how the average costs vary by fleet age.

346. Comment: ARB staff has essentially dismissed the impacts of the current economic crisis on emission forecasts with a half-baked analysis that trivializes those impacts. ARB staff does not know how many trucking companies will go out of business because staff erroneously believes Prop 1B funds will prevent such a thing from happening; that the narrow restrictions on Prop 1B will severely hamper their ability to relieve costs of the truck and bus rule; and that the prospect of the pending truck and bus rule has sucked the current trade-in value out of used trucks and is preventing truck owners from using them to buy new trucks. (CTA5)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The cost of the regulation, the impact on individual fleets and the economy was determined without the expectation that incentive funding would be available. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

347. Comment: CARB needs to track closely Navistar International Corporation's request to U.S. EPA to delay the scheduled 2010 implementation of emission standards for heavy-duty diesel trucks because of the slumping economy. Navistar International Corp. is arguing that compliance with the standard would add thousands to the price of new diesel trucks and is hoping U.S. EPA will consider its point of view and keep the 2007 emission standard for heavy-duty diesel trucks. It's unclear whether or not CARB anticipated in their economic and financial analyses that 2010 and newer trucks will cost significantly more. (CFA1)

Agency Response: The cost methodology described in detail in TSD Chapter XIII and supporting appendix J. The costs analysis period is from 2010 to 2025. Staff estimated that the incremental cost for a new vehicle with a 2010 model year or newer engine would average about $5,000 for heavy heavy-duty vehicles and $2,500 for medium heavy-duty vehicles more than a new vehicle with a 2009 model year engines over the analysis period. Although the difference may currently be higher, staff expects that the incremental cost will decline over the next 15 years.

348. Comment: CARB's assessment of additional costs to In-state fleet owners does not reflect that most goods and services are provided in a multiple state or global

market place. The costs ultimately cannot be passed on to anybody but rather will have to be absorbed here in California by businesses in order to remain competitive. In other words, the only option is to reduce profit margins. For forestry fleet owners in California that can only operate 6-10 months per year due to weather conditions, a good year generally will bring a profit of about $5,000/truck/year. Hence, a forest fleet owner in California putting 50,000 miles per year on a truck, has to retain ownership for 20 to 25 years to acquire sufficient capital to replace the truck ($130,000 including tax) and to get 1 million miles of useful life out of the engine and chassis. Replacing 60 percent of the fleet at the rate of 25 percent per year starting in 2010 will exceed the financial wherewithal of a fleet owner to stay in business. It would take a 25 percent increase in the hourly operating rate to overcome the cost of complying with the Rule (personal communication, Ed Walker, Robinson Enterprises, Inc.). Robinson Enterprises Inc.'s financial analysis has been presented to CARB staff. It will not be possible to pass on a 25 percent increase in the operating rate leaving the fleet owner with only two options; dramatically reducing the size of the fleet, or going out of business. (CFA1)

Agency Response: How the regulation impacts fleets will vary by fleet size, vehicle age, location of usage and other factors; however, most logging fleets will qualify for exemptions included in the regulation and will be able to keep most of their vehicles for all or most of their full useful lives and any truck replacements needed to comply with the regulation are not required if used vehicle replacements are not available. Most logging fleets operate in cleaner parts of the state and are likely to qualify for the NOx Exempt area provisions and would be exempt from any requirements to reduce NOx or to replace a truck until 2021. Many in forest trucks would also qualify for the agricultural vehicle provisions and would potentially be exempt from any PM and NOx reduction requirements until 2017 or 2023 depending on usage. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section. Any vehicles that do not qualify for exemptions, would be subject to the general requirements and would never be required to be replaced with new vehicles. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section.

349. Comment: CARB's determination of cost effectiveness of the Rule (CARB Report, p. 58) concludes $1.76/pound for NOx and $46/pound for particulate matter (PM). To get a better picture of the cost of this Rule, CARB should have shown the information in cost per ton. This Rule is expected to reduce PM by 5.2 tons/day and 79 tons/day of NOx. Hence over the life of 12 year Rule, there will be a combined emission reduction of NOx and PM of 369,000 tons. We've demonstrated that the likely cost of the Rule is about $9 billion. Hence the cost

per ton of emission reduction is $24,390. Hence, under this Rule, for about every 5 tons of additional emissions allowed, you could buy a new HHD truck. (CFA1)

Agency Response: The ARB typically displays rule cost effectiveness in $/pound for comparison to other regulations; however, a simple conversion to $/ton can be made by multiplying by 2000 pounds/ton. The comparisons simply need to be made in consistent same units. The cost effectiveness calculation takes the present value costs of the regulation and divides by the total emission benefits over the years of 2010 to 2025. The costs are estimated to be $5.5 billion, in 2008 dollars (see page 51 of the Staff Report), and the estimated tons per day emission benefits vary by year and are displayed starting on page 44 of the Staff Report.

350. Comment: Require CARB to perform continued cost analysis for the life of the regulation. (DTCC2) (DTCC3)

Agency Response: The analysis included in the staff report and supporting documents was sufficient to understand the potential economic impacts on fleets over the life of the regulation. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

351. Comment: If there was some kind of logic to the rulemaking and legal process that would be one thing. But there is not. Ag vehicles are exempted from air quality rules even in the biggest agricultural valley in the state. California fuel costs more than fuel anywhere else in the nation and there is no offset for California companies. Agencies calculate the costs whichever way they have to rationalize their rulemaking. One cost is calculated but another is ignored, leading to legislative and regulatory equations which are completely out of whack. (KVSI2)

Agency Response: CARB staff conducted an extensive survey of California fleets that included 6700 vehicles from 688 company fleets (see page J-1 of the TSD), and worked closely with a number of companies that volunteered to provide their financial statements to assist staff in identifying types of costs to incorporate in the cost analysis. Based on these data and the comments from companies that participated in the workshops during the development of the regulations, various types of cost categories were identified and incorporated into the analysis including installation, maintenance and repair, taxes, and fuel economy changes that would be additional costs to fleets in order to meet the regulatory requirements. See more regarding annual operational and maintenance costs in the TSD Appendix J beginning on page J-15. The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section. Staff detailed the costs for various groups and considered the impact on business and ability to pass on costs, what provisions could be considered and the resulting impact on emissions and public health, in addition to other factors in determining how to structure the regulation and what provisions to include. Agricultural

vehicles are not exempt from the regulation, they have provisions that can delay compliance for some of their vehicles that are exclusively used for agricultural operations. The narrow scope prevents agricultural vehicles from competing in other non-agricultural markets and limits the number of eligible vehicles.

352. Comment: Practical application may result in unintended stringency and cost impacts that significantly exceed those estimated by CARB staff. It is our strong belief that adequate time is needed to develop a compliance strategy that does 2 important things: achieves environmental improvement objectives swiftly and does not lead to excessive compliance costs. It seems to us that CARB staff may be too aggressive in their compliance time-frame requirements To put the cost of this rule in perspective, in a three-year period, FedEx will purchase more diesel vehicles for California compliance than we purchased for our entire U.S fleet over the last four years. Without added flexibility, FedEx's annual compliance cost will exceed our U.S. budget for vehicles, leaving the rest of the country without resources and potentially eliminating our ability to invest in other environmentally innovative projects, like our solar energy project in Oakland, CA. This is an untenable position for our company. The ability to employ retrofit technology to reduce compliance cost is very limited. In our view, both economic and technological feasibility considerations weigh in favor of vehicle replacements rather than retrofits: cost of PM BACT is more than 20% of new vehicle cost; cost of NOx BACT is more than 50% of new vehicle cost; and high cost of NOx reductions from 2018~2020. When considered alone, these NOx reductions come at an unacceptably high incremental cost and CARB should consider their elimination. As an example, for the cost of replacing a 2003 (or older) truck with a 2007-2009 truck, emissions are reduced by 10.2 grams per mile. In comparison, replacing a 2007-2009 truck with a 2012 truck will achieve a reduction of only 3.2 grams per mile, at the same or higher cost. At this point, more cost-effective reductions NOx could be achieved. For instance, this money could be spent on increasing the number of hybrids in our gasoline-powered truck fleet, a current Fed Ex project that achieves significant C02 reductions in addition to reducing criteria pollutants. Eliminating these requirements would also address the issue of the phase-out of hybrid credits. (FEDEX) xpmfeasibilityx xhybridcreditx

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comment comments 3 to 8 in the Need for Emissions Reductions section.

PM retrofits are not required if not available for an engine or cannot be safely installed. As long as a suitable PM retrofit is not available no other action is required to meet the PM reduction requirements until 2018. The vehicle will remain subject to the NOx reduction requirements unless it qualifies for an exemption or delay. Fleets that choose to replace trucks to meet the PM requirement are going well beyond what the regulation

requires and those costs cannot be attributed to the regulation. We disagree with the statement that replacing a 2007-2009 truck with a 2012 truck is not cost effective and would occur at the same or higher cost. In 2020, the cost difference between an 8-10 year old truck and a 10-13 year old truck will is much lower than comparing the price difference between a 5 year old truck and a new truck.

353. Comment: Analyzing a sixty truck fleet in Nevada County, that has 60 percent of the fleet in pre-1994 trucks and using ARB's fleet calculator, indicates that the fleet owner will have to replace 6-8 trucks per year from 2010 through 2016. The fleet owner's historic truck replacement rate has been about 2 trucks per year. Quadrupling the truck replacement rate will simply be prohibitive even for larger fleets to absorb. In order to generate sufficient new revenue, this particular fleet would have to increase their hourly operating charge by $17.50/hour (a 25 percent increase). Finally, we don't believe CARB recognizes that all California-registered MHD and HHD trucks 2004 and older will have little to no market value upon adoption of this Rule. When a fleet owner plans to replace with a 2010 or newer model, they will have to take their used truck to a used equipment auction yard out-of-state to get rid of it and likely receive about 10 cents on the dollar. So in round numbers, the cost of the Rule is: 1) Diesel Particulate Filters -- $6 billion + the cost of maintaining them 2) 12.5% truck replacement rate (pp. G-70-71), (hence +7.5%/year compared to historic turnover rates) X 400,000 trucks X $100,000/truck = $3 billion. The Rule likely will cost about $9 billion for the in-State fleets only, rather than the $4.5 billion CARB estimates (CARB Report, p. 51).Further, CARB did not estimate the downtime and maintenance and repair costs associated with installing and operating diesel particulate filters. Forestry fleet experience to date is already showing significant downtime on 2007 trucks (as much as 10 percent) and downtime to allow active filters to regenerate themselves, which are direct increases in cost to the fleet owner. It's unclear for purchase of used trucks if CARB included the cost of adding a particulate filter to the used truck price. CARB estimates that fuel economy of new trucks will increase compared to older trucks. At least two fleets have reported to CFA that fuel economy on new trucks is from 0 to minus 7 percent on new trucks compared to old trucks. The primary reason is that 4 percent of total fuel consumption is diesel sent directly to the filter to burn off collected soot. CARB's staff report did not specifically disclose the cost of the Rule to in-State fleet owners that operate basically in rural counties of the State. We find in our surveys that about 60 percent of the rural fleets are pre 1994 trucks hence a significantly older fleet than the in-State average of 8-10 years. This will cause an enormous disproportionate share of the cost of the Rule, particularly in the first four years, to rural fleet owners. Further, many rural fleets cannot operate year 'round and therefore have lower vehicle miles traveled per year, generally 50,000 to 60,000 miles. They will be forced to replace vehicles that have not come close to attaining their 1 million mile useful life on the engine and chassis and will be forced to take these trucks to out-of-state used equipment auction yards where they'll likely receive 10 cents on the dollar for the value of the truck. CARB provides one example (CARB Report,

p. 52) of a possible scenario which does not reflect the financial impact our fleet owners face with the performance requirements of this Rule. (CFA1)

Agency Response: Staff disagrees with the cost estimate for a number of reasons. The baseline replacement rate of 2 trucks for the Nevada County fleet is low, because that suggests the fleet keeps all of its trucks 30 years which is inconsistent with nearly all fleets that operate 50,000 to 60,000 miles per year. The assumption made is that new vehicle replacements would be made when the regulation would exempt the vehicle from replacement if a used one were not available. These assumptions overstate the cost significantly. Without additional information, the increased revenue claim cannot be addressed other than to state that it is much higher and inconsistent with results for older fleets analyzed by staff. If the assumption is that enough revenue must be generated to pay for a new truck in full in the year is not appropriate and needs to be addressed in a financial analysis like those shown in TSD Appendix J.

The assumptions made for the statewide number also have a number or unrealistic estimates that may have been carried into the individual fleet analysis. The replacement rate in Appendix G-70 accounts for a higher replacement with used vehicles and used vehicle prices are appropriate. The commenter assumes new purchases while using the replacement rate for used vehicles. New vehicle replacements are not required in the regulation and would have lower replacement rates in the analysis because they have lower emissions and would meet the regulation criteria sooner. This overstates the costs by a factor of two or more. The assumptions also ignores that many of the trucks would normally be replaced without a regulation. The PM retrofit cost also ignores that most trucks that would normally be replaced are already originally equipped with PM filters and that any increased purchases of used vehicles with the regulation also reduces the number of PM retrofits required.

The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. See comment 460 in the Impacts on Businesses or Business Sectors section.

Used truck prices, as listed on pages J-45 and J-46 in the TSD, would not include the retrofit costs. Retrofit costs were accounted for separately. See pages 174-175 of the TSD for the capital costs used and annual operational and maintenance costs are discussed in the TSD Appendix J beginning on page J-15.

354. Comment: How has staff analyzed the impact of supply and demand when every truck in the state and for that matter wanting to enter the state must purchase a new truck or buy a DPF? Staff compared the economic impact to trucking companies by looking at the proposed cost to comply versus California's Gross Domestic Product. Are these the kinds of analysis the Board is counting on to be

factual when determining the actual far reaching impacts this regulation will have on California business owners? (ALOG3)

Agency Response: The regulatory requirements impact different vehicles over time with the first requirements occurring January 1, 2011 and the last requirements occurring January 1, 2021. Staff used the emission inventory data to estimate the number of retrofits and replacements that would be needed each year. Retrofit companies have confirmed that they would be able to meet the demand. For vehicle replacements, the regulation requirements never require new vehicle purchases although some fleets are expected to purchase more vehicles than normal in certain years and fewer in others. Fleets could choose to purchase used trucks to meet the requirements which has a larger supply of vehicles to meet the regulatory demands. The overall impact on truck supply and demand is small. See pages 92 and 102 of the TSD and page 69 of the ISOR for more information on the availability of devices and vehicles. Most out of state fleets will normally have newer trucks and a vast majority would already comply with the regulation. In addition, the regulation has provisions to address manufacturer delays of replacement vehicles, engines or exhaust retrofits. The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section.

The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

355. Comment: I have written comments that I submitted on the general economic methodology on benefit estimates, impacts to individual industries and firms, and on scaling up costs of statewide impacts. But I wanted to talk about two particular issues. One is on the baseline assumptions that it is -- you should be making comparisons across alternatives that should start with your initial assumptions. They're already in the document. And then changing those baseline conditions. And then making comparisons against those baseline conditions. The DTCC alternative takes this approach, but the staff should modify theirs to do the same thing. (AEG2)

Agency Response: CARB staff did begin with a baseline analysis and then applied alternatives and has done so throughout the development of the regulations. This method was used both for the top-down emissions inventory analysis and for the bottom-up individual company fleet analyses. See charts that begin on page G-77 of the TSD for the emissions inventory analysis that show the baseline versus the regulations, and also Appendix N (Analysis of Regulatory Alternatives) of the TSD.

356. Comment: We have three Class 8 and two Class 6 diesel trucks in our construction business, most of which get only 10,000 miles or less per year. They allow us to provide faster and better service to our customers but are not by any

means the profit center for our business. If the new regulations are passed, we will have to devote an enormous amount of money to replacing perhaps half the trucks and will in future only be able to afford to hire the remaining trucks. Our customers will receive lesser service than now and costs will escalate dramatically. (CATI) milex xfleetimpactx

357. Comment: Assume that all trucks can get by with 1 filter (which we know is not true; many HHD trucks are high horsepower (>400hp) that will require 2 filters) at $20,000/truck. Fleet owners also cannot borrow money against their truck at a local bank to purchase and install diesel particulate filters. Banks will not accept equity in a truck as collateral for purchase of a DPF in part because an older truck cannot be sold in California after implementation of this Rule. A fleet owner will have no choice but to use personal collateral in order to acquire a loan to purchase DPFs. Since older trucks are generally worth less than $13,000 (before this Rule goes into effect), it makes little sense to purchase a DPF that costs more than the truck is worth. Fleet owners of older trucks are basically faced with the financial decision of whether or not to replace their older trucks at the rate of 25% per year starting in 2010 (Fleet Averaging Compliance Schedule) to stay in business in California. If the fleet owner has a portion of their fleet of older trucks that meet the low or limited mileage thresholds, they then will have to focus their attention on replacing all of these trucks by the end of year 2016. (CFA1)

Agency Response: The comment is inconsistent with the requirements of the regulation. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The vehicles that are in NOx Exempt Areas are not subject to any NOx reduction or replacement requirements until 2021. By that time many will normally have been replaced. The regulation does not prohibit the sale of older trucks in California and many can continue to operate in California.

To respond to commenter CFA1's concern about obtaining loans for retrofits, ARB now has a Providing Loan Assistance for California Equipment (PLACE) program which is an innovative loan guarantee program to offer financial assistance to on-road heavy-duty fleet owners subject to this regulation. This program will allow fleet owner's to obtain loans for equipment, such as exhaust retrofits, when they otherwise would not have been eligible.

358. Comment: Our members are supportive of the efforts to reduce the diesel emissions. They've been trying to do what they can by purchasing the newer tiered engines as they can. This has come at some cost to them because generally the newer engines you have more expensive oils. You also have more expensive coolants. You have loss of fuel economy, anywhere from 15 to 25 percent as you go from one tier to the next. (CCIMA2)

Agency Response: Staff's analysis included estimated impacts on fuel economy by engine model year, as discussed in Chapter XII of the TSD. Data available to staff show a relatively small fuel economy difference with the average 2007 model year engine compared to the 2006 model year engine. Projections for 2010 model year engines that use a urea based SCR system are expected to result in improved fuel economy. In addition to the fuel economy benefits associated with newer on-road vehicles, staff also believes that new trucks will have lower maintenance costs and will be more reliable than older higher mileage trucks.

359. Comment: I implore you to review the Legislative Analyst (LAO) report on the impact of implementation of AB 32. The LAO report raises serious questions regarding the methodology of the scoping. (EUCA2)

Agency Response: The LAO report was related to the AB32 Scoping Plan and is not related to the Truck and Bus regulation.

360. Comment: We live and work in California and we want our state to be a healthy, prosperous place. The plan that CARB is proposing is not going to make California more healthy or more prosperous. It will do just the opposite. CARBs proposals are not supported by the state's own economic analysis data. Even economists whose opinions were solicited by the state in support of the initiative think CARB is putting a "rosy face on a plan that might wreak havoc in the state." Harvard University's Robert Stavins: "I have come to the inescapable conclusion that the economic analysis is terribly deficient in critical ways and should not be used by the state government or the public for the purpose of assessing the likely costs of CARB's plans." CARB should go back and re-study the economic underpinnings of their analysis. Their economic justifications are badly flawed. The California State Legislative Analyst's Office declared "the plan's evaluation of the costs and savings of some recommended measures is inconsistent and incomplete." This plan will saddle every business and resident of this state with higher costs and make us, as a whole, that much more uncompetitive with other states and regions. CARB has consistently promulgated severe regulations without considering other viable options, and without calculating the actual costs to the state. (KVSI1)

361. Comment: The impact of this rule is massive. California's unemployment rate is currently at 8.2 percent and is going to go higher. If you are looking at this one rule alone in a silo, it may sound like a great idea. When you look at the totality of what's going on in the state of California, we really have some big problems with this rule. The economic and emissions analyses, Sierra Research point out some significant problems with how the baseline emissions numbers were calculated, what the impact of the recession is, and how the economic analysis was done. Just yesterday, the Sacramento Bee ran an editorial that characterized or quoted a professor from Harvard University in the context of your economic analysis for AB 32 said, "The economic analysis is terribly deficient in critical ways." Another comment said, "The net dollar cost of each of these regulations is likely to be much larger that what's reported." That from a professor at UCLA. We're here advocating for the advancement of a compromise. If you don't take that

compromise, what we would urge is to take careful note of the process for the economic analysis for the emissions inventory. (CACC)

Agency Response: The LAO report was related to the AB32 Scoping Plan and is not related to the Truck and Bus regulation. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

e) Cumulative Costs of Multiple Regulations

362. Comment: The Glenn County Board of Supervisors recognizes that the State of California Air Resources Board is proposing adoption of an Air Toxic Control Measure to reduce emissions from Heavy Duty On-Road Diesel Trucks; although County businesses have already been significantly economically impacted by the Stationary Diesel Engine, Diesel Agricultural Pump, Portable Diesel Engine and In-use Off-Road Diesel Equipment Air Toxic Control Measures recently adopted by the Air Resources Board. (GCBOS)

363. Comment: Tuolumne County and other rural counties within California have already or will soon be significantly economically impacted by the In-Use Off-Road Diesel Control Measure, the Public Fleet Rule, Stationary Diesel Engine Rule and other such control measures recently adopted by the Air Resources Board. (TCAPCD)

364. Comment: Siskiyou County businesses have already been significantly economically impacted by the Stationary Diesel Engine, Diesel Agricultural Pump, Portable Diesel Engine and In- Use Off-Road Diesel Equipment Air Toxic Control Measures recently adopted by the Air Resources Board. (SCNRS)

365. Comment: Mendocino County businesses have already been significantly economically impacted by the Stationary Diesel Engine, Diesel Agricultural Pump, Portable Diesel Engine and In-Use Off-Road Diesel Equipment Air Toxic Control Measures recently adopted by the Air Resources Board. (ALOG1)

366. Comment: We need a cumulative impact analysis as Dr. Telles mentioned. (CFCOAL)

367. **Comment:** We do construction, sand, and gravel production. And we also do marine construction, which means not only do we have to comply with this regulation, the off-road regulation, the portable fleet regulation, but we are hit with some of the port rules and the marine diesel rules. (KRCORP)

368. **Comment:** Several industries like the petroleum services, construction, and rental are regulated by the Portable ATCM, the Off-Road ATCM and the On-Road ATCM and the ForkLift ATCM. All of these regulations required repowering equipment, replacement and installation of VDECS. (BJSC1)

369. **Comment:** Many of these same truck and bus owners are working to comply with numerous other regulations and laws recently passed by the ARB, the Legislature and other regulatory agencies. The cumulative effect of these regulations cannot be underestimated. The toll it is taking on the already hard-hit construction, trucking, and other business sectors of California's economy is devastating. (DTCC3)

370. **Comment:** We're going to be subject to four rules when the agriculture rule comes down next year. We've got portable, off-highway, this rule, and the agriculture and forestry next year. We're very concerned about the cumulative effect of all these rules coming in at one time. (REI2)

371. **Comment:** In the last three years we've spent over one and a half million dollars upgrading our fleet, and in five years we've also spent somewhere in the neighborhood of three and a half million dollars upgrading other portions of our business for other recommendations from the state that we were required to meet in our card lots. The point I'm trying to make is there's a lot of different things that are attacking these businesses in all of our profits lines, our bottom lines, in many different areas. At some point we just can't shoulder those burdens any longer. (RPETR)

372. **Comment:** The concern I have is the cumulative effect of this regulation with other CARB regulations. We currently fall under six fleet rules and this would make number seven. It is very challenging and complicated when you start combining rules. (GCI2)

373. **Comment:** We have to comply with a large number of ARB rules, and our members are trying to comply with the current regulations. (CGA10)

374. **Comment:** This rule will affect our businesses through inter-state trade, the movement of trucks to different farming area such as the State of Arizona. There is no clear detailed economic review done by the staff. The State of California has many "single" focused regulations that are reviewed one rule at a time by the State Air Board, State Water Board and many other regulatory bodies, and each of those rules are review in a "vacuum" without regard to the many other conflicting regulations adopted. We see this transportation rule if adopted to be a negative factor in future for economic recovery of the State. We request that this rule is not adopted as written and submitted by Staff. The cost is too great with very little return to clean air and the goals of the rule. (CCAA)

375. **Comment**: BJSC since 1998 has spent $16.3 million on replaced and related PERP costs and has ordered an additional $11.1 million in equipment to comply with PERP by 12/31/2009. BJSC has spent $240,000 on off-highway and forklift replacements for 2009. BJSC expects to spend $8.1 million for on-highway vehicle replacement by 2013 and an additional $7.2 million by 2020. (Itemized cost breakdown can be found at www.arb.ca.gov/lists/truckbus08/799-on_road_diesel_comments.doc) (BJSC1)

376. **Comment:** Like others subject to several CARB diesel rules we are very concerned about the cumulative effect of multiple regulations on our company. All of these rules are designed to accelerate fleet turnover, requiring capital investment to replace equipment prior to the end of its normal and expected useful life. Fed Ex will be subject to fleet rules for: portable engines; large spark-ignited off-road engines; off-road diesel equipment; and on road truck and bus engines. We would ask that CARB develop a mechanism that would alleviate the adverse impact on businesses subject to two or more ARB rules in the diesel arena based on the cumulative financial impacts of all rules. (FEDEX)

377. **Comment:** Require CARB to develop a personalized compliance schedule for those commercial entities subject to two or more CARB rules. The schedule would permit compliance on a schedule which considers the financial impacts of all rules rather than the schedule required by each rule. (DTCC3)

378. **Comment:** I want to assure you that Jos. J. Albanese, Inc. supports the reduction of PM and NOx emissions from diesel engines. This fact is evidenced by the hundreds of thousands of dollars we spent to comply with the PERP regulations and the additional hundreds of thousands of dollars we've committed to comply with the off-road diesel regulations. Although both of the aforementioned were well intentioned regulations, I suggest they were ill-conceived without any regard to the true economic impact on jobs and business in California. (JJAI)

379. **Comment:** "Also, while many fleets subject to the proposed regulation are also subject to other ARB regulations, staff does not believe the cumulative cost impacts of these various regulations will impact affected fleets' ability to comply overall." Several industries like petroleum services, construction, and rentals are regulated by the Portable ATCM, the Off-Road ATCM and the On-Road ATCM. All of these regulations require repowering equipment, replacement and installation of VDECS. (NWSC1)

380. **Comment:** Many of our members (30%) also own and operate off-road and portable diesel powered equipment. We have not seen any effort by CARB to address the multi-rule burdens. There is a cumulative effect and costs on these businesses but there has been no consideration contemplated within any of these rules. We support a 3-5 year extension per rule for those who are subject to multiple CARB diesel engine rules. (CDTOA11)

381. **Comment:** Nearly every sector that would be affected by this rule already faces compliance with multiple regulations recently imposed by CARB. For example, the state's construction industry is currently complying with a portable equipment rule

and an off-road diesel vehicle rule that requires them to retrofit or replace thousands of pieces of heavy-duty construction equipment. (DTCC2)

382. Comment: There is no consideration for the cumulative effect. Construction has 75,000 trucks in this rule. It costs a billion dollars to comply if you believe the staff numbers. Add portable, off-road, and forklifts, and the cost to the construction industry alone is over $5 billion if you believe the staff numbers. You need to fix that. (CIAQ2)

383. Comment: A healthy environment with clean air is of the utmost importance, but the regulations being passed by CARB, off-road diesel, large-spark ignition, PERP all cost billions of dollars to the construction industry, and the construction company employee's are paying the price not the consumers. (BRI1)

384. Comment: We have 500 specialty contractors and their supplier members. We operate a lot of portable engine, off-road and on-road diesel equipment across the state. Residential construction is down almost 70 percent in California. Commercial construction is down about 40 and recovery is not expected to begin until 2011. Construction has portable engines. It's has off-road, and now it has on-road. The timing of this rule as proposed cuts right into when recovery could begin. Contractors are trying to survive and hold on. What little reserves or credit line they're tapping into is very hard to say as soon as you can recover, you're going to take on a lot of debt. Even if you can buy the equipment, taking on that debt is very difficult. (CPASC)

385. Comment: We continue to be dismayed by the fact that the CARB has almost purposefully avoided addressing the “Cumulative Regulatory Effects” issue. The cumulative effect of these regulations cannot be underestimated. The toll it is taking on the already hard-hit construction and trucking industries is frankly unfair, especially for the small companies and owner-operators. (CDTOA11)

386. Comment: Current and proposed CARB regulations will lead to reduced capability to provide groundwater supplies unless modifications are made. The groundwater industry deals with complex geology and hydrologic conditions throughout the state and must utilize a wide variety of equipment in order to develop groundwater supplies for the states needs. Much of that equipment is quite specialized and has low or limited usage. Thus the groundwater industry has much equipment that is old (in years) but has had little usage and is still in sound, usable condition. For example, you may have a drill rig that that is 25 years old but only driven 10,000 miles. There is not rapid turnover of equipment in this industry. The wide variety of equipment also means that groundwater contractors must comply with an number of CARB regulations such as the Portable Equipment Registration Program (drill rig deck engines), the Off-Road Diesel Vehicle regulation (dozers, backhoes, forklifts, etc.) and now the proposed On-Road Diesel Truck and Bus regulation (drill and pump rigs, water trucks, rig tenders and other vehicles needed for well construction and maintenance). (CGA1), (CGA7)

Agency Response: To evaluate cumulative costs of the multiple regulations, staff requested information about off-road diesel vehicles, portable engines and information

about the truck and trailer as part of the ARB Heavy Duty Vehicle survey. This information allowed staff to determine whether fleet owners would be subject to the multiple regulations. Out of the 682 transportation companies that responded to the ARB survey only 105 indicated that they were a subject to the multiple ARB regulations. For companies subject to the Off-Road regulation, almost all of them had fewer than 2,500 horsepower in total off-road equipment that is self propelled and under the Off-Road regulation and would be small fleets and would not be subject to the PM retrofit requirements until 2015. Many of the small construction fleets also had few portable engines. The portable equipment regulation that fleets replace their unregulated portable engines by January 1, 2010. Starting in 2013 fleets would need to begin a gradual phase-in period for reducing PM but would not be subject to any NOx reduction requirements. Since the regulatory timelines for these regulations are not overlapping, staff believes that overall very few fleets will be affected by costs of complying with multiple regulations in the same time. Staff also believes that, in general, companies will be able to pass through their increased costs as the incremental increase in revenue per mile to compensate for compliance costs which is small in comparison to existing gross revenue levels.

A detailed assessment of the economic impact of the multiple regulations is presented in the Staff Report the Technical Support Document (Appendix J) for Truck and Bus regulation and Chapter VIII of the staff report. Staff concluded that the economic impact on construction fleets that are large fleets in the In-Use Off-Road Vechicle Regulation would have a relatively small additional cost associated with the Truck and Bus Regulation. The suvey responses gave no indication that the portable engine requirements starting in 2013 would add large costs to the fleets that reported. Staff do not have sufficient additional detailed data to perform a more detailed analysis than was presented in the staff report. Staff received commitments from CIAQC and AGC representatives to supply fleet specific data on construction fleets affected by multiple regulations for staff to perform detailed analysis regarding the impact that multiple regulations would have on the construction industry, but after multiple requests, data was not provided.

In addition, some fleets subject to the regulation may qualify for incentive funding, further reducing compliance costs and need to pass through costs. No claim has been made that there will be no impacts on trucking industry associated with the Truck and Bus regulation. Staff has disclosed all possible known risks and believes that the regulation's benefits outweigh the costs.

The Truck and Bus regulation includes numerous provisions and provides flexibility to allow fleets to best address their own situation and compliance options. It is impractical to tailor regulations to address each fleet's needs while maintaining a level playing field for all businesses.

Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance

substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section.

We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

The regulations have different timelines for compliance and affect a variety of fleets that compete in the same markets. This spreads out the costs for fleets affected by more than one. A regulation customized for each company would result in differing requirements for fleets that compete with each other and would be impractical to implement and enforce. However, we are willing to work with companies to assist them as needed, see response to comment 11 in the Enforcement section.

387. Comment: Granite Construction owns and operates a diverse fleet of equipment in California to support its construction and aggregate businesses. Over the past few years, Granite has seen portions of its fleet fall under a number of CARB regulations targeting the company's equipment. Following is a listing of some of the CARB rules in addition to the proposed truck and bus rule that Granite's fleet falls under: Statewide Portable Equipment Registration Program (PERP), Portable Diesel-Fueled Engines Air Toxic Control Measure, Airborne Toxic Control Measure for Stationary Compression-Ignition Engines, Off-Road Large Spark-Ignition Engine Regulation, Periodic Smoke Inspection Fleet Program, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, and Regulation to Reduce Emissions from In-Use Off-Road Diesel Vehicles.

While I am not asking for Granite to be given any exemptions from the above mentioned rules, I would like to bring some attention to the challenge of ensuring compliance with all of the rules simultaneously. All of the above rules contain completely different compliance dates, compliance actions, and deadlines. In some cases, such as the LSI Rule and CARB Off-Road Rule, compliance with one regulation is even counterproductive relative to compliance with another regulation.

The task of planning for and managing compliance is challenging at best, and the labor required for recordkeeping and planning is significant. Due to the burden placed on equipment owners by a multitude of CARB rules, Staff needs to work directly with fleet owners whose equipment falls under three or more fleet rules. Staff familiar with all rules applicable to a given owner's fleet needs to be made available for detailed in-person consultation with owners of diverse fleets on a minimum of a semi-annual basis. These meetings need to be educational in nature, and the fleet owner needs to be given a reasonable opportunity to correct any compliance issues uncovered prior to an enforcement action being taken.

On top of the logistical burden of multiple fleet rules is the obvious issue of cumulative financial effect. When assessing the economic impact of the truck and bus rule, CARB Staff neglected to analyze anything beyond the combined effect of

the truck and bus rule and in-use off-road diesel vehicle regulation on construction fleets. Staff needs to perform a more thorough analysis of the cumulative economic effect of fleet rules on equipment owners subject to a comprehensive listing of in-place regulations. (GCI1)

Agency Response: See response to comment 386 in the Costs and Cost Methodology section regarding cumulative costs and staff's analysis. The Large Spark Ignition Engine regulation and the In-Use Off-Road regulations apply to different vehicle types and achieve reductions from the equipment subject to each regulation; therefore, it is unclear why the commenter states they are counter productive to each other.

388. Comment: This regulation, like the off-road, will force the disposal of capital equipment prior to the end of its useful life, reduce any potential re-sale value of same, and require the investment of significant capital in new equipment (or alternatively simply get out of the business). Individually, each of the aforementioned consequences will cost jobs, tax revenue, and create an impossibility to comply given the frozen credit markets; cumulatively, they will continue to eradicate any opportunity for construction to lead the State out of its current economic turmoil. As the engine of job creation, this is the last industry that can afford this economic assault, albeit a well intentioned one. This regulation will cost billions of dollars and last I checked, our industry is not eligible for federal bail out money! (JJAI)

389. Comment: Equipment values are plummeting, in fact, since 2006, we are experiencing a 50% - 60% decline in Tier 0 (Prior to 1996) powered equipment, a 35% - 45% decline in Tier 1 (1996 to 2000) powered equipment, a 20% - 30% decline in Tier 2 (2000 to 2006) powered equipment and even the Tier 3 (2006 to current) powered equipment, the cleanest engines in the world for our high-horsepower equipment, is experiencing a decline of between 20% - 25% in equipment valuation. Our fleet of equipment represents the assets we use when applying for loans from the many lending institution we work with. This devaluation has already impeded our ability to secure loans for new equipment, and as we move into the compliance phase of the Off-Road & On-Road Diesel regulations, the devaluation of equipment will continue to spiral downward making our ability to comply all but impossible. (FORM2)

390. Comment: Many of these same truck and bus owners are working to comply with numerous other regulations and laws recently passed by the ARB, the Legislature and other regulatory agencies. The cumulative effect of these regulations cannot be underestimated. The toll it is taking on the already hard-hit construction, trucking, and other business sectors of California's economy is devastating. (Letter) xrecesssionx

391. Comment: We are a general engineering contractor that owns 70 pieces of off road equipment covered under the off road regulation. We also have 12 on road trucks (water trucks, dump trucks, and low beds) that will be impacted by this new regulation. I have spent the last 3 years spending $1 million dollars per year on off road equipment replacement and retrofitting in order to get a jump on compliance for the off road regulation. I have not had the money to deal with the trucks yet

and it's looking like I am not going to have it due to the economy and the current construction contracting market. (FCI)

392. Comment: Just like the rest of the State of California, we're struggling. These proposed rules, for both on and off-road diesel equipment, will absolutely cripple our economy. (MCBS2)

393. Comment: I am a contractor that is going to be burden with the new off-road regulations. Times are bad and it will be very difficult to do it, if we even can do it. But now with the on-road regulations, it will not be done. The industry does not have the kind of money in it to do both. Your assumptions are wrong. Please consider the hard times, and the duel requirements to comply. At this time with the bad work situation and the heavy costs to comply with the regulations in the future, it is worst than starting over. The off-road regulation alone has wiped out the value of my fleet to the point that it will not contribute to my retirement. That's not fair when I have worked a lifetime for it. (LDAV) analysisx

394. Comment: Hat Creek Construction & Materials, Inc. continues its success by offering significant diversity including: road & bridge construction, commercial & home building, underground utilities, equipment rental and trucking. We also manufacture and supply asphalt concrete, ready-mix concrete, crushed aggregate, rip rap, cinder, sand products and landscape materials. The On-Road Diesel Regulation currently proposed by ARB would require us to either replace or retrofit every diesel truck in our fleet. This proposed regulation comes on the heels of ARB's Off-Road Diesel Regulation which we are struggling to comply with. The cumulative effect of these ARB regulations, along with laws from other regulatory agencies, severely impacts our ability to remain diversified and be successful. Replacement of an entire fleet of trucks is a devastating blow to any company, large or small. Combine that with the requirement to replace or retrofit a fleet of off-road heavy equipment and an economic downturn and many companies will not be able to stay afloat. (HCCMI)

395. Comment: The CARB now has sufficient data and analyses to run an analysis on the cumulative impacts of the off road and on road rules on specific industries such as construction and agriculture. The CARB reports filed in the in-use off-road diesel vehicle rulemaking in April 2007 has the comparable data to merge into this analysis. (AEG1)

396. Comment: Based on experience with the recent off-road rule, the new regulation is likely to change the quantity and prices of used vehicles. For example; CIAQC members have seen a dramatic drop in the price offered for older equipment that will be rendered obsolete with the adoption of the off road rule. Also, the demand for newer-model used trucks will go up in the agricultural; construction and other sectors based on the age distribution data shown in the emissions inventory. These industries will be forced to buy newer vehicles than they have in the past, both as a direct result of the regulations and an indirect effect from a reduction in the supply of compliant used vehicles from other sectors that are upstream in the vehicle usage cycle. Most of the on-road diesel vehicles now meet at least Tier 1 emission standards. The owners of those vehicles bought them in good faith that

the new trucks were meeting the environmental objectives of the CARB and the US EPA. These firms also have based their investment plans on the implementation schedule for future regulations on new equipment. So these firms hold property that they have been told up to this point comply with the state's regulations on air quality. The proposed in-use rules are intended to accelerate the retirement of this existing equipment beyond the rate dictated by financial and economic conditions. This will result in premature retirement that has adverse financial impacts on these firms. In other words, the CARB is proposing to reduce and even eliminate the economic value of this property of these firms. This is not a prospective, speculative value-this equipment is currently being used and would be used in the same manner going forward under existing regulations. Forcing the retirement of existing equipment-mandatory scrap-is a new phase of regulation by CARB, particularly when involving private industries. (AEG1) xcumlativex

397. Comment: Many objections will be voiced regarding the cost of this program. Due to the current financial state of our economy, the amount of freight being transported has seen a decline. Major carriers are beginning layoffs, and load counts are down. We, however, want to address to probable impact on the State revenue. The State of California is at its core a revenue generating organization. All programs must create a revenue stream to remain effective, or they become a burden and ineffective. Instituting multiple costly programs on one segment of business in California is not only disastrous to that business, but can wreak financial havoc on the State. Extrapolating data available from marketing and economic institutes, we produced a most likely model that 10%, (15,500), of the trucking businesses cease to operate due to an inability to fund the mandatory changes which will cost the State of California approximately $64.6 millions in lost revenue across multiple agencies. (ACG1) –

Agency Response: As stated in Chapter VIII of the staff report, staff evaluated the interaction of the Truck and Bus regulation with the In-use Off-road Diesel Vehicle regulation (off-road regulation).

For off-road vehicles, CARB had fleet survey data collected from fleets; however, the company name was not provided by many fleets. Staff had no comprehensive data set as suggested because the reporting requirements for the In-Use Off-Road Vehicle Regulation did not begin until 2009. For on-road vehicles, we have access to past DMV data and used this in conjunction with available data to determine on-road and off-road fleet information for the same company. The DMV data does not identify annual usage and conservatively assumed none qualified for the low use provisions. Staff evaluated the cumulative impacts for the off-road regulation and the Truck and Bus Regulation. The TSD describes the methodology and results of staff's analysis starting on page 219.

Staff estimates that of the estimated 76,000 on-road construction trucks, only about a third of them are in large, off-road construction fleets, and many of these on-road vehicles are smaller medium heavy-duty vehicles, which are significantly less expensive to replace than heavy heavy-duty vehicles. Based on data collected as part of the rulemaking for the off-road regulation, staff estimated that these fleets would incur an

additional 6 percent in compliance costs above the costs originally estimated for the off-road vehicle regulation.

Additionally, as part of the recently signed California budget, the California Legislature adopted Assembly Bill 8 2X (Assembly Bill 8 2X or AB 8 2X), which directed ARB to make several amendments to the California Code of Regulations, Title 13, sections 2449 through 2449.3, which is the off-road vehicle regulation.

The amendments provide economic relief and to preserve jobs in the construction industry, and effectively allow such fleets to delay compliance requirements, especially in 2010 and 2011. The amendments would also allow large fleets the option of delaying a portion of their compliance obligations that are currently required for 2011 and 2012 until 2013. Therefore, with the addition of AB 8 2X, off-road regulation compliance costs for large construction fleets will be significantly reduced over the next several years. As such, staff does not believe the cumulative costs for these construction fleets in general will be significant.

For construction fleets that are considered medium or small fleets under the off-road regulation, off-road compliance requirements do not begin until 2013 or 2015, respectively. Therefore, for both medium and small off-road fleets, the compliance requirements for the off-road and on-road regulation may not overlap. Additionally, as stated in Chapter XIV of the TSD, staff evaluated the potential cumulative costs of the regulation for small fleets, and does not expect that the regulation will impose any significant over lapping costs on small fleets. Small off-road fleets are only required to install available PM exhaust retrofit their off-road vehicles (no replacement/retirement necessary), resulting in off-road compliance costs much lower than those of medium and large fleets. Also, many fleets will need to begin retrofitting or upgrading their on-road trucks before the compliance requirements for the off-road regulation come into effect, which will result in little to no overlapping compliance requirements.

For the individual fleets analyzed, staff evaluated the effect of the Truck and Bus Regulation and compared it to the individual company's revenue and expenses. The existing expenses include various costs associated with operating a business including costs associated with environmental requirements. Staff evaluated financial information and the impact of the regulation on companies who made the information available to staff. For a discussion of the cumulative regulation costs for the construction sector, please see Chapter VIII of the Staff Report and Chapter XIV of the TSD.

The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are

needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

The regulations have different timelines for compliance and affect a variety of fleets that compete in the same markets. This spreads out the costs for fleets affected by more than one. A regulation customized for each company would result in differing requirements for fleets that compete with each other and would be impractical to implement and enforce. However, we are willing to work with companies to assist them as needed, see response to comment 11 in the Enforcement section. Funding opportunities may also be available for fleets that take early action to comply with the applicable regulations and can offset some of the costs, for more information on funding options available, see response to comments 738 and 739 in the Funding section.

398. Comment: We in the petroleum industry have been hit time and time again with new regulations ranging from SB981 to current phase II vapor recovery requirements. Over the past nine years we have dug up every one of our stations three times to comply with these regulations now we are being mandated to purchase new tankers. (CIOMA2)

399. Comment: For our company it is like a double hit. We are now struggling to find financing to upgrade our gas stations with new CARB EVR and ISD regulations mandated by April 2009. (SLOPE)

400. Comment: My company and other members of the California Independent Oil Marketers Association have a double hit on us, because next year in April due to CARB's regulations, we have to spend huge amounts of money in upgrading our service stations with EVR and ISD compliance. (WSOC)

Agency Response: Staff acknowledges that some fleets are will be required to comply with this regulation in addition to regulations affecting fuel storage and dispensing facilities; however, the regulation contains a number of provisions to lower the cost of compliance. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

401. Comment: BJ Services (BJS) is a high pressure pumping service for the oil industry. BJS was founded 136 years and is now a world wide publicly owned company. We currently employ 171 people in our California operations. California

districts have to compete with BJS world wide for capital funding to purchase new equipment or engines. If a district can not generate the required return on investment, BJS will not allocate the funds. Due to the current economic turmoil, BJS's California division is expecting a decline in revenues below our 2008 sales. Consequently our capital budget for 2009 has been drastically reduced. It would have been reduced more. However we have 6.5 million dollars of PERP equipment being constructed that was ordered in 2007-08 for 2009 delivery that we can not cancel. Currently 70% of the oil & gas produced in California comes from three major oil companies. That means instead of having a customer base of thousands to help recover any cost increase to BJS operations in California, our costs are spread over less than a dozen customers. Please keep this in mind as you review the costs for engine & equipment replacement. (BJSC1)

402. Comment: The wide variety of equipment also means that groundwater contractors must comply with an number of CARB regulations such as the Portable Equipment Registration Program (drill rig deck engines), the Off-Road Diesel Vehicle regulation (dozers, backhoes, forklifts, etc.) and now the proposed On-Road Diesel Truck and Bus regulation (drill and pump rigs, water trucks, rig tenders and other vehicles needed for well construction and maintenance). (CGA1)

Agency Response: Staff studied the impact of this regulation and other air quality regulations for the construction sector determined that the additional burden to industry as a result of this regulation would be not more than 6 percent. As such, staff does not believe that these additional costs will change the industry's ability to pass though the costs of both regulations in the form of higher bids. For more information see Chapter XIV of the TSD.

Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section.

403. Comment: The cost, today, for a truck to be fitted with an APU unit, which allows the trucker to have air conditioning in the summer, and heat in the winter while we are sleeping in our sleeper births is an average of $10,000.00 for any worthwhile unit. The no idle law has put that burden on all truckers that run the road and sleep in their sleeper births. The cost of an additional filtration system to comply with the CARB legislature is equal. Should I just send the keys to my company to the state of California now? Why should I even think of the almost 30 years I've spent building it. (CMSA4)

Agency Response: There are many options available to fleet owners to comply with regulation limiting diesel engine idling including utilizing trucks stops that supply heating and cooling, battery powered auxiliary power systems, thermal energy storage devices and many others. Some solutions are as a simple as turning the engine off while others are more complicated. However, staff concluded that requirements of the idling

regulation will not result in net increase in costs to the fleet owner and in fact will provide a cost savings as a result of the reduced fuel usage. As a result, the cumulative impact of this regulation and the idle regulation will not be significant.

404. Comment: We're a warehousing trucking company operating throughout California. ARB has affected us this year with many regulations. We changed out 300 refrigerated units this year to comply with the TRU regulation. Staff stated that only 5 percent of the companies were affected by both regulations heard by the Board today. How many are affected by three - TRUs, trailers and the heavy-duty -- and the bus and truck? (MCA6)

405. Comment: If enforced in its original format and along with the TRU enforcement that is currently suggested, CARB could single handedly kill all trucking commerce in the state of California and delete the jobs of thousands of hard working people. (NATS)

406. Comment: I am a California corporation in the trucking industry, employing over 600 people, and operating 1,500 trucks tractors and trailers. I would appreciate if you would take a few minutes of your time to read my comments and understand why your continuous new rules and regulations are pushing me and other companies to leave California. For years we have peen forced by CARB to waste hundreds of thousand dollars to perform opacity tests. Smoking trucks are a rarity today, but CARB maintains this unneeded program rather than give up the fines extracted for poor record keeping. To date I have spent over $300,000 on Auxiliary Power Units (APUs) on my sleeper tractor trucks. These APU units are not financeable as retrofits. To date, the law/rule has not been enforced, yet it was mandated by your Board. I should spend an additional $l,000,000 to equip my remaining fleet but can't be so moved as I have no ability to recoup my costs in a horrible market with enforced rules. Then you impose a new reefer rule where to date I have spent $100,000 to retrofit some of my reefer fleet. Do I continue to spend more 100's of thousands of dollars on my remaining reefer units, with enforcement that has been currently suspended and I'm being told may not ever be enforceable? In addition I have now wasted thousands of dollars Oil permits to go to the Los Angeles and Long Beach Harbors for a plan currently suspended and clearly in violation of the Interstate Commerce clause of the U.S. Constitution. I do not have, nor will I spend $15,000,000 to put exhaust treatments on 1,000 older trucks. I will out of business along with the rest of California. (TCILL) xenforcementx

407. Comment: Even though it seems like it's spread out over a period, the issue gets to be that today I think from our vantage point, from an industry depreciation, amortization, utilization, those are the things that we have to deal with to do this. It's time constraints that we have we're finding difficult to deal with this. Certainly today to try to ask carriers, people in the business to retrofit, re-power, replace, and to do so simultaneously with the trailing equipment is an economic burden that I don't think is a prudent way to approach this. (YTI3)

Agency Response: Staff recognizes that some fleets will need to comply with both the regulation that affects trailers with transportation refrigeration units and this regulation. However, both regulations are phased in over a number years with truck and bus regulation being phased in over thirteen years and the TRU regulation being phased in over eight years. In addition, some fleets will also be required to comply with the tractor trailer green house gas regulation which requires aerodynamic devices on trailers. Long-haul fleets regularly have short truck replacement cycles and most if not all of their trucks will already meet the requirements of the regulation without changing business practices. The case study assessed by staff concluded that the impact of fleets that have to comply with TRU regulation and the Truck and Bus regulation would incur additional expenses that would require revenues to be increased by 0.61 percent to cover the costs. As a result, staff concluded that cumulative costs of these regulations will not be significant. For more details see Chapter XIV of the TSD.

408. Comment: Below is a breakdown of how the new laws would affect our company, which is one of many companies that would be affected. 35 power units – $350,000 to retrofit and then only good until 2014. After that, the cost to replace the existing fleet would be an estimated $4,200,000. With the current financial situation, who has that kind of capital available? 50 trailers - $8,000 each to install the Smart Way system, which is a total of $400,000 and in some instances we will not be able to get into the customers pit docks without damage to the system itself. (FAUL1) costx

Agency Response: The truck and bus regulation does not require retrofits to be installed on all vehicles and it does not require all new vehicles to be purchased by 2014. The regulation requires DPFs to be installed over four years beginning 2011 through 2014 and only on 2006 and older vehicles. Beginning 2013, vehicles meeting the NOx BACT need to be phased in over the next ten years. By the first NOx BACT compliance date of 2013, a NOx BACT compliance vehicle will be three years old. As such, new vehicles are never required to comply with the regulation.

At the Board hearing, staff presented its analysis of fleets that could have costs associated with both the greenhouse gas and truck and bus regulations. The GHG regulation results in a net savings and the payments should be lower than the fuel savings. Staff analyzed the number of trucks that would be subject to both regulations and determined that because the vast majority of the trucks subject to the greenhouse gas regulation are mostly long hauls trucks and therefore are typically newer trucks, that approximately five percent of the would be impacted by both regulations.

409. Comment: The affect on my company is 100 percent of my portable equipment will be illegal to use or sell in the state of California: 100 percent of my trucks, 90 percent of my off-highway. Three regulations all at once. This is a destruction of my capital. I have spent 44 years in this business gaining this equity, and these regulations have destroyed it all at once. The economy won't support additional debt at this time even if I could borrow the money. But because my equity base has been destroyed, I can't borrow the money. I don't qualify for the government programs that you've offered, because I'm too big -- but not too big to fail. It's not

economically viable for the government to help me fund this, because I don't use the stuff enough. But I guess it's supposed to be economically viable for me to fund it, which it is not. I will meet these requirements as long as I can keep my company alive through attrition. The outlook for me taking a salary throughout 2009 is basically not there. My people are my assets, not my equipment. One way you can help is you can allow some leniency to those of us that are subjected to more than one rule at a time. I'm subjected to three. (DCI2)

410. Comment: Our fleet of trucks and heavy equipment ages 2 to 30 years old, with the newer equipment used daily and the older kept for part-time and standby use. Ninety-five percent of Delta's fleet will "disappear" (will be illegal to use or sell in California) via the recent regulations passed (and about to be passed) by the California Air Resources Board (CARB). This includes 100% of our portable equipment (by January 1, 2010), 90% of our off-highway equipment (beginning in 2014) and 100% of our on-road diesel trucks (proposed to be effective in 2010). The "promise" of just adding on exhaust filters to solve pollution issues for continued use until normal retirement has not held true for older engines. Even new equipment purchased today will have to be upgraded within four years, possibly before the original purchase debt is retired. The probability of replacement or upgrading engines for just one air quality program in today's economy is zero. Considering that CARB regulations impacts contractors by three such programs at once (not to mention the upcoming AB32 requirements) makes replacement possibility inane. Currently the market value of Delta's fleet is around 10% of its previous value just a few years ago prior to CARB's regulations. This reduction in value has degraded Delta's ability to bond and finance construction work, reducing our probability of securing work and maintaining employment. Loss of equipment through attrition just to meet the regulations will eventually negate any possibility of maintaining operations. Does this constitute a "taking" by the government? Did the government "take" my private property and condemn it for "public use" (public use in this case being the "non-use" of this equipment)? If not, then where did my asset value of my private property go and how did it get there? My bank would be very interested in your answer. (DCI1)

Agency Response: The claim that “90 percent of Delta’s fleet will disappear” is not consistent with the requirements of the Truck and Bus regulation nor of the In-Use Off-Road Vehicle Regulation. ARB carefully considered the costs to comply with the regulations and worked with individual stakeholders to incorporate elements in the regulations that add flexibility for fleets, spread out the cost of compliance, and include opportunities to lower the costs. Because of these efforts, the regulations have been structured so that situation claimed does not occur. The requirements of the two regulations are gradually phased-in over more than a decade and never require the replacement of the entire fleet in one year. In addition, both regulations include provisions to delay compliance requirements for small fleets by several years and for fleets impacted by the current recession that have downsized. Both regulations allow fleets to comply with used vehicle replacements, and allow fleets to take advantage of lower cost technology that can achieve the same emissions reductions. We recognize that the total costs of the two regulations are substantial; however, in most cases the

two regulations generally do not affect the same fleets, and when they do, the cost overlap is relatively small.

The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

The portable engine requirements have been in place for more than 5 years and requires the replacement only of older uncontrolled engines (about 12 to 15 years old or older) at the end of 2010, but does not prevent the use of other existing engines. Since the claim is that the fleet age ranges from 2 years old to 30 years old the portable engine requirements may not require replacement of all engines as stated. Also, the regulation does not constitute as a takings as described in response to comments 2 and 3 in the Legal Comments section.

f) Ability of Fleets to Pass on Cost

411. Comment: The state fund (Carl Moyer) is running out of money. How can my customers afford it if the state can't even afford it. The ARB says "pass it on" but that's to me and you. I want to be apart of cleaning the air but at a reasonable cost so we can all survive the transition. My customers who include companies from one truck to fifty trucks--only 10% can afford this. That means you will kill the smaller companies. If the state wants to make this work then set some hauling standards, like rates companies have to follow like PUC of the past, but again that drives up everyone's cost. (MFLE1)

412. Comment: As non-profits and health care providers, our business model prevents us from passing on much of the costs, unlike many of the commercial entities that also must adhere to the proposed regulations. Because we are non-profits and the majority of our centers are owned by our communities, we depend on them and our foundations to subsidize our operations. Our hospital-based centers are directly affected by the reduction in health care funding available to their hospitals. Our centers report that hospitals are pushing to "control or reduce" prices and with the loss of businesses - Mervyn's, lumber mills, and other large employers within certain communities, we face possible blood donation shortages above the usual seasonal occurrences. (BCC1)

413. Comment: The one thing that's probably evident is this industry is no longer regulated like we used to be with the Public Utilities Commission. If that was the case, we wouldn't need to be in this room today, because the Public Utilities would give us the leverage. We don't have the leverage now and have had not in the 21st century to get a fuel surcharge. Now to turn around and try and go back and get this from the shippers today, I don't see that happening. (YTI3)

414. Comment: If we can't pass these costs on and somebody outside of the State of California can buy products more cheaply than they can buy them from California. We can't sell these products; we then cannot do anything about air quality problems. (GTRU3)

415. Comment: We maintain a fleet of 27 truck-tractors with 30 employees. Normally, we would replace one or two trucks, new or used, each year, but only if we can afford to do so. We maintain our annual payments at about $250,000 for tractors and trailers. The trucking industry operates on a small profit percentage of 2 to 3 percent annually. Herein lies the problem with the current CARB proposal. Trucking is a hugely capital intensive business. We are being told to replace too many trucks in too short a period of time for our finances to allow. With the current CARB proposal, Ganduglia trucking would have to replace seven new trucks in 2013. That's 26 percent of our fleet in one year, at a time in which there would be no compliant used vehicles available. Other years would require purchases of three vehicles. This would increase our payments for trucks, trailers, PM and NOx retrofits from $250,000 annually to between 525,000 and 613,000 annually from 2013 to 2018. Our budget simply cannot support these enormous increases. And neither can we assume that these costs can be passed on as rate increases. In our case, we would have to have a 7 to 8 percent rate increase for at least six years, and this is unheard of in the trucking industry. If we're competing against a large trucking company not faced with forced truck replacement, guess what? We don't have a haul. (GTRU2)

416. Comment: We are a regional less-than-truckload carrier in California and Nevada. We have strived to do our part to improve air quality by early retrofits and replacement programs of our truck and auto fleets, as well as retrofitting our lighting at all of our major terminals in California. We are on a road to early compliance through $2 million in equipment purchases in 2008. We have been very proactive when it comes to the environment, but we still have major concerns with the timeline schedule in staff's proposal. The aggressive time frame places a very heavy financial burden on our company through 2014. The cost will exceed over $8 million through the next six years for retrofit and replacement, 2014 being the most aggressive, at an over-three-million-dollar investment. Even with these numbers and utilizing the staff fleet average calculator, we find that additional investments in equipment will be needed by 2017, not to mention a double turnover with some equipment at additional cost to our company. We cannot continue on that pace year after year, when you have to finance your equipment. The margins in the trucking industry average 3 percent. We're not making a lot of money out there as it is. (MVE2), (MVE3)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Staff believes the costs

to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section. The BACT schedule and BACT percentage limit options do not require a truck to be replaced twice (if there is no NOx retrofit available) during the 13 year period of the regulation. Fleets can purchase used truck replacements to lower their upfront costs and reduce the number of PM retrofits needed. Depending on the age of the used vehicle purchased, the fleet may need to replace it by 2021, but by that time a used vehicle with a 2010 model year engine will be 11 years old and will have little cost difference with an older vehicle being replaced early.

417. Comment: Our business has only 12 diesel units and it could cost us $1.5 Million. As a small family owned trucking company in business for three generations, this would put us out of business. The businesses that would survive would be forced to pass the new costs along to the public. By adding the transportation cost to the public, every commodity would be priced higher in California. Gas would be $8.00 per gallon instead of $3.00. The cost of milk would double, clothing would double, and every item in the grocery store would cost the consumer more money. At a time when unemployment is at a high, this regulation would guarantee more unemployment, less consumer spending, and less taxable income. That means less money for police, fire, and other essential services for all. As baby boomers ready themselves for retirement and fixed incomes will be the norm, how will the elderly pay for the price increases to every commodity? Even if companies wanted to upgrade their equipment to meet the new regulation standards, right now, they could not get a loan to retrofit or upgrade their engines. If The State of California can't get a loan, then how can a small company get a loan to purchase new equipment? (RDA)

418. Comment: The state has talked about grants to offset some of the costs involved in upgrading the existing equipment; however, trucking companies of our size do not qualify. Due to the current economic situation, our customers will be unable to afford an increase in rates to off set any of the costs involved in upgrading equipment to meet the current proposals. This would result in a loss of our current customer base. The next step will be out of state trucking companies. They will refuse to deliver into the state to avoid having to absorb these additional costs to their equipment. This will be the beginning of price hikes for goods and services of products coming into the state from other places. We have all heard the horror stories about paying $10.00 for a gallon of milk, but this could be a very real story in the event that a large number of the trucking companies that are currently doing business in the state disappear and are no longer in business. The effects of lawmakers moving to quick to fix one problem could have a snowball effect and cause many more problems that have not yet been addressed. Before any law should even be considered the long term ramifications should be taken into account, not only for the companies involved but also for their families and their well being. At this point no one, lawmakers or companies alike, are sure of exactly what is going to happen. (FAUL1)

419. Comment: What has changed significantly since this process began is the economic climate of not only the state but the nation. These economic realities have affected not only the entire agricultural community but the California Poultry Federation members in particular via grain production costs. We compete with ethanol for corn, obviously increasing transportation costs. These are not insignificant costs to an industry. The most economically viable option for reaching attainment with the regulations would cost our membership upwards of $12 million; and at a time when the economic climate is not conducive to those kinds of outlays when you're not expecting them. (CPF)

420. Comment: I am a professional beekeeper with a substantial beekeeping operation and a fleet of trucks. I am both an owner of trucks and a user of common freight carriers. The CDBA and the WPBA and my own operation oppose the Private Fleet Rule and the new proposed diesel truck regulations as proposed. The current economy cannot possibly handle the burden of a massive and instant change in the smog regulations for the trucking industry. The common freight carriers cannot possibly pass on the costs to us, as we cannot pass the costs to our clients, primarily the almond industry. (BSB)

421. Comment: Unlike almost all other industries, farmers and ranchers can never pass on increased costs to their customers. Regulations like this one, supported by well-meaning but unaware folks, will get rid of small farmers faster than any corporate take-over. I pose a few questions to you and your staff who are making these "recommendations" and "laws". Can we all agree that if you had to pick one crucial thing in life that keeps your heart beating, food would be it? Are you hearing reports that food prices are increasing due to "increasing regulations"? Have you or your spouse complained about it as well? How much are you willing to pay for your food? I challenge you to go home and create a budget for your family: Triple your monthly food expenditure on food, could you afford it? Even if you could, how many Californians would be in the same situation as you? I also challenge you to review the attached document, "The Impact of Rising Food Prices on Low Income Families in California" that was presented to the California State Assembly in May of 2008. Maybe this document will prove to you that it is not just agriculture that is raising a stink about how food prices are affecting the economy. (CCAA)

422. Comment: Over the past couple of years we have upgraded our fleet considerably at the cost of many millions of dollars. Sixty percent of our fleet is 2007 or newer. Many more millions will have to be spent in the next few years to upgrade our fleet to the current regulations as proposed. Our ability to increase our hauling rates to cover current and future equipment cost is very, very limited. The margins in the agricultural industry from farmer to hauler to processor are very low. We cannot expect to pass any costs on very easily. (AFEX)

423. Comment: For the comments from the public that think this rule is a good idea, you will be the first people to complain of milk that cost over $10.00 a gallon. The trucking industry & farming industry does not make the money the public thinks! This could be fatal to California's agricultural industry. (MFLE1), (FORM1)

Agency Response: Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.
Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

424. Comment: Hat Creek Construction & Materials, Inc. along with similar companies across the state, have been hard hit by the recent economic downturn and cannot absorb the huge financial impact regulations such as these impose. (HCCMI)

425. Comment: There is no one for us to pass on the cost of compliance and there are no profits to cover the investments needed. We all want clean air and are willing to sacrifice to get it where we can. However, to force compliance in a weak economy is down right scary. (PRR)

426. Comment: We are a regional less-than-truckload carrier in California and Nevada. Staff has recommended rate increases to our customers to help offset the cost. But with the competitive market we operate in, a rate increase above our general increase will not fly. We found that on average with our general increase we would have to ask for an 8 to 12 percent increase overall. With the struggling economy and reduction in the national gross domestic product, shippers will not be able to accept the added cost in shipping rates, and most will ask for a rate decrease. Companies will be forced to look at their costs very closely and cut where needed. Unfortunately, with the high price of health care coverage in California, this will probably be the first place many companies look to reduce their costs, along with retirement plans and wages. (MVE2)

427. Comment: This is to request that you do not adopt the proposed regulations or that you delay the adoption of the new regulations for the on road diesel vehicles. The costs associated with this regulation are simply too much for our business to absorb or to pass on to our customers. Furthermore, we are no longer able to obtain financing for retro-fitting existing vehicles or to purchase new vehicles to meet the new criteria. The proposed regulations will bankrupt our company. This round of regulations should be directed at the truck manufacturers for new vehicles and not the existing fleets of private industry. (TCDI)

428. Comment: Roadstar Trucking, based in Hayward, California, was founded in 1959 is now a third generation family business that employs 60 personnel, providing stable, well paying salaries, and benefits for both employees and dependents, and a generous retirement plan. The majority of our business is in Northern California, delivering a variety of commodities but primarily food, clothing, and pharmaceuticals to both distribution centers such as Safeway, and retail

shopping malls. We also service the Port of Oakland, delivering import and exported goods. The proposed rule will require Roadstar to replace all 30 of our diesel tractors in five years (by January 2014) and then retrofit many of those new vehicles again in a short time frame, some of which we are currently purchasing and bringing on line. For the most part, retrofits are not a practical alternative as the investment will only extend the life of the vehicle four years. The price tag for our upgrade of 30 tractors will be $3,000,000. Our loan payments will be $900,000 annually in the fifth year. This is incomprehensible to me. Our company would need an increase in our freight rates of 20% to service the debt load. This is impractical in any economy let alone during this serious, long-lasting recession. In recent comments by Mr. Leo Kay, spokesperson for CARB, he states that not a dime needs to be spent until 2010. This statement indicates a simplistic understanding of the issue. We cannot wait until shortly before the first deadline to begin retrofit or replacement. Instead we must start now and with the current severe recession and frozen credit markets, this is extremely challenging. Many of Roadstar's shippers and other customers are feeling the recessionary effects also. Our company has had shippers impose lower freight rates and lower fuel surcharges on us since September 2006 (McCormick & Company-Hunt Valley, MD., Pella Windows-Pella Iowa), forcing us to sign multiyear contracts with no freight rate increases. We have had customers file bankruptcy this last summer (Barbecues Galore) and one of our largest customers, Payless Shoe Source, notify us that they are unable to grant any increase in freight rates in 2009 due to economic conditions. Because of the downturn, Roadstar's business is down 30%. We have had to lay off personnel this year, the first time in 49 years of business and we probably will need further reductions soon. (RTRU1)

429. Comment: At that time the logging seasons were longer (8-9 months) and the demand for timber was high, I could afford to make these changes. However, now the season is less than five months a year due to increased environmental regulations and it keeps getting shorter. The economy is poor and most investments I have made for my future are gone because of the stock market and the housing problems. It is almost impossible to make a livable wage under the current restrictions and length of season. Many truckers have just given up and gone out of the business. I see these guys from time to time and their outlook on life isn't good and they worry how they will feed their families. This isn't fair or equitable! The burden placed on the trucking and timber industry appears to have only one purpose, cease to exist. I have paid taxes all of my life and now at 56 years old with the economy in the tank, no demand for lumber in the housing market and if these new regulation's are made into law, you may very well see me on the street with a tin cup in my hand and not a single dollar paid to the government in taxes. (PAT)

430. Comment: After review of the latest proposed regulations, I want you to know this is the kiss of death for my company (65 trucks) and most all others in the construction trucking business. There is no way any extra cost to operate could be passed on, as the rates from lack of work is driving prices down. This would

cause our company to close its doors as new equipment would be impossible to pay for in today's market. (RHTI)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.
The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

431. Comment: It is obvious that the zealousness of today's society to "Go Green" and the political votes being gathered by the politicians has spurred legislature. This is catastrophic, not only to the trucking industry, but to the very pockets of the California consumer. Are you and the legislatures ready to answer to consumers when he or she is breathing the same air but cannot afford to buy anything in the store because the cost of transportation has put the cost of goods out of sight? How do you think that we are going to recoup these costs? According to the CARB board there are 440,000 trucks registered in this state, and 1,000,000 others that enter it. It bothers me to no end to think of the people of California or any state, local, county, and state wide, and their attitudes to the trucks and trucking industry. No one wants us in front of them on the road. No one wants us on their street or parked on the side of the road. How do your constituents think every product they buy, every chair they sit on, every bed they sleep, and every car they drive in, got to where they bought them? There would be nothing if the truck didn't deliver it. The truck and trucker are a great source of revenue for all levels of government. The rules and inspections alone make us an absolute target for being ticketed. Why don't you consider letting attrition take care of the trucks that are old? But at least the companies, small and big, will be able to get the most out of their present fleet, and when we buy new and get rid of the old we won't have to do it all at once. (CMSA4)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected

to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

432. Comment: If the rest of the nation can't pick up and deliver goods to California, then how can California's economy survive? What will happen to all of the produce from the Central Valley? What about the high tech Silicon Valley? South San Francisco and the biotech industry? Aerospace and defense of Southern California? All of these industries, and more, are very important to the nation and what happens when the goods can not flow between states? A total financial meltdown of California. That's what will happen. While everyone wants clean air, one must be reasonable about how to achieve it. This can be achieved by common sense regulations and not hard line mandates. (BMAS)

433. Comment: We are a small family owned trucking company, started in 1951 by my father and now run by my sister and me. We employ 10 full time and 2 part time employees. We have 5 heavy duty trucks, 2 hay squeezes, a small dump truck and one large JD loader. Our equipment ranges in age from one 1991 truck to the rest between 2000 and 2003. We sell hay and landscape materials. At this time our business is severely depressed due to no construction. If you enact the regulations in the time frame that you are proposing, we would be unable to purchase the new equipment or sell the old equipment which is still in good operating condition. Our business would mist likely fail and you would put at least 12 people out of work. (RTS) ,

434. Comment: The cost of our blood mobiles far exceed the costs of "the usual on road commercial trucks, school buses or specialty farm equipment" covered under the proposed rules. Because our mobiles are custom built, they range from $220,000 - $375,000, subsequently they are well maintained and kept for a number of years. On average, we retrofit/rebuild our vehicle engines after fifteen years, with the interiors being refurbished more often. We also utilize smaller trucks - diesel, hybrid and gasoline powered -for mobile setup, blood and blood product delivery and staff transport. The total number of vehicles affected by this

rule utilized by all our centers is approximately seventy. But the diversity of our centers, the number of vehicles per center, and mileage traveled will vary. With this wide range, the proposed regulations are likely to increase administrative activity for those centers with larger fleets and this translates into higher administrative costs plus the costs associated with compliance. It appears the proposed regulations (private fleet rule) may require a number of our centers to purchase new vehicles every three years, given the cost of our vehicles this is impossible. Presently, our mobiles are literally kept until "we have run them into the ground." The costs for retrofitting are onerous, we estimate a cost of $15,000 - $40,000/vehicle and of course the age of the vehicle may preclude retrofitting. Costs for new engines start at $30,000 and increase. (BCC1)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

435. Comment: The Siskiyou County Board of Supervisors will be seeking statewide support from other Counties and elected officials regarding this issue; and is requesting urgent, immediate action by Assembly member Jim Nielson and Senator Sam Aanestad to sponsor and/or support legislation to override all new ARB regulations due to their severe financial impact to the State economy and the Districts they represent. (SCNRS)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the

highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

g) Competitive Advantage/Disadvantage

436. Comment: Freight will continue to be moved in California since there is no other way to get items from Point A to Point B except via large trucks. But those trucks won't be California trucks and they won't be paying California taxes or abiding by CARB rulings. Out of state trucks will do the work, polluting our state in the process, and leaving that much less of a tax base with which California can meet its needs. This rulemaking will drive up the cost of every good and service in the state of California at a time when people can least: afford it. And it won't make our state any more prosperous, or healthy. (KVSI2)

437. Comment: Glenn County residents are solely dependent on Heavy Duty On-Road Diesel Trucks for the delivery of goods; and the proposed Air Toxic Control measure will result in international and out-of-state Heavy Duty Diesel Trucking Companies receiving a competitive advantage over local California businesses. (GCBOS)

438. Comment: Since deregulation in the early 1990s, the number of transport companies in the state has drastically diminished. Instead, transportation hubs to serve the California market sprung up in Las Vegas, Phoenix, Reno and Eugene, Oregon. The cost of doing business in those states is much cheaper. Moving across state lines gives companies a major competitive advantage, and that is what has happened. Out of state and transnational trucks come into California, move freight around, and leave. Those trucks leave pollution in our state but do not shoulder the costs of it. Instead, an ever-shrinking number of struggling California freight companies are faced with paying the bill. The state deregulated freight rates in the 1990s but didn't stop issuing regulations on businesses. Now CARB wants us to pay $20,000 for every truck in our fleet to operate in our home state – even though competitors from outside California don't have to meet the same requirements. This is the perfect requirement to kill an industry. There is every incentive to leave the state, and it would be fiscally irresponsible as a company to stay. If there was some kind of logic to the rulemaking and legal process, that would be one thing. Putting California transportation companies out of business isn't the answer. (KVSI2)

439. Comment: Another large impact to my operation is going to be the fact that no other state particularly cares what CARB is up to in California and if I'm put into a position to conform and then try to compete with all my competitors out of state that are not burdened with the costs that I am subjected to, I would surely lose that portion of my market share. (RTC)

440. Comment: There are environmental and social costs caused by a car-oriented consumer culture and we should deal with those as a society, instead of taking a short by imposing anti-competitive business laws that will end up hurting our entire state by shrinking our tax base. Freight will continue to be moved in California since there is no other way to get items from Point A to Point B except via large

trucks. But those trucks won't be California trucks and they won't be paying California taxes or abiding by CARB rulings. Out of state trucks will do the work, polluting our state in the process, and leaving that much less of a tax base with which California can meet its needs. This rulemaking will drive up the cost of every good and service in California at a time when people can least afford it. It won't make our state any more prosperous, or healthy. California can lead and innovate when it comes to environmental issues. We have to think realistically about the problems we are facing. (KVSI2)

441. Comment: Regulation will have significant impact to cost of transporting goods out of California. Costs are being thrown at this unproven problem. Carriers will continue to stop sending trucks to California. Importers will start using other, less costly and difficult ports to import their goods. The trucking Industry cannot afford to correct the air problem by its self. (ANON), (WEST)

442. Comment: Please consider the cost of this to small and family owned businesses with the economy in such questionable shape. This could put many small businesses out of business and many hard working men and woman out of work. There will be many trucks entering California from its borders not meeting these requirements but taking California's money with them as they leave. Please consider this for it's true value before just blindly passing it as a "do-gooders bill", the environment is important but if there is no one left to provide goods and services to the environmentalists then those goods and services will be provided by those who aren't required to meet California's laws! (SVP)

443. Comment: CMTA is very concerned about this regulation and the impact it will have on the cost of doing business of every company manufacturing in California that receives their raw materials by truck, delivers their finished product by truck, or in any way depends on the goods movement system in California. Unless a manufacturer has no out-of-state competitors and only sells within the state, they will be at a disadvantage to manufacturers elsewhere. This rule will make California manufacturers less competitive because of the increased cost to receive the raw materials and the increased cost to move their products to market. (CMTA)

444. Comment: I just want to say that the regulations that are being proposed are going to have a severe negative impact on the entire California economy. Currently the trucking industry has experienced numerous financial hits such as the ridiculously high fuel prices during the year (that we were unable to pass on), the reduction in freight due to the construction melt down, and now the lack of financing regardless of price. The trucking industry is under constant pressure to offer affordable transportation of goods in the state. It appears that the only companies that will be left standing after this takes effect will be the national mega fleets. As you are all aware the only thing that keeps freight rates in check is competition, now the CARB wants to unlevel the playing field and allow the huge companies to monopolize our state. Since the Mega fleets have the economies of scale they can merely send all of their new equipment in to California, and use their older equipment out of state. This has utterly no impact on their financial

position. The companies that only operate in California are at a complete disadvantage given that we have no outlet for our non-compliance equipment. 100% of our revenue stays in California unlike the companies that are headquartered out of state. I am a native Californian and want nothing more than to have clean air for my family but, there has to be a better way to accomplish the goals of emission reduction without jeopardizing the livelihoods of so many Californians. (RLAW)

Agency Response: The regulation applies equally to in-state and out of state fleets and the economic impact of the regulation will be similar for fleets that compete in the same markets. The costs associated with the regulation and the ability to pass on costs will vary by individual fleet and business sector. Long-haul fleets are expected to have newer trucks and lower compliance costs in the regulation whether based in California or not. Local fleets, whether in short haul, construction, or other service industry tend to travel fewer miles per year and are expected to have somewhat older trucks and by definition compete with other fleets that operate locally and will have similar costs to comply with the regulation and will be able to increase rates to offset any increase in costs because the effect of the regulation will be similar for businesses that compete with each other in providing the same service.

Staff recognizes that some contracts prevent businesses from adjusting prices before the contract term is over. In the near term, staff believes that some fleets will be able to renegotiate some contracts and others will not; however, over the long term staff expects that any costs will be recouped. The costs to businesses that produce products for sale locally or in other states may have some cost increases depending upon how they send and receive products. Other businesses such as manufacturing, agricultural, and industrial businesses that rely on long haul trucking will have little or no costs and those that rely on local delivery or short haul trucks and services will likely have some additional transportation costs. The cost of transportation is often a very small percentage of the cost of doing business; therefore, the impact may not be noticeable to the consumer. Refer to Technical Support Document Chapter I for detailed discussion.

445. Comment: CTA greatly appreciates positive consideration of these requests, and looks forward to a continued dialogue with CARB staff. ARB should address the potential of its currently proposed rule to severely disadvantage native California trucking companies. The significantly larger interstate fleet that visits California uses newer trucks than the native California fleet. This means that the proposed rule will cause native California fleets to face significant costs while interstate fleets will face virtually none. This cost inequality will place native California trucking companies at an extreme competitive disadvantage versus interstate companies because native companies will have to try to pass through higher costs to afford the investments required under the rule while interstate fleets will not have to pass on any additional costs. This unfortunate situation will cause the native California fleet to lose business, with an accompanying loss of jobs and businesses that will be larger than would otherwise take place under the rule if it did not also make native California trucking companies less competitive with their interstate counterparts. There is no acknowledgement of this serious situation in the staff economic analysis. The context of an economic crisis makes the problem

even worse. CTA requests that CARB staff address this significant competitive issue and its potential effects on the California economy and on the citizens of California who labor in the native California trucking industry. (CTA2)

Agency Response: Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

446. Comment: The ARB should assess the market effects on freight rates in California if in-state freight haulers have higher costs than out of state firms. We should expect that the increases for higher cost firms will drive up the ability of all firms to charge higher rates regardless of whether the costs have increased for those lower cost firms. (See for example how LADWP was able to charge higher rates to PG&E, SCE, SDG&E and other California utilities during the 2000 to 2001 electricity crisis because merchant generators raised their prices.) If all firms are able to charge higher prices, then the economic impact will be multiplied across the services for all firms in that sector. For example, CalTrans estimates that trucks travel about 10 billion miles annually, most of which for hauling freight. Spreading the costs per truck for in-state trucks shown in Table 11 over a 200,000 mile lifetime adds about 6.5 cents per mile. This will translate into a $650 million per year increase in freight costs. Of this, according to the inventory report, 59 percent or $380 million will go to out-of-state firms, most of which will not incur significant costs according to the prose in the TSD. This amount is an unmitigated cost to California because it is just like buying foreign oil-it is a financial flow out of state. (AEG1)

Agency Response: Staff believes that the fact that a business is headquartered or located in or out of state will have little impact on the cost of doing business in California. Regardless of the origin of a truck, it must comply with the requirements of the regulation since the regulation applies to all trucks operating in California. Staff believes the competitive nature of the trucking industry will dictate freight costs and that in state businesses will not be at any more a competitive advantage or disadvantage that what currently exists, see response to comments 436 through 444 in the Costs and Cost Methodology section

447. Comment: We do disagree with several parts of the program that create competitive disadvantages. Individual proprietors should not be allowed to avoid compliance until 2017. This will just cause employers using employee drivers to switch to owner-operators to avoid compliance and leave the best trucking companies to comply earlier. (CTPAC1)

Agency Response: Small fleets have until 2014 to meet the PM and NOx reduction requirements. The regulation has optional small fleet provisions that delay the PM and

NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. Small fleets tend to operate older vehicles relative to larger fleets, but would not benefit from the flexibility provided to the big fleets by the fleet average option or the BACT percent limit option because of the limited number of vehicles in their fleet. The difference in the compliance dates are temporary and should not create a large difference in the transition period. Large fleets will need to meet PM reduction requirements starting in 2011 and some may already meet the PM requirements with trucks that are originally equipped with PM filters. The NOx reduction requirements for large fleets begin one year earlier than small fleets. By 2014, small fleets will need to meet NOx and PM requirements and larger fleets will have phased-in the reductions so that by 2014 they also meet the NOx and PM reduction requirements.

h) Impacts on Businesses or Business Sectors

448. Comment: Eighteen months ago, we employed 550 Californians. These days, that's down to less than 400 with the economy. We rotate our trucks out at four- to five-year intervals and we buy new equipment. We average about 120,000 miles a year per unit. So at 500,000 to 600,000 miles is the trade cycle. Trucks in the year 2000 cost us $65,000 to $70,000 to purchase. Trucks that we recently purchased in before 2009 models were $110,000. On the 2002 trucks that we are trading in on some of the 2009 models, those trucks we anticipated under historical facts would bring us about $25,000 to $28,000 on trade in. The dealer just gave us $10,000 for a 2002 truck. We buy new trucks because it is the best financial decision that we can make. You can get financing for new trucks up to six to seven years. The interest rates when you buy new trucks are five and a half to six percent instead of eight, nine, or ten percent. Used truck equipment generally will only be financed for three years if you don't have some advantage from the Board. We are also participating in all of the air programs we can participate in California and currently have applications in for somewhere around a million dollars in grant money. (APEX)

Agency Response: A fleet that replaces with new vehicles in four to five years as stated in the comment will not need to change its business practices and will have not costs associated with the regulation because the fleet will always have cleaner vehicles than the regulation requires and will not have to change business practices or have any costs associated with the regulation. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

449. Comment: While I agree there is a need to keep the earth, water and air clean and healthy for all, it needs to be done in a well thought out and educated way with all the consequences played out. As a small fleet contractor, not operating in your state, who replaces equipment every 5 to 6 years, I haven't been too worried about your crazy regulations. Now I am starting to wonder how we are going to get

rid of all this old equipment? If we can't get rid of our old equipment or get financing, we need to make sure these retrofits are safe. (DJAC)

Agency Response: Vehicles that do not operate in California are not subject the requirements of the regulation. Fleets that normally replace with new vehicles every 5 to 6 years will meet all the requirements of the regulation early. The regulation does not require the installation of DPF if it would affect the safe operation of the vehicle. We expect used equipment will be sold outside of California. We expect 5 to 6 year old trucks to be in demand in California because the can be used by other fleets to comply with the regulation.

450. Comment: I support efforts to improve the quality of our air. I do not support efforts that are so onerous they put the financial viability of companies at risk. In order to meet the requirements of the current plan we would need to replace 28 power units in 2009. This amounts to over $2,100,000 and is unrealistic for a company our size. We need additional time to phase in the new equipment. We do not qualify for any state or federal assistance. Please extend the compliance period. (DBI)

Agency Response: The regulation does not require any vehicles be replaced until 2013, and it never requires all the vehicles within a fleet to be replaced in a single year. See response to comment 10 for a description of the compliance options. The price per power unit in the comment also implies the comment is based on new tractor replacements. The regulation never requires fleet owners to replace with new vehicles. The unique vehicle provisions described in response to comment 149 explain how the provisions exempt the vehicle from the replacement requirements if a used vehicle with a cleaner engine is not available.

451. Comment: We are concerned over the aggressive nature of the truck and bus rule in regards to replacing or retrofitting trucks that do not have the latest emission technology. Our company purchases good quality used trucks when it is time for replacement. In the past two years we have replaced 17 of our oldest equipment, 1980s vintage, with late 1990-early 2000. For us to purchase new equipment is not economically feasible even with the help of the grant programs. We feel that through attrition we can do our part to deal with the emission problems that our state is facing and still maintain a competitive posture in these uncertain times. (ROTC)

Agency Response: The regulation never requires the purchase of new replacement vehicles, see comment 149 in the Regulatory Requirements section. The regulation is structured to provide flexibility for fleets to comply with a combination of used vehicle replacements and the use of exhaust retrofits, see response to comment x in the Regulatory Provisions section. Also for fleets that have downsized from 2008 the regulation provides credit that delays some or all of the requirements for 1 or more years.

452. Comment: I own one diesel tractor and a dozen trailers which contain medical equipment. I drive between 5,000 and 10,000 miles per year with my tractor. In

fact, the 1987 Freightliner tractor I own has less than 80,000 miles on it. Legislation that forces me to upgrade my tractor to a new vehicle would create a tremendous financial hardship on myself and my business. Since I don't use my tractor very much, it would be cost prohibitive to purchase a new one. (CFRA)

Agency Response: The regulation never requires the purchase of new replacement vehicles, see comment 149 in the Regulatory Requirements section. Small fleets, with 3 or fewer vehicles have no replacement or PM reduction requirements until 2014. Small fleet can also take advantage of other provisions in the regulation. A fleet that operates a tractor below 7500 miles per year does not have any replacement requirements until 2021, but must still meet the PM reduction requirements.

453. Comment: With this regulation, I'm being asked to sell and dispose of my equipment before its useful time is up. (ETI) (GTI)

Agency Response: The regulation is phased in and has three compliance options to allow fleet owners the most flexibility in reducing their fleet emissions in a manner that best suits their business. The PM reduction requirements are phased in from 2011 to 2013 and the NOx reduction requirements are phased in from 2013 until 2023. The requirements, as structured will allow fleets to keep some older vehicles in their fleet, but many fleets will need to replace some or all engines or vehicles earlier than they normally would. The regulatory requirements and compliance dates are necessary for the state to be able to meet federal clean air standards and to reduce harmful PM exposure risk. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

454. Comment: Our choice may be to shrink our business, lay off more employees, and choose which customers we will be positioned to service. We have already done just this based upon the Statewide Port and Railyard Regulation which takes effect at the end of next year. We currently operate no vehicles that meet the requirements to enter a port facility after December 2009. Since current freight rate structures on port related trucking are not compensatory, we have decided to take a wait and see attitude in future service of port traffic. Until a shortage of available truckers causes port trucking rates to rise to a commensurate level, we will not participate by making investments in clean vehicles to service port traffic. We anticipate that the same phenomenon may occur in general state transportation as truckers that are unable to upgrade or replace vehicles drop out of the market. Local or regional disruptions are likely to occur for certain groups of shippers. Only then will trucking operations be able to adjust rates to commensurate levels to reinvest in adequate numbers of compliant equipment. In the short term this time lag in rate increases will drive all but the strongest truckers out of business. Our bigger fear is that the additional cost burden and shortage of capacity will drive more manufacturers out of the state, taking those manufacturing

jobs, tax revenues and transportation activity and jobs out of California. We have first hand seen this occur with several of our former customers. One needs only to look at the drop in imports and exports through California ports, in part caused by reaction by beneficial cargo owners to the Southern California Clean Air Action Plan (CAAP) and similar proposals at The Port of Oakland to glimpse the future of our state economy. Being the leader in any major undertaking bears risk of negative consequences in addition to the benefits. CARB has not done an adequate analysis of the cost/benefits to the PFR. Roadstar Trucking asks the members of the ARB board to carefully consider these effects on family and home-grown California businesses in light of the current distressed economy, as they balance the social benefits with the costs. (RTRU1)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section.

455. Comment: I am writing in opposition to CARB's proposed buy new trucks program being voted on next week. We own a small hauling company in Ukiah California. We have 38 employees and a total of 12 trucks. The total cost to replace and retrofit all of our vehicles will be in the millions of dollars. Our older equipment will just have to be scrapped or exported to another state. We simply cannot afford to make these purchases and expect to stay competitive enough to stay in business at our current size. At the least we will have to downsize our company and release the employees to keep pace with this proposal. (RRIN)

Agency Response: Vehicles that operate exclusively in less polluted areas of the state are exempt from the replacement requirements until 2021, but remain subject to the PM filter requirements, see response to comment 98. For any trucks that operate outside the designated NOx exempt areas, the regulation is structured to provide flexibility for fleets to determine the best compliance option for their situation, see response to comment 10. Finally, new vehicle replacements are never required, see response to comment 149.

456. Comment: Our surveys of forestry fleets show that 60 percent are older trucks, and it's primarily because those trucks are running 50 to 60,000 miles a year. They need 20 years to get the useful life out of the truck. As staff showed earlier in the

graphs, 2011 to 2014 is crunch time, particularly for fleets with older trucks. Many of our fleet owners will run out of cash at about year three--they simply cannot get through the rule. So that leaves them with only two options: significantly reduce the size of your fleet or save yourself the pain and go out of business now. (CFA2)

457. Comment: In rural counties, based on surveys in Mendocino and Nevada Counties, greater than 60 percent of the trucks are mechanical fuel injection rather than electronic fuel injection, hence pre 1994 trucks, so average age in rural counties is probably at least 12 years. Forestry fleet surveys indicate that Forestry Fleet owners (all in rural counties of California) also show 60 percent of their trucks are pre 1994s and 76 percent of the total forestry fleet is pre 2000. Hence the average age of medium heavy duty (MHD) and heavy heavy duty (HHD) trucks in rural counties is significantly higher than the statewide average for In-State fleet age. In-State fleet owners in rural counties of California have a disproportionate share of pre 1995 trucks (surveys of Mendocino and Nevada Counties indicate >60 percent). (CFA1)

458. Comment: We are adamantly opposed as you see by the resolution unanimously approved by my diverse board. And that says a lot for Mendocino County, believe me. We request the Board complete a detailed economic impact analysis for rural counties. (MCBS2)

459. Comment: Rural California is the area that has no particulate matter problem, no NOx problem, and no opportunity for Proposition 1B money. That's the area where the Carl Moyer money all goes to the county and the municipalities and doesn't come down to the private fleets. That's the area where 60 percent of the trucks are pre-'95 trucks. Those trucks have got mechanical engines in them that cost $45,000, not $15,000, to update. We put on 50 to 60,000 miles a year on our trucks. When we buy them new, they're good for a million miles. That takes us 15 to 20 years to wear a truck out. If you're working in the commerce corridor where the billion dollars is going, you put on 150,000 miles a year and you update your truck every six to seven years. I think you really need to look at these issues. There's a real serious issue of inequity here and it needs to be addressed going forward. I think this cost analysis needs to be analyzed by an independent third party so that, going forward, money that's available to help these businesses survive this rule package is dealt to the individuals that really need it. (ALOG4)

460. Comment: Further, many rural fleets cannot operate year ‘round and therefore have lower vehicle miles traveled per year, generally 50,000 to 60,000 miles. They will be forced to replace vehicles that have not come close to attaining their 1 million mile useful life on the engine and chassis. (CFA1)

Agency Response: Trucks traveling 50 to 60,000 miles per are exceeding the mileage driven by a typical heavy heavy-duty diesel truck. A twenty year old truck emits three times the NOx emissions of a 2007 model year truck and thirty times as much PM emissions. A twelve year old truck still emits seven times as much PM. In addition, logging truck typically operates only six months out of the year, so logging trucks travel more miles that the typical truck does in a year. The actions an individual company

would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

The regulation recognizes that less polluted areas of the state do not have the same air quality problems and exempts trucks operating exclusively in these areas until January 1, 2021 from all NOx requirements, but remain subject to the PM reduction requirements. Unlike other provisions of the regulation where vehicles are restricted to staying below certain mileage threshold, trucks traveling exclusively in NOx Exempt areas are allowed unlimited mileage.

Trucks traveling exclusively in the NOx Exempt Areas are required to meet PM BACT beginning January 1, 2011, however, small fleets, fleets with three or fewer trucks can wait until January 1, 2014 before PM BACT is required to be met. A twelve year old truck in 2008 will be eighteen years old by 2014 and at 50,000 to 60,000 miles per year will have accrued 900,000 to 1,080,000 miles.

Finally, for the January 2009 Board meeting, staff performed an analysis in the NOx Exempt Areas and concluded that the percentage population near roadways is similar to the statewide level. Staff also concluded that the PM emission exposure risk from logging trucks alone was unacceptably high and therefore, providing an exemption or delay for all trucks in NOx Exempt Areas would result in an even greater risk to public.

461. Comment: My company utilizes trucks as a necessity to transport our timber to the market. We employ just fewer than 100 people in rural Mendocino County, of those about 25 are commercial truck drivers the other 75 are on the logging side of the business. Without the ability to deliver our product to the market, the logging jobs are at risk of being lost. I have done the analysis and studied the options and inputted the results into the fleet calculator to come up with what it will take our company financially to comply with this regulation and have attached it to this letter. Starting this year in 2008 with the purchase of 4 new trucks and replacing 2 engines to get us started it will still take 1 million dollars above and beyond our return on the trucks between now and 2013 to comply with this regulation. If we want to stay in business and continue to employ these people we will have to

invest this money into our business, this is the same decision all trucking companies are going to be faced with due to this regulation. (ALOG3)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.

For an explanation of the provision that extents the deadline for vehicles operating exclusively in the NOx Exempt Ares see the response to question 460 in the Costs and Cost Methodology section.

462. Comment: Add a provision to review this rule annually for a determination of the overall economic well being of the state and possible annual delay of implementation of the rule. The proposed rule now exempts fleets located in federal 8-hour ozone and particulate matter attainment areas from the NOx requirements, if the vehicles are used in only attainment areas. Private fleets in a number of our rural counties will benefit from this provision. In light of the current and projected economic depression of our country, RCRC recommends that a provision be added to the regulation to require the ARB hold a public review and evaluation of the economic status of the state beginning in January 2010 and annually thereafter. The purpose of the review would be to determine if it is in the best interest of the state to extend all compliance deadlines by one year. This would allow the Board to go forward with this rule now, while providing the flexibility to adjust compliance dates if the state economy justifies doing so. (RCRC)

Agency Response: Staff will report to board in December 2009 regarding the state of the economy and the level to which fleets are utilizing existing funding opportunities. ARB has the ability to modify existing regulations at any time if there is a fundamental change in the information upon which the Board made the decision to approve a regulation. Any changes to be made by the Board would be done in a public process. An annual review does not need to be required in the regulation and would create more uncertainty for fleets that need to take actions to meet future compliance deadlines. This would further increase the likelihood that fleets would wait until the last minute before complying and then fewer would be in compliance by the deadline. Those who took action to comply early would be at a disadvantage to those who wait if a delay is made.

463. Comment: No economic analysis of the impact of the proposed Heavy Duty On-Road diesel Truck Rule has been conducted on rural communities; and such a study would find that a significant cumulative economic impact would occur to rural communities if the proposed Heavy Duty On-Road Diesel Truck Rule were to be

adopted this year in conjunction with other recently adopted Air Resources Board control measures. The Tuolumne County Board of Supervisors opposes the adoption of the In-Use Heavy Duty On-Road Diesel Truck Rule, at this time or until such time as the economic impact on rural communities has been fully addressed and mitigated. (TCAPCD) analysisx

464. **Comment**: No economic impact analysis of the proposed Air Toxic Control Measure's impact specifically on rural communities has been conducted; and a statewide analysis of the proposed Air Toxic Control Measure's economic impact in California will overlook the serious economic impact in rural communities. A significant number of businesses in Glenn County operate Heavy Duty On-Road Diesel Trucks and provide one of the few well paying year-round employment opportunities available to residents of Glenn County. (GCBOS)

465. **Comment**: The Glenn County Board of Supervisors opposes the implementation of any new ARB regulations, including the In-Use Heavy Duty On-Road Truck Air Toxic Control Measure until such time as the economic impact on rural communities has been fully addressed and mitigated. Glenn County has been significantly economically impacted by high fuel costs, recent wildfires, the decline in the timber industry, and the ongoing national economic crisis; and currently has an unemployment rate for 2007 over 8.8 percent, which is the eighth highest in the State; and the median household income is only $35,707, with 17.5 percent that at or below the poverty rate. (GCBOS)

466. **Comment:** The California Air Resources Board is contemplating the adoption of highly restrictive regulations that will have a profound negative effect on not only our business but the whole California economy. It is unbelievable to me that you can consider requiring retrofitting the existing over the road fleet. This is going to be highly inefficient, increase fuel consumption, reduce engine life and produce very little benefit in the rural areas of Northern California where we operate. CARB is proposing a multi billion program which we can not afford in this economy. (FORM4)

467. **Comment:** The California Air Resources Board is contemplating the adoption of highly restrictive regulations that will have a profound negative effect on not only our business but the whole California economy. It is unbelievable to me that you can consider requiring retrofitting the existing over the road fleet. This is going to be highly inefficient, increase fuel consumption, reduce engine life and produce very little benefit in the rural areas of Northern California where we operate. (BSGCC)

Agency Response: Staff analyzed the economic impact to affected industries and the costs to the public associated improved health and reduced risk to diesel PM exposure. The impact to rural communities was not specially analyzed, however, rural communities, like urban communities, are expected to be able to pass on the costs of the regulation in the form of higher transportation rates and higher costs of goods. Chapter VIII of the Staff Report analyzes the increased cost of goods and determines that cost of the regulation will result in a modest increase in the cost of goods of about 0.04 percent or about a 1 to 2 cent increase in the price of a pair shoes. This increase

will be considerably lower in NOx Exempt Areas since fleets can utilize the provisions delaying the NOx BACT requirement.

Fleets operating exclusively in the NOx Exempt Areas need only meet PM BACT or essentially install a DPF. All new trucks come equipped with DPFs from the factory and there is no evidence that they are experiencing reduced engine life. Staff acknowledges that for some engines a small sacrifice in fuel consumption exists, and staff accounted for fuel economy differences in the cost analysis.

468. Comment: The economy of Glenn County and most other rural California counties is based on agriculture and forestry. These industries compete in a world market and cannot pass on the additional costs of needless and over burdensome regulations to consumers. (GCBOS)

469. Comment: We are in attainment in Mendocino County. We have an economy that's based on natural resources, primarily agricultural and timber. These are seasonal activities. We cannot, despite your staff's claims, simply pass on the cost of these regulations to our consumers. We are completely dependent on heavy-duty diesel equipment for the delivery of goods in and out of Mendocino County. We have no airport, no railroad, and no ports. We have a median income of 27 percent below the state average and we have an unemployment rate of 7 percent. (MCBS2)

470. Comment: The economy of Siskiyou County and most other rural California counties is based on agriculture, forestry, and tourism, and these industries compete in a world market where it is virtually impossible to pass on the additional costs of needless, over-burdensome regulations to consumers. (SCNRS)

471. Comment: Rural California's main economy is based on agriculture, forestry and fisheries. These industries compete in a world wide market and cannot pass this additional cost on to consumers. If we raise our prices we will simply lose market share. . (ALOG2)

472. Comment: In the Statement of Reasons prepared by staff, “staff expects many, if not most, affected businesses to pass through the proposed regulations costs to their customers". For rural California, this is problematic as we deal in a world wide market. In the rural counties prime industries are agriculture, forestry, and fisheries. If these industries try to pass on the cost of this regulation to the consumer, they will lose market share and go out of business. (ALOG2)

473. Comment: The economy and opportunities in rural California are completely different than the more metropolitan areas. The available operating seasons are much shorter in rural areas, most of our industry competes in a worldwide market thereby not able to pass on regulatory costs and the opportunity to receive government assistance to help comply with rules of this nature are virtually non-existent. (ALOG2)

Agency Response: Staff recognizes that some industries, such as agriculture, year after year revenues fluctuate. Careful consideration was given to each industry affected

by the regulation and the requirements modified to account for their specific situation. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.

474. Comment: Mendocino County Resolution No. 08-234 requesting a delay in the implementation for economic and other reasons. (ALOG1)

475. Comment: What percent would go out of business in Mendocino County? Thirty-seven percent surveyed said they will downsize, and 50 percent said they're out of business. I think that is probably typical for most rural counties in the State of California. (MCBS2)

476. Comment: With the current economic situation, companies in rural California will not be able to borrow money to update their engines. Sixty percent of the trucks in rural California are 1994 and older, banks will not loan money on equipment over 10 years old and a prudent operator will not put $45,000 in updates on a $13,000 truck. Our survey Indicates that 39% of truck owners in Mendocino County will downsize as a result of this regulation and 47% say they will go out of business. This survey is currently being duplicated in Nevada County with very similar results. (ALOG2)

477. Comment: Our rural counties have a higher percentage of the older vehicles, and thus will bare a disproportionate economic impact implementing this rule. Meeting NOx reductions is a considerable financial impact to fleets, which again will have a disproportionate negative economic impact in our rural counties. (RCRC)

478. Comment: While the economic impacts of these measures may have been assessed on a statewide level, this agglomeration does not reveal that rural counties will be bearing a disproportionate and devastating share of the effects of this proposal. As rural counties are already struggling to cope with a multitude of regulatory and economic challenges, this proposal could not have come at a worse time. (SCNRS)

479. Comment: The 2007 California County Data Book put out by the national organization Children Now showed Siskiyou County sharing last place for economic well being with three other rural Northern California counties. This measurement incorporates the fact that only 1/3 of our residents meet the standard of "self-sufficiency" and the fact that median family incomes are barely half that of the state as a whole. The same study showed that Siskiyou and the same three counties had the dubious honor of "leading" the state in the percentage of children under 18 in low income families (65%). Given these and other similarly dismal socio-economic statistics, the Siskiyou County Board of Supervisors passed the accompanying Resolution #08-195 opposing the implementation of these regulations on our County and other rural counties similarly threatened by these proposals. (SCNRS)

480. Comment: Inequitable treatment of rural counties, especially attainment counties where timber harvesting takes place, and potential for economic collapse of those

counties. Our members are aware that they provide a significant amount of the employment in rural timber counties. This rule will thus doubly harm local counties, first by harming our industry, and then by harming our industry's support to counties. Further, we understand that 60% of trucks in rural California are 1994 model year and older, and banks won't lend money on equipment over ten years old. Given that these counties are largely in attainment for NOx and PM, they are being treated inequitably as against the more high-pollution counties in California, with little or no relief funding directed their way. (ACLOG1)

481. Comment: Rural California trucking for the most part is seasonal due to weather, road conditions and regulation. The highway haulers have the ability to operate year round. They put 130,000 to 180,000 miles on their trucks each year. How long a truck will last is dictated by how much use it sees. Rural haulers get 1/2 to 1/3 the miles per year, therefore are forced to keep their trucks two to three times as long. At the core of this rule is the concept that in order to clean up the air these trucks need to be replaced and updated. For the highway haulers, no problem, for the rural seasonal haulers it is a significant blow. In our survey 86% of rural employer's state they will either downsize or go out of business. (ALOG2)

482. Comment: CARB staff estimates that most heavily impacted of the regulated public are the transportation and warehousing sector. Their estimate is this regulation will cost them 2/10 to 3/10 of one percent of their gross revenue. In our business we estimate the cost to be 7% of our gross and for the rural fleets this is very representative. This is significant as under the best conditions rural fleets operate on a 4%-5% profit/risk margin. (ALOG2)

483. Comment: The financial impact to in-State rural fleet owners of the Rule's compliance schedule for truck replacements and filters would require an immediate 25 percent increase in the fleet operating hourly rate. In-State rural fleet owners will simply not be able to compete if they try to increase their operating rate 25 percent and, therefore, will either have to dramatically reduce the size of their fleets or simply go out of business. (CFA1)

484. Comment: It is estimated that truck owners in Glenn County will downsize as a result of the proposed CARB regulations and will simply go out of business. (GCBOS)

485. Comment: On behalf of our thirty-one member counties, the Regional Council of Rural Counties appreciates the opportunity to address the proposed regulation for In-Use On-Road Diesel Vehicles. We appreciate ARB staff's efforts to understand and address the small fleet owner constraints and rural attainment areas of the state, and recognize that provisions have been incorporated into the regulation to provide economic relief in these areas. However, many fleet owners will still have financial distress complying with the proposed regulation, especially in rural areas. We ask the Board consider the following additional provisions. The Regional Council of Rural Counties appreciates ARB staff's efforts to understand and address the small fleet owner constraints and rural attainment areas of the state, and recognize that provisions have been incorporated into the regulation to provide economic relief in these areas. However, many fleet owners will still have

financial distress complying with the proposed regulation, especially in rural areas. Our rural counties have a higher percentage of older vehicles, and thus will bear a disproportionate impact implementing this rule. We request ARB consider increasing the threshold for low-use vehicles in low-population counties to 3,000, the same as provided to public fleets and utilities. We request that the small fleets in low-population counties be provided the same extended deadlines afforded the "limited-mileage agricultural vehicles" and the "low-mileage agricultural vehicles." Providing the additional time for compliance for the small fleet owner would provide them the necessary time for financial planning to implement the rule. (RCRC)

486. Comment: This is the heart of the inequity in this regulation between rural and metropolitan counties. If this rule goes forward in its current form an analysis needs to be made of the inequity to rural California and the disproportionate costs rural trucking firms will face. We in the rural counties support efforts to clean up the air; we simply want to survive the process. (ALOG2)

Agency Response: Staff does not believe the costs to rural fleets are disproportionate against rural fleets. The costs for most rural fleets are considerably lower than fleets that need to meet the general requirements. Timber harvesting operations are considered agricultural operations and the in-forest fleet is likely to qualify for the agricultural vehicle provisions and would have no PM or NOx reduction requirements until 2017 or 2023 depending on annual miles traveled and would have no costs for several years. Any vehicles that operate exclusively in less polluted areas of the state are exempt from the NOx reduction requirements until 2021, but remain subject to the PM filter requirements, see response to comment 98 in the Regulatory Provisions section. While 2021 may be earlier than the normal replacement schedule for some vehicles in a fleet, staff does not believe that the price differential between a sixteen year old truck and eleven year old trucks is very large. Furthermore, rural trucking and construction fleets that qualify for the NOx Exempt Area provision will have lower compliance costs compared to similar fleets that operate in outside the area and could have less competition or a cost advantage.

Staff recognizes that fleets that utilize the NOx Exempt Areas provision will need to meet PM BACT. While the cost of a DPF is not insignificant, the benefits to public health far outweigh the costs. At the January 2009 update to the Board staff reported on data collected about rural areas of the state and evaluated the potential exposure risks associated with delaying the PM reduction requirements. Staff found that the residents in NOx Exempt Areas are not all that different from those in the more populated areas of the state. Using data from the California Department of Finance and the 2000 U.S. Census, staff determined that about 2/3 of the residents in these areas live in urban or incorporated areas, and that just under 10% of this population lives within 500 feet of roadways. Both of these statistics are similar to other areas of the state, such as the San Joaquin and Sacramento Valleys. Also, the ratio of residents to trucks is the same in the NOx Exempt Area counties as in the rest of the state. Staff also estimated that at least 60% are local trucks, often medium heavy-duty delivery trucks that remain within 25 miles of their home base. The evaluation of the PM

exposure risk from uncontrolled logging trucks alone was high; therefore, delaying the PM reduction requirements or increasing the mileage thresholds for all rural trucks would be unacceptable. The staff analysis also confirmed that the average age of trucks registered in the areas were older than the rest of the state and that there are more small fleets with 3 or fewer vehicles compared to the rest of the state. Although small fleets generally have older trucks, they have until 2014 to meet any of the PM or NOx reduction requirements and have lower costs than most large fleets.

Fleets that have to meet the general requirements have flexibility in meeting the compliance options. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

487. Comment: CARB estimates 10% of the trucks Statewide are older pre-1995 which have mechanical fuel injected engines. These engines cost $40,000-$50,000 to get compliant with the new regulations compared to about $20,000 for the newer models. Our survey shows in rural California 60% of the trucks are these older mechanical engines. Obviously these older trucks (older due to the need to hold them longer associated with length of the operating season) will cost more to get compliant and again demonstrates the Inequity in the regulation. 10% older trucks in the state versus 60% older trucks in the rural counties. (ALOG2)

488. Comment: In the Statement of Reasons prepared by staff they indicate "Costs to individual fleets would vary depending on the size of each fleet, vehicle types, vehicle ages, and it's normally purchasing practices ". In reality what dictates the age of a fleet is one thing only, how much work is available as a function of the life of the vehicle. It is reasonable to expect a 1,000,000 mile life from a new HHD truck. For operators that work on highway at 150,000 mile per year an owner would update every 6 to 7 years. Rural fleets work a short season dictated by weather and regulation, between 40,000 and 60,000 miles per year. Assuming 60,000 miles per year which is a best case scenario the owner would be forced to hold onto the truck for over 16 years. The math is simple; compliance with this regulation in rural California is anything but simple. (ALOG2)

Agency Response: See response to comment 483 about how the rural fleets compare to other fleets. A fleet that keeps vehicles for 16 years would replace just over six percent of the fleet per year. By 2011 the fleet would normally have more PM filters already equipped on his vehicles than the regulation would require in the first year, and the fleet would also have no pre-1994 engines and would not need to install any higher cost PM filters. By 2014 the fleet would already have 50 percent originally equipped with PM filters and will have needed to install PM retrofits on the other 50 percent. If the

fleet was able to keep just over 12 percent of the older vehicles in the NOx Exempt Area in 2014 all other trucks could operate anywhere in the state and would not be restricted to the NOx Exempt Areas. More than 60 percent of the fleet would meet the general requirements.

489. Comment: No economic impact analysis of the proposed Air Toxic Control Measure's specific impact on rural communities has been conducted; and a statewide analysis of the proposed ATCM's economic impact in California will overlook the serious economic impact to rural communities. The Siskiyou County Board of Supervisors opposes the implementation of any new ARB regulations, including the In-Use Heavy Duty On-Road Truck Air Toxic Control Measure and measures associated with AB 32 until such time as the economic impact on rural communities has been fully addressed and mitigated. (SCNRS

490. Comment: CARB should defer adoption of the rule until in-depth financial and economic analysis is performed. There's no indication that CARB staff has done an in-depth financial analysis, particularly on in-State rural fleet owners, and a resulting economic analysis on the State as a whole, from this rule. The CARB Staff Report (p. 52) only provides one example of a financial analysis, which simply drastically understates the overall impact of the rule. (CFA1)

Agency Response: Staff analyzed the economic impact to affected industries and the costs to the public associated improved health and reduced risk to diesel PM exposure. Staff collected data on fleets located in various parts of the state including rural areas were included in staff's cost methodology. While the economic impact to rural communities as a whole was not analyzed separately, the impact on individual fleets were evaluated and all of the fleet data was included in the determination of the regulation's total cost. The individual fleet analysis also included several other fleets in the same industries and with similar fleet age characteristics as fleets in rural areas. Fleets in rural areas have additional provisions that delay the requirements and lowers the costs. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section. Any vehicles that operate exclusively in less polluted areas of the state are exempt from the NOx reduction requirements until 2021, but remain subject to the PM filter requirements, see response to comment 98 in the Regulatory Provisions section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section. Staff also evaluated the characteristics of the NOx Exempt Areas, see response to comment 483 about how the rural fleets compare to other fleets.

491. Comment: This situation is particularly onerous since rural counties' contributions to greenhouse gasses (GHGs) and global warming via diesel emissions are rendered infinitesimal compared to the catastrophic wildfires originating on federal land that have ravaged our landscapes, the major contributing factors of which have received virtually no attention by the state government. Siskiyou County is

among the least populated in the state-at this density certainly entirely incapable of making any remotely measureable contribution, positively or negatively, to GHGs or global warming now or in any reasonable future scenario. (SCNRS)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The primary focus of the regulation is to reduce NOx and PM emissions and not green house gases. The effect of the regulation on green house gases is slightly positive but not significant. See response to comment 483 about how the rural fleets compare to other fleets.

492. Comment: Glenn County does not have any new Heavy Duty Diesel Truck dealerships to benefit economically from new truck sales resulting in a net transfer of money out of the local economy. (GCBOS)

493. Comment: Siskiyou County does not have any "new" Heavy-Duty Diesel Truck dealerships to benefit economically from new truck sales thus causing a net transfer of money out of the local economy. (SCNRS)

Agency Response: Staff assumes that as a result of not have any new truck dealerships that truck dealers in Glenn and Siskiyou Counties sell only used trucks. The may be a benefit to these counties because the regulation does no require the purchase of new trucks and instead provides ample time for fleets to comply with used trucks should they choose to that option. In addition, Siskiyou and Glenn Counties are in the NOx Exempt Area are may be in a possession to accept trucks from areas that are required to meet NOx BACT. Fleets upgrading their trucks may be looking for a market in California

494. Comment: The Associated California Loggers, representing contract loggers, log truckers, and log road builders, is writing to express our strong concerns about the diesel regulations to be taken up at the meeting of the Air Resources Board on December 11 and 12, 2008. Our companies operate in rural counties which are overwhelmingly in attainment for NOx (78%) and PM(97%) - counties which themselves look to suffer disproportionately should this rule be adopted as currently written. Our logging companies and their skilled workers provide the basic infrastructure for timber harvesting and for collection and transport of the woody biomass (cellulosic ethanol) materials that will be an increasingly important part of the effort to develop alternative energy sources. Loggers also contribute to the prevention of forest fires through thinning and harvesting practices. Our industry is committed to the achievement of proper air quality in California, and our individual companies have strived to comply with air quality requirements as they exist now. We are strongly concerned about the impact of the proposed rule upon our members' ability to stay in business. Costs of purchasing and financing diesel particulate filters, let alone new diesel trucks, are prohibitive. Our logging season

is short (six months or less) and the ability of our members to earn a living, make a small profit, or even break even is limited in the best of times. Our ability to earn the income to re-pay loans is limited. The rule contemplates our companies being able to set aside the money, or to secure the financing, to buy new logging trucks -- or to buy PM filters for existing older trucks. Our members cannot borrow money against their trucks as collateral (CARB has been presented with letters from the banking industry saying this.). With regard to the purchase or financing of filters, no company with a truck valued at $13,000 will make the bad business decision of seeking to finance a filter or filters that could cost more than the truck is worth -- we have shown that for certain logging trucks, a combination of two active filters at a cost of$45,000 would be required. CARB staff has told our membership that if the filters are not a cost-effective solution, "you might as well buy the new truck." Easier said than done. Our members are currently relying on older trucks, or fleets containing older trucks, in reliance on the long life of those trucks. The regulation will render those older trucks worthless for resale in California, while requiring our companies to buy new trucks. Thus, our members won't be able to use the sale of their older trucks to finance the purchase of new trucks, which can cost upwards of $130,000. And, as forestry competes in a world market, we cannot pass on these additional costs to consumers. The specific characteristics of timber harvesting in California. As noted above, the timber harvesting industry in California is in a fragile state, and yet skilled loggers will prove invaluable as part of the infrastructure necessary to deal with global warming/climate change in the future. Our trucks work in low-population attainment districts and on a very short season in which, nonetheless, a log truck must generally be driven 50,000 to 60,000 miles during that season to earn a living. Forestry vehicles have already been given recognition in the rule as "unique vehicles" which cannot be readily replaced in the new or used-truck market, and which have specific use requirements - heavy duty frame rails, rear suspension, IS-speed transmission, rear differential axle set, and severe service cab. These unique vehicles are used at different altitudes, bearing different weight loads, often on steep or twisting roads We strongly urge the board to consider low mileage thresholds to recognize "unique forestry vehicles" as meriting an exemption from filter and new truck requirements until December 31, 2022. We believe that the concerns above could be comprehensively met with a suggested amendment that we have proposed to CARE staff, as follows: "For Particulate Matter Attainment Air Districts, existing MHD and HHD diesel trucks greater than 14,000 gross vehicle weight, that operate less than 60,000 miles per year shall have to be BACT compliant only when the cost is equal to our less than 50% of the fair market value of the vehicle. Compliance will be achieved through technological advances and government subsidies. Electronic tracking devices shall be installed on these vehicles to ensure compliance." California is already experiencing a decline in the "logging infrastructure" necessary to manage our forestlands and assist in the prevention of massive fires and to assist in the fight against climate change. We urge that the changes above be adopted by the board as amendments to the rule, or that the vote on the rule be delayed a year so as to accommodate review of those changes and the stabilization of the national and California economies. (ACLOG1)

Agency Response: Trucks traveling 50,000 to 60,000 miles per year are accruing miles at a higher rate than the average heavy-duty truck traveling within California. Lowering emissions from all trucks, except those driving very few miles, is necessary to meet health protective goals. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

Staff recognizes that logging trucks typically begin their trip in the forest and travel on smaller roads and travel through smaller towns as opposed to the typical long haul truck traveling on the interstate. It is staff's understand that many logging trucks operate exclusively in these areas and as such can utilize the special provision which exempts vehicles from meeting NOx BACT. Any vehicles that operate exclusively in less polluted areas of the state are exempt from the NOx reduction requirements until 2021, but remain subject to the PM filter requirements, see response to comment 98 in the Regulatory Provisions section. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.

The suggested language would essentially brand all vehicles, operating less than 60,000 miles per year compliant where a DPF more less than 50% of the appraised value of the truck. The concept of using the value of a truck to determine when a vehicle would need to comply would create an unenforceable regulation since the value of a vehicle is subject supply, demand, condition, and configuration and would have the unintended consequence of encouraging fleets to keep older and higher polluting vehicles longer than normal. Overall, the proposal would result in unacceptably high and reduce public risk to diesel PM.

In January 2009, staff reported to the Board its analysis of logging truck and non-logging truck traffic in the Eureka and Arcata areas. The analysis showed that the exposure risk from eliminating the PM reduction requirements for logging trucks alone presented unacceptably high exposure risks for those living near the roadways. Although the population density is lower in NOx Exempt Areas, most people in those areas live near the roadways and have exposure risks that are unacceptably high. The emissions reductions in the NOx Exempt Areas are needed to reduce the exposure risk from diesel PM exhaust emissions and to achieve NOx reductions needed to meet federal attainment standards.

We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

495. Comment: The regulation would put us out of business. Diamond Well Drilling Company operates 4 drill rigs and several boom trucks. We travel very few miles

but more than 7500 per year with each. Most of the time when our equipment is operating the drive engine is either off or idling. As such, we contribute very little pollution. Still, we are subject to the same rules as over the road truck haulers. Even if we could, the economics of our business would change dramatically if the useful life of our equipment is reduced to 8 - 10 years. Prices would have to double or triple. You say that everyone will have to raise their prices so there will be no damage to any individual well driller. This is not so. If the price of drilling goes up, the price of construction goes up. People will be discouraged from developing altogether. Everyone gets hurt and for no real reason since our equipment does not drive that much and pollutes very little. (CGA5)

496. Comment: This industry is not all on the road everyday running emissions. I implore you to re-evaluate and consider instituting a mileage schematic / tiered structure and have the companies that drive their vehicles every day have a greater impact on their engine status. There is a huge amount of us that drive the rig to a job site and that is where it sits for 1 to 2 weeks without movement. Then they come back into the yard and don't move again for a month. This regulation will basically put this industry into a graveyard. (CGA8)

497. Comment: For the last 60 years, the California Groundwater Association (CGA) has represented the groundwater industry in the state. Our members include water well drilling and pump installing contractors, industry manufacturers and suppliers and technical experts such as geologists, hydrologists, engineers and others in the private sector and government. CGA represents about 430 groundwater contracting firms employing about 2,440 persons. Non-contractor firms (1200) employ about 37,500 persons in the industry. The groundwater industry is not large in numbers but its functions are critical to the state's wellbeing. In times of drought, groundwater supplies up to 50% of the state's water needs. As you are well aware, California is experiencing insufficient water supplies, as it has in the past. The groundwater industry has been able to help meet past challenges of droughts but reduction of the industry’s capability to provide groundwater will have adverse affects to all citizens of the state. A CGA survey has shown that the industry is attempting to comply with the current regulations but many groundwater contractors have small, local operations and are being forced to downsize or perhaps even close their doors. One contractor told us he would have to cut his drill rig fleet in half (from 4 to 2 units). Another contractor estimated the replacement costs to bring the company's equipment into compliance with CARB regulations would be twice the company's net worth. He is considering closing his doors. The potential loss of the industry's capability, due to CARB regulations, to provide water could cripple the state. One can live without many things, but food and water are necessary with water being essential even to grow crops. (CGA1)

498. Comment: I would like to request that you make modifications to the proposed On-Road Diesel Truck and Bus Regulation. While regulations are vital to our environment, water and the safe delivery of it to the millions living in the great state of California is equally, if not more, important. Without groundwater contractors the safety of our drinking water as well as our irrigation and food preparation

facilities, such as dairies and packing houses, is threatened. Don't legislate these hard working people out of their business and possibly jeopardize one of our most precious and finite resources. There is not a soul unaffected by this issue. (PPE)

Agency Response: The California Groundwater Association (CGA) met with Staff after the December 2008 Board meeting to provide results of a survey where CGA collected data on number of their member's vehicles. Staff evaluated the fleet information to asses what the regulation would require. About 20 percent of the fleets have 3 or fewer vehicles and would not be subject to either PM or NOx BACT until 2014. In addition, small fleets can also take advantage of the other provisions in the regulation starting in 2014.

Staff evaluated the subset of data for which there was mileage and hours reported for single engine vehicles and hours of use reported for the auxiliary engine to determine for what provisions in the regulation the fleets would qualify. Because most of the trucks have low miles and hours of operation and some operate in cleaner parts of the state, over 65 percent would not be subject to any NOx reduction nor replacement requirements until 2021. About 19 percent would not be subject to PM or NOx BACT and about 45 percent would be required to install exhaust retrofits to reduce PM emission but would not be subject to NOx BACT until 2021.

For two engine drill rigs, the regulation only applies to the propulsion engine. Nearly 50 percent of the propulsion engines in two engine drill rigs would be exempt from PM and NOx BACT and about 45 percent would be subject only to the PM exhaust retrofit requirements until 2021. Only 5 percent would be required to meet the general requirements of the regulation.

As a result of the water crisis in California, well drilling services are currently in high demand. The regulation will require no more than the installation of PM exhaust retrofits if available for most of the vehicles in the groundwater fleet in the next 12 years. Since businesses outside of California are required to meet the same requirements as in state well drilling businesses, no competitive disadvantage exists as a result of the requirement of the regulation.

499. Comment: The current emissions standards that you are proposing will effectively put our small company out of business. We currently drill the majority of water wells in Santa Clara County. We will not be able to economically come into compliance. (CGA6)

500. Comment: CARB is putting me very close to having to close my doors or at best I will have to downsize my fleet. At this time, because of the off road engine stipulations and our having to convert our engines to Tier 4, and the economy, we will be forced to reduce our staff by 35-45%. CARB has turned a deaf ear, relying on the fact that someone will still be in business, which yes will happen. But it will only be big business's, driven by investment funds. CARB does not care about middle America. This last implementation that the CARB proposes will most likely cause us to again (by our projections) to reduce our workforce by another 35-45%,

which makes little sense to a rig that is only on the road 2 - 3 hours a day, hardly making it a nuisance. I ask for once that the CARB listen to the little business owner who likes to hire and take care of people, support their local communities, and pay their fair taxes. (CGA3)

501. Comment: I am the sole owner of a water well drilling business, second generation and hopefully my sons will be able to continue the business for a third generation. After 61 years in the water well industry, the most devastating rules and regulations that I can remember are being put into place. These regulations would be cost prohibitive to so many small businesses in this state. California is already struggling with economic woes and this would compound them severely. This industry provides an invaluable service, bringing water, life's blood to everyone. Without the use of groundwater, most of California would be a desert. (HBDCI)

502. Comment: The current CARB Proposal will have a devastating effect on our company. We are a pump and irrigation company that employs 23 people. We have been in business since 1932. Before the economic downturn the proposal would have created an extreme hardship for us to replace and retrofit our vehicles. Now it is simply impossible. We recently priced new rigs at $124,000.00 each. I would need five. Nine other vehicles would also have to be eventually replaced at a cost of approx. $50,000 each. Last fiscal year our company's financial report indicated that we lost $90,000.00. This year isn't looking better. More of our customers are unable to pay their bills and yet need water to survive. I attended a local CARB meeting regarding this proposal. I spoke briefly as to how this would impact us, the response was “tough decisions will have to be made.” Is this how California feels about its businesses? It pains me to think that my small family business may have to close down because we will be forced to replace working vehicles. (ESHU)

Agency Response: Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section.

We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The regulation has provisions to delay some of the requirements for low use vehicles, see response to comment 164 in the Regulatory Provisions section. The economic effect of the regulation in the highest cost

year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets subject to the general requirements to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

503. Comment: The American Rental Association is in opposition because the rule is unfair to medium heavy-duty vehicles and especially lower-use vehicles. The proposed rule rewards higher use and therefore higher polluting vehicles and penalizes lower use and lower polluting vehicles. We think it disproportionately shifts costs to lower-use fleets like the rental fleets. Rental vehicles are driven typically about 8,000 miles a year.

The average medium heavy-duty vehicle drives about 23,000 miles a year. And the average heavy-duty tractor-trailer runs about 60,000 miles a year. The rule does not account for this disparity. Rental vehicles also have low total accumulated miles. These vehicles are less deteriorated, and the rule does not also consider deterioration. The off-road rule considers a ten model year fleet, which is typical of a rental fleet, as clean. This on-road rule considers ten model year fleet as a dirty fleet. (ARA2) (ARA3)

504. Comment: You could also examine the 2014 and 2015 averaging targets to preserve the NOx benefits but provide some flexibility for particulate. (ARA2) (ARA3)

505. Comment: Our analysis of emissions as a function of miles for the MHD fleet is shown for 5000, 7500, and 10000 miles. We estimate that both fleets produce nearly identical emissions amounts at 7,500 miles. The MHD fleet costs increase substantially when increasing mileage because of the need to include controls for NOx and PM on the additional vehicles. We believe that simply flipping the mileage allowed for HHD and MHD fleets would provide the same emission benefits at the same or reduced cost. Furthermore, we do not believe that ARB could justify the cost of a filter system for these low mileage vehicles. For the MHD fleet, we calculated the approximate average cost of emissions controls for limited mileage vehicles. We estimate that at 10,000 miles per year, the cost per tons is almost 2 times that for the whole MHD fleet. (ARA1)

Cost of Compliance for Low Mile Fleets

	Miles/year			
	5,000	7,500	10,000	Total
HHD	2008 Inventory (Pre-control)			
NOX, TPD		5.69		
PM, TPD		0.29		
Vehicle Count		21001		
Compliance $		$115.40		
MHD				
NOX, TPD	3.29	5.87	12.92	125
PM, TPD	0.16	0.28	0.60	4.6
Vehicle Count	32,264	43,427	50,925	198,525
Compliance Cost MM $	$122	$187	$230	$1,086
Relative Compliance Cost		3.7	2.0	1.0

506. Comment: ARB Staff has used a definition of cost effectiveness as dollars per avoided tons of emissions. ARB has found that this rule is overall "cost effective" compared to previous regulations. This does not mean that costs and benefits are distributed equitably within the rule. ARB separated the fleet into MHD and HHD categories, and then established costs and emissions benefits related to these two segments. They calculated the total cost of the rule and the total benefits from the rule. Buses were not considered for this estimate.

The average cost per HHD vehicle is $13,977 compared to$ 5,798 for the MHD vehicle. The expenditure for tons from HHD vehicles buys 3.3 times as many tons of NOx and 2.87 times as much particulate in 2014 compared to MHD vehicles. ARB defines Low miles vehicles as under 7,500 for HHD vehicles and under 5,000 miles for MHD vehicles. These vehicles must be fitted with filters. For MHD vehicles the compliance cost per VDECS is $3,780 while for HHD vehicles the cost is $5,495 per vehicle (table 11 Appendix J of the Staff Report). The cost per allowed mile is approximately the same but the particulate reduction is 2.2 times more for HHD vehicles. For the MHD fleet, we calculated the approximate average cost of emissions controls for limited mileage vehicles and estimate that at 10,000 miles per year, the cost per tons is almost 2 times that for the whole MHD fleet. (ARA1)

507. Comment: The regulatory cost assigned to the medium heavy-duty fleet per unit of inventory is about twice that per unit of inventory for the heavy-heavy duty fleet – $2.09/Unit to $1.0/Unit. The reason for the relatively high cost per unit of inventory compared to the HHD fleet is that the MHD fleet consists of more vehicles generating considerably fewer daily miles traveled and hence emissions per vehicle. Cost recovery may be more problematic for MHD fleets because of the lower VMT compared to that for HHD fleets.

It is not possible for ARA to make an exact calculation for the MHD and HHD fleets because of the rather limited emissions and cost data presented in Appendix G and J of the Staff Report. However ARA made a relative estimate of the total regulatory cost/benefit ratio estimated cumulative emissions benefits for the HHDD fleet are 4.24 times those obtained from the MHDD fleet. Staff has the complete data set and could come up with the exact totals. The regulation imposes 1.8 times more cost per ton of effective NOx removal from the MHDD fleet as from the HHD fleet. Since there are twice as many small MHD fleets compared to small HHD fleets, the higher cost per ton falls disproportionately on smaller MHD fleet owners. (ARA1)

508. Comment: Over the past four years ARA has been deeply involved in the development and implementation of amendments to the Portable Equipment Registration Program (PERP), the In-Use Off-Road Mobile Diesel regulations, and the On-Road Heavy-Duty Diesel Truck regulations. In general, the staff of the Air Resources Board has been very accessible and responsive to our comments and concerns. However, in our work on the current regulation that has not always been the case. You will see in our detailed comments prepared by myself and Dr. Michael Graboski that we have real issues with the structure and analysis ARB staff has applied to this proposed regulation. Furthermore, Dr. Graboski has provided many detailed enquiries which have either been addressed in a cursory manner or not addressed at all. ARA believes that the costs of this proposed regulation will fall disproportionately on fleets of small diesel trucks which have low mileage and few emissions. Many of these trucks are used by small businesses that may not be able to afford expensive retrofit packages for trucks that are generally replaced on average every ten years. The bifurcation of the truck fleet proposed by ARB staff creates an unequal playing field that allows large trucks that drive many miles in California to pay less per ton of avoided emissions than other trucks that have engines certified to the same emissions standards. The result is an unfair and biased distribution of costs and benefits among the regulated parties. We believe these costs and benefits should be more equal and our comments make several suggestions on how that equality can be achieved. (ARA1)

509. Comment: The in-state medium heavy-duty fleet produced only about 14 or 15 percent of the total emissions of NOx in 2008. Yet when you look at capital compliance costs, it looks more like about 25 to 30 percent of the useful dollars being spent to reduce emissions that are being charged to the medium heavy-duty fleet. On a dollar-per-ton basis, we estimate that 8,000 mile fleet may cost as much as seven times the heavy heavy-duty fleet cost. (ARA3)

Agency Response: Whether the cost per ton is higher or lower for a category of vehicles does not reflect the cost for a fleet to comply nor does the variation establish a competitive advantage or disadvantage. As correctly identified in the comment, the average cost attributable to the regulation for a medium heavy duty vehicle (MHD) vehicle is about one third the cost for a heavy-heavy duty (HHD) vehicle. Therefore, the effect on a small business with MHD vehicles would be substantially less than for one with HHD vehicles.

The costs attributable to the regulation depend on a number of factors including fleet age, vehicle type, and normal replacement cycles. A fleet that normally replaces with new vehicles within a 10 year cycle as identified in the comments will normally replace their vehicles at a rate that will always meet the NOx requirements; therefore, the fleet will not need to install NOx retrofits or replace vehicles early. In 2011 and 2012 the fleet would already have more PM filters originally equipped with 2007 model year and newer engines than required to comply with the regulation. The only costs attributable to the regulation would be for about one-third of the engines that would not already have originally equipped filters. The filters would need to be installed just prior to 2013 and 2014. The associated cost is much lower for the fleet described than for most fleets. The rental fleet also has the option to replace a portion of the fleet 1 to 2 years early to reduce the number of retrofit PM filters needed. In addition, the regulation has provisions for lower mileage vehicles. Medium duty vehicles that operate fewer than 5,000 miles per year are exempt from replacement requirements until 2021

510. Comment: I have two heavy wreckers. At original purchase these trucks cost anywhere from $350,000 to $400,000. In 2012, I will be forced to get rid of them. I cannot retrofit them. They are too old. East Contra Costa County has two heavy wreckers and I operate them. Trucks will have to come from great distances to deal with up righting tractor-trailers that have rolled over and blocked the freeway. How much more smog and pollution and time congestion will be wasted because I cannot afford to buy new trucks. I will have no choice but to get rid of them and actually let about five drivers go. (ATOW)

511. Comment: Nine of the 16 trucks I own will be in compliance by July 1st of this next year. I won't have them paid for until 2013. I then have to replace the most expensive part of my fleet; that's the heavy-duty end of it. We work a lot of truck wrecks. I don't think it's economically possible for us to replace the trucks we need to deal with the major truck wrecks. (BBTOW)

512. Comment: Particularly impacted are the heavy, heavy-duty trucks (greater than 33,000 GVWR) in the tow truck industry. These low-mileage vehicles (traditionally drive less than 30,000 miles per year) are utilized to clean-up the most disastrous accidents on our roadways. With so few miles driven and such a huge cost of replacement (they contain hundred of thousands of dollars in specialty equipment), these trucks understandably tend to be replaced at a slower pace than smaller tow trucks. Yet, with proper maintenance these trucks can continue to operate cleanly and with much less environmental impact than high-mileage vehicles. Unfortunately, the current proposed regulation contains no accommodations for these heavy heavy-duty vehicles. Our members have mortgages on these trucks, and their business model is based on the assumption that they can get years of service out of the vehicles. To require our members to discontinue the use of these trucks prior to the end of their useful life will spell financial disaster for most of our members. They simply cannot afford to transition to newer vehicles in such a short time. The result will be that many of our businesses will close, and

thousands of jobs will be lost at a time when California's unemployment rate is already approaching record highs. (CTTA2)

513. Comment: While the California Tow Truck Association is generally supportive of efforts to clean our state's air, this proposed regulation will have dire financial implications upon our industry, at a time when our industry can least afford it. The economic reality will be a shortage of tow trucks being able to respond to minor and major traffic incidents throughout the state further complicating the traffic grid lock the state already faces. As a result, the safety our state's motoring public will be jeopardized. The accelerated timelines proposed for truck turnover far exceed the natural turnover of our tow trucks, which will inevitably cause professional operators to close their doors and cease operation because of a financial inability to survive. The bleak economy is already crushing many of these professionals in our industry. Sadly, many of these good operators perform vital towing services for various law enforcement entities across the state, providing crucial assistance with ensuring the safety of our motoring public. Without these operators, law enforcement personnel will not be able to adequately protect our citizenship – yet the Staff Report incorrectly concludes that "state agencies would not be affected" by the regulation (ISOR, p. 53). Another direct effect of imposition of the rule will be disastrous results on our highways and roads. With fewer heavy-duty tow truck operators remaining in business, roads will remain unclear, traffic will back up, vehicle emissions will increase, and our economy and environment will be further harmed. It is ironic that the very air the rule is designed to help clean will actually be become even more polluted. (CTTA2)

514. Comment: I own a small business in Oakland which I have owned for 35 years to provide service to this community and provide my employees a living wage and benefits. This is all about to change if you adopt your new rules. In order to comply, I will have to reduce my staff by 25-35% and reduce my fleet by 50-60%. Benefits may have to be curtailed or eliminated. I strongly agree with your goal but see no way to comply. (CTTA1)

515. Comment: There are some issues specific to the tow truck industry that I think have been slightly overlooked in staff's report. One of which is simply that our industry is comprised of a lot of smaller companies, some of them with revenues of less than $500,000. We don't qualify for the emergency vehicle status. We're not emergency vehicles, but we are first responders. We're available 24 hours a day, 365 days a year to deal with whatever happens. It is our best guess through discussions and the state-of-the-industry survey that we did in June of this year that approximately 40 percent of the tow truck industry will be taken out based on the type of program that is put together here in front of us today. The mileage is low; our units don't run 20 to 30,000 miles in a year. Twenty-four hours a day, 7 days a week, 365 days a year they're sitting and waiting in the majority of the time. (CTTA3)

Agency Response: The comments raised are not consistent with the requirements of the regulation and the information staff has about tow truck companies. The actions an individual company would have to take to comply with the regulation would depend on

factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Because of the flexibility in the regulation, if the fleet does not qualify for any special provisions, a portion of the fleet such as the more costly heavy wreckers are able to stay in the fleet until 2020 or 2023 and in most cases will be able to be used for their full useful lives. Heavy wreckers are often operated few miles and may be able to qualify as low use vehicles and would not be subject to the NOx requirements until 2021.

Although most tow trucks travel relatively few miles, most tow truck companies replace their smaller tow trucks at a rate would always meet the NOx requirements. Some tow truck fleets are expected to have to install PM filters on some vehicles to meet the PM requirements. PM retrofits are not required if not available for an engine or cannot be safely installed. As long as a suitable PM retrofit is not available no other action is required to meet the PM reduction requirements until 2018. The vehicle will remain subject to the NOx reduction requirements unless it qualifies for an exemption or delay.

i) Other Comments

516. Comment: For forty years, I have been in the trucking business. Throughout those years I have purchased new trucks and at one time ran nine in my fleet and now I am down to one truck. During the profitable times, trucks were affordable, fuel was affordable, workers comp insurance was affordable, and companies paid a fair price for a fair day's work. Today we have to deal with Sierra Pacific Industries (SPI) and I feel certain you are all familiar with that company and their monopoly in logging. It has been necessary at time to selling off equipment to make ends meet. (RWT)

517. Comment: These new smog rules are going to have adverse economic reactions. Industry (any trucking, const, heavy equipment, etc) will always eventually replace their old equipment anyhow, by virtue of natural attrition. The way CARB proposes to accelerate this, by mandating expensive retrofits to older value-less equipment, will simply mean that "the big get bigger, and the small get smaller". Only those with deep pockets will be able to go out and buy the newer engines or new units, and dump their old fleet "overnight". It's the small time startups, or small-time guy in a niche industry, or in a small-town geographic locale, that keep the market economics fair play. In other words, if only the larger fat-cats either already have equipment that's already new, or can simply afford to dump their old fleet overnight, then what do you think will happen to the competition factor? Those big enough to weather this would control the market, that was previously "kept in check" by small time startups, small-town mom-&-pops suppliers, etc. If those of us with older equipment are forced to abandon ship, those that remain will simply have a captive market to gouge for whatever price they want. (A1SS)

Agency Response: Currently small businesses compete with large businesses successfully and there is no reason to believe that any changes will occur. Small businesses purchase new equipment as do large businesses. However, the regulation does not require fleets to purchase new trucks. At a minimum, the first date in which fleets might comply by purchasing new trucks is in 2013, at which time a compliant 2010 truck is three years old. Large fleets typically replace their trucks on a schedule that would place them ahead of the requirements of the regulation. Often when large fleets purchase new trucks their used trucks become available for smaller fleets to purchase. Used 2010 trucks could become available as soon as 2013.

Small fleets could use the strategy of buying used 2007 trucks which would be compliant until 2021. In addition, fleets with three or fewer trucks could utilize the small fleet provision and delay compliance with both PM and NOx BACT until 2014 at which time own-operators would need only purchase a 2004 – 2006 truck an install a DPF.

Finally, the small "mom & pop" fleets may have a competitive advantage over the large fleets since they would not be required to meet either PM or NOx BACT until 2014 whereas large fleets would.

518. Comment: Over the last eight years, as your Board has passed the fleet rules, there are few observations, the pass through assumptions on cost has really not occurred. The assumption that automatic pass-through on cost is going to occur is very nebulous and not certain. After five years of implementing the rule for recycling and solid waste collection companies, it has taken cities and jurisdictions and individual private companies a long time to work it out. Timing is everything. (CFCOAL)

Agency Response: Staff anticipates that affected industries will be able to respond to the requirements of the regulation in a timely manner including adjusting rates and negotiating favorable contracts. The competitive nature of private industry makes it uniquely suited to respond to market conditions including changes in the regulatory environment.

519. Comment: Several negative cost impacts that this rule is going to have on truckers will erase any so-called help money that they will receive. Just to name a few: 1) tade-in values are diminished; 2) anticipated truck life is shortened; 3) already budgeted operating costs can no longer be relied on; 4) government restrictions on areas of operation; 5) government control over normal trade-in; 6) government selection of which new trucks can be purchased; 7) government dictating how long we need to operate the new trucks. (FCAT2)

Agency Response: Staff believes that fleets will welcome any funding that becomes available. Staff also believes that while trade-in values may decrease for some model year trucks they will increase for others. But staff does not believe that truck life will be affected or that operating budgets can not be adjusted to reflect the fact that DPFs, either retrofit or OEM, will need periodic maintenance. Finally, the impact to the

affected industries is offset by the benefits to the public through improved air quality and lowered risk to diesel PM.

8. Other Cost Comments

520. Comment: Coupled with the economic slowdown, it will make it very hard, to say the least, to stay in business. We employ 100 people per dealership for a total of 600 plus employees that would have to join the growing ranks of the unemployed. (DTCN)

Agency Response: We understand the world wide recession is impacting all business, including dealerships. The regulation was designed to have flexibility and has options to allow stakeholders to comply with a combination of exhaust retrofits to reduce PM, combination systems that reduce NOx and PM, vehicle retirements, and new or used vehicle replacements. The regulation is likely to increase the number of new and used vehicles; therefore, most dealers should not be adversely affected. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

521. Comment: Let me start in saying that I do believe that what this rule is trying to accomplish I completely agree with and support. We are a fleet in San Diego with 46 on-highway power units. During the next 5 years the requirement of replacing or updating all of these units in these economic times is going to have a very significant impact on our bottom line. We have already like most companies had one round of layoffs and not looking forward to others. If this rule was spread over along time period to allow spreading out costs, it would drastically soften the impact. Our company position is to replace trucks with new to achieve the fleet average, instead of throwing a lot of monies at older units that would normally be replaced with in the next 2 or 3 years. The cost of a cab and chassis has gone up 9% in 2008 alone. (ROVE)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.
We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

522. Comment: Used truck values have significantly eroded from a construction industry depression, a national recession and the proposed CARB diesel engine rules. Used truck sales executives we spoke with estimate that used on-road dump trucks have lost an additional 50-75% of their value from just a year ago. It

is our understanding that at least 17 other states, many of them bordering California could adopt similar on-road diesel engine and emission rules for vehicles. If this happens, older trucks (pre-2010) will have virtually little or no value because of the additional retrofit requirements and the associated costs. The CARB's rule will eliminate hundreds of millions if not billions of dollars in truck equipment value from those that can least afford it, small businesses and sole proprietors. And at a time when the construction industry is in a full blown recession that will likely get worse before it improves late next year or even into 2010. (CDTOA11)

Agency Response: Staff has no information to suggest that other states are likely to adopt similar regulations, it is a speculative statement. The regulation has a number of delays and exemptions to allow older vehicles to operate until 2021 and has flexibility so that fleets that do not qualify for the provisions will be able to keep a number of older vehicles until 2023. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

523. Comment: I have attended CARB workshops and am concerned with the lack of empathy expressed for the financial effects such regulations will have on small business within the California trucking industry. No small business will be able to comply with the time table to achieve regulations that have no technological retrofit available or if available, at a reasonable cost. I am requesting that this letter and the letter to Governor Schwarzenegger entered into the record of your proceedings in this matter. Simply stated, what is being proposed and the time table for the compliance is impossible for a small business to accomplish. By allowing CARB to establish these requirements, you will put moving companies like ours, out of business in the state of California. It is unbelievable that the CARB folks have the absolute power to bankrupt our company AND create chaos

throughout the state's transportation system without being held to answer for anything except the immediate accomplishment of their environmental charge. (MLVSI)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. PM retrofits are not required if not available for an engine or cannot be safely installed. As long as a suitable PM retrofit is not available no other action is required to meet the PM reduction requirements until 2018. The vehicle will remain subject to the NOx reduction requirements unless it qualifies for an exemption or delay.

524. Comment: We are concerned that this rule creates a disproportionate cost burden on small fleet owner-operators. For the rule to be fully implemented on the ground, ARB must ensure that retrofit and replacement grant and loan opportunities are fully funded and available to those truckers who need it most. The misclassification of independent contractor owner-operators is at the heart of the problem. The business model of retailers like Wal-Mart imports cheap goods from overseas and depends on subcontracting with smaller trucking companies and owner-operators to deliver those goods from the ports to distribution centers and stores. For example, Wal-Mart estimates that if built, 55%-60% of trucks at its Merced distribution center would be non-Wal-Mart trucks, including small fleets and owner-operators. Many of these owner-operators have saved up money in order to buy their own truck and have a more stable income, and yet often work without benefits and for comparatively little pay. Wal-Mart externalizes the costs of new regulations such as the In-Use On-Road Truck Rule and places the burden

of paying for new regulation on those who are least able to afford it. (MSWAT), (SWMA)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. Because small fleets have longer time to comply and slightly less stringent requirements. By the time the small fleets meet the requirements of the regulation all fleets will have had to comply and any necessary increase in shipping rates should have already occurred.

525. Comment: The one provision that will harm my operations is the proposal to allow small operators additional time in which to comply. These operators are already provided a 5% bidding advantage over larger companies through the 'California Small Business Certification' program. Allowing them to avoid the increased expense of upgrading their equipment will further expand that advantage. Do your studies not show that the small companies operate a proportionally larger percentage of the older diesel equipment that is causing the most harm to the environment? (SSCBA)

526. Comment: You're essentially killing your regulation with kindness, because the owner-operators that get a deal for not complying to this -- with this for a long period of time, they mostly work for trucking companies as a replacement for employee drivers. They're under-capitalized. They don't make very much money. And what happens in the trucking industry and what will happen here, because it has happened before many times, with all the port drivers, with much of agricultural trucking, is overnight these trucking companies will convert employee drivers to independent contractors, generally misclassifying them, in order to avoid having to comply. So trucking companies that got 30 truck drivers will have to comply, but a trucking company that's working 135 owner-operators, no employees - he won't have to comply at the same time. That's a very bad result. You need to make sure that the carriers that actually employee these people, whether they're employee drivers or owner-operators, that they are on the hook to comply. And you don't create perverse incentives in the marketplace to undermine -- that will undermine your own regulations" (C TPAC2)

Agency Response: All fleets, large and small, will eventually have to meet the requirements of the regulation. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

The PM reduction requirement for large fleets begins in 2011 for fleets with vehicles older than 17 years old on a portion of the fleet and is phased-in so that all nearly all vehicles will have PM controls by 2014. The NOx reduction requirements for large fleets begin only one year prior to the small fleet compliance date and allows larger fleets to keep a range of newer and older vehicle; whereas, owner operators with only one truck must have a 2004 model year engine or newer with a PM filter for 100 percent of their fleet. Owner operators will not have the ability to keep older vehicles unless NOx retrofits can be used. The difference between small and large fleets will be smallest for fleets that travel higher miles and replace their vehicles more quickly.

527. Comment: I do not think further regulations of diesel trucks are warranted. This would add a huge cost to the trucking industry. It would wipe out the smaller haulers and make all goods delivered by trucks more expensive. Diesel pollution is minor compared to the cost of cleaning it up. Go slow, if at all. (ERAD)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. Emission reductions from implementation of the regulation will result in lower smog forming emissions ambient PM2.5 levels and reduced exposure to diesel PM. Staff estimates that statewide, approximately 9,400 premature deaths statewide will be avoided by the year 2025 from the implementation of the regulation. This in turn results in economic benefits due to savings from avoided deaths and in health care costs. Staff estimates the economic benefits to be between $48 and $69 billion.

528. Comment: We have four local delivery trucks that are too old to be retrofitted with particulate filters. Since no NOx filters are available to bring them into compliance with regulations in the Sacramento or San Francisco areas (this is where we pick up materials to sell here in Eureka), these trucks will become worthless. (HMI)

Agency Response: PM retrofits are not required if not available for an engine or cannot be safely installed. As long as a suitable PM retrofit is not available no other action is required to meet the PM reduction requirements until 2018, at which time the engine would need to be replaced. The vehicle will remain subject to the NOx reduction requirements that begin in 2013 unless the vehicle qualifies for an exemption or delay. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

The fleet could comply with the regulation in several ways. If no suitable NOx retrofits were available, the fleet could comply using the BACT percentage limit option by installing PM retrofits and replacing vehicles with newer vehicles having 2010 model year engines or newer according. The following example shows how the fleet could keep 2 of the existing vehicles past 2014 regardless of engine model year. The fleet could install PM filters on one truck by 2011 and on a second truck by 2012. The third truck would need to be replaced by 2013 and the fourth would need to be replaced by 2014. No other action would be required until one of the first two trucks would need to be replaced by 2017 and the last truck would need to be replace by 2020. The fact that the fleet can keep older vehicles longer and spread out the replacements over a 10 year makes it more likely the fleet will get to use some of the vehicles for their full economic life. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

529. Comment: I've been in the dump truck business all my life since out of high school. I invested in efficient green trucks back in '93, and then again in 2000. Now they're virtually going to be worthless on this plan. It's not going to be worth it to retrofit. (MGTR)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The replacement cycle for this dump truck owner appears to be 7 years. If by 2013, the owner has replaced his truck with a 2007, 2008, 2009 or 2010 model year engine truck he would not need any exhaust retrofits and would be in compliance with the regulation until January 1, 2021, 2022, 2023 or the life of the regulation, respectively. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for

equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

530. Comment: Earlier this summer we attempted to sell off some excess power equipment only to discover that no truck dealers are interested because the equipment has a limited useful life in California, based on the proposed CARB rule. Since our existing fleet now has limited trade-in value (basically scrap value), we will not be able to rely on trade-in allowances to reduce our capital acquisition expenses. The large amount of California trucks that will need to be disposed of out of state will reduce the demand and depress used truck values. Neighboring states that will be interested in these purchases will be flooded with low-priced good equipment. (RTRU1), (RTRU3)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early. See response to comment 337 about the impact on used truck supply. Because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

531. Comment: We believe we are a strong proponent for clean air and clean diesel trucks and can provide many examples of that commitment. But we also believe that these rules need to strike the right balance between protecting our environment, our economy and the businesses that drive it. The rule and its related funding incentive programs as proposed and administrated are clearly not fair to most businesses and especially small business owners. We are also very concerned about the “promised” availability of incentive or support funds for those most affected by the rule. We suggest that minimally CARB listens to groups like the Monterey Bay Unified Air Pollution Control District who unanimously voted on Resolution 08-23, and is asking CARB for revisions to their rule that will extend its implementation consideration and would not be as burdensome on small \businesses and short distance truck owners. (CDTOA11)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for

fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Because the regulation provides more time for small fleets, they have better opportunities for funding. Funding opportunities exist for fleet that take early action to comply with the regulation, for more information on funding options available, see response to comments 738 and 739 in the Funding section.

a) Requirements and Emissions Impacts

532. Comment: According to the CARB's TSD, out of state fleets are expected to reduce their costs by routing their older, dirtier trucks to other states.3 These fleets represent 57 percent of the HHDD miles travelled in state.4 In addition, the TSD assumes that many of the now-obsolete older trucks that had been sold in-state will now be sold in the out-of-state used vehicle markets. The overall impact implied by the underlying economic analysis is that older, dirtier trucks will be operating in neighboring states. Yet, the analysis does not include the air quality, and resulting health, impacts on those communities. Others states have their own air quality difficulties. For example, the PM10 index of Phoenix currently exceeds that of Los Angeles, and the ozone index is more than 90 percent of that for Los Angeles. Regardless, the studies upon which the ARB relies on to measure the health effects of PM have not found a lower bound on those impacts.6 For this reason, the CARB must expect that mortality and morbidity rates will increase in other states directly as the result of adopting this regulation. If the CARB is going to consider any measure of health benefits, it must include the negative effects in neighboring states. Many of the current residents of those states will become residents of California in the future, and vice versa. To do otherwise, leaves California to be considered an "island" unto itself, which is not consistent with the federal Interstate Commerce Clause. We shared with the CARB Staff a spreadsheet derived from the Staff's estimate of benefits for the SCAQMD that illustrates the correct methodology. The only way to estimate this cost is to calculate the emission increases and associated mortality and morbidity changes in neighboring states. The Staff has not conducted this needed study, so we are not able to estimate the net economic cost. (AEG1)

533. Comment: We'll also be permitted to sell our old equipment to other states. So if you really want to clean up the air here in California and the rest of the world, why can we move our equipment over to Nevada and Arizona? Doesn't seem to do what you really are trying to do, which is to make clean air. (MCA6)

Agency Response: ARB has the authority to develop regulations for California and not for other states. ARB acknowledges that emissions will go down as new trucks are normally replaced; they do not go down soon enough for California to meet federal deadlines. The regulation will achieve major reductions of directly emitted diesel PM

and will reduce NOx emissions. NOx contributes to the formation of secondary PM in the atmosphere and smog forming emissions. Total reduction of both PM and smog forming emissions are needed for California to attain federal air quality standards.

We agree that more, older California trucks will be sold to other parts of the United States and other countries because of the regulation; however, most other states do not have comparable ambient air quality problems to California's. Staff estimated that there would be about 20,000 more trucks per year operated in California from 2010 to 2014 and significantly fewer additional trucks per year after that. For comparison, the total number of trucks operating in the US is estimated to be about 2.5 million. California trucks that are sold for use in other states are likely to be spread out throughout the nation and are not likely to be concentrated in one area. As emissions go down with normal truck replacement in other states, the introduction of an additional small number of used trucks in those areas is not likely to result in increases in emissions, but rather that the rate of decline may be slightly slower. Therefore, additional used trucks from California are not expected to make a significant difference in meeting ambient air quality standards in other states.

534. Comment: With the state of the current national economy and California's budget crisis, now is not the time for more go it alone financially crushing initiatives. I have now formed and am operating an out of state carrier to avoid California's onerous labor and environmental laws as much as possible. I have no desire to leave this state but the California only rules are taking their toll. In the latest list of the top 250 national motor carriers, only six are based here in California. I am all for cleaning up the environment. I operate the latest model year trucks available, manufactured with the latest emission control devices available, as well as burning the cleanest fuel in the nation. Yet, for the California government and environmentalists, it still isn't good enough. My ability to turn a profit is also burdened by premature engine failure by U.S. mandated pollution standards far exceeding the technological solutions available in the market place. Just next year, 2010 engines with new and unproven technology will challenge our technicians, our industry and our ability to make a profit. The trucking industry in California is a basket case. The State of California is in worse shape. It is time for our government to abandon its go it alone approach. Support a U.S. effort and join the world effort to curb pollution. Stop California's go it alone solutions and promote jobs and a sustainable economy. As a California business owner, my motto is ABC - (Anywhere But California). (TCILL)

Agency Response: The regulation applies equally to in-state or out-of-state vehicles operating in the California. The commenter states that the fleet has the latest model year trucks available with the latest emissions control devices available which means if the vehicles have 2007 model year or newer engines they already meet the requirements until 2021. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to

reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

535. Comment: To put this in perspective, imagine for a second, losing one-half to three-quarters of your gross value, including your retirement. Remember, you put every dime you've made into your house and retirement like I put back into my business. There is no hope of a stock market recovery. No federal bailout. No real estate recovery. It is gone. Now, to keep going, you're going to have to borrow money. A lot of money. The largest amount of money you ever borrowed was probably for your house. This is on top of the fact that you might work less hours next year because of your customer's lack of water. You also have to convince your spouse to cosign the loan that will take twice as long as normal to pay off. We are in an environmentally liberal recession where we are paying at least one hundred thousand dollars more per year that I have passed on to my customers, who in turn pass it on to the consumer. Millions of people are in trouble for borrowing more money than they should. Yet this is what you're telling a whole industry to do. This is very frustrating to have someone else decide what I'm going to do with my money that I'm going to upgrade next year even if I lost money last year. This type of policy is what made our financial crisis as bad as it is. I'm a realist. I know we have to clean up the air. My family has farmed in the San Joaquin Valley for over 100 years. I'm the 4th generation with the 5th generation at Fresno State right now. I beg the Board to allow the trucking industry more time to comply with these stringent new air rules. (BRIT1)

536. Comment: In early 2009, I will take delivery of four new trucks with Proposition 1B money. My debt will explode to two and a half times the amount that I have ever carried in my last 20 years. By the end of 2013, before this debt is retired, I will have to buy three more trucks. This will push my debt level to three times my current level. Imagine buying a house three or four times the value of your current house with no guarantees of a pay increase or more work. In my case, as many as 70 percent of my upgrades will come within the first five years. (BRIT2)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The emissions from existing vehicles also cause health effects for most Californians and can reasonably be reduced. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to

meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

b) Cost Methodology

537. Comment: Ms. Nichols suggested that everyone affected by this proposal could ship his or her equipment to other states to be purchased. This is a cost to us as business owners, which means we are losing more money. The likelihood of other states wanting our equipment is an unlikely scenario. (CDTOA5)

Agency Response: Staff agrees that there will be costs associated with selling equipment out of state and included estimates associated with a loss in value of older trucks in the cost analysis. We disagree with the statement that it is unlikely that other states will want California equipment. If a truck is reliable and able to perform a needed service, its value is in its ability to perform work cost effectively. If the truck has value in California, it will have value in other states, too. Staff recognizes that not all trucks are configured the same and modification may be needed for the truck to be placed in service in a different region. During the two year regulation development process, staff also met with several dealers who regularly import or export used trucks to or from other states so the practice of selling trucks into and out of California is already a common practice.

The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

538. Comment: Regarding the availability and the cost of the equipment, I think there are vast discrepancies between what we have been telling you and what you have heard in the staff report. I urge you to re-examine that issue. (CTA6)

Agency Response: Three public workshops were held in Fresno, El Monte, and Sacramento in July 2008 to discuss the staff cost methodology, input assumption and emission inventory methodologies. These workshops were primarily a technical discussion on these methodologies. At the workshops, staff discussed updates to the emissions inventory, including changes to the current and projected statewide vehicle population, age distribution, vehicle usage, and resulting emissions estimates. As discussed in TSD Chapter XIII, the truck price curves were based on actual for sale price data and matched almost exactly with National Automobile Dealers Association

prices for trucks fewer than 5 years old which is a source that dealers use to set used truck prices. Most fleets and workshop participants agreed the price curves for more than 50 body types were representative of typical truck prices.

We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section.

539. Comment: ARB needs to have an outside economic impact study to understand the true impact of this recession. We feel that ARB needs to reevaluate the emission inventory and re-visit the DTCC proposal. (CTA5)

Agency Response: There are already a number of sources of data and studies that assess the impact of the current recession and staff have the ability to analyze these sources. The primary uncertainty in the near term is when and how the economy will recover. There will always be some uncertainty with projections into the future. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

540. Comment: I am the owner of a petroleum transportation company. I started this company 7 years ago. For the last six years my company has not shown a profit. Every dollar earned has been placed back into the company to purchase new trucks. I now operate 47 power units. Most of these trucks are still financed. I never budgeted an extra $15,000 plus for each truck. Now the state is going to make me pay an additional $700,000 to stay in business. Where is this money going to come from? For the last 5 years I have financed nothing but the newest engines possible. But the CARB is now saying this is not good enough. Please tell me how CARB and the state develops a budget, to then find out later, this business model will not work, because your entry into the market is an additional $700,000. The people on this board need a lesson in business. I have always hated southern California because of the air. And I am the first person that would like to change it. (THON)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. Staff believes the costs

to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

541. Comment: We are a transportation and organics recycling company that has been in business since 1946. We care about clean air and want to work to achieve a reasonable goal for California. The regulations CARB is looking to implement as presently drafted will have a prolonged negative effect on the California economy. They will reshape trucking industry, cause service disruptions, and hurt infrastructure programs as many small service businesses are put out of business. The time frame of the replacement is unreasonable even in good times! Your regulations are based on inadequate information and a complete lack of understanding economics and business, more importantly the trucking business. (EGI)

Agency Response: Staff work closely with affected fleets in understanding their business and business models. As documented in the TSD and supporting appendices, staff evaluated impacts to individual businesses and did financial analyses of several case studies. The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

542. Comment: Table 2 shows that smaller fleets (less than 3 vehicles) tend to have older vehicles. Table 4 shows that compliance costs increase with the average age of the fleet. This implies that the costs for small fleets are greater than for large fleets. Yet Table 11 shows that the costs are lower for smaller fleets of similar trucks than larger fleets. How are these differences reconciled? (AEG1) goes with cost methodology/analysis

Agency Response: Smaller fleets have longer time to comply and slightly less stringent requirements compared to large fleets. This difference results in lower cost to smaller fleets. The regulation has optional small fleet provisions that delay the PM and

NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

c) Effect of Recession on Emission

543. Comment: CARB staff's analysis of the baseline inventory and emission benefits of the proposed regulation fails to consider the impacts of the current economic recession. To the extent possible based on the limited information available regarding the new methodology described above, Sierra Research has examined the potential impact of the current economic recession on future heavy-duty-vehicle emissions on baseline emissions. This analysis indicates that the impacts of the recession on the trucking industry may substantially reduce baseline emissions and calls into question the staff's conclusion that the proposed regulation—as opposed to one of the alternatives, including that proposed by DTCC—should be adopted. (SRES2)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

544. Comment: Who can be against clean air? With four children and five grandchildren, certainly not myself. This State has done more for the accomplishment of this goal than anywhere else in the world. Technology has cleaned up our auto, truck and heavy equipment exhaust dramatically already, and we should not rest on our laurels and stop improvement. We just need to "back off on the throttles" a bit to allow businesses to survive through this process. According to Construction Industry Air Quality Coalition, the depressed economy has already succeeded in achieving 2011 or 2012 CARB goals for reduction of PM and NOx, just through the "non-use" of equipment due to economic conditions. The amount of existing equipment sold at auction and forever gone from the State has been record setting. Why hasn't CARB recognized this and backed off their mandates? Has there been any "less" lung disorders noted? Probably not. Maybe we "just don't want to know this". Maybe this goes against the real intended goal (by some) of just shutting down industry altogether. The economic "downturn" (to use a most moderate description) has begun the destruction of many businesses, including construction and trucking industries. The CARB Regulations will complete the extirpation of "who is left" in California. A quick and imprudent decision will undoubtedly bring about clearer heads, albeit when it is much too late. It will take years to rebuild businesses shut down via mandate. This rock thrown into the economic pond will cause a tsunami of business failures of small and medium contractors' and transportation businesses (collectively the largest employer of construction and transportation workers) throughout the state, Larger businesses will survive purely due to size and financial capacity, albeit in a

much smaller mode for an indeterminate time. For some reason, CARB, in its forced march to meet an imposed upon time-table for this more perfect air quality refuses to recognize the effects on the construction and trucking businesses and the economic devastation to follow. They have had plenty of opportunity but presentations by Delta and countless others to the Board have been summarily ignored. California is broke. The United States, likewise. Shutting down the construction and trucking industries and laying-off employees, to become tax takers instead of tax payers, certainly might clear up the air somewhat but will also exacerbate and continue the financial condition of the above. Destruction of the business model practiced by entrepreneurs throughout time will not stimulate new business in California, quite the contrary. Capital will flee the State as who knows what some other future government program will destroy decades of delayed gratification through investment in assets made valueless by the stroke of the pen (as it has mine). Strong environmental progress has been made in California during good economic times. These are the times when some excess capital is available for such efforts. We should not warrant the destruction of business and the resultant State of California's viability through command air quality decisions when the economics cannot justify the accelerated rate of improvement proposed by CARB. It is time to "pull back on the throttle" and as our illustrious ex-governor and current Attorney General Jerry Brown once stated years ago: we need to "lower our expectations". I beseech you to revisit this issue, providing CARB with new directions allowing companies such as Delta to continue to pay taxes to the State of California (I never would have thought that I would beg to be allowed to pay taxes!). (DCI1)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

d) Economic Effects on Businesses

545. Comment: Last month we met with our regulatory expert to discuss the results of all this research, and to forecast the financial impact on our company operations. This feedback for you and your Board is one result of that meeting. Overview of our fleet:

- Delivery trucks: Four of thirteen are medium GVW (26-33K lb.) and the rest are heavy (~52K). Age: One 1997, three 1998, four 1999, three 2000, one 2003, and one 2006. Five trucks average 8K miles. Four average 15K

miles. Four average 32K miles. We determined that our truck delivery pattern (short runs into local neighborhoods) does not generate enough heat for the less-expensive type of VDECS control system, DPF ($8500 installed). This means that we must use the regenerating-DPF ($19K installed).

- Rental trucks: Fourteen are lighter GVW (16-18K) and fifteen are medium (25K). Age: Seven are 1990, twelve 1998, two 2002, and eight 2003. Average miles per year is 9800 miles for our 13 dry-goods trucks and 8600 miles for our 16 concrete trucks. All 29 of these trucks will also need the more expensive regenerating-DPF filters. Our rental trucks run for 20 years and our delivery trucks run for 10+ years. Due to our low annual mileage we need to run our fleet this long to get an appropriate return on our investment.

Mr. Brasil answered our fleet-specific questions with guidance that if we try various alternatives in the Fleet Average Calculator it will help us look at alternative investment strategies. In general, he said that by 2014 almost all trucks must have filters or new engines. He also said that by 2023 all trucks must have 2010 power-technology. We used the calculator to determine our various paths to achieve compliance. Here is our most realistic scenario, with all expenditures in 2008 dollars. The resulting costs are a huge impact on a small company. In addition, at the same time we also must invest in modernizing our off-road equipment (over a dozen forklifts and half-dozen loader-type equipment) and in the rest of our company's operations. Here are the costs of your regulation alone:

- a) In order to achieve initial compliance by 12/31/10 we must retrofit with VDECS nine delivery trucks, which qualify for Goods-Movement grant applications. The 2009 cost to Lyngso without grants: $171,000. (With grants the cost is $126,000, but our mileage is not very high and the impression given by ARB staff is that thus we may not qualify for grants.)

- b) In 2010 and 2011 we must retrofit another 9 trucks and replace two trucks, at a cost of $421,000.

- c) In 2012 and 2013 we must retrofit 13 trucks and replace 7 trucks at a cost $502,000.

- d) From 2014 until 2022 we must replace all of our remaining pre-2010 trucks. That cost (in 2008 dollars) will total $2,310,000 spread over 9 years. (LGM)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the

NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

546. Comment: Our company purchases good quality used trucks when it is time for replacement. Due to the nature of competition we face in a typically non union environment, we have to watch our costs in order to stay competitive and continue to employ quality union labor. Our employees receive an attractive benefit package that is virtually unheard of in these current times. In return our employees stay for many years and consider their employment as a "career" rather than a "job". The point being that we can provide an attractive working environment using the latest equipment we can afford that suits our operational needs. Our trucks only travel within Northern California and average about 40,000 miles per year. Their useful life for us is about 10 to 15 years. In the last 2 years we have replaced 17 of our oldest equipment, 1980 vintage, with late 1990 early 2000 equipment. For us to purchase "new" equipment is not economically feasible. We take advantage of the quality used truck market. It affords us the latest equipment at a price we can afford. (AOSO)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Any vehicles that operate exclusively in less polluted areas of the state are exempt from the NOx reduction requirements until 2021, but remain subject to the PM filter requirements, see response to comment 98 in the Regulatory Provisions section.

547. Comment: Although we fully support the ARB's goal of significantly reducing PM and NOx emissions from diesel engines, the regulation you have proposed is simply too draconian. Many small businesses will be faced with a Hobson's choice between either disposing of older trucks well before the end of their useful lives (and at a considerable loss) or retrofitting or replacing their fleets while access to credit remains limited, at best. We fear that many small businesses will resolve the dilemma by closing their doors. (ARC)

548. Comment: As a native Californian, I know how much CARB has done to improve the quality of the air in California. The diesel retrofit regulations proposed by CARB, however, go too far too fast and will force companies like ours to dispose of equipment that still has years of useful life. The only buyers for our current older equipment are Mexican truck dealers who pay pennies on the dollar. We recently sold two of our oldest trucks to one of these dealers and will accept delivery on two 2009 replacement units next March. We cannot, however, replace our entire fleet in a matter of a couple of years. We will be faced with the prospect of severely downsizing or just closing our doors. (UVLCMSA)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

549. Comment: We are a small privately owned business with a small fleet of 5 trucks. All equipment is owned and has been meticulously maintained over the years to provide long reliable service. Even our oldest truck, a 1990 model, can provide us with many more years of dependable service. However, the proposed regulation as written will require that we replace all our equipment collectively by 2015 and will indeed place a great financial stress on our business. Our financial planning for the future has been the investment in our current fleet, not to replace all of our equipment in the near future. We urge you to please reject the Proposed Regulation and consider other options that will have much less impact on businesses and the California economy. (ROCI)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

550. Comment: I think it is extremely important that you take into account the income levels that this industry is currently facing and their ability to make these

investments. Lending institutions aren't in a position. They have been tightening down with the financial market. I ask that that be re-analyzed. (CTA6)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

551. Comment: I work for Golden State Peterbilt that sells new vehicles and used vehicles in the San Joaquin Valley. Started in 1935 with the purchase of one used truck. We now employ over 300 employees. We are not approving this as it's going forward. We understand the need for a rule and we want to help support that. Our problem is that we understand the rule is needed, but it just doesn't do what we need to get done as far as industry. With that, we would ask that the staff work together with industry even more and come up with a rule that can pass and keep people in business. (EMTI)

552. Comment: This mandated proposal will devastate our company - a third generation family business. I run the truck stop side of it and I work hand in hand on a daily basis with small trucking companies. They have already parked their trucks and laid-off many of their employees. These companies are not large businesses that show massive profits at the end of the year. My petroleum company is not a major oil refinery that has record profits. On the contrary, we are losing our livelihood. Our employees are family. We have many staff that have been with us for 20 years. Passing this regulation will leave us with no choice but to move our company headquarters out of the state and lay off many of the people that we love to work with and leave them with no way to provide for their families. (MROC2)

553. Comment: Most every trucking organization and driver is for reducing GHG emissions and pollution in general, along with increasing fuel efficiency across the fleets. However, the creation of as large a financial burden to the companies as does this program creates, combined with the vast and as yet untested attributes of these modifications, we respectfully request that the ARB revisit this regulation and review the financial aspects of this regulation. We all have felt the urgency to reduce GHG emissions from our governor and our legislature, however, curing the problem while killing the patient is never sound advice. (ACG1)

554. Comment: I have been in the trucking industry since 1981 paying taxes that support the very people [ARB], who are trying to put myself and others out of business. How are we supposed to support ourselves and maintain any kind of life here if we try to comply with these outrageous proposals? Will the State bail me out and fund new equipment that I already can't pay for and provide me housing when I lose my house because I have no income to pay the mortgage and feed my family? Come up with a new plan that would require smoke check at registration like the way autos are done. This proposal is just unacceptable in this country where we are supposed to be free! This is not some third world state run

by dictators [ARB]. I wish I could really say what I think of the ARB but I have more respect of them than they do of us. (CDTOA10)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Funding opportunities exist for fleets that take early action to comply with the regulation, for more information on funding options available, see response to comments 738 and 739 in the Funding section.

555. Comment: I foresee the economy of California to be severely shaken by the loss of available truck transportation. I am also in fear of large corporate trucking companies taking advantage of the family business through un-fair transportation charges. (CCAA)

556. Comment: Basically, if we try to comply with the new rules we will go out of business. We need a better solution to this problem. We need a solution that will not destroy the State's economy by bankrupting the trucking infrastructure. Only the very large companies will be able to survive and do business in California. They will not be able to handle the volume of product to be hauled and therefore the cost of everyday products will rise because the surviving carriers will set the rates at much higher prices due to less competition for the freight. In short, these rules will wreak California's economy and destroy our ability to compete in the world market place. (CDMTC2)

557. Comment: We are a small Mom and Pop concrete company with 15 employees. We operate 12 concrete mixer trucks in Tehama County. All of our trucks are 2000 or older due to the fact that demand for concrete in this area cannot economically justify using newer equipment. Your proposed on-road diesel regulation threatens our very existence. The retrofits may cost more than the truck itself is worth; especially given the economic turmoil we face. Larger companies, especially those with Ready Mix plants in other states, will simply transfer their trucks to their out-of-state operations. Many other small ready mix companies will simply sell their old vehicles elsewhere in the world. The regulation makes sense only if applied globally, not just in California. (FRMI)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

558. Comment: My company and others like us simply don't have the resources or access to capital to retrofit our engines. Some of us may be forced to sell off our

trucks at a loss or shut our companies' doors. This would ultimately cost jobs and revenue to the state's economy. (DBAR)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

559. Comment: I am the owner of a small trucking company trying to survive in the worst economic down turn in my life. These rules, if adopted as currently written, will drive me out of business and drive the California economy down even farther. Please look at other options that might not have such a catastrophic effect on all of us. (FSMI)

560. Comment: In the last few years, we went from gross revenue receipts of 1.3 to almost $1.4 million. We are down at approximately about five to $600,000 this year because of the economic downturn. I've lost a total of eight subhaulers. They have either filed bankruptcy, are losing their homes, no longer have medical care or insurance, and are applying for medical assistance. This rule will put me out of business. My tire suppliers, they've laid off a bunch of their workers because of the truckers having a hard time. Fuel suppliers are having a hard time with the income. I would strongly suggest that this Board come up with a different alternative to where it's workable for us as owners of companies. (TLT2)

561. Comment: As a contractor with a fleet of vehicles, this is one of those moments when I am glad that I operate 3 thousand miles away from the clutches of California's government. I have friends and associates in California whose businesses will be devastated by this legislation. These are intelligent and careful business owners who realize what the government often does not -- the fact that businesses must first successfully bring in a dollar before it can be taxed or regulated -- or else there is no reason to have a business. This legislation will make that first step, bringing in a dollar, very difficult indeed. It will make bringing in that dollar illegal in many cases frankly. This legislation will, as evidence presented to your office has demonstrated, terminate a lot of businesses. It is simply not practical or possible to instantly turn over or retrofit expensive motor vehicle equipment. This was true even before the recent credit tightening. CARB can make laws as a matter of legal fiat. That does not mean, however, that the citizens are immune to the laws of unintended consequences and the laws of supply and demand. If this diesel legislation is successful, those two laws will be some large ugly chickens that will indeed come home to roost. I suggest these factors be considered carefully before any moves are made to make further sacrifices on the alter of politically correct environmentalism. (CEWR)

562. Comment: Riverview and its 80 employees are very concerned that the proposed legislation is going to put our customers out of business, hurt the financial stability of our company, and put our dealership at a competitive disadvantage with dealerships and lease and rental companies that are based in other states outside of California. The proposed legislation will put California business owners out of business. They will be forced to shut down instead of attempting to find loans that do not exist to take on new equipment. Do you know that a new truck over 33,000 lbs GVWR has nearly 20% of its cost is taxes? Do you know that finance companies are not financing commercial vehicles due to the issues with the banking institutions? My #2 truck financer, GE Capitol, has frozen all of its capitol for commercial vehicles. My #1 lender, Navistar Financial, now requires A and B credit to have substantial down payments at less than aggressive interest rates. (RITL1)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

563. Comment: If you want to regulate air pollution, then regulate trucks that are built from 2009 and on. Consider what would happen if you told everyone who owned a vehicle that was older than 2008 that they would have to retrofit their vehicles or quit driving them. What do you think would happen? If you want to be fair and equitable then do it across the board. Your decisions affect families and people's lives. (PAT)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

564. Comment: This will have a major impact to our small minority business. We all want clean air, but at what cost? This will require our business to replace / retrofit trucks that are not worth the retrofit due to age / condition. We replace 2 trucks annually. This will require us to replace 5 trucks for the next 3 years and retrofit 22 by 2014. This will be ongoing retrofits until 2023 until all of our vehicles meet the 2010 standards. We need more time and financial assistance to meet these time standards proposed. (BDC)

565. Comment: As a small business owner and employer responsible for the livelihood of 50 plus families in California, the proposed regulations will have an enormously negative impact on us. We work on a small single digit profit margin and as it is, putting any more financial burden on companies our size will simply

put a number of us out of business. We all want a cleaner California; however, we need more time to allow for the implementation of cleaner burning vehicles. The standards which you are requesting are just not reasonable when it comes to emissions or particulate matter. The mandates that are being proposed are simply too fiscally aggressive for our industry to be able to handle without extreme hardship, not only on us, but the state as a whole. The state will feel the effects because transportation is such a large part of our infrastructure. Simply stated, CARB is out of touch with what is reality. (CIOMA4)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

566. Comment: The economy is so bad you need to change the regulation to 4 year's from now. (RGRE)

567. Comment: We request a delay in the vote on these regulations so that time may be taken for the state of California to survive the direst economic collapse in decades. (ACLOG1)

568. Comment: We are a 102 year old trucking firm in Fresno. Five generations of my family have made their living from trucking in California. We have been through rougher times in our history then the present. However, I believe you need to spread the time table out to avoid many truckers from going out of business. We just cannot afford the investment on such a short time. (TFOR)

569. Comment: Considering the economic times we all have to deal with at present, we are struggling just to stay alive and do not have the financial resources to implement the changes required at this time or in the near future! We're laying-off people, reducing benefits, and generally cutting back just to stay alive. I'm sure if this is implemented your going to see a substantial loss of small business on a wholesale basis. This is not what the State economy or the people need right now. We can put up with the air a while longer until the economy rebounds and makes this a more practical solution. (CSA)

570. Comment: Our waste and recycling industry is currently experiencing the most challenging economic times in California history. The recyclable materials we generate are not being purchased in the U.S. or by the Far East. Every expense in our corporation has increased by double digits in the past four years however our prices are increase by the CPI which has remained very flat and actually negative for the last three months. We can not afford the new regulations to retrofit or replace our current truck fleets. Those municipal customers we serve also are saying they can not support the increased costs that will come with the

new truck regulations for solid waste trucks in California. Please consider a new or revised plan to delay the new regulations. If the state can save the money now and implement the plan in a few years, our industry will be better served in these uncertain economic times. (SRCYL)

571. Comment: What you are about to implement is unlawful at this present time with the economy the way that it is. Just take a look at the daily headlines you will see that with the auto industry on the brink of bankruptcy with their hands out for my taxpayer dollars also with over 33 state governors asking for financial assistance balance their budgets. So with that in mind what you are proposing for trucking in California is equivalent to a huge new program in the state budget that you already don't presently have the funding to pay for as well as the governor has already made cuts for the fiscal year in vital services. So do you see the problem with your proposed timing of the regulations? Keep in mind that I want to go green with the states commercial private fleet. Just wait till the economy can support the industry changes. (DAWIL2)

572. Comment: The State of California economy is severely depressed and the Governor has recently announced a $28 billion dollar revenue shortfall for the current and upcoming fiscal years; and local business leaders have expressed concerns regarding the damage to the local economy to multiple businesses. The Board of Supervisors of Glenn County, California request a delay in the implementation of all new air resources board regulations, including the in-use heavy duty on-road truck air toxic control measure, and regulations relating to assembly. (GCBOS)

573. Comment: Everyone is for clean air, including industry. We have made great strides since the 1970's to reduce air pollution and every resident of California is the benefactor. But we can not afford to do it all tomorrow, next week or next year. Protecting the environment is something only practiced in a significant way by societies rich enough to afford to do so. We, thankfully, are the leaders of the world in this regard. But if we choke our economy into stagnation, we will no longer be able to afford to implement any programs other than extending unemployment benefits. Please listen to our business leaders and slow down the implementation of these Draconian measures during a time of true economic crisis. The environment will be better served in the long term if we keep our economy healthy so we can continue to afford the pollution control measures the rest of the world can not. (RVER)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be

assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

574. Comment: I cannot believe that the CARB is still going ahead with this the way it now stands. The people of California and the United States cannot afford this right now. There needs to be concessions on this matter due to the economy. I work for a small company. There is no freight in California this week and it has been getting worse everyday. To anyone who is not in the trucking industry, translated the means: Nobody is buying anything. No new products going to stores. The stores have not depleted their stock yet. (At Christmas time no less!) I totally believe in clean air but not at the cost of my job, my house and food for my son! With everything going on in the US and world right now, I think everybody better take a second look at where we are, before it is too late. This may be the straw that breaks the camel's back. I hate to be such a naysayer but this economy has me scared that if I lose my job what would I do, who would bail me out. I think this proposal needs to be modified or postponed until the economy settles down. Americans should stand up to this. It is not a change to really help the people if it destroys jobs and livelihoods in the process. (MSAR)

575. Comment: We are a manufacturer of dump truck bodies, with our main customer base in southern California. The proposed CARB rules have already paralyzed prospective truck purchases, as the very strict proposed rules have been compiled. Passage of the proposed CARB rules will devastate the California trucking industry and all related industries (such as ours) for a long period of time. Now is not the time to require such a drastic change, as the economy is already in shambles, and the proposed CARB rules will be the final nail in the coffin of many independent truckers and small fleet owners. Please suspend the proposed rules until such a date that the economy and the owner/operators can absorb the costs of compliance. (BMOO)

576. Comment: I have a company that employs 84 people and have been in business for 37 years. My fleet operates in Southern California only. I built my terminal 2 1/2 years ago and have made it "green" in order to be responsible to the health welfare of my employees as well as the public. Because of the economy, I have 12 trucks parked out of a fleet of 50. I bought 3 new trucks at the beginning of the year and now, my bank will not lend any more money to purchase any other equipment because freight is not moving during this recession. All I ask that the board considers the sign of the times. We cannot comply during a recession. When freight is moving, you'll see responsible owners move to get new trucks and retrofit the old. There have already been over 3,000 mid to large trucking companies go under this year. The larger carriers are selling off hundreds of terminals and laying-off thousands of workers because they are all losing money. The smaller carriers and owner operators have closed their doors or had their trucks repossessed. Truckers purchase vehicles from the manufacturers set by the guidelines of the U.S. government. Now, you want us to shoulder the burden of extra equipment after the fact. Would the general public be willing to do the same with their cars and pickups? We maintain our fleet with six mechanics in

order to maintain safety. Our trucks have annual smoke tests every year; more often than the public has their vehicles smog-tested. We all want cleaner air but the ARB needs to delay their decision until we get out of this recession! (JJTI)

577. Comment: There is no way to make up for the cost of this expense in this economy. Businesses are seeking out cheaper freight, cheaper production, and cheaper labor just to survive this trying time. How can we afford to retrofit? We are still paying off fuel bills from when diesel soared to more than $5 a gallon in California this summer. Where are we going to get $250,000 in the middle of an economic downturn that has been compared to the great depression? There's been a 40% drop in the volume of freight in California. Lumber is not moving because houses are not being built. People have no money for home renovation because the value of their homes has dropped so precipitously. General merchandise freight has slowed because consumers are worried about overspending. When I tell you we are struggling just to keep going, I'm not saying that for dramatic emphasis. I'm saying that as a business owner laboring to keep the doors open the past year. We have borrowed, renegotiated loans, tried to patch old equipment to keep it running a while longer because there is nothing extra in our budget. Our employees have not had a raise in years. We have office and capital equipment that needs upgrading. We have been dealing with health care cost increases to the tune of 15 to 20% per year for more than a decade. Sales and use taxes have gone up locally and statewide. Almost every expense has gone up because of energy price increases. These fluctuations are huge challenge for any business but especially for a small business with less than 20 employees. Now the state wants to put another huge burden on our shoulders. What CARB is proposing is an extraordinary action that will hurt every single California consumer and taxpayer by increasing prices and shrinking the tax base. Trucking companies are barely making it in the current business environment and these rules will be the final blow. (KVSI2)

578. Comment: Please do not proceed with this action. This action will result in fewer jobs and will further damage our fragile economy. Your choice to proceed with this action at this time will contribute to financial hardship for many, many Californians. (JOBUR)

579. Comment: The regulations are too far sweeping and will cause our troubled economy even further harm. This will hurt too many people and should not be passed. The regulations will not bring global CO2 levels down by any significant level. That process is occurring naturally, and must be given more time. If we allow things to continue on their present course, we will find that there was no need for this particular legislation. Therefore, I urge patience and recommend shelving the legislation until 2010. (GUJON)

580. Comment: I think the proposed diesel regulations should at the very least be postponed for a couple years, until the recession/depression in California has passed. No one can expect the average company to be able to replace or modify their current fleet to meet the new requirements in this economic environment. If

this current legislation is passed, I believe it will have devastating effects on our economy at this time. (CFC)

581. Comment: The construction industry is in a deep depression. Financing is not available for a fleet retrofit and, given the local economy, we have very real concerns as to how we would payoff such financing even if we were able to obtain it. I urge the Air Resources Board to either phase-in the proposed diesel truck retrofit regulation or delay it altogether. Let us allow the technology to catch-up with your requirements. Perhaps in the meantime the economy will improve to the point where we can pay to accomplish what you require of us. (FRMI)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

582. Comment: Californians and their government are totally blind to people trying to make an honest living delivering their goods. (CKEP)

583. Comment: I am writing this letter to voice my concern regarding the on-road truck and bus regulation being proposed by California Air Resources Board, that if implemented in it's current form would negatively affect my business, but also California's economy, in the middle of a recession that feels like a depression. My company, Western States Oil, is supportive of reducing particulate matter and emissions from diesel engines, but now is not the time to mandate such costly compliance standards , given the unprecedented down turn of our economy. (SLOPE)

584. Comment: I have 38 employees that are all well paid, have family plan insurance, 401Ks, profit sharing, and a bonus program. Some or all of these employees are going to lose their jobs so that I can stay in business. Others are going to lose at least some of their benefits. I am also going to get rid of equipment because I can no longer afford to retrofit or replace it. I will have a smaller on and off road fleet, less employees, and less flexibility to remain competitive. These regulations were difficult to deal with in a good economy. I fear that it will be impossible to cope with under current economical conditions. CARB and the supporters of these regulations are going to force us further into a downward spiral in the economy with these costly and abrupt regulations. People and companies that own this equipment just can't take all of this right now. It's just going to kill us. I am pleading with CARB and the Governor to provide us relief through delaying the onset of these regulations and lengthening the time frames to allow us to accomplish compliance with them. (FCI)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

585. Comment: I am disheartened when I hear that our entire fleet of trucks will have to be parked in a fairly short period of time because they do not comply with new standards that effectively condemn not only my trucks, but my business. We are a small construction services company with 40 employees who cut and core drill concrete. It has been not only tough, but impossible for us to generate a profit in the past few years, so we haven't replaced many trucks and can't afford to replace any at all now. When I am forced to park a truck, I have to park an employee too. They can't work without the trucks, so when a truck parks, they go home. (APHI)

586. Comment: We own and operate 17 tankers, four with engines meeting 2007 or sooner emission standards. This means we will have to purchase 13 new trucks within the next few years to meet your new standards. We will not be able to borrow the funds to do this with the current banking mess. There is no money out there and we will be forced to shut down our fleet, taking 17 tankers off the highway serving the many stations, school districts, mining, and other various customers we now serve. We are looking at an end to our business if these regulation time tables are not relaxed. (CIOMA2)

587. Comment: If this bill is passed, it will create a hardship for all small business owners such as me by having to purchase a new motor to comply with the proposed law or to purchase a brand new truck. Neither one of these purchases is affordable, especially since we are in a recession. I am asking all of you to please consider an alternative such as an exempt status like the one in place for automobiles, 1975 and older are exempt from smog testing. This would be a more practical solution for the small business owner. (CDTOA9)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see

response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

588. Comment: Under the annual emission reduction targets required under the current ARB proposal, many truck owners will be required to first retrofit an engine, only to have to turn around a few years later and replace those trucks. The costs of operating a transportation company are many. The amount of finger-pointing at the trucking industry as the cause of so many of the country's woes is ludicrous. Trucking is a vital part of the movement of goods. Even if goods arrive in the country by ship or by airplane they arrive at their final destination by truck. When the increasing costs of business drive the smaller companies out of business, decreasing the competition, the prices of transportation will only go up, further affecting the prices of all goods, adding to the problems that already exist in our economy, both within California and across the United States. We do not need to force businesses out of existence and raise the prices of goods for an already beleaguered citizenry, no matter how important the cause. We must work together to find better methods of accomplishing our goals. Many of California's trucking companies have already begun the process of retrofitting or replacing its fleet, whether in the normal course of their business cycle or in anticipation of these regulations. (CBI)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

589. Comment: The regulation and accompanying Staff Report, although comprehensive, does not address the current economic downturn and how it will impact the emissions inventory. Because of this issue and others outlined in the detailed comments section, CTA is requesting the Board direct staff to do the following. CTA requests that the Board direct CARB staff to reevaluate the emissions forecasts in order to reassess the current and future impacts of the

financial crisis that is enveloping the nation, and how this downturn will affect the ability of the trucking industry to manage the investments that will be required to comply with the proposed rule, with special attention paid to the ability of the native trucking fleet to compete with out of state carriers. CARB staff should also make available any revised emissions forecasts as well as all key data related to the baseline emission inventory and emissions benefit estimates, along with the revised methodology used to compute these estimates. Despite the good work to date, it is fair to say that neither CTA nor CARB anticipated and took into account the scope of the financial crisis that is facing our state and nation today. Moreover, it is not at all clear, at this juncture, how large the crisis will become or how much time will have to pass before the state and national economies return to their pre-crisis condition. What we see today is an ever worsening litany of problems including hundreds of thousands of employees losing their jobs and their benefits, well-known businesses declaring bankruptcy and states struggling, like California, to bridge multi-billion dollar budget deficits. Trucking has not escaped this crisis. As the U.S. economy has softened, so has consumer demand, translating into fewer goods being carried by trucking companies. The American Trucking Association's seasonally adjusted For-Hire Truck Tonnage Index decreased 3.0 percent in October, marking the fourth consecutive month-to-month drop for a four-month total of 6.3 percent. The worst seems yet to come. Not only has the trucking business declined significantly, the credit crunch has continued to worsen for truckers, making it difficult for even those carriers with good credit to obtain the loans they need to purchase new trucks and other equipment. In addition, the impact of the financial crisis on pensions and retirement savings accounts has damaged the trucking industry's employees and their families, creating even more stress within the many small businesses that make up the trucking community. In view of the unexpected advent and magnitude of the current economic crisis, ARB should reevaluate the DTCC proposal or delay this proceeding until the scope and expected duration are better understood. This will help CARB better tailor the proposed rule to the economic capabilities of the surviving industry. Going forward at this time with a rule that will add significant hardship for trucking companies on top of the hardships already being imposed by the current financial crisis would be unfair and potentially result in irreparable damage. (CTA2)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on

emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

590. Comment: I am co-owner of Ganduglia Trucking, a 70 year-old trucking firm in Fresno, CA, started by my father, Vincent Ganduglia. It is my job to make sure we can pay our bills. Ganduglia Trucking maintains a fleet of 27 truck tractors with 30 employees. We support 30 families for a total of 106 adults and children. I want clean air; all our employees want clean air. They also need a pay check. We are here today to try to ensure that we can continue to provide jobs for our family of employees AND work out a reasonable method to clean the air. Normally we would replace one or two trucks (new and/or used) each year ---but only if we can afford to do so. We maintain our annual payments at around $250,000 for tractors and trailers. The trucking industry operates on a small profit margin of 1 to 3% annually. This means we have to watch our budget very closely. And herein lies the problem with the current CARB proposal--trucking is a HUGHLY capital-intensive business and we are being told to replace too many trucks in too short a period of time for our finances to allow. You are not asking us to replace tires, fuel injectors or batteries. We're being asked to spend from $110,000 to $150,000 per truck, depending on the type of equipment a company runs. Under the current CARB proposal, Ganduglia Trucking would have to replace 7 new trucks in 2013--that's 26% of our fleet in one year--at a time in which there would be no compliant, vehicles available. Other years would require purchases of 3 vehicles. This would increase our payments for trucks, trailers and PM and NOx retrofits from $250,000 annually to between $525,000 and $613,000 annually from 2013 to 2018, as follows: 2013, $525,000; 2014, $583,000; 2015-16, $538,000; 2017 $613,000; 2018, $565,000. Our budget simply cannot support these enormous increases. And neither can we assume that these costs can be passed on as rate increases. In our case, we would have to have a 7% to 8% rate increase for at least 6 years--unheard of in the trucking industry. If we are competing against a large trucking company that is not facing forced truck replacement and, therefore, have "no" rate increases or "smaller" rate increases….guess what….we don't have a haul. The Solution? We need more time on 2 fronts: 1. Ease the PM 2.5 deadline of 2014--This is the killer deadline for many of us; 2. Extend the 2022 deadline 3 to 5 years. Please consider these 2 thoughts or some combination of them. This would not be a "pass" for the trucking industry. It would still put an enormous financial burden on our businesses. But we CAN clean the air AND protect our businesses---at the same time. I urge you all to consider the enormity of your decision to our Company, the small business community and to the State of California. (GTRU1)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to

reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

591. Comment: I think everyone in the government sector has to sit back and look at what the final out come is going to be - more expensive trucking and putting most every small outfit out of business, and sit there and call that fair!! (MDS)

592. Comment: Our company is a qualified Small Business Enterprise in California. We employ an average of 30 hard working employees. We all pay taxes and. participate in the purchase of goods and services in California. This will cease if the proposed regulations are enacted. Here's an estimate that works better than CARB's, by enacting these proposed regulations. You will impact at least 1000 small businesses and independent operators in California. You will bring transportation within California to a stop. I suppose the CARB can claim real success because a diesel truck that isn't operating won't cause any emissions to be vented into the atmosphere, but they won't be able to measure their success since there will not be enough operating trucks to deliver their measurement supplies. Please, Governor, stop this unabashed power grab by the CARB. Our Moving and Storage Industry is important and relevant to a successful California future. This CARB regulation, if enacted as written, only guarantees the loss of lifetime, family businesses (most are qualified small businesses that you claim California needs), significant loss of jobs (wage earners), tax revenues (You're short on that now), and destruction of the California trucking infrastructure that everyone is dependent upon. (MLVSI)

593. Comment: You asked for feedback from companies affected, so we are providing this analysis for you, your staff, and your Board Members' information. The draft regulation as presented at the July 30 workshop will devastate our company and will make it nearly impossible to continue serving our customers (families, landscapers and public agencies) on the San Francisco Peninsula. Lyngso is a family retail business just over 50 years old. We employ on-average about 50 workers. Our products are soils, gravels, boulders, some construction materials, and small-batch ready-mix concrete. Given competition we must manage our company operations and finances very carefully. We also comply with all

regulations which relate to our operations; for example, we do annual smoke-checks, BIT inspections, and we have already implemented a company-wide policy on idling limitations. In late 2006, our truck dealer told us that we needed to pay attention to the developing regulation. We subsequently joined your distribution list for ARB updates. (LGM)

594. Comment: We have a 25-truck fleet and we run over 150 trailers. This year I've already purchased three tractors that are '08 and compliant. We have retrofitted tractors with the exhaust systems. But based on the fleet calculator, my fleet will not be able to exist past 2012. This industry I think, as many of us, pay a hundred percent of health benefits for our employees and their families. And those things are not going to be available to us. We're going to have to find other alternatives. (ACTR)

595. Comment: A retrofit of our 12-vehicle fleet will cost our small company, with annual gross revenues of around a million dollars, nearly $250,000. We have only purchased CARB-approved vehicles, but suddenly those investments will be obsolete without a large capital outlay on our part. Meanwhile, there is no way to make up for the cost of this expense in this economy. Businesses are seeking out cheaper freight, cheaper production, and cheaper labor just to survive this trying time. How can we afford to retrofit? We are still paying off fuel bills from when diesel soared to more than $5 a gallon in California this summer. Where are we going to get $250,000 in the middle of an economic downturn that has been compared to the great depression? (KVSI1)

596. Comment: A fleet owner would have to use other personal collateral to borrow the money to purchase and install a filter ($20,000) or pair of filters ($40,000) on high horsepower trucks. CARB's proposed 17 NOx exempt counties provide minimal relief because the particulate matter (PM) performance requirements necessitate installation of diesel particulate filters or replacement with a 2010 or newer model truck regardless. (CFA1)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

597. Comment: Because of my circumstances and the present state of the economy, I probably won't go bankrupt. But this proposal at this time may very well convince

me to just close my business as it is, because it won't be viable financially anymore. (MTRA)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

598. Comment: I am writing on behalf of our family owned and operated moving company A and P Moving, Inc. I would like to express some recommendations our industry and the California Moving and Storage Association has concerning your proposal. The proposal employs a regulatory strategy of requiring expeditious retrofit of back end control technology rather than attrition replacement with new low emission engines; as has always been done in the automobile industry. The approach ARB is proposing is quite vigorous in its application to small and short distance operators, whose potential emission reductions are such a small part of the total emissions sought to be reduced. An unreasonably rigorous regulatory enactment that requires financial commitment that is especially difficult, or even disabling for small operators, can engender low rates of compliance with the attendant alienation of the regulated sector and the enforcement agencies. This reduces the effectiveness of the regulation. We believe the large bulk of the emission reductions planned for the proposed regulation can still be achieved with a moderation in the pace of implementation required of small and short distance operators. I urge the California Air Resources Board to develop revisions to its proposed control measure that will moderate the implementation schedules for small and short distance operators of affected diesel equipment. It is feared that the regulation as proposed will reduce compliance rates and cause irreparable harm to operators whose emissions are a very small part of the pool of emissions the regulation seeks to reduce. (APMIB)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements

starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

599. Comment: Under the annual emission reduction targets required under the current ARB proposal, many truck owners will be required to first retrofit an engine, only to have to turn around a few years later and replace those trucks. We are seeing this to be the case with our own company and have utilized State and grant funds to help us achieve early compliance only to realize that even with funding help we will be out of compliance shortly after our contracts with the air districts are up. We will be forced to purge this equipment out of our fleet and the technology will be rendered useless in California. Was this thought of when writing the regulation? Also if this rule passes does not all funding mechanisms cease to be available California trucking? This will have an even worse affect on the economy because all funding vehicles will be gone. (FORM1) (FORM2)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Staff designed the regulation in a timeline where it would achieve emission reductions to meet the SIP requirements while minimizing the costs for fleets. Staff also recognizes that incentive funding is an important complement to the regulation and is working closely with local air districts and other stakeholders on solutions to achieve our common goal of creating and maintaining effective incentive funding programs.

600. Comment: Over half of our fleet of 8 trucks is pre-1994 and not worth spending money on PM BACT. They will have to be retired or replaced with 2010 engines very soon after the engines first become available. (ROC)

601. Comment: My family has been in the construction business since 1952 and specifically construction trucking since 1971. The interesting thing about construction trucking is that we don't run the miles. So consequently, we do not generate the revenue the over-the-road trucks do. So we in years past have bought the over-the-road trucks as they phase out their trucks to buy newer trucks. We bought what they sold off. Obviously, that's not going to work in the future. But we still have a revenue problem, because we don't generate the revenue the over-the-road truck does. (DOWN)

602. Comment: Because our company is based north of Sacramento, even though we run throughout California, we are not eligible for funding to help offset some of the cost of being asked to dispose of equipment and assets before their useful life has been completed. I cannot purchase new equipment before otherwise be acquired, without a huge negative impact to our company. (STID)

Agency Response: Staff disagrees with the comment that the fleets with old trucks will not be able to buy used trucks in the future. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

603. Comment: If AB32 diesel emissions reduction plan is passed as written, we will be forced to close our business permanently. We can't afford to replace or retrofit our entire fleet of tractors and bobtail trucks in the current economy. Our margin line is so slim that we can't even get a loan, even if we could afford to upgrade an entire fleet. Typically, we purchase new equipment every few years to spread out the financial burden. We definitely can't purchase multiple pieces of equipment all at the same time. This sentiment is echoed throughout this trade. Since AB32 was initiated, I have been in communication with hundreds of other trucking companies and owner operators and they are also in the same predicament. Our industry does not generate the revenue to make such drastic financial changes. While we all want clean air, we don't want to go out of business to attain that goal. (IDI)

604. Comment: The California Air Resources Board (CARB) is currently considering the adoption of an on-road diesel truck and bus regulation that, if implemented as presently drafted would have a profound, negative impact on California's economy. However, in its current form, the Board's proposed regulation places a significant economic risk on our business today, jeopardizes our future viability in the agriculture industry, which is already reeling from unprecedented financial turmoil. CARB is proposing this multi-billion dollar regulation during the worst economic crisis since the Great Depression. California truckers, construction companies and bus operators are struggling to make ends meet in the face of a massive slow down in the construction sector due to falling home prices and home foreclosures, declining consumer confidence and spending, and a freeze in the credit markets. Today there is virtually no access to capital for businesses, large and small. (SCFB)

605. Comment: Although the goal of the regulation is very much worthwhile, we believe the on-road truck and bus rule could not come at a worse time for the trucking industry. For those that were able to scrape by after record-high fuel prices earlier this year, they now have a very tough road ahead trying to gain back ground in a severely slumping economy. Purchasing four new trucks would cost nearly ½ million dollars and would generate zero additional revenue, just like the case with EVR & ISD for our 8 locations. These expenditures come too soon together for them to be funded by operating income and I do not think there are

very many banks who will loan a $1,000,000 in today's economy to a company that cannot demonstrate how it will be paid back. (ROC)

606. Comment: We want to comply with the new rules but the cost is prohibitive to a small company like this one in such a short time frame. CD Matthes grew to its' present size from one truck over a period of 23 years. These rules will require us to purchase an even greater number of new trucks and trailers in 2 to 3 years. The cost of this equipment will be somewhere around 4 to 5 million dollars. This company's gross revenue per year is approximately 3.5 Million. (CDMTC2)

607. Comment: My small business cannot afford to buy brand new trucks and it will affect our ability to stay in business and employ 80 people, many of whom are Hispanic. Our employees work as hard as any in California and deserve a good paying job like the one's we provide for them. (GELY)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

608. Comment: My company is putting up $1.6 million to help this problem. All this effort and yet, with all due sympathy to those with the health problems, I'm personally offended that they're blaming us for this when there's lots of people out here trying. Dr. Telles asked yesterday for staff to say how many companies will go out have business. So far my count is eleven as of today. (BTRANS)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards. Reductions of these smog forming pollutants is an essential component of the State Implementation Plan, and are needed to meet federal health-based clean air standards, as well as reducing the health impacts of air pollution caused by diesel engines. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for

Emissions Reductions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

609. Comment: Ellis Trucking is a small operation that hauls mail for the USPS in the LA and San Diego areas. We have to bid the 4 year contracts with the USPS and once awarded the contract, no changes are allowed. The bidding is extremely competitive so there's no room to factor in the cost of any new equipment even at zero interest rate. (ETI) (GTI)

610. Agency Response: Staff recognizes that not all businesses will be able to modify contracts that are in place and may have to absorb the cost until the contracts are re-bid. However, staff believes that overall, companies will eventually be able to increase rates to account for higher expenses over the long term.

611. Comment: Most small businesses like mine have a planned life cycle for using and replacing our equipment and that is how we budget the expenditures for new equipment. It also doesn't make sense to waste money on retrofitting equipment at costs that often exceeds their market value. Currently, all trucks being manufactured in the US are being equipped with new emission systems. Therefore, any new truck being purchased is already compliant and it would only be a matter of 10 - 15 years that most pre-emission vehicles would be naturally phased out. (SCLA)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

612. Comment: We are being forced to replace fully functional equipment with much higher priced new or late model equipment. This is something that could seriously jeopardize the future of our company which was founded in 1949. (ARMC)

613. Comment: We are a small business that has been in business for over 45 years. It is laws and bills like this that is putting the small mom and pop businesses out of business. Please do not vote for this. (TELL)

614. Comment: As written, this proposed regulation will put me out of business. I do not have the resources to get in compliance. It is likely I will have to shut the doors if this is passed as proposed. (STI), (TTL)

615. Comment: I have attended two meetings to date and truckers have pointed out to you that this program is putting all of us with older trucks out of business. You maintain that we will not be put out of business, but at the end of the logging season you don't have my depleted checkbook. (RWT)

616. **Comment:** We are a new small struggling business in Northern California and have only been in business for a little over a year. We have tried to do everything right and by the book. If this bill passes, it will put us and many other small businesses like our selves out of business. Only the rich will survive, as usual, and little independents that are trying to make a living will die. (EUCA1)

617. **Comment:** Please vote no on the new regulation. This will put my company out of business along with other small trucking companies. The only companies that will gain from this will be big business. The foundation of the United States was built by small business, without this foundation the American people will suffer. (BAKER)

618. **Comment:** I am writing to strongly urge you to please not adopt the general fleet rule for on-road diesel emissions for trucks and buses as currently proposed. I know that you have heard every reason under the sun that our trucking industry and others are giving as support for our position that the rule is flawed on many levels and should not be adopted. I also know that the Board and the staff have worked long and hard to reach a workable rule that meets the Federal requirements. Please believe me when I say that our family trucking business has also worked long and hard to comply with all of the CARB's rules since they first began to issue such rules many years ago. Hobbs Trucking and all of our family members as well as all of our employees have a personal stake in the need for air that is fit to breathe wherever we might be. With that said I firmly believe that it would be a very expensive mistake to adopt the rule as proposed. If you adopt the proposed rule, we will be out of business after 80 years of continual transportation service. (HTC2)

619. **Comment:** I am a small trucking company who is making ends meet. If this is passed right now you will put me and hundreds off little companies out of business. I know that we need to clean-up our air but you also have to remember that we have to make a living. I'm asking that you find another way to go about this, because of the way our economy is right now, and this would bankrupt us. (MICTR)

620. **Comment:** As a small fleet operator, I would like to express my opinion on these regulations. Our economy is in a major slump with construction work etc. If many of the truck operators throughout the state are required to implement emission equipment on units used in construction only, it would simply put the small businessman out of business. (BYAT)

Agency Response: The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The economic effect

of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

621. Comment: Being a truck safety consultant from Grants Pass, Oregon and having customers in Washington, Oregon, and California, I have the opportunity to talk to a lot of motor carriers about the proposed CARB regulations. The following is what I hear from motor carriers from out of state: 1) they will quit traveling in California; 2) they are looking of ways to drop their loads at the border with California (reload yards); 3) they are worried that their states will be dumping grounds for equipment from California. My customers in California are mostly small companies (mostly in construction) and have older equipment. There is the assumption that "old iron is bad" when in reality, with the "BIT" program in California, that "old iron" has to be kept up just as new trucks are. To make these small companies comply with the proposed rules will put 90% of them out of business. The funding isn't there to assist them if they want to come into compliance. Who is going to help them? Do the math. Less trucks on the road means less vehicle registration fees, fuel taxes, and less jobs. (CTC)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Staff believe that the regulation should not change the normal vehicle replacement practice of most long haul fleets so the concerns raised about transloading would seem to not apply.

622. Comment: We have seen a decline in revenues this last year of over 40% while seeing our costs increase dramatically. Fuel used to comprise approximately 15% of our expenses and this last year it rose to over 30%. Parts, oil, labor and other expenses have risen also due to the underlying cost of transportation and base oil prices. The proposed CARB regulations will essentially put my company and 20 of my 22 owner operators out of business. These young entrepreneurs are primarily minorities -- Hispanic, Polish, and Vietnamese. The net profit of their companies has dwindled to the point that they will be unable to either upgrade their equipment and there is no way they are in any position to be able to purchase new. The fact is that their tractors are too old to even be retrofitted, but at the costs we are hearing, they could not afford it anyway. In a struggling industry with little or no work other than public works, the timing of these regulations will disseminate the

construction transportation industry. I implore the California Air Resource Board to reconsider the proposal on the table in order to not further destroy our California economy. (STIT)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

623. Comment: I am in receipt of the Monterey Bay Unified air Pollution Control District letter of November 6, 2008 addressed to each of you and expressing the very sound opinions of the Board that the implementation schedules be moderated. I was formerly General Counsel of Bekins and have represented many small moving and storage companies for over 30 years. These small operators are found in every town in the State and are typically small operations. They are having very "tough sledding" in terms of their businesses with the current recession. Their few tractors are not big generators of pollutants for they are not long distance over the road operators. These vehicles are usually parked at some customer's home while furniture is loaded or unloaded. There are hundreds of similar small businesses which need the same relief. (NSMALC)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation has provisions to delay some of the requirements for low use vehicles, see response to comment 164 in the Regulatory Provisions section.

624. Comment: Body load trucks are commercial trucks that have equipment mounted on the frame of the trucks. The body load trucks are driven to a location located off-road and are operated all day or for several days to complete a job function. Some body load trucks use a PTO and others have portable engines to power the

equipment. Attached are two pictures of body load trucks. Attachment A was built on a 2006 model truck at a cost of $700,000. Attachment 8 was built on a 1990 model truck at a cost of $550,000. To replace the truck on Attachment A, the owner will incur a cost of $175,000 to remove the equipment which does not include the cost of the new truck. To replace the truck on Attachment 8, the owner will incur a cost of $150,000 to remove the equipment which does not include the cost of the new truck. (NWSC1)

625. Comment: The staff report states that fleets naturally replace their vehicles on a regular basis that is faster than what the regulation would require. I believe that statement refers to long-distance cross-country trucks traveling approximately 200,000 miles a year. However, many trucks, and almost all of our body load trucks are kept for 15 to 25 years because of low mileage. BJ Services trucks may be on location for a few days to a few weeks while the crews commute back and forth in vans or pickups. And this results in low annual mileage for the trucks. (BJSC3)

Agency Response: The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The regulation has provisions to delay some of the requirements for low use vehicles, see response to comment 164 in the Regulatory Provisions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

626. Comment: We have 41 vehicles that must be considered. The 2010 compliance cost will be $434,000. The 2011 compliance cost will be $506,000. The 2012 compliance cost will be $1,082,000. And the 2013 compliance cost will be $1,845,000. An option for the 2013 compliance plan is to retrofit the buses with an active DPF. While less expensive initially, than replacing the bus, it will require regeneration stations be installed to plug the busses in every other day (based on the experience at West County and Elk Grove). I am concerned about a bus with an active trap that starts a trip and has the trap develop a need for servicing before the bus returns. (STC)

Agency Response: The regulation only requires PM filters to be installed on school buses and does not require bus replacements except for pre-1977 model year buses. If the stakeholder chooses to buy new school buses instead, the cost is not attributable to the regulation. The fleet owner can also choose to buy lower cost used buses already originally equipped with PM filters rather than purchasing new.
Active PM filters can operate between 1 day to 14 days before requiring regeneration. The frequency of regeneration is depended on the filter size and the duty cycle of the buses and can be managed by fleet management staff.

627. Comment: I am concerned as to what these new air rules in regards to diesel truck emissions will have on the economy of California, the County of Monterey and my family business. My family's beef cattle operation relies on large trucks to move our commodity when sold. We do not have any slaughter or feedlot facilities within the local area so everything must be move out of County and generally out of State. Will we be liable for hiring a truck that does not meet your standards? Livestock trucks are difficult to hire, there are very few around this are so we maintain a semi-truck for our own use. (CCAA)

Agency Response: A business that does not operate or direct the operation of any vehicles is not subject to the regulation and therefore will not liable. If you own and operate a truck to deliver cattle to the slaughterhouse, your truck is subject to the regulation. However, if you owned this vehicle before January 1, 2009, your truck could be eligible for the agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section. Otherwise, if you have 3 trucks or fewer, your truck would be eligible for the small fleet provision that allows longer time to comply. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

628. Comment: I'm a third generation log truck driver. Thirty-three years ago, I used $3,000 that I had saved to buy my first log truck. That and the very friendly banker put me into the business. One of the reasons I'm bringing this up is I think with this current rule as proposed we are not going to give the ability for young guys to get into this trucking business, whether it's log truck, highway truck, or whatever. I think that's something that's really important. Without the influx of young people into this business, it's the life blood of our trucking industry. I think this is something that really needs to be looked at. (MACF)

Agency Response: Staff has not found that the parameters used by lending institutions to loan money have changed as a result of the regulation. While the price of trucks have changed over the past thirty years, and the cost of doing business has also increased, profit margins remain high enough that many people, young and old, continue to enter the business. While the regulation may have an effect on new entries to the business, the regulation is structured to allow for used trucks to comply with the regulation and existing fleets or new owner operators never need to buy new trucks to meet the requirements.

629. Comment: BJS would like to comment on the following statements found in the staff report: "Staff expects many, if not most, affected businesses to pass through the proposed regulation's costs to their customers." Staff does not understand that several affected businesses operate under contracts for years and are not allowed to change prices until the end of the contractor the complete contract can be sent out for re-bid. "Staff believes many fleets would be able to absorb the costs of the proposed regulation if they were unable to pass through the costs."

As stated earlier, BJS sales forecast for 2009 predicts a sharp decline in revenue compared to 2008. (BJSC1)

Agency Response: Staff recognizes that some contracts prevent businesses from adjusting prices before the contract term is over. Staff believes that some fleets will be able to renegotiate some contracts and others will not. There will always be a transition period that will affect fleets differently; however over the long term costs will be recouped. Staff also understands that under current economic conditions many trucks are being parked and many businesses are downsizing. However, the regulatory deadline is January 1, 2011 and if fleets have no pre-1994 trucks, their deadline is January 1, 2012. In addition, the regulation provides credits to any fleet that reduced it size relative to the number of trucks in the fleet on July 1, 2008. Both of these provisions delay any required expenditures and provide more time for the economy to improve.

630. Comment: Sixty percent of our heavy-duty diesel equipment is model year '94 and older. Seventy-six percent is 2000 and older. Banks will not loan on equipment older than ten years. (MCBS2)

Agency Response: The regulation does not affect how banks loan money nor for age trucks they loan money. While the regulation calls for pre-1994 trucks to meet PM BACT by January 1, 2011, 1994-1999 model year trucks are not required to do anything until 2013. 2000 model year trucks can wait until 2014. So the regulation spreads the requirements out over a number of years, allowing fleets to comply with used trucks instead of new trucks should they decide to comply by replacing trucks. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

631. Comment: Given that CARB is asking these industries to give up a portion of their existing economic assets to benefit the state's residents, the appropriate policy response is to compensate those industries for the loss in that value. While the principles of benefit-cost analysis applied here can be used to justify adopting public policies without compensating those who lose economically this does not imply that these policies should be adopted without compensating those losers. This is especially true when the losers can be so clearly identified as they can be in this case. The estimated benefit-cost ratio is so large that the proposed regulations will still deliver large net benefits after compensating the affected firms according to the CARB's analysis. Diverting some of these benefits from the winners to the losers is good, sound public policy. (AEG1) xtakingsx

Agency Response: Staff understands that initial costs of the regulation will be borne by the trucking companies and other businesses that are required to comply. The capital investments required are significant, but the impact on net revenue is generally small in terms of rate increases needed to maintain profitability. Staff analyzed the total cost of the regulation and performed financial analyses in several case studies in TSD Appendix J. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section. So ultimately the benefactors of the regulation, the public, will ultimately pay the costs. This is not so say that the initial burden will not be felt by the trucking industry, but that mechanism for compliance and the capital investment recapture already exists. Also, the regulation does not constitute as a takings as described in response to comments 2 and 3 in the Legal Comments section.

632. Comment: The report states at page J-19; "Out of state vehicles will be minimally impacted as the majority of out-of-state fleets are comprised of newer vehicles and are ahead of the proposed requirements." Yet the costs for in-state HHD and out of state HHD are roughly the same in this table. How are these two findings reconciled? (AEG1) xa lot more out of state trucks

Agency Response: Staff acknowledges the statement on page J-19 of the TSD, however the reference table is Table 11 on page J-21. The total costs for in-state HHD is the sum of two categories in the table ("Small and Instate Fleets" and "> 3 Vehicles") which totals $1.2 billion for 83,851 vehicles, or $13,977 per vehicle. For out of state trucks, the total of neighboring and non-neighboring states is $858 million for 490,358 vehicles, or $1,750 per vehicle. The costs reflect the difference in costs associated with complying with the regulation compared to normal vehicle replacements without the regulation. Staff believes this estimate is conservative because larger out-of-state fleets may have the ability to direct their cleaner vehicles to California, resulting in little or no increased cost of operation. Staff considers $1,750 per vehicle to be a minimal impact.

633. Comment: My last point is you have to look at the current economic situation that the State of California is in. Look at the fleet of trucks that the state owns and runs to fix the roads, to go to fires, to transport state owned goods. For you to comply with the proposed legislation it would cost millions and millions of dollars. To put particulate filters on some of these units is a poor alternative that is an expensive band aid that will last only a few years. Why expect the business owners of California to comply with this legislation if the State of California cannot comply on its own fleet? The State will go out of business as well. (RITL1)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to

comments 3 to 8 in the Need for Emissions Reductions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Vehicles that are part the State of California's fleet are not subject to this regulation because they are already subject the Public Agency and Utilities regulation which has been in effect since 2005. The state is currently complying the requirements of that regulation.

634. Comment: Your proposed regulations will cause economic hardship for my family-owned company and ultimate failure. My trucks operate an average of less than 35,000 miles and 1500 hours annually. I recently purchased newer 2007 and later models in support of your newer regulations. These trucks are already having serious engine/emission related problems, too costly for me to absorb in our economic crisis. (CDTOA3)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. If the truck is having engine problems they should be addressed by the manufacturer under warranty. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

635. Comment: As producers of poultry products, we have significant out-of-state competition. We will be at a disadvantage with out-of-state producers, who will not have to retrofit their fleets to the extent that our in-state producers will. (CPF) The West Coast Bypass via Panama Canal Expansion is not taken into account. The West Coast freight movement market is also about to take a serious blow from a soon-to-be widened Panama Canal that will have locks capable of handling cargo ships carrying as many as 13,000 containers -- much larger than the 8,000-container ships it was originally expected to accommodate. With the ability to handle most of the world's largest ships, the Panama Canal will begin to enjoy better economies of scale than its primary competitor, which is the transpacific intermodal route from Asia to the West Coast and to the rest of the U. S. It is cheaper to move cargo by ship than to transfer it to truck or rail and go overland. Each year a little more cargo has switched to the East Coast. The trend has been driven by several factors including West Coast port congestion, potential labor issues causing disruptions at West Coast ports and increasing rail and inland trucking costs making it more cost-effective to lengthen the sailing time to bypass

the West Coast and higher inland freight rates to offload shipments closer to final Eastern destinations. There have been limits to that strategy because of longer routing and travel times as well as constraints on the size of ships that could be moved through the Panama Canal. However, the Canal expansion project will allow wider ships to pass through and increase traffic to East Coast ports from Asia. The logical conclusion is that West Coast market share will be lost and future international freight traffic originating and terminating in California will be significantly less than anticipated. ARB needs to explicitly reflect this development in its emission forecasts. (CTA2)

Agency Response: Many of the in-state agricultural businesses may be able to qualify for the agricultural vehicle provisions which significantly reduce compliance costs. The emissions inventory developed by staff is updated as new and signification data is received. Staff work closed with local transportation agencies and CalTrans in effort to keep the inventory current. Any changes in traffic patterns as a result is roadway changes or traffic density will be reflected in future inventories.

636. Comment: I cannot absorb any more of the cost increases or pass them on to my customers. An issue that has not been addressed here is the loss of medical coverage. In order to be able to afford my medical coverage, we have had to increase our deductible so high I can no longer afford my prescribed medications. (DSTR)

Agency Response: Staff recognizes the rising costs in healthcare and difficult decisions business owners have to make to stay in business during this challenging time. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The cost of complying with the requirements of the regulation differs depending on the size of the fleet and age of the vehicles within the fleet as well as other factors. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section.

637. Comment: As the proposed regulations now stand, our company is in serious jeopardy of not being financially able to comply with the replacement of our 4 diesel trucks nor would we be able to sell our trucks in California. Two of our trucks are small tankers for the delivery of gasoline and diesel, one is a stake truck and the 3rd one is a class A tanker. These are specially built trucks and there is not a ready market out of state for them. There is a strong possibility that we will have to shut down our business, which is 3rd generation and has been in operation since 1924. The regulations do not make a great deal of sense as the cost to business and government, State, local and Federal (all fire service equip.

will have to be replaced, what do you do with a fire engine that cannot be used in the State) in this time of recession and hard times on small business. The cost to all involved far out way the benefits. (SHUS)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Although tankers are specially built, we believe that the tank can be transferred to a new cab and chassis. When staff performed the cost analysis, we determined that body transfer would be one of the options for complying with the requirements of regulation. Finally, all authorize emergency vehicles, including fire engines, are exempt from the requirements of the regulation.

638. Comment: My brother and I own and operate B. Panella Drayage Co., established in 1912. We are the fourth generation in our family to carry on in the trucking business and have enjoyed many years of success. But more rules and regulations are being forced upon businesses, especially trucking. We are seeing less and less profit, and especially in a slow and struggling economy. Being forced to purchase new trucks would have a devastating effect on our business. We are not so fortunate to be able to pass on all of our expenses to our customers. We totally believe in cleaning up our air quality and keeping California a beautiful State, but at what expense should that be done. We want to comply with the new rules but are wondering how we will be able to pay for these proposals. Please keep in mind there are many small companies like ours that may not be able to survive these changes. I believe that would be devastating to our economy and all of our lifestyles. (PDC)

Agency Response: The Drayage Truck regulation and the Truck and Bus regulation are two separate regulations. The vehicles regulated by the Drayage Truck regulation do not need to comply with the Truck and Bus regulation until January 1, 2021. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to

comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

639. Comment: Require CARB to work with local transportation agencies and evaluate potential emissions impacts from truck route closures resulting in additional mileage or increased exposure for sensitive groups. (DTCC2) (DTCC3)

Agency Response: Vehicles travel through various routes in California on their way to their destination. The regulation should not have an impact on route closures or which routes vehicles use. Regardless of which routes are used, the regulation will result in cleaner vehicles traveling on them.

640. Comment: If there was some kind of logic to the rulemaking and legal process that would be one thing. But there is not. Ag vehicles are exempted from air quality rules even in the biggest agricultural valley in the state. California fuel costs more than anywhere else in the nation and there is no offset for California companies. Agency calculate the costs whichever way they have to rationalize their rulemaking. One cost is calculated but another is ignored, leading to legislative and regulatory equations which are completely out of whack. (KVSI2)

Agency Response: The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.

641. Comment: CARB is assuming that fleets operating occasionally in California will be able to segregate their equipment, both tractor and trailer, and install upgrades to only that subset. That assumption is flawed for several reasons. First, the freight destined for California (because of the size of its economy) originates out of virtually every part of the nation. To position tractor and trailer equipment with the necessary density and dispersion so equipment is available at origin for California destined loads would require full fleet implementation. Second, trans-loading at the California border onto certified equipment is not an option, especially with loads consisting of food products, because the seal requirements many customers now have does not allow carriers to open the load until it arrives at destination. Even if seal requirements were not an issue, the trans-load expense and exposure to claim from temperature variation or damaged cases would make this option unfeasible. Finally, even if equipment could be positioned in advance, the lack of isolated trailer pools in most one-way trucking applications prohibits reserving certified equipment for California destined loads. In many trailer pool locations, carriers rely on customer loading processes, third party loading services and driver decisions to determine which load ends up on which trailer. Those decisions are often difficult for the carrier to control; resulting in the probability that a portion of the California destined loads will end up on non-certified equipment. (CREI2)

Agency Response: Staff did not assume that out of state fleets need to transfer their loads at the California border. Staff recognizes that the fleets operating occasionally in California will have some challenges in their operation. The out of state fleets that operate in California and California fleet needed to be in compliance and must follow the reporting requirement if they choose other than BACT compliance schedule and follow the record keeping requirements. The regulation does provide options that would provide some flexibility in fleet management. We have allowed an out-of state vehicle the option, available only to be used once each year per fleet, to operate a single vehicle in California for a 3 day period regardless of miles travelled.

According to staff analysis as detailed in Chapter XIII of the TSD, close to 90% of all trucks entering California from non-neighboring states are six year old or newer. As a result, these newer vehicles will comply with the regulation without any change in their normal course of business. Therefore, they will not need to segregate their vehicles for California use only. Fleets with vehicles travelling over 100,000 miles per year generally have vehicle replacement rates that are much higher than fleets with vehicles averaging less than 20,000 miles per year. For example, a long haul trucking operation that averages well over 120,000 miles per year may replace all of their vehicles with new vehicles in a 3 to 7 year period. Any vehicle which is 7 year old or newer will be ahead of meeting the regulation.

About half of the trucks from neighboring states are six years old or newer. All the trucks entering the state from both near and non near states that are older than 6 year old, amount to about 14% of all the trucks. However, the majority of these trucks are between six and ten years old and will likely be able to comply with the regulation by installing diesel particulate filters. Staff expects that because out of state fleets are typically newer that load logistics will change very little.

e) Economic Impacts on Small Fleet

642. Comment: If you're a small business person and you've got two or three trucks, you're probably just going to pack up and move to Nevada or Arizona and not deal with it anymore. (KLL2)

643. Comment: The burden financially is beyond most small fleets; just one more reason to leave this place I call home. (SWAR)

644. Comment: I am opposed to the proposed regulation to retrofit or replace all diesel vehicles over 14,000 pounds. I am a small, one truck owner, and I simply can't afford it. (RWAL)

645. Comment: As we near the vote for the Truck/Bus Rule, it is becoming apparent that CARB staff is immune to what happens out here in the real world, where hard working folks are losing their equipment, homes, medical insurance and can barely afford to feed their families. While unemployment figures continue to rise, there is one group you do not have statistics on, and that is of the small, independent operator. In the construction trucking industry, we are entering our second year of declines. Many are sitting, unable to pay either registration or insurance. They

are unknown to any government agency because they are not anyone's employee. (CDTOA4)

646. Comment: I will suffer a good deal of hardship if this regulation passes. I am a small business owner and I cannot afford a new truck. (DKIT)

647. Comment: I have attended the meetings. What I do not understand is why you are not listening to us. I am a one truck company in the construction industry. Let me state this is no small terms. It will put me out of business on 12/31/2012. I worked long and hard to attain my truck and build my business but I simply cannot absorb another blow like this. (JFIL)

648. Comment: I'm a very small business in California. I do salvage work in the logging industry and fuel reductions for fire prevention. I'd like to comply with all this. But it's unrealistic for thousands -- literally thousands of people like me with one rig. It's just out of our reach. I don't really think that you even realize the impact this is going to have when tens of thousands of people like me instead of large companies we've heard from. Your tax base is going to be affected traumatically. You will put tens of thousands of us little guys out of business. It's going to affect California's economy. We need to evolve into this, but we need to do it slower, when we have an economy to do it with. (GENT)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

649. Comment: Replacement cost for a truck like mine is around $250,000. Essentially, this action will put me out of business in the State of California and I suspect will have the same impact on many other independent or small trucking companies in the state. (STRF)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

650. Comment: The proposed regulations are arbitrary and onerous to business in California, especially to an owner operator with one truck or a small fleet. Is it the goal of the State of California to ruin small business or have it flourish and be beneficial part of our state's economy? CARB goes way too far in its mission to control diesel vehicle emissions much to the determent of the business citizen. The new regulations need to make sense and not turn the trucking industry on its

head. I would like to respectfully request that you revisit these proposed regulations and consider the impact on the small business owner. (STRF)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

651. Comment: I am a one owner operation as most are. I purchased a 2005 transfer truck in the same year, for the simple reason of having a truck that meets all California and federal standards. What you are proposing is unfair, and should be unlawful. You should try making a $3000.00 per month payment in this economy, and now be told that my 2005 truck is not going to meet some criteria that the board has passed. I think that the board should reconsider their action in this recession. No one is going to be able to afford your proposals. (CDTOA7)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. With regard to the 2005 model year truck, by January 1, 2014, the fleet owner will be required to install the best available verified DECS to reduce PM emission and the vehicle will meet the requirements until January 1, 2019.

652. Comment: If this bill is passed, it will create a hardship for all small business owners such as me by having to purchase a new motor to comply with the proposed law or to purchase a brand new truck. Neither one of these purchases is affordable, especially since we are in a recession. I am asking all of you to please

consider an alternative such as an exempt status like the one in place for automobiles, 1975 and older are exempt from smog testing. This would be a more practical solution for the small business owner. (CDTOA9)

653. Comment: Most of the vehicles that this proposal would require to have a PM trap could not be sold for as much as the cost of the PM trap itself - $12,000 to 20,000 for each vehicle! With reduced fuel economy and higher maintenance costs with a PM trap than without, are we really doing California any favors? It just doesn't make sense for independent operators and it doesn't make sense for California. Public assistance funds are appreciated, but will be in high demand throughout the state especially in these hard economic times. (CCAA)

654. Comment: This regulation, especially at this dire financial time in the economy, will be the final death blow for our company. We are a small trucking company with 3 older trucks and do not have the capital or the sustained accounts to responsibly leverage for credit of newer or retrofitted trucks. Even the grants that are being offered require commitments that we will be doing business for a set amount of years. Right now, I'm not sure if I'll have enough loads to keep us going through next year, yet alone commit to the guidelines of the grants. (PTI)

655. Comment: While I understand the need to clean up the air, it could not be coming at a worse time. My independent contractors are currently making about half the trips they were making at this time last year and are being asked to either retrofit a $10,000.00 truck with a $25,000.00 part or hand over their truck which is paid in full or take on a $600 truck payment. (JSEC)

656. Inadequate thought about the consequences for small fleets and individual truck owners is the big problem for us who are trying to stay in business in a failing economy in an industry that is over-regulated anyway. (LDT)

657. Comment: This regulation is wrong and will cripple the small independents trying to survive in this current recessionary period. We should be encouraging business development. This type of action is the wrong message for the State of California to be delivering. Do not let this regulation pass. (PDEN)

658. Comment: Our industry and I personally depend on the independent owner-operator very heavily. They make up the majority of the industry out of necessity. They're very valuable. I'm afraid you're going to cut them in about half. Half of them are going to be gone. They're not going to be able to make it. Then you take into consideration that where our country is right now financially. I hope that you take a look at the alternatives to this. (AFTR)

659. Comment: I felt this was a very doable rule. We could clean up. We could help our people receive funding help and certainly achieve these goals. However, California has changed dramatically. Our unemployment figures are staggering. There's one group you don't have and that happens to be these owner-operators that are no one's employees. We are a devastated industry. (CDTOA13)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter,

which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

660. Comment: My husband is a one truck owner-operator. We sold the truck that was my income when work dropped off in August of 2007. My husband upgraded to a 2004 truck only to find out we will have to spend upward of $20,000 to retrofit. How will we pay for this by 2012? Yesterday, the Governor said we are headed for economic Armageddon. If you must pass this rule, please give us more time to recover from this horrible economy. (CDTOA14)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. With regard to the 2004 model year truck, by January 1, 2014, the fleet owner will be required to install the best available verified DECS to reduce PM emission and the vehicle will meet the requirements until January 1, 2019.

661. Comment: We do support the state's efforts to improve air quality. Our problem with the proposal is the timing and the cost factors. We are a single-truck sole

proprietorship in San Bernardino County, California. We purchased our 2000 Freightliner in 2004 and replaced the engine (cost: $30,000) in late 2006. Because we had good personal and business credit, we have been able to stay in business to this point and because we know how to manage money and control costs. During the year 2008, the trucking industry saw the highest fuel prices in history. No one at the state or federal government level did anything to help us and many owner-operators stopped operating in California. Many refused to come to California because of anti-idling laws, and now they will refuse because of the impending regulations that will require expensive changes. We are not currently in a position to make expensive changes. (LDT)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

662. Comment: I am a single truck owner operator. I am having a hard time making ends meet during the recession that our country is in. My income is down about fifty percent. It would be impossible for me to buy the new equipment that you are proposing. My bank will not give me a loan for equipment. They suggested that I take an equity loan on my home but because of the real estate market I owe more than my house is worth. (CCOO)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

663. Comment: After speaking with small business owners in the 17th Senate District, I am writing to respectfully request the Air Resources Board to consider an exemption or adjustment of the regulations for small businesses that use engines and equipment that currently meet mandated emission standards but may possibly not meet the new standards adopted by the Board to reduce emissions of diesel particulate matter and oxides of nitrogen from in-use off-road diesel vehicles that operate in California.

While reducing emissions is extremely' important, the possible hardship imposed on small businesses - the backbone of California's economy - could be great. Indeed, many small companies that rely on off-road diesel vehicles to perform their Work are deeply concerned that the new rules will put them, out of business. These companies have engines and equipment that will not be compliant after 2010 and, unfortunately, fail to qualify for Carl Moyer grants because they run for too few miles and/or hours.

If companies are forced to close their doors, the loss of jobs and the tax base generated by the companies and their employees will most certainly have a negative effect on the economy. It is troubling that small companies that have always complied with air quality regulations are now faced with the possibility of going out of business. (CASS)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

664. Comment: We have members with large fleets, and they're facing struggles, with the potential of bankruptcy if they have to buy and make the changes to these trucks over the next few years. They operate mainly in clean, low population, NOx and particulate matter attainment districts - timber country. We have a number of members who are owner-operators. They have just a few trucks, in some cases just a single truck and they have to earn their living in six months or less and during that time try to make what profit they can to stay in business and raise their families. (ACLOG2)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation has

optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. Any vehicles that operate exclusively in less polluted areas of the state are exempt from the NOx reduction requirements until 2021, but remain subject to the PM filter requirements, see response to comment 98 in the Regulatory Provisions section.

665. Comment: To understand this industry (construction), you need to take a closer look at how it operates on a day-to-day basis. You can't compare this type of trucking to over-the-road freight or any long-haul companies. If you researched this industry the same way the Port situation in L.A. was, maybe you would have a better understanding of how devastating the proposed rules are going to be for the typical one truck owner-operator. (TCTP)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. Staff met with various companies including freight haulers, dealers, retail businesses, dirt haulers and others in the construction industry. The staff cost anlaysis included estimates for a wide range of new and used vehicle priced and also included body transfer costs for vocational vehicles being replaced in the analysis. Staff used the individual fleet analysis and meetings with individual businesses to better understand the economic impact. Staff also evaluated costs by business sector. The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section.

666. Comment: I am a 62-year-old owner operator with one construction dump truck that is very well maintained and with low mileage usage. I planned to use this vehicle until my retirement, which should have been in 2014. However, with the regulations you are proposing that will not be possible. I will be faced with an additional financial burden to keep my business operational. These very costly proposed regulations will definitely put me out of business. I am troubled as to how the board and Ms. Nichols are making decisions regarding these regulations without the knowledge of what it takes an individual owner operator to maintain their business. These regulations as they are projected within the timeline proposed will affect the owner operator far more than a large company. Maintaining my business with the slowdown of construction and the economy is extremely challenging. This business is my only source of income and the business that supports my family. If the proposed regulations are instituted as proposed, I will be left with NOTHING, no business or job, no income, or any

retirement. My plans to pass on this business to my grandson and provide him with a future will certainly no longer be possible. All of you who have my fate and the fate of all owner operators in your hands will continue to have job security, benefits, and retirement provided to you. I hope you will consider the devastation you will be imposing on those of us who have worked hard to build our businesses and will be left to try to start over at another career. (CDTOA5)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation has provisions to delay some of the requirements for low use vehicles, see response to comment 164 in the Regulatory Provisions section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

667. Comment: Your regulations as they stand now will put me out of business. I have a 1989 Peterbilt transfer rig with a 3406B Cat motor. It's a mechanical motor that will not pass your proposed regulations. My problem is I just bought this truck 2 years ago for $75,000.00. I have a note I need to pay for 3 more years. According to your time table, I have only 2 more years before I will have to scrap my truck. What gives you the authority to tell me that not only do I have to junk my truck, but that I also lose the capital investment that I already have in it? If you want to purchase my truck for what I paid for it then fine. But I certainly cannot afford to abide by your proposed rules as they are written at this time. That's like me telling you that that new car you just bought isn't legal to operate on California roads anymore and you will have to buy a new that that is legal. You should know what costs are involved in purchasing a vehicle that will conform. At the present time I still owe over $43,000. Your grant program would give me about $50,000 with strings attached to purchase new equipment. The new equipment costs over $175,000.00. That puts me in the hole for $168,000.00. Do you realize what kind of monthly payment that will work out to be that I will not be able to afford? I am not against what you are trying to achieve, however can you see to it that you pass something that will give individuals like me some way to conform without putting us in a hole that we cannot get out of? I'm only asking you to work with me on this. It's hard enough now with the economy the way it is and the lack of work and the high cost of living in southern CA. (MBIN)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used

vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

668. Comment: The small vocational fleet businesses, including owner-operators, are the most unlikely companies to be able to afford new trucks. Unfortunately, the way the rule is currently written, these small businesses are the ones who are being asked to most dramatically impact their businesses. Generally, due to close profit margins and low operational mileage, a small fleet operator in construction may buy a single used older truck and choose to diligently maintain this truck over the years rather than purchase a new one every 5-7 years as the CARB truck replacement model seemingly utilizes. While new truck purchases in a short time period will be difficult for some large low-mileage vocational fleet companies, it will be economically possible. However, the same requirement is likely to drive small fleets and owner-operators out of business. More leniency and flexibility is needed for the small fleet businesses. (CDTOA11)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.
The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

669. Comment: The success of more than the trucking industry is dependent on this decision. The livelihood of owner operators, truck fleets and the Californian public is dependent on reasonable thought. I have a 2001 truck with 250,000 miles, just barely broken in and barely finished making payments. Now I would have to retrofit a perfectly good truck. Please help everyone including yourselves by making reasonable decisions. This decision is vastly important for the future of all Californians. No more stringent / unreasonable regulations. (BERI)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The economic effect of

the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

670. Comment: I'm a construction truck broker in Northern California. My company supplies trucks to most of the large construction companies in the Sacramento Valley. I also have 2 children ages 10 and 12. I think it's horrible the financial devastation you will bring this industry. I employ over 100 owner operators that have said if this law takes effect, most of them will go out of business. Twenty percent of my work force is close to retirement and do not want to spend their last few years trying to pay off a truck that costs over $125,000.00. That will totally screw up their chances of retiring with somewhat of a nickel in their pockets. The economy is in financial ruin. Banks can't seem to see straight to loan money. Work load is at its worst level since the 1990's and you want to impose this horrible rule? You simply can not do this with a clear conscience, knowing full well the financial ruin you will bring going down this path. As for my kids they will still breathe everyday. Hopefully enjoy the very food and clothing my job can supply them. You see we all need to eat and survive with our lives. Unemployment has no room for the amount of people you are about to bring down. (LJEN)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

671. Comment: The current draft rule disproportionately harms lower resource owner/operators such as many of our farmers, ranchers, and other independent business people. Some of our members own only one truck and would not be able to take advantage of fleet averaging. (CCAA)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.

672. Comment: If you find any agricultural sector making money (profit) out there then go ahead with your new regulations. In this economy, the proposed regulations will be the final nail in the coffin for some of us. We are struggling to stay solvent. Please postpone any planned new regulations. (CFG)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.

673. Comment: McCorkle Trucking is a small-to-medium size agricultural carrier that operates in northern California. Most of our work is on a seasonal basis, dependent on the needs of the agricultural industry in the area throughout the year. We operate 23 Class 8 trucks with year models ranging from 1982 to 2001. Our annual total fleet mileage is approximately 1.2 million miles, using approximately 213,600 gallons of fuel. We realize that California air quality needs to be improved, and the truck industry needs to do its part; however, the current California Air Resources Board (CARB) proposal will eliminate many trucking companies and cripple many other companies. (MCTR1)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.

674. Comment: Currently the majority of bee freight moved into CA is done by carriers based out of California. The new proposed regulations would eliminate them as options and leave the currently California based carriers as the sole providers. The shortage of freight carriers would be devastating to our industry. (BSB)

675. Comment: One of the things that hasn't been particularly addressed here is the effect that these regulations will have on an interstate trucking company coming into the state of California. I'm aware that all the trucks entering the state will be required to meet these standards. I have a small fleet of trucks that I bring in from out of state personally. They're fairly new trucks. But nevertheless, I doubt seriously they will ever meet these standards in the fashion they are being

presented today. In light of colony collapse disorder within the beekeeping industry, clearly the beekeeping industry has suffered. We can't afford to have increased costs. (WPBA)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section.

676. Comment: To the extent that there are health concerns being reviewed by the Board in the preparation of this rule, we would add that there's always reason as you review job loss data to review the health impacts on heads of households who lose their jobs and the impact on their health to sustain job loss, by the impact on their children with health insurance loss. (ACLOG2)

677. Comment: You have stated you will be savings thousands of lives with this regulation. What about the thousands you will be killing who cannot afford medical insurance anymore? We are on the verge of losing ours. (DSTR)

Agency Response: The commenters state health costs associated with the loss of jobs or health insurance should be considered along with the health costs benefits of the regulation. Staff expects however, that these type of health costs would be minimal. Staff expects that most of the affected businesses will be able to pass through any increase in costs to their customers, thereby minimizing any job losses or loss of health insurance coverage. This could be achieved through higher shipping rates, or higher costs for manufactured goods, resulting in higher revenue (but not necessarily higher profits) for affected fleets. The health costs benefits of the regulation are very significant. Emission reductions from implementation of the regulation will result in lower smog forming emissions ambient PM2.5 levels and reduced exposure to diesel PM. Staff estimates that statewide, approximately 9,400 premature deaths statewide will be avoided by the year 2025 from the implementation of the regulation. This in turn results in economic benefits due to savings from avoided deaths and in health care costs. Staff estimates the economic benefits to be between $48 and $69 billion. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

678. Comment: CARB is mandating companies like mine and these people to replace assets and trucks before they need to be replaced. It just doesn't make any sense. (WSOC)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

679. Comment: Air quality is a priority, however improving emission to levels of previous years should not be achieved by merely putting half of the California trucking companies out of business. That should not be the intent of regulation. Staff has continually stated that they know it will put a large number of trucking companies out of business for lack of workable proposal. (ALOG3)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

680. Comment: It sounds like the only reason for the plan is to get federal highway funds through a guilt complex that 11,000 people die each year from truck exhaust. For one thing, if the politicians would leave the fuel and road taxes where they belong there would be an abundance of funds available for road and highway work and I'm curious as to how much of the $17.2 million dollar budget is going to CARB? How do you feel the people that put you in office are going to take the added expense? You are adding to their already taxed, inflated, over bearing cost of living in California. If you will, look around your office and try to find something that has not been on a truck and how much more it will cost now? (CDTOA1) (CDTOA11)

681. Comment: The air emission standards are too aggressive and have begun a massive decline in purchasing new equipment due to the uncertainty of how CARB can change laws and also how the enforcers choose to interpret. Then the economy is slumbering and will become comatose if we do not incentivize instead of penalize. The electric hybrids do not get any incentives in the refuse market

even if it was totally electric. Due to the over regulated BACT, the money that is being made on taxation of fuels is going towards enforcement which will help reduce the number of buyers in a depressed market. Please don't regulate an over regulated industry and push the state into chaos. We can only do so much. The days of being able to make a living in trucking are coming to an abrupt end, people will cheat the systems and thus we will get more enforcement and where is the end to this. This will force all air emission causing machines into other states. The other states don't seem to have a major problem with it. We need better leadership not agents! (JTOR)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. We agree that incentive funding is an important complement to the regulation, and we work closely with local air districts and other stakeholders on solutions to achieve our common goal of creating and maintaining effective incentive funding programs. As with funding received as a result of ARB enforcement effort, it will be placed in a special fund to be used for educating and promoting programs to help reduce emission.

682. Comment: Chairperson Mary Nichols gets something else right. She realizes our economy is in a slump. But again, immediately, she counters that by saying she believes our economy will be turned around by the time the industry has to spend any money. Listen, her job, as she so well stated, is to clean up the air. It is not in her scope to predict what the economy is going to do. Nor does she have a crystal ball telling her how many years it will take the trucking industry to recover from this economic depression. She can't say that in 2010, the trucking industry will be fully recovered and ready to take on these additional costs. But again, she wants to sway the public into believing this. Let me remind the ARB of their own mission statement which reads: "…the mission is to promote and protect public health, welfare, and ecological resources through effective reduction of air pollutants while recognizing and considering effects on the economy." The economy is not going to benefit from this. This money could be better utilized elsewhere. Inform the public of the improvements the trucking industry has already made over the years in the trucking industry. They will appreciate your accomplishments, and understand why we don't need to spend this kind of money any further in this area. (DRUO2)

683. Comment: I believe the quality of life, has to take precedence over the absolute quality of the air being cleaner than it is today. I was told by one of your staff members, that if we did nothing that we would be in full compliance by 2025.

That's 60 months. You're going to uproot this terrible economic situation we're already in now. (BBTOW)

684. Comment: The proposal by ARB presents a very aggressive schedule that will be difficult for many companies to meet, particularly when business is slow and financing has become more difficult. Many of the regulations purposed by CARB will cripple not only the trucking Industry in our state but every aspect of the functionality of commerce in California. We as a company are concerned about clean air but we need to implement these regulations in a time frame that will not bankrupt the trucking industry or our state! (CCIMA1), (DHTP)

685. Comment: First of all, let me state that I want clean air. As California's economy crumbles and the Governor has called the state of the economy a "crisis", I can't even fathom why this draconian regulation implementation would be considered. The costs associated with this implementation are absurd. (RDA)

686. Comment: I operate a vehicle dealership selling trailers to the trucking industry and businesses using diesel tractors and trailers to transport their product over California's highways. After 49 years in business, I am concerned about the viability of our customers and of dealerships in these difficult times. Business will be made more difficult by the recent proposed rules to mandate equipment changes. Cash is scarce and financing is more difficult to obtain for new equipment purchases or retrofits to existing tractors. Mandating the replacement or retrofitting of diesel-powered trucks and equipment that met all applicable California rules when they were built and sold new will force many operators will retire their existing equipment and not replace it. With the retirement of those tractors, driving jobs will also be retired and the capability to move goods vital to our economy's recovery will be reduced. Those operators able to make these investments will have less money available for other fuel saving investments, such as the voluntary Smart Way program. (NTDA)

687. Comment: I have heard that China puts more pollutants in the air in a week than your project will save over a twenty year period. So how can you think of putting the financial burden of these proposed regulations on the already struggling trucking industry? Your passage of these regulations will force a huge percentage of California's trucking companies into closing their doors. How many jobs will that cost? After they are gone, there will be such a shortage of trucks in California, the shipping rates will certainly rise and add to the consumer's costs. The surviving companies will be in the driver's seat. You environmentalists and your green agenda have all but crippled this country. You have made us slaves to OPEC and other oil producing countries with your ban on drilling, and now you want to increase the burden on our citizenry with these regulations in the name of stopping global warming, something that is probably caused by a change in weather patterns more than we humans. (TEAT)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease

soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

688. Comment: With the State of California going broke, why is it that you are contemplating regulations that will close the doors of many businesses that are barely hanging on now. (CGA7)

689. Comment: Even without considering the current economic strains, the trucking industry is already on the path to doing it's part to clean the air. But to spend billions of taxpayer dollars and require truckers to come up with funds to replace or retrofit trucks when there isn't even a guarantee of jobs; and to ask the general public to pay higher costs for all goods hauled by trucks, just seems unreasonable and irresponsible at this time. It is very likely that the money ear-marked for this project could be better utilized in researching other areas for cleaner air that could net greater results, with less economic impact. The trucking industry absolutely is in agreement with efforts for obtaining better air quality. We are proud of our accomplishments so far and with the path we are currently headed. Consider allowing this process to continue without imposing any further hardships on this industry. (DRUO1)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

690. Comment: I agree with helping make our air quality the best that we can. As an employer with 23 employees, all of whom operate equipment on a daily basis, I am much concerned as to where the profitable revenues will be generated from to stay in compliance with this proposed regulation. The construction market is very competitive and often enough many contractors are bidding projects just to keep their employees working. This extra financial burden placed upon us with the proposed regulation will more than likely force the business to shut down. With this shut down, comes loss of jobs, unemployment benefits, no tax revenues of any kind which in turn will cause financial burdens to many major California cities, towns and counties counting on tax revenues. In as much as I agree with "clean

air" concepts, one must consider the downside to the installation of this proposed regulation at "this time" in California history. (KSAN)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section.

691. Comment: The proposed rules have and will significantly affect my business. I do not have the money to replace equipment that is working well, just to comply with these rules. The compliance dates should reflect when the equipment is replaced due to major engine failure. I schedule equipment replacement based on the repair frequency. When the repair costs get to high, I replace the equipment. (TGUI)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

692. Comment: We cannot afford to buy new trucks. I don’t see how it is environmentally beneficial to junk such a large quantity of trucks. We cannot afford to buy six new trucks in the next two years. These regulations will close a small business and put 15 people out of work. (HMI) xexplain how dirty older trucks are.

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to

comments 3 to 8 in the Need for Emissions Reductions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Test data show that a pre-1991 diesel engine emits thirty times more pollutant than a new engine. To meet the federal air quality attainment standard, emission reductions from these older engines are needed. The Truck and Bus regulation will get the necessary emission reduction by modernizing the fleet.
The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

693. Comment: With 390,000 in-state commercial vehicles affected, it will be nearly impossible to achieve the mandates of the proposed Private Fleet Rule without causing a major portion of the transportation industry to be eliminated. This will not only affect the truckers but the businesses that service the industry.

The PFR will affect and/or eliminate more businesses than the 170,000 referred to in the ISOR. Tens of thousands more secondary businesses, lives, and jobs will also be affected or eliminated by the unrealistic timeframe of the PFR as it is written. (MSTU)

Agency Response: The cost methodology and cost inputs used in staff's analysis were developed with stakeholder participation and is an accurate representation of the incremental costs expected with the regulation and it is described in detail in Chapter XIII of the TSD and further detailed in Appendix J, see response to comment 330 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

694. Comment: Regulations amount to heavy, regressive taxation. When the dust settles, and all of the "offending" equipment and trucks are taken off of the construction projects and highways, the result will be the most regressive tax on the residents of this state ever conceived. The cost of all goods will accelerate dramatically, from building roads to producing widgets to delivering bread. Businesses that survive pass the costs along. The reduction of competition along with the increased costs to meet these esoteric air quality targets at the time imposed will not go unnoticed at the check-out counter. The agency (CARB) enforcing the rules should survive well via fines imposed upon industry, thus guaranteeing their employment at the expense of others. The population affected most by these cost increases will be the portion least likely to afford it-the elderly

and poor along with the budgets of all cities and counties in the State. There is no need for a "study" to confirm this; just apply some common sense (the characteristic apparently deficient in the "rush to judgment" by CARB). (DCI1) xcarb-finesx

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. Any fine received as a result of ARB enforcement effort will be placed in a special fund to be used for educating and for programs to help reduce emission.

f) Effect on Vehicle Value

695. Comment: It has been suggested that we can sell our trucks out of state. We use 2 axle trucks and they are not used much out side of agriculture, and therefore worthless on the resale market. (DLEE)

Agency Response: Two axle truck-tractors are commonly used outside of agriculture by less than truckload carriers, local delivery fleets and by long-haul fleets that pull double trailers throughout the nation and as such there is not reason to believes two axle trucks cannot be used or sold outside the state. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

696. Comment: By your program, it will be virtually impossible to sell our trucks in California. In a loss environment, financing is impossible. Selling of used equipment is impossible as regulation outlaws their use (RWT) (PRR)

697. Comment: Just the fact that these rules are being proposed has devalued my truck by over 70%. This proposal needs to be scrapped. (STRF)

698. Comment: Your actions have devalued our current assets 30-70%. Banks that look for assets to loan against will not loan us money since you devalued our existing trucks. (EGI)

699. Comment: I own a lot of equipment that will be affected by your new regulations. I purchased this equipment with hard earned money which has provided a lot of jobs including my own. This equipment was going to be a large part of my retirement but is now worth 50 to 75% less since CARB's proposed regulations. Please remember the non government workers don't have guaranteed retirement packages. (BELL)

700. Comment: With the costs associated with dealing with the regulations and everything in general, the property values are going to go down on all these vehicles. It's taken away the people's value, what they've earned, their livelihood. (LDR)

701. Comment: The proposed regulation of the CARB will make all my moving trucks obsolete and severely, negatively impacting my company. (PMI)

702. Comment: I have been in business for 35 years and have built a good reputation. I am ready to retire. With the new regulations in place, I will have nothing to sell. Bringing my equipment up to code is financially impossible. I can just make ends meet with the equipment I have, which will become worthless and unable to sell. (WBAT), (CDTOA10)

Agency Response: When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

703. Comment: Many companies like ours are being asked to dispose of equipment and assets before their useful life has been completed, and purchases made before it would otherwise be acquired. Many aspects of this proposed rule and the state of our economy have left the trade-in or resale value of our equipment worth pennies on the dollar. Our company and others like us simply do not have the resources or access to capital to retrofit our engines. Some of us or I should say most of us will be forced to liquidate and eventually close our doors. (JBTI1)

704. Comment: There is no disagreement that we need to work collectively to improve the state’s air quality and all of us want to provide as healthy an environment as possible for our families, our employees and all Californians. However, in its current form, the Board’s proposed regulation places a significant economic risk on our business today, jeopardizes our future viability in the construction industry, which is already reeling from unprecedented financial turmoil. Companies like mine are being asked to dispose of equipment and assets before their useful life has been completed and purchase new equipment before it would otherwise be acquired. A combination of this proposed rule and the state of the economy have left the trade-in or resale value of our equipment worth pennies on the dollar. My company and others like us simply don’t have the resources or access to capital to retrofit our engines. Some of us may be forced to sell off our trucks at a loss or

shutter our companies' doors, ultimately costing jobs and revenue to the state's economy. (MSTE)

705. Comment: Even now, as new regulations are being proposed, truck dealers do not want to take older trucks in trade. The enormous glut of used diesel trucks not meeting CARB emissions standards will be in the hundreds of thousands. (STRF)

706. Comment: These trucks are a lot like your house. Their value has dropped down to about 50%. You think it is hard to sell a house? Try to sell a truck. On top of that, when you get ready to sell your house, which the value in some places has dropped 50%, I hope some State agency comes along and tells you you need to first spend another 50% to sell it. Why are we wasting our time in Sacramento doing this right now? (THON)

707. Comment: Our business is off a full 50 percent with just the threat of this regulation. What happens is the customers don't have any trade value. They can't put their truck down to buy the next truck. (FTSA)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

708. Comment: I am a small business of 6 trucks, 6 drivers, and my family of 7. I fear that this might be a strain on this company and its employees. I know that this isn't a lot, but I am sure that the effects would be huge in affecting businesses state wide that are the same size as I am. My business alone affects the livelihood of about 40 (employees, wives, and family). This would also make my equipment unsalable in CA. (JSPA)

709. Comment: In proposing this legislation and if it passes, we will be forced to dispose of the old equipment and assets and purchase new before it would otherwise be acquired, in which the trade-in value or resale value of our equipment will only be worth pennies on the dollar. Simply put, our small business simply does not have the resources or funds to retrofit our engines, and in doing so would put such a financial loss to our company, that could result in loss of jobs for our employees and possibly closing our doors and in turn be detrimental to the state's economy. (AWMS)

Agency Response: The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the

regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

710. Comment: I own a 2000 year model truck and being close to retirement my truck was to be worth around $60,000 to add to my retirement funds but now you want to make it worth scrap. The trucking industry is striving to help with pollution and I for one keep my truck well maintained and as fuel efficient as possible to help keep my costs down. I would like to suggest an idea to allow trucks to haul bigger payloads in order to lessen the amount of trucks and trips required thereby significantly reducing pollutants contributed to our surrounding atmosphere. (CDTOA1)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

711. Comment: I want to testify on what this rule has done already just the potentiality of it to assets of people with older trucks. Seventy-five percent of my fleet is mechanical engines. We run local within 100-mile radius at the maximum and in the construction industry you work maybe 50 to 60 percent of the time. I think it's wrong to say that a vehicle that has useful life, no matter what year it is, complies with all the smog related issues of when it was built, it has to go away for good. (AFTR)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the

regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

712. Comment: With the proposed regulations, my vehicle investment will have a zero dollar value. It now has no value at all because of the proposed regulations. There will be no option of selling to obtain money for a new vehicle. (CDTOA5)

713. Comment: The older trucks are becoming valueless and we cannot recover our investment to upgrade. This regulation devalues our fleet and we will not be able to sell or afford to replace it with new equipment. (BSB), (FORM4)

Agency Response: Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

714. Comment: I've got a huge rental fleet that caters to a lot of businesses in the Sacramento Valley - 250-plus trucks that all have to come into compliance. What you're creating in California is taking the value of these trucks when they come back and they're not worth what they should be. You're unfair to the businesses in California because we're losing the value of our assets. For a new person trying to run a business, that used truck that used to be a great asset is not going to be worth what it should be. (RITL2)

715. Comment: As a California truck dealer, I am very concerned about this current proposal. The value of our customers' trade-ins has already dropped thousands of dollars with just the threat of this regulation. If it passes, the used truck market will evaporate in California, leaving my customers scrambling to stay in the business. At this time and for the past year our customers have been on the fence for purchasing new and used equipment due to the pending Statewide Truck and Bus Regulation 2008. This pending regulation has effected used truck values, new truck sales, insurance values, trucking companies and related business revenues (tax base) and there net worth. With this said we as California Truck Centers which include six dealerships in California maintain a stock of 600 to 750 used trucks at any given time, if the rule passes we feel that any and all value of most of the used trucks will be $0. (KFIT), (DTCN)

Agency Response: The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement

practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Staff recognizes that the value of used trucks will change as a result of the regulation, but the number of new and used vehicle sales is expected to be higher with the regulation not lower. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

716. Comment: These California businesses that have equity in the equipment, that you are forcing them to replace, are now finding out that the used equipment has little or no value in the California market place. These proposed laws in combination of the economy have killed the used truck market place. My dealership has 60 used trucks on the lot that are all 2000 model and newer that we cannot sell because of these laws. You have scared the 2nd user into fixing his old equipment and not investing in good used trucks. My competitors in the lease and rental world, namely Ryder and Penske, are located in all 50 states. They are simply taking there used equipment and sending it out of state. We do not have that network to spread the used trucks to. I heard one of my customers, a California based business, was selling some 2004 model trucks with low miles because his business had slowed. He actually took a low offer from a competitor of his who sent the 2004 units out of state to one of their many job sites. The company simply has been sending 2008 model trucks with 2007 emission engines to California and sending their used equipment to other states to use. We are losing money on our used trucks because of your legislation and we are at a competitive disadvantage in the market place. (RITL1)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the

regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

717. Comment: Being hit hard in 2007 and the first quarter of 2008 proving even worse, we have been trying to sell two pieces of our equipment. We have been hit not only with the volatile economic environment, but with our industry's anticipation of the on-road rule. Our equipment has lost so much of its value we are unable to sell. We always counted on the fact that selling our equipment would carry us through the worst times. We have lost that ability and soon our livelihood. During our last smoke test, our equipment tested between a two and four percentile. Your own rule allows our equipment to have a 40 percent test and pass. How can equipment with such a low percentile be deemed worthless because of the year their engine was manufactured? (CDTOA12) smoketestx

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The opacity levels provide an indication of how the engine is performing compared to its original settings and design; however, assuring an engine is performing properly does achieve major reductions of PM and NOx emissions like the regulation is designed to achieve.

718. Comment: I am a small owner-operator maintaining six trucks that work seasonally. The proposed regulation will put me and my six employees out of business. I am slowly trying to upgrade my power units but with the cost of the upgrades, fuel prices, and just the economy as a whole, it is difficult. This regulation also makes it difficult to sell my current power units because no one wants to buy them for fear that they will be put out of service by CARB. The monies I would make on selling the power units would be my down payment for upgrading. I feel that what I have has been made worthless. I support the clean air emissions; however there must be a way that wouldn't put small businesses out of business. (BZT)

719. Comment: The fear and uncertainty regarding the on-road rule has affected older truck values statewide. Actual results from auctions we participated in, private sales have shown a drastic reduction in what our older equipment and trucks are worth. We have equipment and trucks and we're getting hit from both sides. The severe reduction in value while partially attributed to the current economy is for the most part a direct result of the pending rule and the fear it has created in the market. While this meeting is not about the off-road rule, those of you in the

audience right here that run heavy equipment are seeing the same thing. Contrary to what we were told would happen, this rule, while not yet enacted, has literally destroyed any equity left in our older trucks and equipment. This chain of events affects both the contractors and the state. The contractors suffer by realizing reduced values on their trucks; the money he would have used to get through tough times that they're all in right now has been greatly reduced. If you were to use the sale proceeds to purchase a new vehicle, he has to finance that much more if he even can. Forget about trading in an older out of compliance truck. No one wants them. The State is losing out by less tax income generated by the sales of used vehicles, not to mention less of revenue from contractors that go out of business all together. Don't forget about our part suppliers and other vendors related to these industries that will be selling fewer inventories and generating less sales tax revenue. (GCON)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

720. Comment: CARB is proposing this multi-billion dollar regulation during the worst economic crisis since the Great Depression, and small businesses are struggling to make ends meet. My company and others like us simply don't have the resources or access to capital to retrofit our engines. Some of us may be forced to sell off our trucks at a loss or shutter our companies' doors, ultimately costing jobs and revenue to the state's economy. Companies like mine are being asked to dispose of equipment and assets before their useful life has been completed and purchase new equipment before it would otherwise be acquired. A combination of this proposed rule and the state of the economy have left the trade-in or resale value of our equipment worth pennies on the dollar. My company and others like us simply don't have the resources or access to capital to retrofit our engines. (WPS2)

721. Comment: Companies like ours are being asked to dispose of equipment and assets before their useful life has been completed and purchase new equipment before it would otherwise be acquired. A combination of this proposed rule and the state of the economy have left the trade-in or resale value of our equipment worth pennies on the dollar. We simply don't have the resources to access the capital to retrofit our engines. (CMSA5)

722. Comment: Companies like those represented by the CMSA are being asked to dispose of equipment and assets before their useful life has been completed and purchase new equipment before it would otherwise be acquired. A combination of this proposed rule and the state of the economy have left the trade-in or resale value of our equipment worth pennies on the dollar. Many CMSA member companies and others like us simply don't have the resources or access to capital to retrofit our engines. Some of our members may be forced to sell off our trucks at a loss or shut their companies' doors, ultimately costing jobs and revenue to the state's economy. (GVSI)

723. Comment: Companies like ours are being asked to dispose of equipment and assets before their useful life has been completed and purchase new equipment before it would otherwise be acquired. In our case, the trucks that need to be replaced are highly specialized equipment that can cost 3-4 times what a normal three-axle truck costs. A combination of this proposed rule and the state of the economy has left the trade-in or resale value of our equipment virtually worthless. Our company and others like us simply don't have the resources to retrofit our engines or replace our vehicles altogether. Some of us may be forced to sell off our trucks at a loss or shut our companies' doors, ultimately costing jobs and revenue to the state's economy. (IWPI) (MRLLC), (NAVL)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

724. Comment: As we see it, the regulation will force us to either leave the state to continue to do business or close most of our locations. The overall cost of putting a $20K filter on a $15-20K truck and absorbing $600K in expenses is overwhelming and un-manageable. That is nearly 25% of our GROSS revenue's in any given year. In this very difficult year of 2008, even more. In California's current economy with a 30% loss in revenue for us in 2008, shouldering the cost of equipment replacement, the higher cost of securing loans for replacement, higher interest rates, and the increasing difficulty of selling old equipment in the shadow of these impending rulings, we are faced with a mountain to overcome. Forced with that much of an impact, we would have no choice but to close locations, lay off people and severely impact the revenues of the business. That means more

unemployment, less revenue, less taxes for California. It will be a story repeated often in the coming years with these regulations as they read now. (WTS2)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

725. Comment: Although we agree that we will benefit from reduced emissions, this measure goes too fast and at a bad time in the economy. With fuel consumption at very low rates around the globe, our air will benefit even without these new constraints. Adding these restrictions at this time will cost contractors jobs and reduce the value of their assets at exactly the worst time possible. (RBUR)

726. Comment: The content of this letter is intended to express the disastrous implications that the regulations which CARB proposes would have on our small family owned business located in Grass Valley, CA. If the regulations proposed by the California Air Resources Board are approved, our family business dating back to 1935 will be forced to shut it's doors. The finances required to update or replace our entire fleet of trucks that we have acquired slowly over the course of the last 32 years are an impossibility for our company in today's economy where we are already struggling to remain in business in this time of recession. We are in no way opposed to CARB's intentions of improving the air quality in California. This is a matter that they and obviously many others feel very passionately about. The problem with their proposal lies in it being the responsibility of the business owner to cover the costs involved in this transition. How is it that the government can hand out billions of dollars to companies that have dug their own grave, yet responsible business owners must figure out how to come up with the cash to comply with regulations that must be met in too short of a time frame? It also doesn't make sense to simply discard thousands of perfectly functioning trucks only to use up more of our nation's resources by replacing these vehicles that have many more years of performance still ahead of them. (SSOW) xsip

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. Trucks that are sold outside of California are expected to continue to operate their full useful lives. The regulation likely will not result in a significant difference in the number of trucks operating in the nation, but will result in more cleaner trucks operating in California rather than in other states.

727. Comment: My assets, my older trucks, have been trashed, turned into toxic waste. I have two of them I'm trying to get rid of in anticipation of this, and I can't sell them. I'm taking possession of a new truck on Monday which is the first new truck our company has bought in 40-plus year history. We did it to try to comply with this regulation. It fries me that I have spend $110,000 to get this new truck that's three times what I normally spend to outfit our company with used trucks. I'm tired of California thinking we have to be first and a leader in all of these things. It's constricting and restricting to good business folks. We have a reputation here in California, and it's not a good one, that is of driving business out of the state because of burdening regulations. (CHONEY)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements

are never required, see response to comment 149 in the Regulatory Provisions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

728. Comment: I have been the owner and operator of T & L Trucking for the past 25 years and our main form of work is through the construction and farming industries. The profit margins for our industry are marginal at best. Because of the loss of revenue, tighter credit markets, lack of available work, and new regulatory requirements and restrictions, many companies including T & L Trucking are on the verge of having to cease operations. As the price of doing business has increased the cost of new equipment, upgrades to current equipment would be detrimental to the trucking industry. Even in an optimal business environment, this proposal would still be a burden on companies. Because of the lack of new technology, the availability of replacement equipment and loss of value from the existing equipment would cause a huge hardship. Not only to T & L Trucking, but everyone within and associated with the industry. If the new CARB proposal were passed it would guarantee to not only put us out of business, but also hundreds if not thousands of other companies. The passing of this bill would in turn cause a quick downslide. It would not only put many trucking business out of operation, but it would also affect the farming and construction industry from the importing and exporting of goods. With less trucks and companies in operation, means there would be fewer companies to choose from. It would also cause commerce from other states to greatly decline due to lack of ability or desire to cooperate with the new proposal - causing prices of transported goods and services to greatly increase. We at T & L trucking fully understand the need to facilitate programs that keep our air clean and the responsibility we all have to our environment. We also believe that it can be and should be done in a manner that does not put extraordinary burdens on business and the general population. We all want a better and cleaner environment, but do we want it at the cost of everything that we have worked for. (TLT1)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to

comment 103 in the Regulatory Provisions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

729. Comment: CARB is proposing this multi-billion dollar regulation during the worst economic crisis since the Great Depression, and small businesses are struggling to make ends meet. Companies like mine are being asked to dispose of equipment and assets before their useful life has been completed and purchase new equipment before it would otherwise be acquired. A combination of this proposed rule and the state of the economy have left the trade-in or resale value of our equipment worth pennies on the dollar. My company and others like us simply don't have the resources or access to capital to retrofit our engines. Some of us may be forced to sell off our trucks at a loss or shutting our companies' doors, ultimately costing jobs and revenue to the state's economy. (KPI3)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

730. Comment: My 74-year old husband and I, like many of our friends within the construction trucking industry, have placed our entire retirement plans within our equipment. Our plan had always been to sell the equipment with our job and thus have the dollars needed for our retirement. In 2008, we began to see just how poorly we were doing, when we attempted to sell 2 pieces of our equipment. We have been hit, not only with the volatile economic environment, but with the industries' anticipation of the on-road rule. Our equipment has lost so much value that we are unable to sell it. When CARB came up with the smoke testing rule, we obeyed. Our last test had our equipment between 2 and 4 percentile. CARB's "rule" allows our equipment to have a 40% test. How can equipment with such a low reading be called worthless by CARB? No one in California and/or surrounding states wants our equip. - we have lost our retirement and soon our livelihood. (RTCDTOA) xsmoketestx

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The opacity levels provide an indication of how the engine is performing compared to its original settings and design; however, assuring an engine is performing properly does achieve major reductions of PM and NOx emissions like the regulation is designed to achieve.

731. Comment: The CARB regulation essentially kills the business model that has provided employment and tax base throughout history: The business model used successfully since the inception of art industry has been for an entrepreneur to save capital and invest in assets that perform a useful function (provides a good or service along with the employment of workers). This effort automatically increases the tax base, an absolute necessity for viability of a government. A capitalistic system will not survive without a business model that provides for growth of assets for future production of goods and services. Delayed gratification by the businessman allows additional capital for investment, increasing capacity and size of operations, further expanding employment and tax base. CARB destroys this model by command eradication of saved capital through mandated destruction of productive equipment, i.e. trucks and equipment owned by businesses. This

capital cannot be instantly replaced without borrowing. Prudent owners of businesses will not borrow needed dollars to replace this destroyed asset base in an economy such as we presently have, even if capital was available (which it is not due to frozen credit markets). Additionally, there is little or no work obtainable of which to place this new equipment on to generate the dollars necessary for re-paying the loan. Even if the desire was there to purchase a new fleet in the unreasonably short period of time allotted by the regulations, without the existing asset base to guarantee the loan (the trucks and equipment made valueless via edict), the banks will not loan the money. (DCI1)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession.

732. Comment: This regulation devalues our fleet and we will not be able to sell or afford to replace it with new equipment. It is beyond belief that you could not take into account the billions of dollars this modification will require. Going into a financial crisis you are driving thousands of business into closing or bankruptcy. (FORM4)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The regulation is also structured to allow fleets to comply with used vehicles and new

vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

733. Comment: The additive in diesel have definitely helped, I do not see many trucks belching black smoke like they used to in times past. Please consider the people in this industry that are going to be negatively impacted as part of your dialog. Right now is not the time for more expense. (HSTI)

734. Comment: CARB is proposing this multi-billion dollar regulation during the worst economic crisis since the Great Depression, and small businesses are struggling to make ends meet. Companies like mine are being asked to dispose of equipment and assets before their useful life has been completed and purchase new equipment before it would otherwise be acquired. A combination of this proposed rule and the state of the economy have left the trade-in or resale value of our equipment worth pennies on the dollar. Companies like those represented by the CMSA are being asked to dispose of equipment and assets before their useful life has been completed and purchase new equipment before it would otherwise be acquired. A combination of this proposed rule and the state of the economy have left the trade-in or resale value of our equipment worth pennies on the dollar. Many CMSA member companies and others like us simply don't have the resources or access to capital to retrofit our engines. Some of our members may be forced to sell off our trucks at a loss or shut their companies' doors, ultimately costing jobs and revenue to the state's economy. (DBAR), (HEPRO), (ATS1), (FMAY)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

735. Comment: The above dollar totals are not feasible for a small company whose low-mileage delivery patterns require that the majority of trucks must last twenty years. Also, note that the annual costs escalate as we move forward, averaging a quarter million dollars (in 2008 dollars) each year from 2012 on. Also the regulation prevents us from selling our used trucks, so we lose approximately $200,000 of revenue over ten years. (LGM)

Agency Response: The regulation has provisions to delay some of the requirements for low use vehicles, see response to comment 164 in the Regulatory Provisions section. The regulation does not prohibit the sale of older trucks in California although we recognize many will be sold out of state. The regulation has a flexibility and number of provisions where older trucks can continue to comply with the regulation. Staff recognizes that the value of used trucks will change as a result of the regulation. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section.

9. Funding

a) General

Comment: An important part of implementing this regulation is the incentive funding that is in place and will be available and necessary over the next ten plus years. We all must be diligent in keeping those funding streams in place. (SMAQMD1)

736. Comment: The South Coast, San Joaquin, and Sacramento Air Pollution Control Districts will not meet their current SIP goals, nor upcoming SIP goals without this regulation and the associated NOx and PM benefits. We support passing this regulation for that reason and for the great reduction in toxics the rule will provide. That said, an important part of implementing this regulation will be the incentive funding in place and available throughout the next ten years. We all must be diligent to keep the funding streams in place, and we commit to do that and work with the industry in our Sacramento area. (SMAQMD2)

737. Comment: We ask that you work with us and the stakeholders to help us secure additional incentive funding both at the state and federal level to deal with this problem. (SJVAPCD)

Agency Response: ARB agrees that incentive funding is an important complement to the regulation. We appreciate the commitment from local air districts, and other stakeholders, to work with ARB toward our common goal of maintaining effective incentive funding programs.

738. Comment: We believe strongly that significant funding and assistance to California businesses are imperative in meeting the aggressive mandates of ARB's regulation, in whatever form it is ultimately approved. According to the ARB's own analysis, about two thirds of company fleets are comprised of 10 vehicles or less, and about one third are one vehicle operations. Without adequate funding and assistance, the state will be creating a regulation that has the potential to cause business closures, loss of competition, increased costs of goods, and in the worst case, destruction of critical delivery infrastructure necessary to the state's economy. (DTCC3)

739. Comment: I realize that the users of diesel cannot bear the burden of cost alone. We all benefit, we all should be part of shouldering the expense. Incentives and subsidies must be reasonable to assist in the retrofit of diesel equipment and the replacement of those beyond compliance. If government is going to grease the wheels of the economy, why not do so in an arena with such obvious benefits to all? (RWEB)

Agency Response: As described in Chapter XV, Section A of the Technical Support Document, existing State funding sources for regulated fleets include Proposition 1B, the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer or Moyer Program), the Lower Emission School Bus Program, and Assembly Bill 118. Together, these funding sources make up the largest on-road vehicle funding opportunity ever offered in California. Additional financial assistance may be available through specialized local and regional funding programs, as well as other organizations such as Cascade Sierra Solutions (see Comment 806). Incentive funding is available for grants to assist with the purchase of verified retrofits and newer replacement trucks, and a new loan guarantee program is helping truck owners to secure financing. To help raise awareness of the available financial assistance programs, ARB launched a series of outreach tools including the new Truck Stop website at http://www.arb.ca.gov/msprog/truckstop/truckstop.htm, a new diesel hotline at 866 6DIESEL, and a new email address at 8666diesel@arb.ca.gov. However, the resources available through these programs are limited and not all applicants will receive funding.

740. Comment: Demand for financial assistance can only increase as a result of the enormous scope of the Proposed Regulation Order and the current state of the economy. At the same time, providing financial assistance for mobile source emissions reductions is becoming increasingly complex as a result of competing priorities. The ISOR discusses the relationship of available incentive funding and the Proposed Regulation Order in the broadest possible terms, leaving a gaping

disconnect between the operation of the Proposed Regulation Order and the needs of affected fleet owners. CCEEB further recognizes two overarching priorities regarding financial incentive programs: making the programs as "applicant friendly" as possible and harnessing the economic potential of incentive programs collectively to ensure the greatest clean air benefits at the lowest responsible costs. (CCEEB1) (CCEEB3)

Agency Response: Chapter XV, Section A of the Technical Support Document provides a summary of funding options for each of the current financial assistance programs. Additional details regarding eligibility criteria, funding amounts, and administrative procedures are available in the guidelines for each program (all available on the web at www.arb.ca.gov). While the program guidelines provide the details necessary to administer the program, most affected fleet owners receive funding assistance information through local air districts or truck dealerships. Fleet owners can also get information through the new Truck Stop website at http://www.arb.ca.gov/msprog/truckstop/truckstop.htm, the new diesel hotline at 866-6DIESEL, and the new email address at 8666diesel@arb.ca.gov. Outreach materials are designed to be "applicant friendly", so that truck owners can get the compliance and funding assistance information that applies specifically to them. For example, the Truck Stop website is personalized through the use of an interactive questionnaire that results in a list of regulations and funding assistance options that may apply to the fleet owner's situation.

All of the financial assistance programs are designed to maximize emission reductions in a cost-effective manner. The Carl Moyer Program requires that all projects achieve a minimum cost-effectiveness of $16,000 per weighted ton of emissions reductions. The Goods Movement Emission Reduction Program uses a competitive ranking system for project selection, so only the most cost-effective projects receive funding.

b) Eligibility for Goods Movement Funds

741. Comment: We urge you to adopt the rule proposed to you by your staff. Having said that, we are also quite sympathetic to the economic concerns that have been raised by the small, medium, and agricultural sector of trucking operations. And we believe incentives can play a major role in softening the blow and reducing the economic burden. We are taking a number of actions at the local level to increase funding. We do ask, however, that your staff and your Board also work with us to both streamline the incentive guidelines, the Proposition 1B guidelines that will come before you next year, to make that process work more easily and more effectively -- we have already had effective conversations with your staff. (SJVAPCD)

Agency Response: ARB's Goods Movement Emission Reduction Program (Goods Movement Program or Proposition 1B), AB 118 and Carl Moyer program staff are working together to streamline the incentive guidelines for the varying programs. During the March 2009 Board hearing, staff described planned changes to the Moyer Program and the Goods Movement to create greater alignment for these two programs. The modifications to the Carl Moyer and Goods Movement Programs will more closely align the programs and allow for easier access to the programs by truck owners, especially

owner-operators. Items included in the recommended alignment: projects eligible for funding, requirements to apply for program funds, and the level of funding offered for new or retrofit equipment at specific performance levels.

742. Comment: Under the current proposal only class 8 tractors greater than 33,000 pounds GVWR that operate only 50 percent of their time in the trade corridor are eligible for state funding for replacement. Pozas Bros. would like to see class 7 tractors also eligible for state funding to replace existing trucks. These class 7 tractors use the same diesel engines that are used in class 8 tractors and many spend 100 percent of their time in the trade corridor. It can be argued fairly easily that there would be a significantly larger impact on improving air quality by targeting these specific companies that run routes in our California communities. Please consider including class 7 tractors with less than 33,000 GVWR for state funding for truck replacement. (PBT)

Agency Response: The guidelines for the first round of funding under the Goods Movement Emission Reduction program purposely focused on upgrading trucks that pull the heaviest loads and typically have the highest emissions, using an established weight threshold. ARB staff has agreed to reconsider the weight threshold and modify the eligibility requirements to allow slightly smaller trucks to compete for future funding, consistent with the new Moyer program requirements. This proposal will undergo public review and comment as part of the updated Goods Movement guidelines prior to consideration by the Board at a public hearing in 2010. Note also that the Goods Movement Program requires that the truck operate at least 50 percent of the time in the trade corridor(s) for the past two years, not “only 50 percent” as stated in the comment.

743. Comment: Provide more flexibility in the Goods Movement grant requirements based on different types of fleets, so that our lower-mileage trucks would have a better chance of qualifying. (LGM)

744. Comment: The Proposition 1B money that's being available is not being made available to us up in Eureka, unfortunately. We have the same costs to replace our trucks as anybody else does, but yet we're not having the funding coming our way. (RPETR)

745. Comment: The billion dollar fund isn't really available since most of the people in the room won't qualify for those funds. They don't operate enough hours or their trucks are too old or they don't meet the cost effectiveness criteria. The irony is ARB rules won't allow you to spend incentive money to clean up vehicles but you expect owners to spend their money to do it. (CIAQ2)

746. Comment: Much has been made of the money available to assist trucking companies through Prop 1B. Unfortunately, this money is largely unavailable to my company and others in the agricultural business. The restrictions on funding being available only to replace or retrofit trucks that will operate wholly within California having GVWR upgraded and 33,000 pounds and have continuous registration for the prior two years have effectively eliminated my fleet from consideration. More than 99 percent of my fleet miles are within California. But that 1 percent out of California eliminates 15 percent of my fleet for funding consideration. (AFEX)

Agency Response: The ballot proposition and implementing statute expressly direct ARB to focus the $1 billion incentives under Proposition 1B on diesel trucks and equipment used to move goods in California's four major trade corridors. These include the Bay Area, Central Valley, Los Angeles/Inland Empire, and the San Diego/Border regions of California.

To ensure that the public bond funds are used cost-effectively to cut air pollution in California, the program has other eligibility and operational requirements. Heavy-duty vehicles (more than 33,000 pounds GVWR) used to move goods that have had continuous registration (California base-plated or International Registration Plan) in California for the past 2 years, and have operated at least 50 percent within the trade corridor(s) for the past 2 years, are eligible to participate in the program, regardless of where the vehicle is housed. Proposition 1B funding is determined on a competitive basis using, weighted emission reductions and a measure of cost-effectiveness that considers match funding. Old, high polluting trucks and middle-aged trucks that operate more miles annually are both competitive.

The eligibility criteria do not eliminate your trucks that currently operate outside of California from consideration. You may still apply for funding to upgrade any of those trucks if they meet the other eligibility criteria listed above. If you should receive a grant for any one of those trucks, then you are required to make a commitment to operate that truck 100 percent in California for the duration of the contract term.

747. Comment: My experience comes to you as one of the largest beneficiaries of the Clean Air Incentive Programs that we have in Sacramento. We're probably one of the cleanest trucking companies in California based on the fact I can haul 58,000 pounds with 2009 model year trucks. I'm a little emotional, because I won all the money for the early grant money in Sacramento. I turned in my paperwork but staff denied our trucks, because somebody didn't do the paperwork right. Looked at the DMV records and believes a big-rig truck has a gross vehicle weight rating of 33,000 pounds, when 90 percent of all the agricultural trucks in the state operate under the gross combination weight rating of 80,000 pounds. So my 1995 trucks that I was granted money, did all the paperwork that you wanted me to do, were denied because staff did not do their homework. (BTRANS)

Agency Response: It appears that the application was denied because it did not meet the eligibility criteria. As explained in the response to Comment 746, one of the eligibility criteria is a GVWR of more than 33,000 pounds. The registered weight or gross combined weight rating are not any of the criteria used in the Goods Movement Program. Also, see the response to Comment 742 regarding reconsideration of the current weight thresholds.

748. Comment: $1,000,000,000 in Proposition 1B money is going to help in this transition. It all goes to the metropolitan areas (commerce corridors), none to rural California! Carl Moyer program money is available to rural California due to the age of county and municipal fleets, but very little of that money will find its way into the private fleets and with the economic problems in the state, it is very unlikely that the amount will be increased. (ALOG2)

749. Comment: In the Statement of Reasons prepared by staff, they stated "While the cost of the proposed regulation is significant, there are also significant amounts of incentive money available for fleets to assist in cleaning up and modernizing their vehicles." This sounds good. In reality it is only in the metropolitan areas and the commerce corridors, while rural counties are not eligible for the Proposition IB money that is being distributed. That money is all going to the businesses that operate on highway in the commerce corridors. These entities are the same companies whose business models allow them to update their trucks every 6 to 7 years – in essence, the companies that do not need help to achieve compliance with the rule. (ALOG2)

Agency Response: The agency responses to Comments 742 and 746 provide the reasons for the current focus of the Goods Movement program. However, as indicated in the response to Comment 742 there will be an opportunity to comment on proposed updated guidelines before they are proposed to the Board in 2010. See also the response to Comment 773, where staff provides information on funding programs available to rural fleets.

750. Comment: The ARB states that "To further help the trucking industry the Governor, legislature, and voters together have approved $1 billion in grants and low-cost loans and will continue to look for ways to make compliance with this rule as painless as possible." Statements by the ARB imply that they have been helping the industry all along. The truth is, and the general public should be informed of this, that we have had to pay for all these emissions upgrades from the beginning. We have absorbed these costs all along. The money that is being distributed is not going to benefit the truckers who can't afford the balance of the truck payment; the so-called help from the ARB is actually no help at all. We aren't all getting new trucks like ARB staff wants everyone to believe. We aren't all getting the assistance that they say will help us. We aren't being heard. Our comments will not be taken into consideration. Quit trying to butter this up by suggesting that there is an equal balance (of incentives to cover cost), there isn't. (FCAT2)

Agency Response: ARB is building on a successful history of implementing emission reduction incentive programs. For example, over its first seven years, the Carl Moyer Program provided $170 million to clean up approximately 7,500 engines throughout California. This resulted in emission reductions of about 24 tons per day of oxides of nitrogen (NOx) and one ton per day of toxic diesel particulate matter (PM). Approximately 29 percent of the total funding was awarded to on-road projects, while the remainder went to other eligible project types such as off-road, marine, and locomotives.

As noted in the response to Comments 738 and 739, staff recognizes that the demand for financial assistance outweighs the availability. The total cost of achieving the emissions reductions that will be provided by the Truck and Bus regulation is about $5 billion, whereas the total available financial assistance is about $1 billion. Unfortunately, the majority of emission reductions that will be achieved by the Truck and Bus regulation will likely have to come from actions funded by owners of affected equipment.

Although California cannot achieve all of the emission reductions necessary to provide healthy air through incentive programs alone, the programs that make up the financial assistance portfolio are important, especially for small fleets that may lack the capital necessary to purchase retrofits or cleaner trucks. As described in Chapter XV, Section (A)(5) of the Technical Support Document, a variety of financing incentive packages have been developed to provide grants along with loan guarantees to help qualifying truck owners reduce their costs while improving access to financing options for the balance of the cost of a replacement truck.

c) Low Interest Loan Program

751. Comment: We support ARB developing loan guarantee programs to assist truckers with financing new equipment. It is critical, however, that any lease or loan program aimed at individual drivers reflects the economic reality of truck drivers, and does not push drivers into onerous, unsustainable, or predatory loan or lease terms. We want to ensure that these programs provide for actual air pollution reductions, while providing truckers another option to comply with the regulation. (CTBRC)

Agency Response: Financial institutions participating in ARB's loan guarantee program (now formally known as Providing Loan Assistance for California Equipment, or PLACE) are authorized to participate in the program through the California Air Pollution Control Financing Authority's (CPCFA) California Capital Access Program (CalCAP), and must certify that they are in good standing with the applicable regulatory body (e.g., Federal Reserve, Federal Deposit Insurance Corporation (FDIC), Comptroller of Currency, Thrift Supervision, or State banking authority). In addition, CPCFA monitors each financial institution's lending practices throughout its participation in the program.

CalCAP provides the financing structure that is the foundation of ARB's loan guarantee program, and relies on the sound underwriting decisions of participating federal or state-chartered lending institutions. This structure enables participating lenders to offer competitive-rate financing with reasonable loan terms to qualifying small fleet owners that fall just outside of most banks' conventional underwriting standards. By providing small businesses with an affordable and reasonable alternative to predatory lenders or onerous loan terms, ARB's loan guarantee program can assist small trucking fleets with early regulatory compliance and ensure that real emission reductions are achieved

752. Comment: Any incentive program that lends money to motor carriers must be based on sound commercial underwriting standards. The vast majority of one truck owner operators are economically marginal and have no access to capital except in subprime markets. If the State of California guarantees loans to drivers where the lenders share no risk in the event of default and the loan terms are not reasonable, then the program will fail and fail in a scandalous way. The Consumer Federation of California, NAACP, LULAC, and LAANE recently published a report, "Foreclosure on Long Beach's Truck Program Puts Drivers at High Risk for Default," that shows lease to own programs are far more likely to push drivers into bankruptcy than to produce clean air. (CTPAC1)

Agency Response: As stated in the Agency's Response to Comment 751, CPCFA's California Capital Access Program (CalCAP) provides a successful financing structure that is the foundation of ARB's loan guarantee program. Under terms and conditions of CalCAP that apply specifically to ARB's loan guarantee program, ARB contributes funds totaling 14 percent of each enrolled loan amount into a participating lender's loan loss reserve account. This means that each lender's loan loss reserve account that covers loan defaults accumulates at a slower rate than if ARB backed each loan at higher percentage rate. As a result, lenders have a vested interest in offering affordable loan terms to qualified borrowers since they are not guaranteed 100 percent recovery on loan losses. As one measure of the CalCAP program's success, loan default rates have ranged from two to four percent, even after California's economic downturn.

753. Comment: There is some uncertainty about whether Blood Centers of California, a nonprofit corporation, is eligible under the AB 118 and/or CalCAP loan programs. Based on the AB 118 requirement of two or less vehicles, it appears that only 6 out of our 18 centers may be eligible but the definition of "hardship" is still to be determined, we are requesting participation in whatever activities that may determine the final definition. (BCC1)

Agency Response: Based on multiple dialogues with the Blood Centers of California, a non-profit organization, staff modified its proposal to extend program access to private fleets with 20 or fewer heavy-duty vehicles and to fleets of all sizes owned by non-profit organizations. The Board approved this modification to allow smaller fleets with more than two vehicles to participate in ARB's PLACE program through the "financial hardship clause" contained in the program's governing statute (Assembly 1338; Chapter 760, Statutes of 2008). In addition, all fleets must meet basic California Capital Access Program eligibility requirements to obtain a loan guarantee through ARB's PLACE program. The staff believes, and the Board concurred, that this modification to expand program eligibility is justified and prudent given the need to provide more fleets access to financial assistance. Fleet owners can also get more information on program eligibility through the ARB's Truck Stop website at http://www.arb.ca.gov/msprog/truckstop/truckstop.htm, and at the ARB's diesel hotline at 866-6DIESEL.

754. Comment: The Blood Centers of California (BCC) remain concerned about the lack of funding programs for non-profits that would be necessary for meeting the requirements of the proposed regulations for on-road diesel vehicles. BCC represents the non profit blood centers in California and as such provide over 90 percent of the blood and blood products in California. In our discussions with the staff regarding our need for clarification on available loan programs and our due diligence based on the information shared with us, it does not appear we meet the specific requirements for "loan product packages" for either the AB 118 or the CalCAP loan programs which include: 1) PM exhaust retrofit on in-use truck, low rolling resistance tires; 2) 2007 used truck; 3) low rolling resistance tires, SmartWay energy; 4) Efficiency retrofit for trailer; 5) New truck and trailer (2010) with SmartWay energy efficiency technologies. SmartWay, a federal designation, does not apply to our mobiles.

Our vehicles are not classified as truck and trailer, which cover the largest loan amounts. The ability to meet the proposed regulations is highly dependent on the ability to have financing available; it does not appear our vehicles are eligible for the available loan programs. Given our non-profit designation and our dependence on our communities and foundations for funding and the tight credit market, unless we can access a robust financing package, low or no interest loans, incentives for low mileage vehicles, etc., this rule will directly affect our ability to provide blood and blood products for California. (BCC2)

Agency Response: While this commenter's vehicles are not conventional tractor and trailer units utilized by the majority of fleets subject to the regulation, the type of heavy-duty vehicle or equipment required to upgrade its fleet for regulatory compliance may be eligible for financing under the ARB's loan guarantee program. During program development, ARB staff cited various types of vehicles and equipment, as identified by the commenter, that are eligible for financing within the program. These identified vehicles and equipment represent common purchases by small trucking fleets to comply with the regulation and are examples of the range of technologies eligible for financing. These examples are not prescriptive of the only technologies that would be eligible for financing within the program. Fleet owners can obtain more information on eligible technologies and vehicles by calling the diesel hotline at 866-6DIESEL.

Ultimately, the compliance path chosen by the fleet owner and the actual fleet composition will determine which vehicles or technologies a fleet owner purchases and finances.

d) Carl Moyer Program Requirements

755. Comment: We are a state of $3.48 trillion revenue dollars and represent 27 percent of the United States budget. I appreciate the ARB staff's efforts for working through all these Carl Moyer funding issues but we need to make the program flexible. We need to make the programs work and to solve the money issues. (NISEI)

Agency Response: ARB has taken steps to provide flexibility in the range of available financial assistance programs while ensuring that emissions reductions meet program guidelines and statutory requirements. For example, the new Voucher Incentive Program (VIP) provides up to $35,000 toward the cost of a new truck with a simplified process that reduces the time between application and approval to two weeks or less. In the Carl Moyer Program, a new two-for-one option was added to allow the retirement of two lower mileage trucks for one newer replacement truck. Also, to provide more opportunities for small fleets to receive funding for 2010 replacement trucks, the minimum project life was reduced to two years for small fleets complying with the January 1, 2014 compliance deadline.

756. Comment: It would be helpful if the Carl Moyer Program supported basic compliance projects, not just above and beyond projects. Additionally, if it was restructured so that participants could receive partial funding so that a project wouldn't be denied if 100 percent funding of that piece of equipment wasn't

warranted, so they could get some portion towards replacement or retrofitting. (MRED)

Agency Response: As defined in the statute that governs the Carl Moyer Program (California Health & Safety Code §§ 44275 to 44299.2), emission reductions funded through the Carl Moyer Program are credited in California's State Implementation Plan and must be real, surplus to regulatory requirements, quantifiable, and enforceable. In addition, projects must meet a cost-effectiveness threshold defined in state law and adjusted by ARB based on inflation. Any modifications to the above criteria would require a legislative change.

In some cases, partial project funding is allowed under the existing Guidelines when only a portion of a project results in surplus emission reductions. For example, if a vehicle is subject to a PM-only requirement, it may be eligible for NOx-only funding, as long as the NOx reductions were not already claimed by a regulation and the project meets all other funding criteria.

757. Comment: Mendocino County gave money back to the state, something counties cringe to do. We gave $64,000 back to CARB because our Carl Moyer applicants cannot do the project and meet the new regulations. (MCBS2)

Agency Response: All projects funded by the Carl Moyer Program must be surplus to emission reductions required by regulation. Adoption of the Statewide Truck & Bus regulation will require emission reductions from trucks that previously were not subject to a regulation and therefore were eligible for funding. Because there will be fewer potentially eligible projects in the future, local air districts should reevaluate the focus of their Carl Moyer Program to better reach those project categories and applicants that are eligible for funding.

758. Comment: We're located in Eureka. I have personally tried to apply for Carl Moyer twice and been refused just because of where we are. We are too far away. We don't qualify. (CTSER)

Agency Response: Carl Moyer Program funding is available for eligible projects throughout California, including Eureka. The North Coast Unified Air Quality Management District administers the Carl Moyer Program in the Eureka area. Interested applicants should contact the district for information on eligibility and application procedures. In addition, the new VIP is available throughout the state at any participating truck dealer. For a current list of participating dealers, please visit www.arb.ca.gov/msprog/moyer/voucher/dealerlist/dealerlist.htm.

e) Need for More Carl Moyer Funds

759. Comment: The CARB proposal is inclusive of all diesel powered trucks with little consideration of how many miles they operate per year, where they operate in California, and what funding may or may not be available to offset the cost of the retrofit program. The Carl Moyer Funds in Glenn County presently have approximately $200,000 each year for their entire air quality improvement program. McCorkle Trucking alone would need $368,000 to $414,000 to retrofit our 23 trucks for particulate matter control. While McCorkle Trucking was

approved in 2008 for funding, we were only able to retrofit 2 vehicles with the funding allocated from the Carl Moyer program. (MCTR1)

760. Comment: I would like to ask the Board to help in revamping the Carl Moyer Program to increase the funding that's available statewide and also to make sure that there is sufficient funding to make it down to the private rural business person. (MRED)

761. Comment: Our company has been in business since 1955, and we've been buying new trucks ever since. With the economy the way it is right now, if we can get the Carl Moyer Program to help just a little bit more so we could change and get newer trucks – there's no company that would rather have newer trucks than ourselves. So I'd ask for a little more of the Carl Moyer money and not quite so many regulations. There are so many regulations in it that it's hard to meet that demand in the Carl Moyer Program. And if we can go a little bit slower. (REI3)

Agency Response: As described in the response to Comment 746, the demand for financial assistance outweighs the availability. Some applicants will not receive funding or will only receive funding for a portion of their total funding request. The amount of funding available for a specific project is determined by the cost-effectiveness calculation, which ensures efficient use of limited state funding resources.

In recognition of the unique needs in rural areas, the Carl Moyer Program includes a Rural District Assistance Program. This program is currently administered by the California Air Pollution Control Officers Association (CAPCOA), and provides a pooled funding resource to help rural air districts identify and fund cost-effective projects through a combined application and project selection process. Late model trucks are eligible for retrofit funds in air districts that have chosen to participate in the Rural District Assistance Program. Interested rural applicants can contact their local air district to see if the district is participating in the Rural District Assistance Program. More information and application materials are available on the CAPCOA website at www.capcoa.org.

Any vehicles that operate exclusively in less polluted areas of the state are exempt from the NOx reduction requirements until 2021, but remain subject to the PM filter requirements, see response to comment 98 in the Regulatory Provisions section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

Finally, for the January 2009 Board meeting, staff performed an analysis in the NOx Exempt Areas and concluded that the percentage population near roadways is similar to the statewide level. Staff also concluded that the PM emission exposure risk from logging trucks alone was unacceptably high and therefore, providing an exemption or delay for all trucks in NOx Exempt Areas would result in an even greater risk to public.

f) Low Mileage Vehicles

762. Comment: I looked into funding support, but I did not qualify because last year I only drove 20,000 miles regionally in San Diego. (REGG)

763. Comment: In projects in the city of Los Angeles, ports, freeways requiring 2004 or newer engines is a joke. The newest truck is around a 2002. Good luck to the state in finding 2004 or newer trucks to do construction. Dump trucks do not receive funding from the state of California since we do not drive enough miles. (MSHE, CDTOA6)

764. Comment: Our industry (moving and storage), with its model of low annual mileage and long equipment life, will be more negatively impacted than many and will not qualify for existing grants or loan programs. (CMSA5)

765. Comment: We have looked into the Carl Moyer program for funding but have been told our mileage is not high enough. However, CARB says we have to replace this same equipment that Moyer says is not worthy of funding. (EGI)

766. Comment: I'm an owner-operator with one truck. I've been in business for about eight years. I'm a short-haul driver. Most of my work is at a cemetery, which doesn't put a lot of miles on my truck. I just don't put the miles on, so I can't make it happen with grants. (DLST)

Agency Response: The Carl Moyer Program includes cost-effectiveness criteria that a potential project must meet in order to qualify for funding. This criterion is required by statute and is necessary to ensure that public funds are allocated as efficiently as possible to deliver maximum emissions reductions. The cost-effectiveness calculation is based on the project cost divided by emissions reductions. Since mileage is a fundamental component of total emissions, projects with low mileage tend to have poor cost-effectiveness. Recognizing that the current economic downturn could affect mileage, the Carl Moyer Program truck replacement programs now include a two-for-one option to allow the combined mileage of two existing trucks to be used for one replacement truck. This flexibility is expected to help some applicants qualify for funding, that otherwise would not have met minimum cost-effectiveness. In the Fleet Modernization Program, one of the Carl Moyer truck replacement programs, two existing trucks with up to 30,000 miles each can be retired for one replacement truck, with the cost-effectiveness calculation based on up to 60,000 combined miles. The Voucher Incentive Program, another Carl Moyer truck replacement program, allows the retirement of two existing trucks with at least 15,000 miles each for one replacement truck. In addition, for projects that are associated with extended idling, the Carl Moyer Program guidelines allow some projects to be evaluated based on fuel usage rather than mileage.

g) Small Fleets

767. Comment: Over one billion dollars in public financing should be directed towards small fleets and the older fleets. (CCP1)

768. Comment: Implementing this necessary regulation will require additional costs to owners of these fleets. With 30 percent of the fleets as single truck owner-operated, incentive programs should target the greatest air pollution reductions from those most in need of funding assistance. (CTBRC)

769. Comment: Because of the late models and few trucks that we own, we fall through the cracks. No grant will touch us or will we be able to attain financing. We work with hundreds of other owner-operators who fit this same mold. Should we continue running a legal operation, we will all be out of business. (CDTOA12)

Agency Response: As described in Chapter III, Section C of the Initial Statement of Reasons for Proposed Rulemaking, about 90 percent of California-based trucks are part of a small fleet (three or fewer trucks). Most of the surplus funding options through the Carl Moyer Program and the new Voucher Incentive Program are available only to small fleets. In the Proposition 1B program, both small and large fleets are eligible to apply for funding, and the most cost-effective projects are selected for funding. These grant programs can be combined with loan guarantees available through the new "Providing Loan Assistance to California Equipment" program.

We recognize that providing information specifically to small fleets and owner/operators is important because they do not always have the resources to access timely information. Therefore, ARB is conducting an outreach effort to provide information on compliance requirements and financial assistance especially for small fleets. Also, please see the response to Comment 774 regarding the overall availability of financial assistance and identification of additional funding sources.

h) Rural Fleets

770. Comment: Mendocino County has some of the cleanest air in California. However, we still have to comply with this regulation aimed at cleaning up the air. We have to do it without the help of our tax dollars as is the case with recipients of the Proposition1B funding. Rural counties have seasonal work and annual truck mileage in the 40,000 to 50,000 mile range. Capital investments like trucks work in business plans for these companies by spreading the cost over a longer period than that of a year round trucking company or a "trade corridor" trucking company that is currently getting funding to meet the regulation. (ALOG3)

771. Comment: In the rural counties Carl Moyer money is not available, as the county and municipal fleets are so old they use it on their own fleets and seldom does any money find its way to the private fleets. (ALOG2)

772. Comment: We are concerned that many small businesses that operate heavy diesel equipment will not have the financial resources to implement the policies contemplated by the Air Resources Board. Many of these small businesses operate in communities like ours throughout rural California, and they operate their equipment seasonally, due to weather, regulations, and road conditions. Large companies which transport freight on California's highways have the ability to operate year round. These highway haulers put 130,000 to 180,000 miles on their trucks each year. If seasonal equipment operators are going to be expected to

replace equipment before its useful life has expired, then the Air Resources Board needs to provide funding to fill the gap for these businesses, many of which are small businesses. (CFB)

773. Comment: You may say that there is financing available to update these vehicles but it is only for some. We have applied and also tried applying for various grants to update vehicles and we don't qualify. Our work is In Nevada; Yuba, Sierra and Placer counties and we do not qualify because of where we live and work. We work in the smaller communities and cannot qualify. That is hogwash. We pay taxes and breathe the same air as others. (FSTI)

Agency Response: The new Voucher Incentive Program, part of the Carl Moyer Program, is available for trucks with a minimum of only 30,000 miles per year. The program also includes a two-for-one option to allow the combined mileage of two existing trucks to be used for one replacement truck. This flexibility is expected to help some applicants, including owners of seasonal trucks, to qualify for funding that otherwise would not have met minimum cost-effectiveness criteria. VIP funding is available for trucks in small fleets throughout California, including rural areas, and allows the retirement of two existing trucks with at least 15,000 miles each for one replacement truck. More information on VIP is available by visiting a participating truck dealer, calling the ARB Diesel Hotline at 866-6DIESEL, or by visiting the program website at www.arb.ca.gov/msprog/moyer/voucher/voucher.htm. Also, please see the response to Comment 774 regarding the overall availability of financial assistance and identification of additional funding sources.

In recognition of the unique needs in rural areas, the Carl Moyer Program includes a Rural District Assistance Program (RAP). This program provides a pooled funding resource to help rural air districts identify and fund cost-effective projects through a combined application and project selection process. Late model trucks may be eligible for retrofit funding through the RAP program. Although municipal fleets are eligible for financial assistance through RAP, 100 percent of both the fiscal year 2006/2007 (Year 9) allocation and the first phase of the fiscal year 2007/2008 (Year 10) allocation were awarded to privately owned projects. Interested rural applicants can contact their local air district to see if the district is participating in the Rural District Assistance Program. More information and application materials are available on the CAPCOA website at www.capcoa.org.

774. Comment: To obtain Carl Moyer Program funds, a fleet owner has to compete with off-road, marine, locomotive, stationary agricultural pump engines and local municipalities. Proposition 1B funds are only to be used in the state's goods movement corridors. This essentially cuts out fleets operating in rural counties. AB 118 funds have $50 million allocated for fiscal years 2008-2009 but vehicle projects will have to compete with air quality research and advanced energy technology workforce training. The money for vehicle projects is expected to be utilized for government backed loans (CARB Report, p. 62). For a fleet owner that clears about $5,000/year/truck profit, even a 0% interest rate 6 year loan on a new truck would be prohibitively expensive. There has been no incentive program to date that will be useful in helping to overcome the financial obstacles of

compliance with the performance requirements of the Rule. It is impossible for in state fleet owners to use pre 2004 trucks as collateral for additional loans either to purchase and install diesel particulate filters or purchase newer trucks (letter from Citizens Bank). In addition to alternative rule sets for areas outside of the San Joaquin and South Coast Air Districts, CARB should consider revenue generation approaches to place money into the Carl Moyer or similar program that would cover the cost of the compliance with the Rule. A combination of revenue and reducing performance standards outside of the San Joaquin and South Coast air districts would greatly reduce the financial burden of this Rule. CARB's proposed $1 billion over the life of the Rule to assist in reducing the financial burden for this Rule is grossly short of assuring in state fleet owners can survive financially. The revenue necessary would have to be at least $1 billion/year. (CFA1)

Agency Response: We recognize that the demand for financial assistance outweighs the availability. As described in Chapter VIII, Section A of the Initial Statement of Reasons for Proposed Rulemaking, the total cost of achieving the emissions reductions provided by the regulation is about $5.5 billion, whereas the total available financial assistance is about $1 billion. Unfortunately, the majority of emission reductions that will be achieved by the Truck and Bus regulation will likely have to come from actions funded by owners of affected equipment. Although California cannot achieve all of the emission reductions necessary to provide healthy air through incentive programs alone, the programs that make up the financial assistance portfolio are important, especially for small fleets that may lack the capital necessary to purchase retrofits or cleaner trucks. In addition, ARB will continue efforts to identify new funding opportunities, such as the federal Diesel Emission Reduction Act, that can help to increase funding available to California truck owners.

i) Public Outreach and Awareness

775. Comment: We hope that CARB will continue vigorous outreach to truck owners to ensure that incentive programs are understood and accessible. We will not see benefits from this regulation if owners are unable to comply with the rules. Ensuring owners are aware of the multiple funding sources that can be leveraged to assist individual truck and fleet owners, will maximize compliance with the rule and minimize the economic impact on owners and business. (CAFA1) (CAFA2) (LBCPTA) (SOLAC) (PHINST1) (SJC) (SFATF) (TCAC1)

776. Comment: We urge ARB to provide adequate outreach in multiple languages and work closely with air districts to ensure there is effective targeted outreach that also provides assistance to truckers in navigating the application process on the wide variety of available funds. (CTBRC)

Agency Response: At the December 11, 2008 Board hearing, ARB staff presented information regarding initial concepts for an outreach plan to help raise awareness of the available financial assistance programs. The overall outreach plan was presented at the June 26, 2009 Board Hearing. To implement the plan, ARB has launched a series of outreach tools including the new Truck Stop website at http://www.arb.ca.gov/msprog/truckstop/truckstop.htm, a new diesel hotline at 866-6DIESEL, and a new email address at 8666diesel@arb.ca.gov. Interested truck

owners can use any of these new resources to obtain information regarding on-road regulations and financial assistance. The diesel hotline includes multiple language options, including Spanish, Vietnamese, and Punjabi.

777. Comment: CCEEB recognizes the priority of harnessing the economic potential of incentive programs collectively to ensure the greatest clean air benefits at the lowest responsible costs. Convene a Board member driven stakeholder group to strengthen the relationship between the regulation and financial incentive programs, ensuring "applicant friendliness", and making existing incentive programs work together. (CCEEB1) (CCEEB3)

Agency Response: The Incentive Program Advisory Group, led by ARB Board Member Sandra Berg, provides a forum for discussing policy level issues relating to the development and ongoing implementation of the ARB incentive programs. In recent years, California's portfolio of incentive programs has expanded beyond the Carl Moyer Program and Lower-Emission School Bus Program to include the Goods Movement Emission Reduction Program, the AB 118 programs, and other locally run air district programs, among others. We anticipate that the group will continue to provide a useful venue for policy level coordination among agencies and programs. All interested stakeholders are invited and encouraged to participate.

j) Impact of Funding Programs on Competitiveness

778. Comment: We believe that any incentive or subsidy program must not operate to create a subprime lending scheme or create competitive disadvantages for motor carriers. First, any subsidy program for truck replacement or retrofit should not discriminate on the basis of fleet size. This will tend to limit such a program to providing subsidies to large motor carriers using one-truck owner operators to the disadvantage of other deserving motor carriers. The reality of the trucking market is that many trucking companies have large fleets of single truck owner-operators working for them full-time. Those companies compete directly with motor carriers who purchase their own fleets and use employee drivers. Essentially, then, a large motor carrier would be incentivized to sell equipment, fire drivers, and switch to the use of one-truck owner operators who would qualify for the incentive and bear all of the financial risk. (CTPAC1)

Agency Response: See agency response to comment 779 in the Funding section regarding funding available to fleets of any size. Given that fleets of any size are eligible for most of the funding, the regulation should not cause fleets to fire employees and hire independent operators. In addition, see responses to comments 751 and 752 in the Funding section regarding the PLACE and CalCAP programs.

779. Comment: One of my concerns about the funding issue is that you want to be careful not to create a competitive disadvantage in this scenario. The proposal is to give people [small fleets] that normally wouldn't qualify and that give them the advantage. And on the other side my company pays medical and health and retirement and everything else that we can give to our employees [hired drivers and other support staff], which are our biggest asset. And I hate to see something

come in to undercut us and we have to take that away from these people. And I don't think that's correct. (CTSER)

Agency Response: Most of the funding through financial assistance programs, including the Goods Movement Emission Reduction Program, is available to fleets of any size. There are two exceptions. First, truck replacement funding under the Carl Moyer Program (including Fleet Modernization and the Voucher Incentive Program) is limited to small fleets of three or less. Replacement of trucks in large fleets is not surplus to the regulation and therefore does not meet Carl Moyer Program statutory eligibility criteria. Second, loan guarantees are governed by the existing CalCAP small business criteria.

k) Funding Qualification

780. Comment: I have tried to obtain grants of various types and have learned that is has been pretty much a waste of time due to the fact that my company doesn't qualify for one reason or another. (RTC)

781. Comment: I own and operate a 1999 International diesel ten wheel dump truck. I do not qualify for any of the programs for aid. (CDTOA8)

782. Comment: CARB is proposing this multi-billion dollar regulation and what little incentive is offered is only to a certain few. (STID)

783. Comment: I don't know anybody in the trucking industry that is not for clean air. What we need is the funding to do this. It's going to cost me $7 million between now and 2014 to do anything with my fleet. That's a lot of money when my gross revenue is $6 million with a one to two percent profit. It doesn’t take much to see we're not going to make it. I can't qualify for any grants at all. (FAUL2)

784. Comment: I've worked with quite a few customers putting the grant proposals together. They have to pretty much dedicate a full-time staff person to putting these grants together. And then they hope and pray and light candles; and, you know, one in ten is going to get the grant money. Realistically, I don't think that the grants are going to bail these people out. (FTSA)

785. Comment: The rule is heavily weighted to just get rid of older, small fleet trucks, while the funding programs (Carl Moyer, 1B Goods Movement etc.) concentrates on everything but this group because of lower mileage. It’s hard not to read about some large highly profitable company fleet that was subsidized for hundreds of thousands if not millions of dollars for new trucks or retrofits, when our members call and say they were turned down or told they could only get funding to repower an ancient truck with a mechanical engine, which is well, about the most ridiculous thing that anyone could do. (CDTOA11)

Agency Response: As noted in the responses to Comments 750, 759 through 761, and 774, and in Chapter IX of the Initial Statement of Reasons, the level of funding currently available for incentives and grants is not sufficient to pay for all the reductions provided by this Regulation. Projects are generally selected for financial assistance programs based on competitive ranking or cost-effectiveness, which is a measure of the

dollars provided to a project for each ton of covered emission reductions. In addition, projects must meet eligibility criteria as described in the applicable program guidelines. Historically, financial assistance programs have been oversubscribed, receiving significantly more requests for funding than available resources can provide. We therefore recognize that, unfortunately, some applicants for financial assistance will not receive funding. More information regarding eligibility for financial assistance is available in Chapter XV of the Technical Support Document.

Fleets that run high annual miles normally replace their vehicles within a short period and will have the cleanest engines available. For such fleets, the regulation may not require any actions beyond their normal business practices. Staff recognized that small fleets, because of their limited number of vehicles, would not benefit from the flexibility provided to larger fleets by the fleet averaging option or the BACT percentage limits option. In writing the regulation, staff also acknowledged the economic challenges facing small fleet operators and provided additional time for compliance. Staff also established lesser regulatory requirements for small fleet operators to reduce costs during the first years of the program. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section and in Chapter XIV of the TSD. Also, funding options for small fleets are discussed in the response to comments 767 through 769 of this section.

786. Comment: Our trucking operations are part of our services as a U.S. Customs broker at the border of California with Mexico. Because we are involved in cross-border operations we are not eligible for any grants to assist us with the expenses of upgrading equipment. The same is true of many smaller companies who occasionally provide service out of state in order to produce income, but this means that they too are then unable to benefit from any grants offered. (CBI)

Agency Response: California receives the maximum amount of emission benefits by restricting operation of a replacement truck to California. For this reason, the Goods Movement Emission Reduction Program requires 100 percent operation in California; while the minimum California operation for the Carl Moyer Program is established by statute at 75 percent, providing flexibility for trucks that accrue mileage outside California.

l) Requests for Additional Funding Mechanisms

787. Comment: With limited loan availability; the tight credit markets and our foundations that provide funding struggling, we need a robust financing package - sufficient funding, easy availability of funds with low interest rates. Bloodbanks also request special consideration as we don't meet the requirements for travel in "trade corridors", access to ports and have limited time on the roads. (BCC1)

788. Comment: T & L Trucking and all its affiliates urge this board to come up with a plan that would promote buyouts of older equipment, grants, low interest loans, tax

incentives and other measures to mitigate the burden on trucking companies, business and the California public. (TLT1)

789. Comment: We urge CARB to explore and provide as much funding as is necessary to allow California companies to purchase DPF's, engines, and trucks. Funding mechanisms must be found, with an emphasis on grants rather than loans, as neither the general economy nor the timber harvesting economy make it feasible to repay loans in the amounts contemplated by this regulation. We request a delay in the vote on these regulations so that time may be taken to… further develop funding to pay for these programs. (ACLOG1)

790. Comment: While we understand the need to reduce PM and NOx emissions, we would like to see provisions in place to cover the economic impact of such regulations. (HCCMI)

791. Comment: As for the money, I think that the government should be the one that is using the money for new trucks since most truck drivers are low-income workers. So I am hoping that this law is passed soon and that the government will do all they can to help afford all the changes that must be made. (OAKH2)

792. Comment: If CARB is so passionate about resolving problems with the air quality in California in such a small amount of time, why can it not be their financial responsibility to insure that the funds for this sort of project are covered in order to avoid shutting down hundreds of companies within the state resulting in increased job loss and further economic meltdown? Do they not understand the severe amount of waste that would be produced from such an event? (SSOW)

793. Comment: I urge passage of these regulations. But I also urge that you work on the incentives and look at different ways of funding some help to industry. In the San Joaquin Valley, we have the DMV fee that was raised to help fund that. (TCAC2)

794. Comment: We have now, with the work that you're doing with the Treasurer's office, a significant amount of assistance available. In addition to the Moyer program that will continue, we also have the loan programs that you put in place. I think this is a moment to step up and invest in our energy economy and in new technologies. I think this program can and should be expanded to the rest of the country. We should pool our resources and work together. I know implementation is going to be tricky, but I think we all have it in us to work together. (CPC)

795. Comment: I think the proper response to those legitimate concerns that the costs imposed on them is high is not to delay or weaken the regulation, but rather to increase the funding available to comply with the regulation and to collect the funding in an appropriate manner. Rather than yet another bond or increasing registration fees, what better source than a very modest diesel fee with all revenues deposited into a new account called the on-road diesel account for the sole purpose of assisting compliance with this regulation. While it may not be in your purview to impose such a diesel fee in conjunction with the diesel regulation,

your recommendation with support from both the environmental and trucking community will go a long way. (IDAW)

796. Comment: A revenue generation mechanism to focus on getting In-State older trucks out of service should be explored. (CFA1)

Agency Response: ARB does not have the authority to establish additional grant programs, levy taxes, such as the diesel fees suggested by one commenter, or allocate additional funds to existing programs or alternative technologies, as suggested by another commenter; this authority lies with the California Legislature. However, ARB staff will continue to work with our federal, state and local partners to identify new potential funding opportunities, such as the federal Diesel Emission Reduction Act, that can help to increase funding available to California truck owners. Regarding the comment to expand funding programs to the rest of the country, ARB's authority is limited to California, however we regularly share information with other states, the federal government, and other partners around the world. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

797. Comment: Considering that the state of California is facing a $14 billion deficit next year and that the bond market has collapsed, we are deeply concerned that adequate taxpayer funding opportunities will not be available in the coming months. We encourage the Board to study implementation of a system of end-user fees that would help pass the costs of this regulation along to the companies who are ultimately responsible for generating a profit from goods movement. The end-user fee structure could be a part of reporting requirements built into existing funding mechanisms. An example would be a program available to truckers where end users would make quarterly payments based on the number of deliveries made and miles driven to California drop off points. In conclusion, we urge you to pass the strongest possible rule and to examine alternative funding sources that don't allow corporations like Wal-Mart to externalize the costs of state regulations. (MSWAT)

Agency Response: As described in Chapter VIII, Section A of the Initial Statement of Reasons for Proposed Rulemaking, the total cost of achieving the emissions reductions provided by the Regulation is about $5.5 billion, whereas the total available financial assistance is about $1 billion. As is the case with any regulation, ARB anticipates that the majority of compliance costs will be borne by the regulated industry. For more information on available financial assistance, please see the response to Comments 738 and 739, as well as Chapter XV of the Technical Support Document.

The commenter proposed an "end-user fee" with the intention of not allowing large corporations, such as Wal-Mart, to "externalize the costs of state regulations". Please

see agency response to Comments 787 through 796 regarding ARB's lack of authority to establish a fee. Also, ARB believes that an end-user fee strategy would not achieve this goal since any fees that are imposed on the end users could simply be passed-on to the consumers and the costs of compliance will continue to be externalized by the end users. In addition, this strategy does not alleviate the requirements for the individual truck owners to comply with the regulation, with the attendant costs. The ARB believes that a more equitable strategy is to require all fleet owners, regardless of size, to comply with the regulation and make adjustments to the regulation's compliance schedules, as staff has done, to allow them more time to comply. At the same time, staff has implemented various financial incentives programs that specifically target small fleets to provide them with more financial resources to purchase cleaner vehicles and equipment that are necessary for them to comply with regulatory requirements.

798. Comment: In adopting these regulations, CARB should tie their implementation to the passage of a series of supporting bond measures. The bonds can be spent along the successful model of the Carl Moyer Program. One relatively simple adjustment would be to expand eligibility for Moyer funds to all diesel fueled vehicles affected by the on-road and off-road in-use rules. Because the benefits accrue over multiple years, the costs should be spread to future state residents and the compensation should not come directly out of the state budget. If the state electorate is unwilling to fund these bonds, that provides the CARB with information that perhaps the state's voters do not place the same value on these reductions as implied by the staff analysis. And if the bonds are not approved, the regulations should be rescinded. (AEG1)

Agency Response: In addition to funding provided by the legislature, California voters have already approved bond measures that provide funding for on-road vehicles and off-road equipment. In 2002, California voters passed Proposition 40, the California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act. Proposition 40 allocated $50 million to ARB over two years for projects in accordance with the Carl Moyer Program guidelines. In November 2006, California voters approved the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, also known as Proposition 1B. Proposition 1B, among other things, authorizes $1 billion dollars to reduce emissions from goods movement in California's trade corridors.

Assembly Bill 923, signed in 2004, provides current funding for the Carl Moyer Program from an adjustment to the tire fee, and authorizes local air districts to increase motor vehicle registration fees by up to $2 for programs to reduce air pollution. Combined with continuing funding that was provided in the fiscal year 2004-2005 budget (SB1107), up to $140 million of Carl Moyer Program funding per year is available to help clean up California's air through 2015.

However, as described in Chapter IX of the Initial Statement of Reasons, financial assistance programs do not provide sufficient funding levels to pay for all of the emission reductions necessary to meet clean air standards and reduce exposure to toxic air contaminants. As is the case with most regulations, the majority of compliance costs are expected to be borne by the regulated industry. Please also see agency

response to comments 787 through 796 in this section regarding ARB's lack of authority to establish bond measures.

In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

As described on page 22 of Appendix J in the Technical Support Document, the health benefits provided by the Regulation far exceed the estimated cost, The estimated statewide benefits over the period 2010 to 2025 from reductions in adverse health effects is estimated at between $48 billion to $69 billion.

m) Financing Concerns

799. Comment: Roadstar has historically had a close working relationship with our banking partners but for the first time in the last 20 years, we are having difficulty renewing our lines of credit. Roadstar has received notice from BAAQMD that we will likely be eligible for Proposition 1B funding for 5 new replacement trucks ($50,000/truck). We are now concerned that we may not be able to secure financing to meet our portion of the obligation to take advantage of the Prop 1B funding. There is little chance that any lending institution will be willing to provide funding over the next five years to replace or upgrade our entire fleet just to maintain our existing level of business and revenues. (RTRU1)

800. Comment: I have found it next to impossible to obtain a reasonable interest rate on the equipment I have coming in due to the financial situation that exists in our nation today. (RTC)

801. Comment: On the balance of the new truck purchase loan, the state should create a financing scheme to guarantee low cost loans for those willing to continue to operate in this industry. In early April, the major credit bureaus announced that most small business lenders will now require credit checks on both the business and the owner applying for the loan. In the past, only the businesses credit worthiness was utilized. This will no doubt create more difficulties when attempting to borrow money for business purposes, especially small businesses. (CDTOA11)

802. Comment: Now that the economy is not so good, are we going to be able to get financing for these already expensive pieces of equipment? (DJAC)

Agency Response: ARB is acutely aware that the downturn in the economy and the tightened credit market has made it more difficult for potential borrowers, even those with good credit, to obtain financing. To assist fleets affected by the regulation, ARB is providing a level of financial assistance towards early regulatory compliance through its PLACE program. Through loan guarantees, the PLACE program helps small

businesses access competitive-rate financing. ARB's incentive programs focus on the oldest, most polluting trucks, which are often owned by small businesses.

ARB has launched a series of outreach tools including the new Truck Stop website at http://www.arb.ca.gov/msprog/truckstop/truckstop.htm, a new diesel hotline at 866-6DIESEL, and a new email address at 8666diesel@arb.ca.gov. Interested truck owners can use any of these new resources to obtain information regarding on-road regulations and financial assistance. In addition, see agency responses to comments 751 and 752 in the Funding section regarding the PLACE and CalCAP programs, and agency responses to comments 41 and 42 in the School Bus Requirements section regarding outreach programs that provide a mechanism to help applicants with specific compliance and funding questions.

803. Comment: We are not certain how we're going to comply with the regulations, even with the compromise. But at least it gives us time to try to secure funds. Even with grants, the grants are not enough to cover complete units. We have to get financing for the balance. (DOWN)

Agency Response: ARB recognizes that the majority of older polluting trucks are owned by small businesses; ARB's incentive programs are designed to assist these fleets. In addition, ARB has provided additional time for small fleets to comply with the regulation, thus providing more opportunities for small fleets to take advantage of incentive funding. Small fleets (one to three trucks) currently have a deadline of 2014 to comply with the regulation; an owner operator can continue to operate his truck until January 2014. Please also see agency response to comments 41 and 42 in the School Bus Requirements section regarding outreach programs that provide a mechanism to help applicants with specific compliance and funding questions.

804. Comment: We cannot comply if we don't get loans that will even match grant funds. We cannot buy new equipment or retrofit the old if our shippers aren't moving product. (JJTI)

Agency Response: The ARB recognizes that grants do not cover the full cost of cleaner vehicles and equipment that would need to be purchased to comply with the regulation. The ARB also understands that with reduced economic activities and the tightened credit market, businesses, especially small businesses, all have fewer financial resources to invest in major purchases, such as new trucks.

To address these issues, ARB has begun implementation of its loan guarantee program, known as PLACE, to provide financial assistance to fleet owners affected by the regulation. In certain situations, grants may be used in combination with PLACE to further reduce the costs of obtaining cleaner technologies. For example, fleet owners may use Carl Moyer Voucher Incentive Program grants as down payments, in conjunction with competitive-rate financing offered through PLACE, to further reduce their monthly payments. The ARB is committed to continue to explore additional strategies to provide fleet owners with more financial resources to comply with the regulation. (Please see agency responses to comments 751 and 752 in the Funding section for more detail on PLACE and CalCAP.)

805. Comment: Of course, it's all been made more difficult to get ahead of the game with the economy, credit tightening, and difficulty of getting the funds – whether it's Moyer or Proposition 1B or one of the other grant programs. I know it's particularly an issue for some of our members in the San Joaquin Valley. (CCIMA2)

Agency Response: The ARB acknowledges that the downturn in the economy is affecting nearly everyone in California, especially fleet owners subject to the regulation. With that recognition, the ARB has acted to simplify and streamline our existing incentives programs to make them more accessible to a wider audience. Please see response to comments 41 and 42 in the School Bus Requirements section regarding outreach. In addition, ARB staff anticipates providing the Board with a report back regarding the economy at the December 2009 Board hearing.

806. Comment: Cascade Sierra Solutions (CSS) is a nonprofit organization committed to helping to upgrade the legacy fleet by coordinating public and private resources, helping find affordable compliant vehicles, and providing low cost financing with extended terms to California truck drivers. The truck financing program that's going to be offered here by AB 118 is going to provide assistance for some companies but most of the customers that CSS has financed will not qualify under traditional commercial banking guidelines. Nonetheless, CSS has demonstrated ability to collect from these companies. CSS is willing to help the industry with whatever resources we can garner to help them meet the time frames of this historic rule in the most affordable manner possible. Additional funding added into the CSS revolving fund would be a great help at this time. (CSS2)

Agency Response: ARB agrees that incentive funding is an important complement to the regulation. We appreciate the commitment from local air districts, and other stakeholders, to work with ARB toward our common goal of maintaining effective incentive funding programs.

n) Other Incentive Comments

807. Comment: We are owner-operators who own low mileage vehicles that don't qualify, although we're working on that. I would like to give special thanks to staff of your financial departments who have worked with us to try to put together loan programs. Unfortunately for our industry right now, it's a little too little, too late. Some of the individuals who have received incentive funding for the purchase of trucks from the Sacramento Emergency Clean Air and Transportation Program (SECAT) are now having those trucks repossessed. They've had to return them to the dealerships – some with even 70 percent incentive funding. That is how bad the industry is today. (CDTOA13)

Agency Response: The Sacramento Emergency Clean Air and Transportation Program (SECAT) is administered independently by the Sacramento Metropolitan Air Quality Management District. Although current economic conditions clearly present a challenge, recipients of ARB's incentive programs are not currently experiencing widespread default.

808. Comment: When you move forward with implementation, you should also tie requirements to funding for compliance. Because you created large net public benefits that should be funded by the public, you should be imposing the costs on those who are benefiting the most. (AEG2)

809. Comment: Since this artificial obsolescence is said to be for the greater public good, perhaps the public can foot the bill through a large direct payment upon purchase of these newer trucks. It is only fair. (CATI)

Agency Response: See responses to comments 751 and 752 in the Funding section. As stated there, the majority of emission reductions that will be achieved by the Truck and Bus regulation will likely have to come from actions funded by owners of affected equipment. The total cost of achieving the emissions reductions provided by the Regulation is about $5 billion, whereas the total available financial assistance is about $1 billion. Although California cannot achieve all of the emission reductions necessary to provide healthy air through incentive programs alone, the programs that make up the financial assistance portfolio are important, especially for small fleets that may lack the capital necessary to purchase retrofits or cleaner trucks. In addition, ARB will continue efforts to identify new funding opportunities, such as the federal Diesel Emission Reduction Act, that can help to increase funding available to California truck owners.

810. Comment: I am an owner, operator and want to know if there will be any federal money to update my 1988 Peterbilt to make it legal in 2010? I do not want to go out of business. It is difficult enough trying to stay ahead. By the time this law gets enforced it will be like starting my business all over. Please inform me of any grants or low interest loans. (FMEN)

Agency Response: Small fleets with three or fewer trucks may elect to comply with the regulation using the optional requirements for small fleets. Under this provision, the first compliance deadline would be January 1, 2014. Model year 1988 trucks may be eligible for the Carl Moyer Program, the Goods Movement Emission Reduction Program, Assembly Bill 118 funding, and loan guarantees through the “Providing Loan Assistance for California Equipment” or PLACE program. ARB is committed to providing information to small businesses and owner operators regarding compliance options and financial assistance. Please see the response to comments 41 and 42 in the School Bus Requirements section for more details on ARB’s outreach actions for this rulemaking. Specific federal funding that may be available in the future is unknown, since ARB does not have authority over allocations of federal funding to the states.

811. Comment: Create a self sustaining loan program available to all California based carriers. • Allow for utilization of the tiered truck trade for exemption vehicles. (DTCC3)

812. Comment: Repowering or retrofitting older trucks is not a viable alternative in most cases nor is it a good investment. The financing of these propositions, if even available, will surely be usury if not controlled and regulated by government. (CDTOA11)

Agency Response: The ARB has recently implemented a uniquely-structured loan guarantee program (PLACE) through the California Pollution Control Financing Authority's CalCAP program to assist owners of small trucking fleets in obtaining loans for the purchase of cleaner vehicles and equipment. (Please see Agency Response to Comments 17, 18, and 19)

813. Comment: California Dump Truck Owners Association experiences over the last 2-3 years concerning these incentive funding programs leaves us without exception wondering how something so important could be administered so "unfairly". The air district's autonomy to determine criteria for accepting funding projects in their area without general guidelines is totally unjust. Whether it's the funding for truck re-powering or air districts looking only at mileage and not idle time too, the vocational trucking industry, because it operates low mileage, as well as those similarly situated, have not received the same considerations and funding opportunities. To increase incentive funding opportunities and access for small business we would like to see many immediate improvements, as detailed below, to these incentive programs and the extension of the on-road rule:

(5) Repowering or retrofitting older trucks will in most instances not be a viable economic alternative nor is it a wise investment. This is especially true for repowers which can cost in excess of $50,000. There are many other problems with this proposition; for instance, a truck owner that agrees to put a newer $50,000-plus engine into a $10,000 or even $20,000 truck, only increases the truck's value by $5,000 to $8,000 according to truck sales industry professionals.

(6) There are also misunderstood insurance issues. Under a stated value full coverage truck insurance policy, an insurance company has an option to replace the truck with a similar valued truck and not the full value of the truck. Under an actual cash value policy a repowered truck could cover the total cost but the policy would be extremely expensive because it would have to cover the old truck and new engine cost. This is very impractical.

(7) There are also potentially burdensome tax implications that also need to be understood. If the truck owner is IRS 1099 for the funds he/she receives to repower ($50,000+) but the trucks value only goes up $5,000 to $8,000, the tax implications can be almost double the increased valuation of the vehicle.

(8) The lending clauses of these incentive agreements associated with repowering or replacement that are tied to the truck's operational time to only one region or districts is unreasonable. Construction trucks are moving continuously throughout the state, moving from job-to-job and even have a seasonality element especially in the northern part of the state. Considerations for these and other related issues have to be reasonably understood.

(9) Finally, funding should exclusively benefit California state citizens and businesses. In an era of a crushing state budget deficit, government expenditures for non-taxpayers are entirely unjustified.

CDTOA firmly believes that this CARB rule does not satisfy incentive funding program equity and objectivity that should have been responsibly contemplated and managed by CARB from the very beginning. Why should any class of trucking business be allowed to be treated any different, such as harbor haulers funding, than those who operate in certain areas, but are similarly situated? This government should be buying all California based small fleet owners new trucks. (CDTOA11)

Agency Response: All of the ARB financial assistance programs include specific guidelines that describe how each program operates. The individual program guidelines, including administrative procedures and eligibility criteria, are adopted by the Board after a public process open to all interested parties. The guidelines must be consistent with the legislation that established the program (in the case of the Carl Moyer Program) or the proposition language (in the case of the Goods Movement Emission Reduction Program funded by Proposition 1B).

In the case of the Carl Moyer Program, individual air districts are free to adopt more stringent criteria as long as it is consistent with the enabling legislation. For example, when calculating cost-effectiveness, many air districts will consider only the usage within their air district or region.

Repowers are not currently eligible for funding under the Carl Moyer Program due to technical constraints with 2007 and later engines in 2006 and older chassis. Therefore, the stated financial, insurance, and tax issues related to repowers as described in the comment are not applicable.

All trucks that receive financial assistance through ARB's programs must be registered in California and must meet minimum California usage requirements. Therefore, there is a clear nexus between the source of the revenue and the location of the benefits. Other incentive programs exist at the local level to provide funding for specific vocations, such as funding for replacement of drayage trucks at the Ports of Long Beach and Los Angeles. These local funding programs are not administered by ARB.

Financial assistance programs do not provide sufficient funding levels to pay for all of the emission reductions necessary to meet clean air standards and reduce exposure to toxic air contaminants. As is the case with most regulations, the majority of compliance costs are expected to be borne by the regulated industry.

10. Consideration of Alternatives

a) More Flexible Mileage Exemptions - Driving Toward a Cleaner California (DTCC) Proposal

1. **Comment:** Currently, the ARB has no mileage exemption above 7,500 miles annually. The mileage exemptions enumerated in the DTCC alternative would allow for older model year vehicles that meet certain mileage thresholds (see below) to use an alternative compliance schedule, which would still realize emission reductions, through 2020, when vehicles will need to meet stricter emissions requirements to help meet air attainment goals.

(26) Vehicles operating 15,000 to 30,000 miles annually

Beginning at the end of 2010, require a 2004 equivalent or newer engine until 2020 and then NOx and PM BACT or 2010 technology thereafter.

(27) Vehicles operating 7,500 to 15,000 miles annually

Beginning at the end of 2010, require a 1994 or equivalent engine with a Level 3 PM device until 2020 and 2007 technology level thereafter.

(28) Vehicles operating under 7,500 miles annually

Beginning at the end of 2010, require a Level 3 PM device until 2020 and 2004 technology thereafter. (DTCC2) (DTCC3)

The mileage exemptions are based upon miles operated only. Limitations on operating hours have been removed, which will result in the application of current idling rules to low mileage vehicles where idling, rather than low mileage, is the issue, such as with vehicles operating a power take-off unit.

Agency Response: This proposal would result in emissions reduction compared to no regulation, but would result in substantial loss of PM and NOx emissions reductions compared to the approved regulation. Staff's detailed analysis of this element of the DTCC proposal is located in the TSD Appendix N page 8. The DTCC proposal is not acceptable because the loss in benefits would result in significant risk from exposure to diesel PM emissions and would not meet the SIP commitments.

b) Modification of Small Fleet Provisions – DTCC Proposal

2. Comment: For one vehicle fleets and exempt trucks for two and three truck fleets, move compliance for PM and NOx performance requirements to 2020 and require 2004 technology starting at the end of 2012 for the exempt truck.

For two vehicle fleets, move compliance for a non-exempt truck from December 31, 2013 to December 31, 2015. Exempt truck to meet 2004 standard at end of 2012.

For three vehicle fleets, move compliance for non exempt trucks from December 31, 2013 for both to December 31, 2015 for one and December 31, 2016 for the other. Exempt trucks are to meet 2004 standard at end of 2012. (DTCC2) (DTCC3)

Agency Response: The net impact of the DTCC small fleet provisions is to reduce emissions benefits from about 50 percent of the trucks registered in the state until 2021. In particular, the loss in PM benefits in this category under the DTCC proposal would be large. Staff's detailed analysis is located in the TSD Appendix N page 14.

c) Early Incentive Provision – DTCC Proposal

3. Comment: To encourage the purchase of new clean technology as soon as possible, equipment owners not specifically engaged in port service who purchase and run 2007 or newer technology before December 31, 2009 will receive an

additional two years of compliance under the current BACT regulatory structure starting in 2020 for 2007 etc. (DTCC2) (DTCC3) (CDTOA11)

Agency Response: Staff agrees that providing an incentive to encourage stakeholders to upgrade to new clean technology early is consistent with the emission reduction goals of the regulation. However, there is no way to determine which vehicles were being replaced early and which ones were being replaced on a normal schedule. Without that ability, there would be no assurance that early emissions reductions would be achieved and that credit was not given for normal replacements. This element would also result in some loss in emissions benefits from 2021 to 2023.

d) Provision for Dedicated Specialty Use Vehicles – DTCC Proposal

4. Comment: Allow for exemption for dedicated use or single unit vehicles (including but not limited to what is described in Title 13 sec 2027(c)(9)). Starting at the end of 2012 all dedicated use vehicles must meet 1994 or later with 85% PM and 25% NOx control or equivalent. In 2020 all dedicated use vehicles will meet 2007 standards. This proposed schedule allows used vehicles to remain in service due to high costs associated with the purchase of new equipment of this type. (DTCC2) (DTCC3)

Agency Response: DTCC proposed specific compliance requirements for dedicated use and single-unit trucks. Staff modeled the DTCC proposal as it would have applied to single-unit trucks. The evaluation accounted for the single-unit truck provisions, as well as mileage provisions that apply to single-unit trucks, and small fleet provisions that apply to single unit trucks under both the DTCC and regulation. The DTCC proposal would achieve less than half of the benefits in this category than would be achieved by the regulation, and would result in a loss in emissions benefits in all years. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

e) Modification of the Compliance Options – DTCC Proposal

5. Comment: The DTCC proposal recommends changes to the BACT implementation schedule as outlined in Table 4 to allow for PM BACT until 2013 with NOx and PM BACT taking place in the 2014 model year. The compliance path takes place chronologically with full implementation of NOx and PM BACT requirements by 2022 - consistent with current BACT structure.

For pre-1994 and 2004-2006 technology vehicles where there is limited availability of retrofit technology the regenerating system must be available for a particular application or engine and be verified for at least one year prior to the BACT requirement. For vehicles certified to these standards if no system becomes available as described above they will need to follow the BACT replacement schedule for 2017. (DTCC2) (DTCC3)

Table 4: Comparison of CARB Proposal with DTCC Alternative BACT Schedule by Year (differences in bold)

Compliance Deadline, as of December 31	*Engine Model-Years*		*BACT Requirements*	
	CARB	*DTCC*	*CARB*	*DTCC*
2010	Pre-1994	Pre-1994	PM BACT	PM BACT*
2011	2003 - 2004	**1994 - 1997**	PM BACT	**PM BACT**
2012	2002 - 2006	**1998 - 2003**	PM BACT	**PM BACT**
	1994 -1999		NOx and PM BACT	
2013	2000 - 2002	**2004 - 2006**	NOx and PM BACT	**PM BACT***
2014	Pre-1994	Pre - 1994	NOx and PM BACT	NOx and PM BACT
2015	2003 - 2004	**1994 - 1997**	NOx and PM BACT	**NOx and PM BACT**
2016	2005 - 2006	**1998 - 2003**	NOx and PM BACT	**NOx and PM BACT**
2017	NA	**2004 - 2006**	NA	**NOx and PM BACT**
2018	NA	NA	NA	NA
2019	NA	NA	NA	NA
2020	2007	2007	NOx and PM BACT	NOx and PM BACT
2021	2008	2008	NOx and PM BACT	NOx and PM BACT
2022	2009	2009	NOx and PM BACT	NOx and PM BACT

6. Comment: Make the following changes to the Fleet Averaging option:

(29) Allow double credit for hybrids for the life of the regulation.

(30) Count each vehicle retired (as consistent with previously adopted ARB rules: in that the equipment is scrapped, sold out of state or utilized in a low mileage capacity) in a fleet before December 31, 2010 as 2010 compliant until December 31, 2017 for purposes of fleet averaging. Each retired vehicle will count as a 2010 MY equivalent and will be included in total fleet average size until 2017. Equipment owners who choose to utilize this option must present proof of retirement.

(31) Space out initial NOx compliance for fleet averaging targets for fleets of four or more as outlined in Table 5. For NOx, space out the requirements starting 2012 with a second target in 2014, a third target starting in 2016, and fourth target in 2020. This schedule calls for the remainder of the fleet to meet

compliance for NOx in 2022. DTCC recommends the same targets for PM as CARB, referenced in Table 6. (DTCC2) (DTCC3)

Table 5: CARB Proposal Compared to DTCC Alternative Proposal - Fleet Average NOx Targets Decline by Year (differences in bold)

Compliance Deadline, as of December 31	*Fleet NOx Targets for each compliance deadline*			
	CARB	*DTCC*	*CARB*	*DTCC*
2012	8.5	8.5	14.4	14.4
2013	5.8	**8.5**	9.8	**14.4**
2014	4.6	**5.8**	7.8	**9.8**
2015	4.6	**5 8**	7.8	**9.8**
2016	4.0	**4.6**	6.0	**7.8**
2017	4.0	**4.6**	6.0	**7.8**
2018	4.0	4.0	6.0	6.0
2019	3.2	**4.0**	4.4	**6.0**
2020	3.2	3.2	4.4	**3.0**
2021	1.6	1.6	3.0	3.0
2022	0.8	0.8	1.6	1.6

Table 6 CARB and DTCC Fleet Averaging Proposals for PM are Identical

Compliance Deadline, as of December 31	*Fleet PM Targets for each compliance deadline*	
	MHD	*HHD*
2010	0.38	0.710
2011	0.29	0.530
2012	0.17	0.320
2013	0.06	0.110
2014	0.06	0.110
2015	0.06	0.110
2016	0.06	0.110
2017	0.06	0.110
2018	0.06	0.110
2019	0.06	0.110
2020	0.06	0.110
2021	0.06	0.110
2022	0.06	0.110

7. Comment: DTCC recommends the following changes to the BACT Percentage Limits option as shown in Table 7.

(32) Employ concept similar to fleet averaging targets with initial space out of one year between initial compliance schedules for NOx. The targets for PM are the same.

(33) Count the number of retired vehicles (as consistent with previously adopted ARB rules in that the equipment is scrapped, sold out of state or utilized in a low mileage capacity) in a fleet before the end of each compliance year, in the total fleet size for each compliance year starting once a baseline fleet size is established on January 1, 2010. Each retired vehicle will count as a BACT compliant vehicle in the total fleet size for each compliance year for fleet percentage requirements until 100% compliance is required. (DTCC2) (DTCC3)

Table 7: CARB Regulation Versus DTCC Alternative - Percentage of Total Fleet That Must Comply with PM and NOx BACT (differences in bold)

Compliance Deadline, as of December 31	PM BACT		NOx BACT	
	CARB	DTCC	CARB	DTCC
2010	25%	25%	NA	NA
2011	50%	**25%**	NA	NA
2012	75%	**50%**	25%	25%
2013	100%	100%	50%	**25%**
2014	100%	100%	60%	**50%**
2015	100%	100%	70%	**50%**
2016	100%	100%	80%	**75%**
2017	100%	100%	80%	**75%**
2018	100%	100%	80%	80%
2019	100%	100%	90%	90%
2020	100%	100%	90%	90%
2021	100%	100%	90%	90%
2022	100%	100%	100%	100%

Agency Response: According to the analysis performed by staff, the combined proposal for the modified fleet average, modified BACT schedule, and modified BACT percentage limits requirements would reduce NOx benefits in 2014 by 55% compared to the regulation. In 2014 PM2.5 benefits would be reduced by 21%. The overall emission reductions from the DTCC proposal would not be sufficient for the state to achieve its SIP commitments. For more detailed information, please refer to TSD Appendix N, pages 10 and 11.

The remain responses to the comment are identified by number corresponding to each issue identified in sequence.

(1) See response to comment 161 in the Regulatory Provisions section.

(2) A retirement credit provision was added by the Board during the December 2008 Board Hearing. The new language was added to section 2025(k) and was made available for comment during the 15-day comment period from August 19, 2009 to September 3, 2009. The approved retirement credit concept varies slightly from the DTCC proposal. The retired vehicle is treated as a 2010 model year engine in the fleet

average and in the BACT percentage option; however, the credit expires by 2014 to ensure the state to meet its SIP commitments, the date to establish the baseline fleet was made earlier, July 1, 2008, and the retirement credit would not apply when designating a vehicle as low use.

(3) Delays in the fleet average targets as suggested would not result in sufficient emissions reductions for the state to meet its SIP commitments. However, staff did modify the 2014 NOx target from earlier regulatory proposals consistent with the DTCC proposal for that year. This modification made the 2014 NOx target for fleet averaging option the same as for 2013.

(4) Staff also modified the 2014 NOx target from earlier regulatory proposals to be consistent with the DTCC proposal for that year. This modification lowered the 2014 NOx BACT percentage to be equal to the 2013 percentage.

(5) The retirement credits described in item (2) in this response.

f) Consider Cumulative Effect of Multiple Regulations – DTCC Proposal

8. **Comment:** Require CARB to develop a personalized compliance schedule for those commercial entities subject to two or more CARB rules. The schedule would permit compliance on a schedule that considers the financial impacts of all rules rather than the schedule required by each rule. (DTCC2) (DTCC3)

Agency Response: The regulations have different timelines for compliance and affect a variety of fleets that compete in the same markets. A regulation customized for each company would result in differing requirements for fleets that compete with each other and would be impractical to implement and enforce. However, we are willing to work with companies to assist them as needed, see response to comment 11 in the Enforcement section.

g) Consider Safety and Compatibility Issues – DTCC Proposal

9. Require CARB to investigate and address all operational and other safety considerations of potential retrofit technology, such as transport of hazardous/flammable materials or sensitive cargo, view impediments, etc. If safety and operational concerns cannot be rectified, require CARB to provide exemptions for such equipment. (DTCC2) (DTCC3)

Agency Response: The regulation already addresses the concern raised. Staff agrees that a condition may exist where the installation of a retrofit device impairs the operational safety of the vehicle. To address the concern, the regulation identifies a process for a fleet owner to obtain an exemption under such condition. Upon finding that a retrofit device cannot be installed safely, the Executive Officer will issue a determination that the device will not be considered to be available to meet BACT for the vehicle.

h) Utilizing Existing Technology – DTCC Proposal

10. Comment: ARB should be responsible for compiling a list of eligible or ineligible equipment while simultaneously addressing compatibility issues while also providing a more robust off-ramp for unavailable technology. (CDTOA11) (DTCC2) (DTCC3)

Agency Response: Staff has a list of verified diesel emissions control strategies (DECS) with their applicability information on the ARB web site. The regulation requires fleet owners to install ARB verified DECS. Staff is continuing to work with retrofit manufacturers to address compatibility issues and to verify new and robust emission systems. Staff would use advisories to address issues that may be common to a vehicle type or verified DECS.

i) Support for DTCC Proposal

11. Comment: We hope that this Board would adopt the DTCC alternative proposal. (MCA6) (KFIT) (FTSA) (FTUR) (CDTOA4) (DGRA) (TTL) (ACTR) (WBAT) (ROTC) (ARC) (BRIT2) (WSOC) (RCIA) (CLIFE) (RTRU2) (CCOO) (NATS) (DTCN) (ATA1)

12. Comment: We support the DTCC proposal. (GSCL4)

13. Comment: As a small business owner in California, I am urging the California Air Resources Board to reevaluate the proposed truck and bus regulation and consider the Driving Toward a Cleaner California alternatives. (CGA9)

14. Comment: I also ask that you embrace the DTCC alternatives provided through the CTA. (MVE3)

15. Comment: Please consider the DTCC proposal carefully and seriously. (PHEI)

16. Comment: I strongly urge that the California Trucking Association provided DTCC alternative is considered as we all try to achieve the goals and good intentions for all of us that live in the State of California that CARB is trying to accomplish. (RTC)

17. Comment: Mountain Valley Express is a strong proponent of the CTA provided DTCC alternative and strongly urge the Board to reconsider the alternative language proposal alongside with your staff's recommendations. (MVE2)

18. Comment: I would urge adoption of the DTCC proposal which is more reasonable in my opinion. (ATS2)

19. Comment: Please forgo the current Truck and Bus Rule and use the guidelines provided by the Driving Towards a Cleaner California proposal. (GELY)

20. Comment: Please consider Driving Towards a Cleaner California Coalition who have a good alternative. I understand the CARB objective of cleaner air, which I support, but this present CARB proposal is not satisfactory. (FORM4) (PMI)

21. **Comment:** I support the alternative proposal that Driving Toward a Cleaner California Coalition is promoting because it gives companies like mine a more reasonable timeframe for compliance. I would strongly urge you to give it careful consideration. (SCLA)

22. **Comment:** I'm going to ask that you please very strongly consider the recommendations from the DTCC coalition. And let's give ourselves a little bit more time. (MCTR2)

23. **Comment:** I urge you to support the Driving Toward a Cleaner California Coalition (DTCC) proposal that has realistic and reasonable timeframe for compliance with the new emission standards. (OFMS)

24. **Comment:** Our company supports the DTCC's alternative to CARB's Truck and Bus Regulation. The end result and time period allotted come to the same goal in a different more manageable manner. (BRI1)

25. **Comment:** We would just ask you to strongly consider and respectfully consider the DTCC proposal. It has the consensus and the support of those who have to implement, pay for, and take on debt that they've never -- at levels they've never even considered in industry before. It gives it a small but important window to work through and work the issues out. (CPASC)

26. **Comment:** Consider the DTCC plan as proposed by CTA. (GTRU2)

27. **Comment:** Our goal is not to stop any regulatory action. We're part of the DTCC coalition that has provided an alternative. Again it was mentioned earlier today, there is the base line. There is the current rule. And then there's a middle ground, the compromise. That's what we are here to promote is a compromise. (CACC)

28. **Comment:** But what we are trying to go towards is compromise. We hear that so much on television, especially when it comes to politics, reaching across the aisle, compromising. That means each party gives a little bit. The DTCC proposal was on a chart yesterday, and it was interesting to look at that chart. Because doing nothing was one line. Doing the proposed plan was another line. And the DTCC was right in the middle. A compromise. (DOWN)

29. **Comment:** We request that CARB seriously consider the Driving Toward a Cleaner California Coalition (DTCC) proposal that has been presented to CARB. We ask that you evaluate the coalition's alternative proposal and work with the industries impacted by the CARB proposal to adopt a final product that achieves a balance between California's economic needs and the protection of our environment. (MCTR1)

30. **Comment:** We also are members of the Driving toward a Cleaner California Coalition (DTCC) and support the alternative proposal which provides a more flexible mileage exemption and time line. (BCC1)

31. **Comment:** Our members supply construction materials. We are urging adoption or consideration of DTCC alternative primarily because it provides a more

achievable compliance schedule. In particular, it has low mileage provisions which are important for a lot of local suppliers. (CCIMA2)

32. **Comment:** CMTA supports the DTCC proposal. We think it's more cost effective and provides necessary flexibility to meet some of these requirements. (CMTA)

33. **Comment:** I urge you to support the alternative proposal proposed by the Driving Toward a Cleaner California (DTCC) Coalition that would give companies like mine the opportunity to comply in the most reasonable timeframe and flexible manner possible while still attaining aggressive emission reductions. (STID)

34. **Comment:** We understand that there is an alternate proposal currently on the table. I urge you to support the alternative proposal proposed by the Driving Toward a Cleaner California (DTCC) Coalition that would give companies like mine the opportunity to comply in the most reasonable timeframe and flexible manner possible while still attaining emission reductions. (PDON)

35. **Comment:** However, there is an alternate proposal, created by Driving Towards a Cleaner California Coalition (DTCC), that would allow small companies like mine to comply in a more reasonable and flexible timeframe, while still attaining aggressive emissions reductions. (SLOPE)

36. **Comment:** Golden Eagle Moving Services is a member of the California Moving and Storage Association and along with the CMSA and other California trucking organizations we support an alternative proposal advocated by the Driving Toward a Cleaner California Coalition. This proposal would give companies like ours the opportunity to comply in the most reasonable timeframe and flexible manner possible while still attaining aggressive emission reductions. (UVLCMSA)

37. **Comment:** We urge you to support the alternative proposal by the Driving for a Cleaner California (DTCC) Coalition that would give our member companies the opportunity to comply in the most reasonable timeframe and flexible manner possible while still attaining aggressive emission reductions. (MCC3)

38. **Comment:** If the implementation period for this legislation were to be lengthened, most of the above problems would be solved. We feel our facility upgrades justify an extended timeline and support DTCC on behalf of our numerous independent trucker customers who would benefit from the flexibility of their proposal. (ROC)

39. **Comment:** The DTCC “Alternative Proposal” was sent to you and your staff months ago and just recently we came to find out that you had not even taken the time to review it, now how can that be balanced and fair? Our alternative is a reasonable approach that allows for flexibility and early incentives, while also achieving significant emission reductions. (CDTOA11)

40. **Comment:** ATA urges you to strike the necessary balance between cleaning the air and minimizing economic disruption by supporting the DTCC alternative for the reasons you're hearing today and yesterday. (ATA2)

41. **Comment:** Please consider the alternative proposal DTCC Coalition that would give us a chance to attain emission reductions and would clean up California's air. (DOHOL) (BROG)

42. **Comment:** If you want to responsibly regulate for cleaner air, then you should support the alternative proposal submitted by Driving Toward a Cleaner California. (JFI)

43. **Comment:** I urge you to support the alternative proposal proposed by the Driving Toward a Cleaner California (DTCC) which still achieves roughly similar benefits to the proposed regulation in the long-term. (ETI) (GTI)

44. **Comment:** I just wanted to say I hope you think about the DTCC. And that will help all of us out in the dump truck business. Because you're going to need us for flood control, earthquakes. You're going to want us here. And we are not going to be here unless you consider this DTCC. (MGTR)

45. **Comment:** A more gradual phase-in of regulations is the only practical way to make a change. We must maintain economic stability in all industries and help all industries transition into new programs. Currently the DTCC's proposed alternative is the most viable option on the table. We must find an affordable, gradual transition into new regulations and controls. (BSB)

46. **Comment:** Consider the alternative the DTCC has so you can as the Board intelligently help us make this work for you and the emissions standards and continue to support the transportation industry. (YTI3)

Agency Response: Overall, the DTCC proposal would achieve roughly half of the emissions benefits that would be achieved by the approved regulation. The DTCC proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk even though cost effective PM reductions could be achieved. Trucks and buses represent the largest emissions category from all diesel mobile source categories, and there is no other measure that can achieve similar emissions reductions to meet the SIP commitments. The staff analysis of the DTCC proposal is detailed in TSD Chapter XVIII and in Appendix N.

47. **Comment:** I have been a dump truck owner operator in California for over 25 years. I request that you consider DTCC proposed changes to your regulations. (CDTOA3)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section.

j) Economy and Cost Impact

48. Comment: I know that the DTCC has submitted an alternative proposal which includes similar provisions to the Truck and Bus regulation. We are hopeful that a regulation can be developed that will improve air quality while considering the imminent economic impact on California's business community and, in turn, general population. (HCCMI)

49. Comment: 13,600 jobs are insignificant unless it's my job, and I like my job. Please adopt the alternative. (CFCOAL)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

50. Comment: Roadstar, The California Trucking Association and the DTCC coalition fully support the need to clean California's air. We have offered meaningful alternatives which will begin the clean up immediately yet mitigate at least some of the shock to our jobs and the economy while we work through this severe downturn. Make no mistake, under the best of the circumstances, the burden is dramatic on the trucking industry as well as all business in California. I implore the CARB board to carefully examine the consequences and clean the air in a way that responsibly serves the needs of all citizens of our fine state. (RTRU1)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

51. Comment: I pray right now that you are able to read the writing on the wall, and that you choose to employ the DTCC recommendations over your present draft. I hope later on when many people that work for the state and private sector are without jobs, and their families as well as themselves are wondering why this happened they will remember this e-mail and think if we would have had more compassion and understanding on this industries plight with the economy and our proposed regulations, perhaps someone or something would have likewise spared us our jobs. (DAWIL1)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section.

We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

52. **Comment:** We must not forfeit California's economy for the sake of protecting our environment. That's why, as a member of the Driving Toward a Cleaner California Coalition, we're working together, across industry sectors, to develop a feasible solution that achieves the state's air quality goals while keeping California's economy moving forward. (FORM1) (CBI) (LFSI)

53. **Comment:** Please accept my support for DTCC proposal for mitigating diesel emissions. The businesses located in California have a larger investment committed to a cleaner environment than any business located elsewhere in the world. California's leadership in environmental matters suffers when draconian measures are enacted without regard of its economic impact on employers and employees. (CIOMA3)

54. **Comment:** I ask that you please review the comments of the Monterey Bay Unified Air Pollution Control District in opposition to the CARB proposal. Their clear and concise resolution addresses issues that directly impact the moving and storage industry. CMSA has joined with DTCC and support their alternative proposal. Even the DTCC proposal will create hardships for our industry. But companies will at least have a fighting chance to survive. (CMSA5)

55. **Comment:** While we all support reducing particulate matter and NOx emissions from Diesel engines, we must also be concerned about movement of goods and our state's economy. Please consider other proposals such as Driving Toward a Cleaner California that have similar goals and timetables but which would cause less havoc in the transportation industry. (NTDA)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

56. **Comment:** California Air Resources Board's own analysis of the DTCC alternative actually indicates it will achieve similar benefits to CARB's proposed regulation in the long term. It is incumbent on our state's leaders, and it is their responsibility, to work towards building a strong and vibrant economy while at the same time achieving clean air standards, which I believe is possible using the DTCC alternative. (SLOPE)

57. **Comment:** ATA is committed to working with the Board to craft a sensible in-use, on-road diesel vehicle regulation that both cleans the air and keeps California's economy moving forward. The DTCC proposal strikes an appropriate balance between the need to clean the air and the need for a robust economy not negatively impacted in the process that provides much needed jobs and tax revenues. Although the DTCC alternative proposal does not mitigate all of the environmental and economic concerns, we believe it strikes a reasonable balance between emission reductions, economic stability and fairness. We welcome continuing discussions between the Board and the coalition members to ensure the alternative proposal continues to address environmental and economic concerns in these times of financial turmoil. (ATA1)

58. **Comment:** The DTCC alternative proposal gets the long term diesel emission reductions that CARB is striving for but in a realistic timeframe. The DTCC alternative proposal will be difficult to achieve but will be achievable, whereas the PFR will not be achievable without devastating the entire California economy more than we see it devastated today. (MSTU)

59. **Comment:** We are asking that to help keep our industry alive in this state that you consider the alternative proposal proposed by the Driving Toward a Cleaner California that would give companies like mine to comply in a more reasonable timeframe. (FSTI)

60. **Comment:** Please consider the DTCC alternative to this proposal as we all want to protect the air and reduce emission, but not drive people out of business. (CRENT)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

61. **Comment:** As CARB knows quite well, CTA has never opposed in-use regulations to reduce NOx and PM emissions from medium-heavy and heavy-heavy duty diesel trucks. CTA has worked closely with CARB staff since the inception of this proceeding to find ways to reduce the impact of the proposed rules. During the course of the proceeding, CARB staff has made a number of positive changes that have helped mitigate some of the rule's earlier, more stringent provisions. Additionally, the Board should adopt the DTCC proposal or, at a minimum, reevaluate the proposal in our current economic climate and allow for further discussion for modifications based upon the revised emission inventory estimates based on the impact of the economic downturn. (CTA2)

62. **Comment:** Why not consider the DTCC Coalition? I agree something has to be done about emissions but right now is not the time to add cost that we cannot afford. (HSTI)

63. **Comment:** The alternative proposal put forward by DTCC is a reasonable compromise that serves the interests of both the ARB and the small business community. It promises virtually the same long-term emission reductions as the ARB proposal, while offering affected businesses the short-term relief they need to weather the current economic storm. We urge you to adopt it. (ARC)

64. **Comment:** I urge you to carefully consider the consequences of this regulation and either reject it until a better time or support the alternative proposal proposed by the DTCC (Driving Toward a Cleaner California Coalition). The latter would give companies like ours a reasonable and flexible time frame to absorb this regulation. Please, look at this regulation, not through a narrow view of on-road regulation, but from the global view of all the expensive regulations adopted by this Board. California needs a chance to crawl from the depths of this recession; passage of this regulation will reduce the likelihood of this happening. (JJAI)

65. **Comment:** Please consider the changes in our economy over the last 2 yrs and the alternative proposal proposed by the Driving Toward a Cleaner California Coalition. The alternative would give companies like mine the opportunity to comply in the most reasonable timeframe and flexible manner possible while still attaining aggressive emission reductions. (RTCDTOA)

66. **Comment:** I think the DTCC is a better uniform program for this environment. And I would also think that the alternative might help with some of these people in the construction industry where they have the 2004, 2005 and 2006 equipment. The rules are changing. We're trying to figure out how we can comply with what you want and still survive. (CTSER)

67. **Comment:** I understand the need for clean air as my grandson has an airway disease. However, a reasonable solution must be enacted. The DTCC solution would assist in the cleaner air and allow companies to gradually make the changes needed. In conclusion, I support cleaner air and the need for a solution, however, the ability to support myself and my family must be taken into consideration. Please consider the DTCC solution and the state of the economy. (CDTOA5)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section.

68. **Comment:** The year 2013 – 2014 is the biggest hit that we see. If we can prove that we have done everything financially possible to meet the regulation through equipment replacement, retrofitting and certainly funding opportunities and we cannot quite get there in '13-'14, what exemption or relaxation of this rule could

occur? I'd ask the Board to certainly take a look at that, because I think we're hearing that somewhat uniformly here today. (MVE3)

Agency Response: Staff have considered mechanisms to determine how economic hardship could be considered; however, staff have not been able to identify a fair mechanism that would not penalize fleets who have complied against those that have not for whatever the reason. The regulation includes retirement credits which delays the some or all of the requirements for fleets that have downsized. This lowers or eliminates the investment required for one or more years for those who are downsizing their fleet.

69. Comment: I started my business in 1976. I own 101 trucks. I operate in 11 western states, but 85% of what I do is inside the state of California. I primarily service some extremely specialized areas of the transportation industry. I have been able to purchase five 2008 power units so far in an effort to get the ball rolling in the right direction in regard to my personal situation. I have been aggressively as possible updating equipment and planning in every way I can to move my fleet in the direction CARB has outlined in the private fleet rule. The issues that exist for me and the problems that I face with the pace set forth by CARB are as follows. I do not see any way possible that my operation, that I have worked very hard since I was 18 years old to build could possibly survive the transition that I would have to go through to conform to the private fleet rule as it is currently proposed. With all due respect I sincerely ask that CARB and all concerned please take into consideration the many obstacles that they are placing before me and the many companies like mine as they finalize the private fleet rule. (RTC)

Agency Response: The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

k) Extended Compliance Schedule Alternative

70. Comment: I would urge you to consider the alternative rule. The alternative delays the inevitable. My newest truck is a 2003. It has 250,000 miles. It's not worth anything anymore. It's a perfectly serviceable truck. It complies with all the

rules that were in force when it was built. It tests clean. The alternative would give me some time. (JPT)

71. **Comment:** I propose you look at a little more liberal compliance schedule. I think if fleets have 25% of their fleet in compliance by 2012 and then 50% by 2016 75% by 2019 and finally in total compliance by 2022.This is not all you desire but it would be a lot more doable on the side of small business. (CTTA1)

72. **Comment:** Please consider some of the alternative proposals that have been presented to prolong this new regulation. At least we may have a chance if we have more time to cycle out our rolling stock. (RRIN)

73. **Comment:** We urge CARB to postpone implementation of these proposed rules for at least 2 years until the economy recovers. (DTICTA)

74. **Comment:** Spread the time out and lessen the impact on us and the industry. (LDAV)

75. **Comment:** We need to extend this timeline on this regulation, on the implementation. This compacted timeline will not work for my company or many others. (FLFTI2)

76. **Comment:** Consider easing the PM 2.5 deadline of 2014, because that's a killer deadline for us. (GTRU2)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

77. **Comment:** Please support the alternative proposal proposed by the Driving Toward a Cleaner California Coalition that would give small companies a more flexible timeframe to afford the retrofit. (JBSI)

78. **Comment:** Gilton Solid Waste Management, Inc. and Gilton Resource Recovery /Transfer Facility, Inc. request that that CARB adopt the DTCC proposal to make our compliance schedule more achievable. (GSWMI)

79. **Comment:** I suspect the slow down in commerce and the corresponding reduced miles traveled will allow for cleaner air while we implement a more reasoned investment schedule to modify and replace these trucks. Please reconsider the DTCC and CTA proposals. These provide a more realistic schedule, especially considering these tough economic times. (PRR)

80. **Comment:** I would ask the Board to consider the DTCC Proposal as it lends to a more practical solution. More practical because of the time elements that would help companies better manage the cost. The 20th century was a period of an industrial revolution and now in the 21st century to try and cure the ills in such a

short time frame is not making a smart decision. While the goal is the right one, let us use an intelligent economic approach to get there. Amortization and depreciation are all functions that are part of making business decisions for a prudent business plan. (YTI2)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section.

81. Comment: The truck rule is very aggressive and should be reconsidered by taking smaller steps such as cleaning up the pre 1994 engines first. The engines of 1994 and newer are mostly electronic and burn very clean if taken care of. (MFLE1)

Agency Response: Although a 1994 electronically controlled engine produces less pollutant than a mechanically controlled engine, it still emits ten times more pollutant than a late model year engine. To meet the federal air quality attainment standard, emission reductions from these older engines are needed. The Truck and Bus regulation will get the necessary emission reduction by modernizing the fleet.

82. Comment: If we look at the current situation, we will see that the bigger companies are already purchasing and utilizing the newer more environmentally friendly equipment and beginning to make an impact on the quality of the air. If the Board would allow the smaller trucking companies to move from this point forward, continue to utilize our current fleets and purchase equipment being sold by the bigger companies, we would all benefit. The bigger companies would continue to purchase new equipment and the smaller companies would be able to purchase their used equipment at a better price and improve the air quality and keep jobs for their employees. We, as a state, need to look into a better solution for everyone involved, both large and small. (FAUL1)

83. Comment: I believe that the requirements would be met as the older trucks are replaced by the new ones. We all want cleaner air, but not at the expense of a total economic meltdown. IT WILL HAPPEN. (SDISA)

84. Comment: The smarter and saner alternative would be to allow us to upgrade our trucks as their viability and safety requires instead of meeting an arbitrary deadline. (CATI)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter,

which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

l) Increase Low Mileage Limitation

85. Comment: The CARB proposal has no mileage exemption above 7,500 miles annually. The mileage exemptions enumerated in the DTCC alternative would allow for older model year vehicles that meet certain mileage thresholds to use an alternative compliance schedule, which would still realize emission reductions, through 2020, when vehicles will need to meet stricter emissions requirements to help meet air attainment goals. (CDTOA11)

86. Comment: The regulation should raise the mileage level slightly allowing trucks to be exempt from replacement until 2020. Our company and many small businesses could better manage our delivery fleet replacement cost effectively if the mileage level threshold for the vehicles is raised to 10,000 miles per year. (LGM)

87. Comment: We should have a provision for small companies that drive less than 30,000 miles per year, per vehicle. (CTA1)

88. Comment: There should be an exemption for low use vehicles, those used 45 days or less in a year. These should not be under the same constraint as the other vehicles. (CTA1)

Agency Response: Staff had considered the 10,000 miles NOx exemption threshold as described in Chapter XVI of TSD and found that the increased threshold would result in NOx emission loss of 5.2 tpd in 2014, 3.6 tpd in 2017 and 3.0 tpd in 2020 comparing to the regulation. If implemented, the state would not be able to meet its SIP requirements. Since the state could not meet its SIP requirements with the 10,000 miles exemption, any mileage exemption higher than 10,000 would make the emission loss even worse, therefore, should be rejected.

89. Comment: Please consider exempting trucks that work less then six months out of the year and drive less then 40,000 miles per year. These operators cannot afford any new regulations. (PAT)

Agency Response: As described in Chapter XVI of TSD, the state would not be able to meet its SIP requirements if the mileage exemption threshold is increased. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

m) Delay Compliance Schedule with Increase Mileage Exemption Limit

90. Comment: The MBUAPCD Board urges the California Air Resources Board to develop revisions to its proposed On-Road Diesel control measure that will moderate the implementation schedules for small and short distance operators of affected diesel equipment. This recommendation is made with a sense of urgency born of the fear that the regulation as proposed will reduce compliance rates and cause irreparable harm to operators whose emissions are a very small part of the pool of emissions the regulation seeks to reduce. (MBUAPCD)

Agency Response: Staff's analysis shows that fleets with 3 or fewer vehicles represent almost 50 percent of the trucks and buses registered in the state and represent a significant portion of the emission from trucks and buses. To meet the SIP requirements, emission reduction is needed from all sources. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

91. Comment: The state of California should not be concerned with the very low mileage operators. They are not the problem, and there should be an exception for them. High Mileage Operators are the ones that should be targeted. However, the high mileage tractors are the first to be retired, so there will be a natural attrition rate amongst these vehicles. (CFRA)

Agency Response: Staff had considered higher mileage exemption threshold as described in Chapter XVI of TSD and found that the emission loss due to the higher mileage threshold would result in the state not meeting its SIP requirements. Although the higher mileage tractors are being replaced earlier, the emission reduction from the higher mileage tractors alone is insufficient for the state to meet its SIP commitments. Therefore, the regulation is required to modernize the fleet and get the emission reduction needed from all sources.

n) Compliance Options and Costs

92. Comment: In its current form, the Board's proposed regulation places a significant economic risk on our business, today, and jeopardizes our future viability in our industries. I am writing to urge the state to adopt a regulation that allows for flexibility and early incentives, while also achieving significant emission reductions. To that end, the Driving Toward A Cleaner California Coalition, has submitted an alternative proposal to the current ARB proposed regulation. This alternative proposal would achieve the early PM and NOx emissions reductions to improve the state's air quality that you are seeking in the ARB's current proposed rule, while providing much-needed flexibility to comply based on a variety of factors including mileage, type and use of the vehicle, and the best use of the

available technology. I ask that you evaluate the coalition's alternative proposal and work with the industries impacted by this rule to adopt a final product that achieves the balance this alternative proposal seeks to find. (FORM1) (FORM3) (CBI) (LFSI) (BDAI) (AHEA) (DHE1)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

93. **Comment:** We ask that ARB adopt the Driving Toward a Cleaner California (DTCC) coalition's alternative proposal, which we consider to be a balanced solution. It would give companies like ours the opportunity to comply in the most reasonable timeframe and flexible manner possible while still attaining aggressive emission reductions. Also, ARB's own analysis of the DTCC alternative proposal confirms that it would result in similar long term emissions benefits. Our company urges you to support the DTCC alternative - we cannot risk the potential negative economic impact of CARB's original regulation. (ABC)

94. **Comment:** Given the multi-billion dollar cost of this regulation – and the current volatile economic environment - I urge you to support the alternative proposal proposed by the Driving Toward a Cleaner California (DTCC) Coalition that would give companies like mine the opportunity to comply in the most reasonable timeframe and flexible manner possible while still attaining aggressive emission reductions.

In fact, CARB's own analysis of the DTCC alternative confirms that the DTCC alternative proposal achieves roughly similar emissions benefits to the proposed regulation in the long-term. We must be careful not to forfeit California's economy and ability to move goods across the state, build construction projects and bus our children to and from school for the sake of protecting our environment. (FORM2) (EGI) (IWPI) (GVSI) (SOTM) (FMAY) (ATS1) (WPS2) (KPI3) (HEPRO) (NAVL) (MRLLC) (IND2) (HSD) (IND1) (ATA1) (PHEI)

95. **Agency Response:** The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

96. Comment: I support your efforts to improve our air quality. I am employed at Blue Star Gas Garberville as a plant manager for propane bulk sale and service in Humboldt and Mendocino counties. The proposal as written is far reaching not only in its goals but its effect on business. Please consider a flexible and attainable policy that will not hurt the business environment. I know you may be as affected by the economy as we and our fellow employees. Consider a more manageable approach.

In addition I am a member of the Southern Humboldt Unified School District and we have had many discussions on the consequences to a district that relies so heavily on its transportation department. Please act prudently. (BSGGC)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

97. Comment: Please use some common sense and create more and better opportunities for those of us who want to comply to do so without having to face bankruptcy in the process. Even postponing these changes for another five years would allow those of us who reside and have a business in California to make preparation and put more money aside for the required changes. (LDT)

98. Comment: I would propose that the allotted time for fleet improvement be increased to lessen the fiscal impact to the consumer. The rules are only going to speed the business flight from the State. Please stretch the rules out. (RNEL)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

Staff considered a number of possible approaches to the rule structure and found that the compliance schedule in the Truck and Bus regulation is most suitable. It will reduce emission significantly to meet the state's SIP requirements. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

99. Comment: They should have a more relaxed phase in such as one vehicle by 2011, another by 2015, another by 2019. The reason is we have to pay for these

new vehicles, through operations. Otherwise, we will only have a lease option available to purchase new vehicles, with a balloon payment sometime in the future. If we have a slower phased in purchase schedule, I can buy the trucks and still retain my employees, driving cleaner motor trucks than what is available in the next three to four years. (CTA1)

Agency Response: In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

100. Comment: I am a small trucking business owner with only a few trucks. The proposed regulations will most certainly put me and a lot of other families out of work. I am in the process of trying to build enough business to be able to move and retire in California. If these strict regulations go into effect without allowing some time for the small business owners to upgrade to newer equipment only the big businesses will survive. I'm sure myself and others in my shoes would greatly appreciate it if there was adequate time for the small business owners to upgrade their equipment so that they could stay competitive and keep thriving like the more powerful businesses. (RZT)

Agency Response: The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

101. Comment: If the Board does not extend the BACT schedule due to the current economic crisis, we ask the Board to adjust the 2012 compliance deadline as previously proposed. That is, to only affect pre-1994 engine model years. The

proposed changes are shown in Table 8. We believe our suggestions are aligned with the purpose of the proposed regulation while taking into account the unprecedented economic environment affecting our industry. (YRCWI)

Table 8 Changes to the BACT Schedule

Compliance Deadline as of January 1	Engine Model Years	BACT Requirement
2011	Pre-1994	PM BACT
2012	~~2003-2004~~ Pre-1994	PM BACT
2013	~~2005-2006~~ 2003-2006	PM BACT
	1994-1999	NOx and PM BACT
2014	2000-2002	NOx and PM BACT
	All other model years	PM BACT
2015	Pre-1994	NOx and PM BACT
2016	2003-2004	NOx and PM BACT
2017	2005-2006	NOx and PM BACT
2018	All pre-2007	NOx and PM BACT
2019	All pre-2007	NOx and PM BACT
2020	All pre-2007	NOx and PM BACT
2021	2007 or equivalent	NOx and PM BACT
2022	2008	NOx and PM BACT
2023	2009	NOx and PM BACT

102. Comment: This new regulation, timing, speed, could not be worse. This new regulation is an additional cost that is unbearable at this time, but there are alternative solutions that must be looked at to slow this implementation. (CDTR)

103. Comment: We're in favor of passing a rule, but it's got to be in a timely manner where everybody can catch up, taking into account the economic problems of the state. (RITL2)

104. Comment: We definitely don't want to see this regulation delayed. If anything, if you want to evaluate it in a year, year and a half, looking at the economy, we would prefer that over delaying adoption today. (CCAIR3)

105. Comment: I am the operator of a number of low mileage on-road diesel trucks. I would like to request a timetable that allows replacing/retrofitting over a longer period of time. Given the cost of this regulation coupled with our present economy. (ATS2)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are

expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

106. Comment: Given the large financial burden this regulation would cost us in this already volatile economic environment, I urge CARB to find an alternative proposal that would give small companies like ourselves the opportunity to comply in a more reasonable timeframe and flexible manner as possible. (AWMS)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

107. Comment: The stringent implementation timeline is too short and too costly to justify. With the economic crisis, we cannot afford the dramatic cost increase in today's marketplace. (YTI1)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

108. Comment: I do have a truck repair shop that provides repairs, opacity testing, emissions testing, 90 day inspections, road service, etc. I believe if the new regulations are imposed in today’s economy it will not only hurt the truckers but also thousands of repair shops who employ hundreds of people. Everyone wants clean air and there has been great progress in the last few years and there will be more in the future. I think that C.A.R.B. needs to delay this requirement on the trucking industry and let people come forward with their ideas and to make testing more inexpensive so people with real results on lowering the emissions and

cleaning up the air can afford the testing of their products. Remember California needs clean air, but also needs transportation and small businesses of which I think will cost a lot of jobs if the private fleet rule is imposed at this time, can we afford this? Just look and ask your truck dealers how the business is and why are they lay off people. It could be that no one can afford the expenses. What I am asking is please look at how bad things are and don't put people out of business. If you give businesses a chance clean air will come. There are businesses out there that can lower emissions with their products, but can't afford to have them tested. (RTRI)

Agency Response: We acknowledge that the California economy is impacted significantly by the world wide recession and will be assessing its impact on emissions and will report to the Board in December 2009, see response to comment 247 in the Costs and Cost Methodology section. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

109. Comment: We want cleaner air and support what you are trying to do but need more time to make the transition. The DTCC proposal would give us the time to get the useful life out of our equipment, but with your proposal it would make the equipment worthless and unrecyclable. Please pass the DTCC proposal or there will only be big trucking companies operating in Ca and most will be based elsewhere. Loss of the small companies will increase the cost of everything you buy. (RTS)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section. When determining the costs attributable to the regulation staff estimated there would be some loss in value associated with salvage value for equipment being replaced early; however, because the first NOx reduction requirements do not begin to be phased-in until 2013 and no vehicles or engines would need to be replaced for several years, the effect of the regulation on the value of existing equipment cannot compare to the effects of the current world wide recession. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section.

o) Alternatives Based on Taxes or Fees to Offset Costs

110. Comment: At the CARB Community Meeting in Merced, November 2007, one person asked if we would go to various agencies (such as DOW Chemical) and ask them to apply a $0.30 or $0.50 surcharge that would go toward an engine retrofit. Is this something we could do to offset the costs of this rule for truckers? (MMCAC2)

111. Comment: An approach that has worked in past years to provide incentives to update vehicles is an investment tax or credit for replacement of older engines with newer cleaner technology. This approach has not been adequately explored and needs serious consideration. (ALOG2)

112. Comment: If California wants to decrease pollution related to transportation of goods, it should consider levying a tax on every item imported at a port or hauled around by out of state trucks. (KVSI1)

113. Comment: A much better option would be to abandon the rule completely and offer ½ off the sales tax for Tier 3 vehicles and zero sales tax on Tier 4 vehicles. Follow this by ½ off all registration/weight fees on Tier 3 and zero registration/weight fees on Tier 4, hybrid and alternative fuel vehicles. Include a 100% California expense write off in the first year. This creates no new bureaucracy, reduces the size of government, is easy to understand, does not destroy existing capitol, allows business owners to time their own upgrades, boosts the economy and maintains jobs. What is lost in sales tax would be more than made up in reduced government spending, as well as additional corporate and personal income tax. I urge the board to abandon “the stick” and create a compelling “carrot” instead. (IVCC)

114. Comment: I would even go so far as to agree to paying a "Road Mileage Tax" or a "Vehicle Registration Tax" to supplement a incentive program to encourage these high mileage vehicle owners to retire the non-compliant trucks, but the tax must be reasonable and the proceeds must go only for this purpose and not be redirected into the general fund for the state. (CFRA)

115. Comment: I read a good argument about having the polluter pay for the costs of fixing the pollution problem. The way to do that is to test the trucks and base the operational fee on the pollution testing results. This is the fairest way to pass the costs on to those producing the problem. An annual test with random checks to keep the users honest is the best way. The peoples’ money should not be used to subsidize any industry by paying to fix their unintended consequences. The testing program should also be increased because the incentive by the users to cut corners or out right cheat is too great. (MAHA)

116. Comment: We encourage the Board to study the implementation of a system of end-user fees that would help pass the costs of this regulation along to the companies who are ultimately responsible for generating and profiting from a goods movement. The end-user fee structure could be a part of reporting requirements built into existing funding mechanisms available to truckers. The

end users would make quarterly payments based on the number of deliveries made and miles driven to California drop off points. (SWMA)

117. Comment: Another approach that needs consideration is adding a surcharge to the cost of diesel. This revenue could go to the Carl Moyer fund and be used to target areas that specifically need air quality improvements. This approach would be a much more equitable way of regulating the diesel exhaust issue. A 20 cent/gallon surcharge for all diesel purchased in California will be collected at the motor fuel pump or through distributors for a number of years necessary to attain compliance with the Rule. This will assure sufficient funding to Carl Moyer or similar grant programs such that every in-state fleet owner will have each truck replaced once during the life of the Rule through the grant program. (ALOG2)

Agency Response: ARB is a regulatory agency empowered by the legislature to develop programs and regulations to improve air quality. It does not have taxing authority to develop any tax base programs to help reduce emission. Any tax base programs would have to be developed and approved by the legislature and the governor. Regardless, several funding sources have already been allocated through proposition or by the legislature to combat emission. Staff believes the costs to the consumer will not be noticeable and that most businesses will be able to pass on costs to the consumer in the market they serve. Business that may not be able to pass on the costs should be able to absorb the costs, see response to comments 436 through 444 in the Costs and Cost Methodology section.

118. Comment: It should also consider re-regulating trucking rates so that compensation is once again in line with real world costs and California companies have a level playing field. The deregulation of our industry has hurt our state badly. We have seen small and mid size companies, which drive so much of our economic growth, driven out of business completely by deregulation. The trend is toward ever larger companies, 99% of which are not based in California at all and simply come in and out without having to bear any of the costs of doing business here. We have seen this for ourselves. We are the one of the only remaining small private freight companies left in our country. (KVSI1)

Agency Response: ARB is a regulatory agency empowered by the legislature to develop programs and regulations to improve air quality. It does not have any authority to regulate trucking rate. To ensure that the regulation would not be unfavorable for the small businesses, special provision was included that allows the small fleet (3 vehicles or fewer) more time to comply with the regulation. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. Furthermore, the regulation applies equally to in-state fleets as well as out-of-state fleets operating in California.

p) Other Emission Reduction Strategies

119. Comment: We ask that you fund research into the use of bio-fuels and come up with a way to encourage their use that actually addresses the air quality issues of concern. This is clearly not a request to obtain an exemption from regulation but rather the flexibility that will help us all do our part in this state. (FCOAL) (CCAA)

120. Comment: A biodiesel blend reduces particulate matter emissions by as much as 18% and overall tailpipe emissions by 45%. (CCAA)

Agency Response: Although biodiesel produces less PM emission, it does emit higher NOx emissions. Biodiesel can be used in conjunction with a PM control device and be verified as a part of a verified DECS to satisfy the regulation requirement. In fact, biodiesel is permitted to be used with most of the verified DECS. ARB is currently working with the ASTM to establish a standard for biodiesel. Any research contracts are not addressed through the regulation.

q) Limitation on Vehicle Registration Based on Age

121. Comment: This letter is sent to strongly urge you to reconsider your current proposed General Fleet rule for California for trucks operating in California. Instead, I respectfully request that you adopt a simple but effective alternative that is similar to your ban on all trucks 1988 or older. My idea is to ban, on an annual basis, all trucks that are older than 12 years old as of the date of registration renewal. The fleet of trucks operating in the state would then reach your goal of only 2010 engines on the highway in the target year of 2022. Adoption of this alternative would accomplish your end goal in the same year and save the trucking industry millions of misspent dollars on retrofit equipment that does not work as advertised. The result of my idea is a guaranteed result of cleaner air over time with no administration or enforcement costs to anyone. This is a good thing when you consider that we are in the worst economic downturn since the Great Depression of the 1930's. Please, for the sake of fiscal responsibility and sanity, do not adopt the proposed General Fleet rule and if you cannot accept my suggestion, please then consider the proposal set forth by the coalition called Driving Toward a Cleaner California. Anything is better and fiscally more responsible than the plan currently set forth by the CARB." (HTC1)

122. Comment: Attrition and a sliding scale will put new units into the hands of California Businesses. In 2011, prohibit the registration of 1990 or older vehicles or brought into California. In 2012, prohibit the 1991 and 1992 model year vehicles and 1993 and 1994 model year vehicles in 2013. You will get to where you want to get to in time. We all want cleaner air. We all want our trucks to run cleaner. But at what cost? (RITL1)

Agency Response: The concept of a sliding scale can achieve emissions reductions, but the proposals do not meet the SIP commitments. The emissions benefits of the proposal would be far less than what the state needs to meet its SIP commitments, and the proposals do not achieve maximize diesel PM emissions reductions which poses a localized exposure risk. The DTCC proposal would only achieve half of the emissions

benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section.

123. Comment: Please adopt the "scrap and replace" idea for trucks that are older than 11 years. This plan will avoid enforcement cost and administration cost because it can all be done through motor vehicle registration. Over time the truck fleet will became newer and less polluting and family businesses like ours will be able to continue operation and keep all our employees employed. (HTC2)

Agency Response: Although this concept would achieve similar NOx emission reduction but less in PM reductions than the regulation, it does not provide any phase-in for fleets with older equipment. The concept would ban all vehicles in a fleet that had only 11 years old or older vehicles overnight. Failure to include an approach to phase-in the requirements would pose an undue burden on older fleets and was rejected for that reason.

r) General Alternative Comments

124. Comment: Ellis Trucking runs smaller horsepower equipment (280-330hp) that requires more maintenance but also burns less fuel (about 35% better fuel mileage than larger units but no consideration is made for this differential. (ETI) (GTI)

Agency Response: The goal of the regulation is to reduce emission by limiting the emissions of PM and NOx from the on-road in-use vehicles. It does not require any business to use any particular type of vehicle. The fuel economy savings is beneficial to reducing global warming emissions but do not necessarily result in lower PM and NOx emissions.

s) Low Mileage Provisions

125. Comment: Many of us have developed lung cancer, asthma, diesel exhaust sensitivity and chronic lung diseases from over exposure to diesel exhaust. Your regulations should include city, district and state fire trucks, all buses, all garbage trucks and ambulances because that is where we have gotten our excessive diesel exposure. We realize the state and other governments do not have the money to retrofit all these diesel vehicles now but it should be a part of your bill that publicly owned diesel vehicles also be compliant but give them 2 to 4 more years to meet the same standards you are considering 12/10. All new diesel publicly owned vehicles should immediately be compliant with the least amount of toxic diesel exhaust chemical. We strongly support you pass the regulations on retrofitting or replacing all privately owned diesel trucks on the roads in California. The health of Californians is the most important. Thank you for trying to lessen our future health costs and allowing us to live longer with good health. (DAL)

Agency Response: The ARB has already approved several regulations requiring reductions of PM and other criteria pollutants from existing on road diesel vehicles in urban bus fleets, transit fleets, solid waste collection vehicle fleets, public agencies and utility fleets, and drayage truck fleets. Chapter IX of the TSD lists the five regulations

with the adoption dates, provides summary descriptions, and identifies the number of vehicles subject to each regulation. Most of the vehicles in those fleets will have PM filters before 2011. Federally owned on-road vehicles were excluded from the earlier regulations, but they are now subject to the Truck and Bus regulation and will need to meet the same requirements. All authorized emergency vehicles are exempt from the in-use diesel vehicle regulations per CVC, section 27156.2 which does not allow installation of motor vehicle pollution control devices.

126. Comment: Our company runs a fleet of trucks for our logging and hauling business. Our operations are largely seasonal, some years we get as few as 5 months of operation with our logging organization, but usually we're a little over 6 months of operation. When in operation, we use a large number of our company trucks and owner operator sub-haulers. Most of the trucks are older, ie pre electronic fuel systems. We need economical and affordable DPF's that will work on these older trucks. Our understanding is that filters aren't available for these trucks and if available, would be very expensive. We request a delay in the implementation of these rules until filters are available that are proven to be effective and are affordable, ie very inexpensive to purchase and maintain, and can operate continuously for at least 14 hours per shift without regeneration. (REI1)

Agency Response: Agricultural vehicles that operate below specified mileage thresholds may qualify for agricultural vehicle provisions, see response to comment 103 in the Regulatory Provisions section. The regulation has optional small fleet provisions that delay the PM and NOx reduction requirements for fleets with 3 or fewer vehicles until 2014. The delay provides more time for the economy to recover, improves the ability of small fleets to meet the requirements with lower cost used vehicle, and to take advantage of available funding opportunities, see response to comments 70 to 89 in the Regulatory Provisions section. PM retrofits are not required if not available for an engine or cannot be safely installed. As long as a suitable PM retrofit is not available no other action is required to meet the PM reduction requirements until 2018. The vehicle will remain subject to the NOx reduction requirements unless it qualifies for an exemption or delay.

127. Comment: Considering this influx of rules that we are hit with all at one time, I would like to ask you to consider the DTCC proposal, which will allow us more flexibility in the early years, yet still reaching the same end goal. (KRCORP)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section.

128. Comment: The California Construction & Industrial Materials Association strongly encourages the Air Resources Board to adopt the alternative proposal presented by the Driving Toward a Clean California (DTCC) coalition. This proposal is based on ARB's own proposal and provides modifications to achieve the same goals

within a more reasonable compliance schedule. Within the DTCC proposal, there are a number of provisions that are of particular importance to CalCIMA members.

We request that consideration be given to the DTCC's proposal to address the cumulative effects of ARB regulations on diverse equipment fleets. Some type of cross-credit, economic cap, emissions cap, horsepower cap, or combining of inventories (for on- and off-road vehicles) should be included to address the fact that operations have to comply with a combination of regulations. (CCIMA1)

Construction and Industrial material suppliers have a number of unique aspects that we believe should be considered by the ARB. In this regard, we request the ARB to particularly consider amendments to 1) expand the low-mileage provisions; 2) exempt trucks for which retrofits lead to filter plugging; 3) a cumulative impact credit; 4) a credit for early retirement of trucks used locally and 5) provide a more reasonable compliance schedule. (CCIMA1)

Agency Response: The DTCC proposal would only achieve half of the emissions benefits compared to the regulation. The proposal would not meet California's SIP commitments in any year and would result in unacceptably high diesel PM exposure risk, see response to comments 11 to 46 in the Consideration of Alternatives section.

Staff had considered the 10,000 miles NOx exemption threshold as described in Chapter XVI of TSD and found that the increased threshold would result in NOx emission loss of 5.2 tpd in 2014, 3.6 tpd in 2017 and 3.0 tpd in 2020 comparing to the regulation. If implemented, the state would not be able to meet its SIP requirements. Since the state could not meet its SIP requirements with the 10,000 miles exemption, any mileage exemption higher than 10,000 would result in higher emissions.

The regulation requires that all affected in-use vehicles to install ARB approved diesel exhaust retrofits by 2014. These retrofits were thoroughly tested and verified by ARB to ensure compatibility with the applicable engines. There should not be any operating issues with the retrofits if installed and operated within the manufacturers' requirements. Vehicle owners should consult with the retrofit manufacturers with any operating issues and seek warranty services as needed. The regulation, however, does contain a provision in case a verified DECS is not available for an engine or it cannot be installed safely. In such case, the Executive Officer may grant an annual extension until 2017 provided all other vehicles are in compliance with the PM BACT requirements.

The regulation contains a provision that provide credits for vehicle retirement. The provision was added and approved by the Board during the December 2008 Board Hearing. This addition is documented in the first 15-Day Notice of Public Availability of Modified Text dated August 19, 2009 into the Section K of regulation. The credit expires by 2014 to ensure the state to meet its SIP commitments.

t) Other Proposed Modifications of the Compliance Options

129. Comment: We support the earlier testimony that asked you to consider VMT. For instance, you'll have 2004 long-liners on the road today putting on 150,000 miles a

year versus a 1991 truck putting on 40,000 miles a year in rural counties. That 2004 truck will be emitting more NOx than the 1991 truck. (CFA2)

Agency Response: ARB does not agree that VMT should be used to determine compliance with the regulation. In order for California to meet is SIP commitments, reductions are needed from nearly all heavy-duty diesel engines, regardless of the miles traveled. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

130. Comment: Trucks owned and used by contractors mainly provide support to heavy construction operations. Most days, these trucks are operated only one to three hours by going to and returning from projects. The 1000 mile maximum allowance to call these trucks low use does not suffice and thus all such trucks must be repowered or replaced as if they were driven 100,000 miles per year.

A proposal to allow an existing business to survive the transition to cleaner engines would be to allow some additional leniency by using a fleet average of horsepower-hours usage, not just a total measurement of horsepower owned. This concept allows breaks for engine replacement dates depending on the number of miles traveled annually such as those that travel less than 30,000 miles per year at one replacement interval and less than 15,000 miles per year at another.

What's the problem with calculating the total horsepower hours used? I already have to register all of my equipment and report hours or miles of usage for low use equipment. By allowing a combined number of horsepower-hours of usage for a fleet, I have all the equipment available to perform work without polluting more. I own 18 individual pieces of equipment and have only 6 company operators so 12 pieces of equipment are parked every day. Equipment not operating does not pollute. Why am I being penalized just because I own them? Some equipment may sit the entire season without use in one year and then used 200-300 hours the next year. Some machines have 50 hp to 125 hp and others have 300 hp. They should not be treated equally, as the 300 hp pollutes at a rate of six times the 50 hp machine (all other factors such as Tier level treated equally). If CARB will allow 100 annual hours of use for the 300 hp engine without upgrade, it should allow 600 hours of annual use for the 50 hp engine.

I do not know what type of project will present itself and therefore what equipment I will need in the future to perform the work. I have acquired this equipment over the years and most of the older ones have low hour usage annually. Eliminating this equipment will certainly go a long way towards ensuring this company's demise. The paltry number of hours allowed (100 per year) or proposed miles allowed (1,000 per year for trucks) will not pay for the insurance necessary to own

this equipment, much less the fuel to run them. Limiting each vehicle to 100 hours per year instead of allowing a total number of horsepower-hours for the fleet precludes the company's flexibility to use all available resources to bid projects, secure employment and pay taxes. (DCI1)

Agency Response: The regulation has two mileage thresholds that allow less stringent requirements to be met. The first one, at 1,000 mile per year, only requires annual reporting. The second, at 7,500 mile per year, only requires meeting PM BACT. Staff recognizes that trucks used to haul off-road equipment do not accrue as many miles as typical over the road trucks, however, all trucks traveling greater than 7,500 miles emit enough emissions that without their control the SIP commitments leading to attainment of the air quality standards would not occur.

Unlike the off-road regulation, this regulation does not use horsepower in its calculations or requirements. Instead, the regulation is based on engine model year. Again, unlike, the off-road regulation, the horsepower differences between a low horsepower heavy-duty truck and a high horsepower heavy-duty truck are not near as wide as for off-road equipment. For heavy-duty trucks the range may span between 300 horsepower and 600 horsepower, whereas off-road equipment may range between 50 horsepower and 1,000 horsepower. In addition, emissions testing of engines of varying horsepower do not demonstrate a correlation between emissions and horsepower. Because the horsepower range for on-road trucks are narrow, the emissions are similar and because the emissions are similar there is no benefit to developing a regulation based on engine horsepower.

Staff evaluated the emission impacts of raising the 1,000 mile exemption threshold to a higher level, but concluded that any increase would impede the ability to meet the SIP commitments.

131. Comment: We ask that you not require us to add an expensive PM trap onto an older, but well-maintained vehicle and then also require us to purchase a 2010 vehicle to meet the NOx standards. (FCOAL) (CCAA)

Agency Response: California needs both PM and NOx emissions reductions from heavy-duty diesel vehicles operating in the state, regardless of age, to meet its SIP commitments. Older diesel engines emit as much as ten times more diesel PM and twenty times more NOx than the newest engines, thus necessitating the need for the installation of PM traps and vehicle replacement. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

132. Comment: The current fleet modernization programs need to be improved and expanded to help fleets get newer and faster while staying in business and keeping rates reasonable. I suggest pushing this rule out for three years and then pumping money into fleet modernization programs to build short sea shipping as quickly as possible. There is no better or faster way to help California's emission and congestion problems. I tried for several years to convince this State we need a new transportation system. The current administration does not have the willingness to take on the ports and unions necessary to lower the costs to divert cargo by water. The ARB needs to do what ever is necessary and build a new system as quickly as possible. (WEST)

Agency Response: ARB considers all potential measure to attain the federal ambient air quality standards as part of the SIP development process. Staff developed the regulation to meet the SIP obligation from the heavy-duty diesel vehicles. The timelines are set by federal requirements. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. Funding opportunities exist for fleet that take early action to comply with the regulation, for more information on funding options available, see response to comments 738 and 739 in the Funding section.

133. Comment: As it stands now if one was to keep an older unit, say at 2000 chassis, by 2014, this would require two separate updates in excess of $30,000. Instead of rushing into this ahead of proven available technology, why not wait until these manufactures could build and support devices that are reliable at reasonable cost? We the end users have paid for engines over the course of say the last 10 years that are certified by the federal EPA. Now the end user again will be required to buy from some of these same manufactures' for the after treatment devices. (ROVE)

Agency Response: The regulation does not require the installation of diesel exhaust retrofit or engine replacement for a 2000 model year vehicle until January 1, 2014. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section. The actions an individual company would have to take to comply with the regulation would depend on factors such as the size of the fleet, the vehicle types, vehicle age, and normal vehicle replacement practices. The regulation is structured to provide flexibility for fleets to determine the best compliance option to phase in the PM reduction requirements starting in 2011 and to phase in the NOx

reduction requirements starting in 2013 in a manner that is best for their situation, see response to comment 10 in the Regulatory Provisions section.

134. Comment: The State should do as they did with vehicle emissions in the past. All new vehicles purchased will have the new engines with California standards. As new trucks are purchased to replace older vehicles, then the older vehicles will be eliminated. The effects would be a win-win for everybody. Companies with diesel engine vehicles would be able to stay in business, commodities would still be priced reasonable for the consumer, and emissions would be reduced as new vehicles are put on the road." (RDA)

135. Comment: We encourage you to use a phased-in approach treating diesel engines the same way California treated cars. That is, only require vehicles to meet the standards in effect the year of manufacture. A phased-in approach will lead all Californians toward cleaner engines in just a few years more than with this proposed regulation. As it is now written, this proposed regulation will not reduce diesel fuel use; will not make our environment safer and cleaner; will jeopardize small businesses that depend on a few vehicles; will be unfriendly to independent operators; and will cost California jobs and money. (FCOAL) (CCAA)

Agency Response: Staff do not believe that diesel fuel consumption will change. The economic effect of the regulation in the highest cost year is small in the context of the California economy, see response to comment 291 in the Costs and Cost Methodology section. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

136. Comment: We support the goal of clean air and believe the most effective way to reduce the contribution heavy-duty trucks make toward air pollution is to set new engine emission standards in a manner that allows for, and encourages, improvements in productivity and fuel efficiency. As a result of the more stringent engine and diesel fuel standards which have been established by both CARB and the U.S. Environmental Protection Agency, nationwide particulate matter and oxides of nitrogen emissions from heavy-duty trucks will be reduced by more than 40% by 2010 and by more than 70% by 2020 when compared to 2002 levels. (ATA1)

Agency Response: The stringent emission standards for new engines, will result in over time, the replacement of older, more polluting engines with new, substantially cleaner engines. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce

the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

137. Comment: We have been aware and faced with the emission problem of this state, now that we have recognized the problem we need to work more diligently on finding a more effective concept to correct what is already done. What needs to be done is all new vehicles must meet the new emission standards, and all this bond and grant money needs to be directed to the engine manufacture, they built this engine therefore developing a method or strategy that would be most effective in attaining better quality of air and meeting California's standards would be most successfully achieved by them. (JBTI1)

Agency Response: Engine manufacturers currently are on track to meet the 2010 new engine emission standards and do not need financial assistance. ARB believes that incentive funding should be targeted towards helping stakeholders upgrade to newer and cleaner vehicles. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

u) Proposed Alternative to NOx Exempt Area Provision

138. Comment: Meeting NOx reductions will have a disproportionate negative economic impact in our rural counties. The proposed rule now exempts fleets located in Federal 8-hour ozone and Particulate Matter attainment areas from the NOx requirements, if the vehicles are used in only attainment areas. Private fleets in a number of our rural counties will benefit from this provision. RCRC would ask ARB to extend the “NOx exempt areas” to the rural counties that are classified as nonattainment strictly due to intrastate transport of air pollution (that is, Western Nevada, Amador, Calaveras, Tuolumne, Mariposa). Compliance with the NOx requirements of the proposed regulations in those counties would not significantly reduce the emissions and would never bring those counties into attainment. However, emission reductions from the contributing upwind districts will lead to the downwind area attainment. (RCRC)

Agency Response: The rural counties named in the comment are classified as nonattainment, and as such, have air quality that does not meet the federal ambient air quality standards. Staff believes that, while the areas may be overwhelmed by air quality from outside the counties, both the upwind and downwind regions must contribute to the attainment of federal standards by reducing emissions from heavy-duty diesel vehicles in both regions. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are

needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

139. Comment: The CARB staff has not explored and displayed alternative approaches to diesel engine emission reductions for California. By taking advantage of the fact that essentially all rural counties in the state are in Federal Emission Particulate Matter (PM) attainment areas, alternative rules for rural counties would substantially reduce the cost of implementation while still generating the substantial emission reductions needed in the San Joaquin and South Coast Air Districts. By eliminating the requirement of DPFs and extending the compliance period for NOx on trucks that "declare" not to enter the San Joaquin or South Coast Air Districts, would greatly reduce the financial impact of the rule on rural in-state fleet owners. (CFA1)

Agency Response: The regulation exempts vehicles that operate exclusively in the federal ozone attainment areas. These vehicles are not required to meet NOx BACT until January 1, 2021. However, PM emissions must be reduced from as many heavy-duty vehicles as possible regardless of the area of state where they travel. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

140. Comment: The proposed regulation focuses on only one way of decreasing diesel emissions – better technology. The regulation does not address the time and expense companies have already invested in reducing the use of diesel engines rather than reducing emissions alone.

YRC Worldwide has reduced its use of diesel engines by utilizing our network of 100 service centers in California to act as freight staging areas effectively allowing us to carpool for shipments. This network optimized equipment utilization and enables us to keep our empty mile percentage below 8%. The utilization of intermodal transportation wherever possible and locating service stations in close proximity to intermodal sites have resulted in less mileage driven. Fuel consumption has also been reduced due to reducing vehicle speed traveled. The purchasing of hotel rooms instead of sleepers reduces diesel idling, and on-site fueling stations limits wasteful miles driven to fill-up vehicles.

Recognizing companies who have, on their own initiative, reduced emissions accomplishes two goals. First, allowing another year encourages companies to become early adopters rather than wait for regulations. Second, allowing another year mitigates the consequences of establishing policies different than subsequent regulations. (YRCWI)

Agency Response: Staff applauds efforts businesses make to become more efficient. The efforts made by business benefits air quality. However, California needs additional PM and NOx emissions reductions from nearly all heavy-duty diesel vehicles operating in the state, to meet its SIP commitments. In California, among all diesel engines, trucks are the largest single source of emissions of smog forming pollutants and diesel particulate matter, which has been identified as a toxic air contaminant. Although emissions are expected to decrease over time with normal vehicle replacements, emissions do not decrease soon enough to meet the federal air quality attainment standards and are needed to reduce the health impacts of air pollution caused by diesel engines, see response to comments 3 to 8 in the Need for Emissions Reductions section.

141. Comment: We suggest as part of this rule that CARB adopts a process to analyze diesel truck emissions based on each truck's total emissions foot-print. Through a combination of miles/hours driven/operated, total miles on engine, maintenance and engine emission testing results, an emissions footprint can be established. Trucks of any given year are treated all the same under the proposed on-road rule, but may emit much different levels and types of emissions. All trucks of a certain year are not all the same concerning emissions and greenhouse gas profiles.

We would push for annual emissions testing similar to cars (i.e. CA Smog Check) for all size fleets including one truck companies of a given age and support a push to eliminate all mechanical engines (pre-1989-90 model-year, MY) by 2015. This date, 2015 is important to the vocational truck industry because historically, many on-highway/freight trucks come off their (4-5 year) leases and are available for resale in many markets, including vocational applications, such as construction trucking. The 2010 powered trucks would begin to be available to the industry without having to be retrofitted. As a low mileage vocational truck with minor modifications, they would have a long and valuable life and help to keep down construction costs for both private and public work. We support truck trade-down concept as an element of a more reasonable rule.

The rule should incorporate a model that considers mileage, age of vehicle engine, and fleet size. The current CARB rule lumps together all on-road diesel trucks that operate over 7,500 miles into essentially the same rule. So, trucks operating 7,500 to 20,000 and 20,001 to 65,000 miles a year (like most within our industry) are subject to the same rules as those operating 150,000 or more miles. This is blatantly biased against industries that operate low to medium mileage. Shouldn't CARB rules actually focus on higher mileage trucks first? Minimally, there should be a laddered implementation schedule based on truck operating mileages. The rules are "Too Green Too Fast" for most that operate in the vocational intrastate commercial transportation industry. (CDTOA11)

Agency Response: Staff's evaluation of emissions is based on several factors. These factors include the population of vehicles, the number of miles each vehicle travels, and the emission rates per mile. Emissions are calculated using a simple equation involving a series of data and assumptions about the population, miles traveled, and emission

rates per vehicle model year in a given calendar year, growth and attrition estimates, deterioration, and other factors that affect emissions estimates. This methodology yields a good estimate of the emission for the entire fleet. For detail emission estimation, see Chapter VI of Technical Support Document for in-use on-road diesel vehicles.

To implement an annual emission testing for the individual vehicle similar to that for cars, a few obstacles need to be overcome. First of all, the test equipment is expensive. This means that the number of test sites would be limited due to the upfront costs needed to build the test centers. Secondly, because the amount of pollutant emitted by diesel vehicles depends greatly on vehicle operating condition, the range of emission varies significantly. Determining a new reasonable emission scale for in-use vehicles requires time and resources. This would increase the compliance costs for the stakeholders, which is not a better use of resources.

We agree with the trade-down concept. In fact, the regulation never requires a fleet to purchase a new vehicle to comply. Fleet owners could buy used 2007 model year vehicles in the early compliance years and upgrade those vehicles later to 2010 model year. In that case, no retrofits would be required. The regulation also includes other options and special provisions that fleet owners can choose to comply. These options allow fleet owners the flexibility to upgrade their vehicles to newer and/or install a diesel retrofit device rather than replace with a new vehicle.

The regulation does not specifically distinguish the high mileage vehicles from the rest of the fleets because the high mileage vehicles are mostly newer and less polluting. They need no special consideration. For lower mileage consideration, DTCC has proposed mileage exemptions between 7,500 to 30,000 miles. That proposal was analyzed and found to be insufficient to meet the state's SIP commitments. For details of the DTCC proposal, see comments 1 through 10. The emission reduction proposed by DTCC's lower mileage exemptions is insufficient, the higher mileage range, between 7,500 to 65,000 miles, as proposed by the commenter is insufficient and should be rejected as well. Staff has considered other proposals and found that the regulation is the best available option.

142. Comment: Your intentions are admirable but you have failed to understand the implications this plan has on the trucking industry. Work with industry to put a plan in place that does not cause viable businesses in this state to either close or relocate to AZ or NV. Look at the UK model of how they changed the face of trucking in their country. Peer pressure!! Tag a truck with a colored band so that everyone can see you are a gross polluter and in 5 years the worst offenders are gone. No fights, no name calling, everyone working together. What a novel idea. Use a plan proven to work. (KROS)

143. Comment: I would urge you to force them not to just adopt some of the other proposals but to come back to us, and let us work jointly to come up with a project or a rule that will serve everyone and not put the balance of us out of business. (DTRP)

Agency Response: Staff worked extensively with the trucking industry to fully understand the impact this regulation would have. Many trucking firms stated that they never keep a vehicle in their fleet longer than six years. As such, any fleet with a truck six year old or newer will comply with the requirements of the without deviating from their normal fleet replacement schedule. Businesses with older vehicles in their fleets have several options to comply.

The SIP requires states to be able to quantify the emission reductions achieved through the SIP measures such as this regulation. Voluntary programs, such as UK model described, are difficult to enforce and even more difficult to quantify.

144. Comment: PM filter retrofits on all compression engines should become mandatory immediately (2009!). (CWC)

Agency Response: Staff agrees that PM filters are needed on all diesel engines, although, time is needed to roll out the implementation plan. Retrofit suppliers need time to ramp up production to meet the demand, an adequate number of installers need to be trained for PM filter installation, and PM filter cleaning centers need to be established for servicing the filter. Proper planning will ensure successful implementation.

145. Comment: Granite's truck fleet is comprised of a wide variety of trucks, but the common trait for the majority of Granite's truck fleet is a function as support equipment. Granite's fuel/lube trucks, mechanics trucks, transport tractors, and crew trucks are all owned for the primary purpose of supporting Granite's equipment and supporting Granite's work. Because these trucks fall into a support role, two traits jump out when looking at the impact of the proposed truck and bus rule on them: these trucks accumulate low miles and low hours relative to other vehicles; and these trucks are extremely costly to replace due to their role as a non-revenue generating asset.

Granite's structure within California utilizes a de-centralized operating strategy where trucks are generally dispatched out of a facility to support work in a local area. This structure, along with the fact that the trucks are only visiting a jobsite once a day leads to relatively low mileage accumulation. Unfortunately, the low-mileage exemption currently written into the rule is too low to offer any relief for what Granite considers low-use trucks. Since these support vehicles accumulate relatively low miles, they also tend to have a very long life.

This situation puts many of Granite's trucks into a situation where they operate too much to be exempted under current low-use provisions, have not realized anywhere near their useful life, and do not generate enough revenue to afford a replacement. An increase in the low-use cutoff for trucks used in construction support roles would allow for existing trucks to achieve utilization closer to their useful life and for the eventual replacement to be more feasibly financed. (GCI1)

Agency Response: Staff recognizes that some vehicles travel more miles than other and that many vehicles serve many different purposes ranging from moving goods with

semi-trailers to provide mechanical service to other vehicles. As such, some vehicles accrue many miles in any given year and others relatively few miles. However, vehicles that travel many miles tend to be replaced at a faster rate than vehicles traveling few miles. In complying with the regulation if fleets choose to replace their low mileage vehicles with newer vehicles the expense would be the differential between the two vehicles. While certain vehicles do not directly produce revenue, they are support vehicles which are necessary to firm's operation. The regulation has provisions to delay some of the requirements for low use vehicles, see response to comment 164 in the Regulatory Provisions section. For more information about mileage limitations see Chapter XVI of the TSD.

146. Comment: CDTOA and its representatives have made every attempt to work closely with CARB on every step of these rules and even other rules (i.e. Refuse Truck Rules). We have worked closely with CARB to help its staff to better understand how an industry operates. But after helping to facilitate these efforts, there seems to recently be a growing unwillingness by CARB and its staff to be fair and balanced in its analysis of our and the DTCC's suggestions and especially in the divulging of its own methodologies behind their models and calculations utilized in determining their emissions reduction goals as part of their proposed regulations. We are questioning CARB's regulatory process, especially in light of the recent work done on its AB 32 scoping plan. As members of both CIAQC and DTCC we have noticed a pattern of rule-making that frankly is flawed in many ways. The LAO's recent report concerning CARB's rulemaking confirmed our suspicions. In their report, they discovered that CARB's methodology was "deeply flawed and often ignored evidence" that would counter the economic-boom thesis. The most startling finding was that "CARB arbitrarily defined any reduction in greenhouse gas emission as being cost-effective." If, say, energy costs double for a small business because of AB 32, how is that possibly cost-effective? These CARB methodology problems have also been reaffirmed by no less than a half dozen other scientists and researchers including a recent report by Sierra Research. (CDTOA11)

Agency Response: With regard to ARB's methodologies, models and calculations, refer to Comment 1 and Comment 2 of the Emission Inventory and Emission Benefits Section. The LAO report was related to the AB32 Scoping Plan and is not related to the Truck and Bus regulation.

147. Comment: The use of Level I and II devices should be allowed as part of this emission reduction plan. My one truck is operated less than 2000 (two thousand) miles annually (and passes the smoke test). With the proposed rule, at the end of 2012 it will need a filter. There is no filter available for the engine so we must change the engine and add a filter - big bucks necessary with (1) no financing options and (2) not being able to 'pass the cost on' for the mileage utilized. As a suggestion, why not provide an option for a Level I or II device with a five or ten thousand mileage limit? If this was allowed for far less cost, then the funds would hopefully be diverted for a used 2010 truck in around 2015 or 2016 when the economy must certainly be better. (RDOR)

Agency Response: Staff acknowledges the comment about increasing the mileage limit with Level 1 or Level II devices. According to the staff analysis the mileage limit can not be increased because the state will run the risk of not meeting its SIP commitment. The use of Level II device is allowed if level III device is not available for the particular engine. The use of level I device is never allowed. Since, the commenter has one truck; he qualifies as a small fleet that is exempt from any engine modification until 2014. In addition to that there are significant funding available for small fleet for retrofits or to buy new trucks.

v) Ground Water Industry

148. Comment: We recognize the impacts these regulations have on other sectors of California's economy, the environment and the public's wellbeing. Thus, we support the alternative proposal from the Driving Toward a Cleaner California (DTCC) as a means to provide flexibility in attaining improved air quality. This proposal offers all affected industries a number of ways to reach improved air quality. The more flexible mileage exemptions, dedicated specialty use vehicle considerations, and a personalized compliance schedule for businesses affected by two or more ARB rules would be of direct help to the groundwater industry. We look forward to meeting with ARB staff to help ensure the continued capability of the groundwater industry to help meet the water needs of all Californians. (PPE)

149. Comment: I strongly support the Drive toward a Cleaner California (DTCC) position on this and urge you to delay action on this matter until an industry acceptable approach to this can be achieved. Water is critical to California, supplying the life blood of every individual in this state who would be affected by this regulation. Please, reconsider this and delay action. (CGA2)

150. Comment: As a member and representative of the membership of the California Groundwater Association, I request a delay in the implementation of the proposed regulation on in-use on-road diesel vehicles (Statewide Truck and Bus Regulation 2008). I am convinced that regulations for record are not the answer. A comprehensive plan that works toward the goal of regulation with the ability of those that is to be regulated to exist within the scope of that regulation. We as an industry have a long ways to go to be able to exist within the scope of this regulation. (CGA2)

151. Comment: We recognize the impacts these regulations have on other sectors of California's economy, the environment and the public's well being. Thus, we support the alternative proposal from the Driving Toward a Cleaner California (DTCC) as a means to provide flexibility in attaining improved air quality. This proposal offers all affected industries a number of ways to reach improved air quality. The more flexible mileage exemptions, dedicated specialty use vehicle considerations, and a personalized compliance schedule for businesses affected by two or more ARB rules would be of direct help to the groundwater industry. We look forward to meeting with ARB staff to help ensure the continued capability of the groundwater industry to help meet the water needs of all Californians. (CGA1)

Agency Response: Staff acknowledges that the DTCC proposal would achieve emission reductions relative to the baseline inventory. However, staff's analysis indicates that the DTCC alternative is not sufficient and would result in the loss of significant emission benefits and a failure to meet the State's SIP commitments. A delay in the regulation would also fail to meet the SIP commitments. The responses to comment 1 through 10 contain a more detailed discussion of the reason for rejecting the DTCC proposal.

The regulations have different timelines for compliance and affect a variety of fleets that compete in the same markets. A regulation customized for each company would result in differing requirements for fleets that compete with each other and would be impractical to implement and enforce. However, we are willing to work with companies to assist them as needed, see response to comment 11 in the Enforcement section. Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section.

152. Comment: We note that the proposed On-Road Diesel Truck and Bus regulation has agriculture industry provisions that provide exemptions for specialty agricultural vehicles and extension of compliance dates for both low-mileage and limited-mileage agricultural vehicles. Certainly, the reasoning that resulted in the agricultural provisions would also apply for the groundwater industry that provides water for agricultural, domestic, municipal and industrial uses. In fact, a recent air emissions study prepared by a groundwater manufacturer determined that water well equipment accounted for 0.019% of all total emission hours in the US in 2007. (CGA1)

Agency Response: Unlike agricultural operations, which are typically seasonal in nature, the groundwater industry operates year round. Because of this, the industry's ability to recuperate the costs is not as limited as that of the agricultural industry. Staff expects the ground eater industry to pass on costs through higher contracts to cover the costs associated with the regulation. Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section. The need for emissions reductions is so significant in California that providing additional exempts or delays would mean the California could no longer meet the SIP commitments and would increase diesel PM exposure risk.

153. Comment: We were one of the first to comply with the ARB Tier III change out of our drilling rig on deck engines. We spent nearly $80,000 in equipment and labor costs to do this. We have heard that our competitors are fighting this ruling and many have not even complied as of December 2008. I am afraid that if we are required to make these same changes to our over the road truck engines that our

company will not be able to stay in business. If you review our past compliance you will see that we are always up front and willing to comply, especially when there is an environmental impact involved. We do feel however that our drill rigs and related equipment have very little road time when compared to other types of over the road equipment. Most of the equipment's time is spent on site with only the deck engine running. In any particular year we would be hard pressed to put on 5,000 or less miles. Please consider as many states do that well drilling equipment be exempt from these measures. (JHDCI)

Agency Response: The regulation applies to all affected businesses. It contains many special provisions to provide businesses ample time to comply. Under the NOx exempt vehicle provision, a heavy-duty diesel vehicle with a drive engine operating less than 7,500 miles a year will only be required to install a diesel particulate filter and could delay vehicle replacement until 2021. Furthermore, the BACT Percentage Limits option provides the vehicle owners the option for delaying replacement of up to 20% of their fleet until January 1, 2017 and 10% until 2023 as long as the remainder of their fleet meets the PM and NOx BACT requirements. Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section.

154. Comment: I strongly urge the issuance of variances and exemptions to the water well contractor operating with a C57 water well drilling license. Because the civil infrastructure is lacking in rural areas, the water well professional fills the void in providing water for agricultural and domestic purposes, saving the State and taxpayer untold sums. Because crops and livestock are at stake, water well contractors need to respond quickly to provide water. The cost to the private contractor is already close to unbearable. Drill rigs, outfitted can cost in excess of $1 million and a pump pulling rigs can cost as much as $600,000 fully outfitted. To be able to provide water to the rural and agricultural customer, the water well contractor cannot possibly bear the estimated $200,000 per deck mounted engine. Unless the State is willing to provide water to all of its citizens, we will necessarily rely on the water well contractor. For that reason, an exemption from these onerous expenses is a must. (CGA4)

Agency Response: Staff understands the importance of the groundwater industry, and staff also acknowledges that the regulation may result in increased costs to the industry. However, because the regulation only applies to the drive engine of the drilling equipment and the majority of the equipment's time is spent on site with only the deck engine running, fleet owners of these equipments can utilize the low use or low mileage exemption provision to lower the compliance costs. For example, fleet owners can use the NOx exempt vehicle provision to delay replacement until 2021 for the equipments driven less than 7,500 miles per year as long as a diesel exhaust retrofit is installed. For vehicles with the drive engine operating less than 1,000 miles and less than 100 hours per year, no action is required except to report annually. The BACT Percentage Limits option could also be used to delay replacement up to 10% of their fleet until 2022

as long as the remainder of their fleets meets the PM and NOx BACT requirements. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section.

155. Comment: The California Groundwater Association requests that the California Air Resources Board make modifications to the proposed On-Road Diesel Truck and Bus Regulation. The groundwater industry is not large in numbers but its functions are critical to the state. In times of drought, groundwater supplies up to 50% of the state's water needs and the groundwater industry has been able to help meet past challenges of droughts. Reduction of the industry's capability to provide groundwater, due to regulation, will have adverse affects to all citizens and could cripple the state. The groundwater industry deals with complex geology and hydrologic conditions and much of that equipment is specialized and has low or limited usage. Therefore the groundwater industry has equipment that is old but has had little usage and is still in sound, usable condition with slow turnover. For example, you may have a drill rig that that is 25 years old but only driven 10,000 miles. A CGA survey has shown that the industry is attempting to comply with the current regulations but many groundwater contractors have small, local operations and are being forced to downsize or perhaps even close their doors. One contractor told us he would have to cut his drill rig fleet in half from 4 to 2 units. Another contractor estimated the replacement costs to bring the company's equipment into compliance with CARB regulations would be twice the company's net worth and is considering closing his doors. One can live without many things, but food and water are necessary with water being essential – even to grow crops. (MMAX) (PPE) (CGA7)

Agency Response: Staff acknowledges that most of the vehicles used in the ground water industry drive very few miles per year. The commenter states that a 25 year old truck may have only 10,000 mile accrued. A vehicle that drives 10,000 miles over 25 year is only driving 400 mile per year. At 400 miles per year, this vehicle would qualify as a low use vehicle and not have to meet either PM nor NOx BACT.

Staff understands the importance of the groundwater industry, and staff also acknowledges that the regulation may result in increasing costs to the industry. However, because the regulation only applies to the drive engine of the drilling equipment and the majority of the equipment's time is spent on site with only the deck engine running, fleet owners of these equipments can utilize the low use or low mileage exemption provision to lower the compliance costs. For example, fleet owners can use the NOx exempt vehicle provision to delay replacement until 2021 for the equipments driven less than 7,500 miles per year as long as a diesel exhaust retrofit is installed. For vehicles with the drive engine operating less than 1,000 miles and less than 100 hours per year, no action is required except to report annually. The BACT Percentage

Limits option could also be exploited to delay replacement up to 10% of their fleet until 2022 as long as the remainder of their fleets meets the PM and NOx BACT requirements. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section. Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section.

156. Comment: What makes this rule so hard on us is that most of the value in our equipment is in the drilling mechanism or the boom truck mechanism. As a result these pieces of equipment are very expensive, much more than a truck or bus would be. A typical drill rig costs $850,000. Because these equipment are very expensive and very durable they have 20 to 25 year useful lives for us. Replacing all our equipment in the next 1 to three years is just not economically feasible. For one thing none of us can get loans now. We cannot finance new purchases. (CGA5)

Agency Response: The regulation does not require any replacements in 2011 or 2012. In 2013 fleets need to begin reducing NOx emissions. Fleets can meet the requirements of the regulation with NOx retrofits, and used vehicle replacements and are never required to buy new replacement vehicles and never need to replace the fleet in 3 years or less. Staff has evaluated data about the characteristics of the groundwater drilling industry and we believe the regulation provides a number of provisions that delay a number of the requirements for many groundwater fleets and lower the cost of compliance substantially, see response to comment 495 to 498 in the Costs and Cost Methodology Section.

Compliance with the regulation can be achieved through several compliance paths including the usage of the low mileage vehicle provisions. Fleet owners can also utilize the NOx exempt vehicle provision to delay replacement until 2021 for vehicles driven less than 7,500 miles per year as long as a diesel particulate filter is installed. For vehicles with the drive engine operating less than 1,000 miles and less than 100 hours a year, no action is required except to report annually. The regulation is also structured to allow fleets to comply with used vehicles and new vehicle replacements are never required, see response to comment 149 in the Regulatory Provisions section.

157. Comment: I see trucks every day that are running mechanical diesel engines. No question that these are the most dirty of the states inventory. Just replacing those with Electronic controlled engines would be the logical next step. It seems that this step was jumped over in favor of the drastic steps proposed. (BSTS2)

158. Comment: To achieve clean air without overly burdensome regulations on people who own their own businesses, we propose the following: the new rule should be directed at engine manufacturers and require that new engines, or significantly rebuilt engines, meet the PM and NOx standard you specify, and engines currently

in use must meet, and continue to meet, the emissions standard that was in effect at their date of their manufacture. Our proposal makes practical sense and is in line with the logic of the vehicle emission standard (or SMOG-check) that we are all subject to. An owner/operator is not a manufacturer and should not be the party required to upgrade or replace an engine that was in full compliance when purchased. Requiring the engine Owner/operator to continually upgrade rather than the industry that makes the engines is not practical and can be likened to giving us all traffic tickets for past violations of a new speed limit.

The large scale implementation of this alternative would provide industry wide mitigation benefits to reduce the need for retrofitting field tractors and forklift fleets. It is more effective to utilize capital in the most efficient manner to meet the clean air objectives by directing that capital to high use vehicles. Triples have proven to be a safer alternative than existing truck length combinations. There are two major reasons for this: the reduction of truck trips reduces the opportunity for accidents, and driver qualifications for longer combinations are more stringent as well as equipment standards being higher. This proposal will provide cleaner air and reduced costs by improving fuel and manpower efficiency. (CCAA)

Agency Response: ARB's mission is to protect public health, welfare, and ecological resources through the effective and efficient reduction of air pollutants, while recognizing and considering the effects on the economy of the State. Staff encourages all companies, including the engine manufactures, to participate in the development of new technology to help lower emission on vehicles. To achieve that goal, ARB adopted numerous regulations to control emissions from many different sources, including new and in-use diesel engines. Reducing health risk from diesel particulate emissions is one of the Board's highest priorities. Diesel engine exhaust is a health concern because it is a source of unhealthful air pollutants including gaseous and particulate-phase toxic air contaminants, P), NOx, carbon monoxide, and hydrocarbons. Reducing health risk from diesel particulate emissions is one of the Board's highest priorities.

Staff also recognizes that the regulation will have economic impacts on the industries. However, staff does believe that the costs to the industries can be passed to the consumers through higher prices. In addition, significant amounts of incentive money are available to assist fleets in cleaning up and modernizing their vehicles. For those that take advantage of them, the combined assistance these programs could provide will be significant.

ARB does not have jurisdiction over highway length laws, thus, the ARB has no authority to require the use of triples as an alternative measure to the Truck and Bus regulation.

11. Outreach

a) Additional Outreach Required

1. **Comment:** The Initial Statement of Reasons prepared by staff states, "Staff has made an enormous effort to notify affected fleets and interested parties about the

proposed regulation and to solicit their input on the proposed regulation." In the process of surveying impacted fleets in Mendocino County very few people knew anything about the proposed regulation and only 1 in 50 actually understood it in concept. Staff may have been successful in reaching certain sectors of the impacted public; obviously their efforts fell short in the rural counties. (ALOG2)

2. **Comment:** Even though CARB made a significant effort with 54 workshops and a mass mailing to 300,000 registered diesel truck owners (CARB Staff Report p. 5), nearly all of the rural fleet owners we surveyed in Mendocino and Nevada Counties were not familiar with the Rule and its performance requirements. Most surveyed had never heard of the proposed Rule. We conclude that most fleet owners have no idea this Rule is about to be adopted. (CFA1)

3. **Comment:** Why is it that there are no sole operators represented on the CARB committees when CARB's plans directly affect them? CARB has chosen to ignore our pleas from the beginning. CARB and other concerned branches of government need to consider more than only what they want. They also need to take into consideration the impact these rapid changes and new regulations will have on the sectors affected. (LDT)

4. **Comment**: You've been hearing mostly from people in the trucking business, but what you haven't been hearing from is the other 50 percent of the people who operate trucks that are not in the trucking business, that largely don't know anything about this regulation at all. (FTSA)

5. **Comment:** Although CARB' s outreach has informed some companies, most small and medium size businesses are completely uninformed. (DCI1)

6. **Comment:** Many of the people we surveyed did not know about the regulation, most do not believe it could possibly happen. (ALOG2)

Agency Response: Since April 2006, staff held regular meetings with affected stakeholders and used various methods to notify affected stakeholders about the proposed regulation and to give them the opportunities to participate in the regulatory development process. These efforts are described in Chapter III of the Technical Support Document. In December, 2007, a mailing was sent to nearly 300,000 owners of registered diesel vehicles in California notifying them directly of proposed regulation.

Staff held fifty four public workshops during the day and evening in twenty one cities throughout California. At least one workshop in each series was webcast for those who could not attend the workshops in person. Staff also held more than one hundred meetings with different companies, groups and associations throughout the state and on weekends when requested. The meetings included exchanges of information about individual companies to presentations of the staff proposal to potentially affected stakeholders. Staff also contacted various industries, associations, individual businesses, and other organizations to inform them of the proposed regulation and to make their members aware of the proposed regulation. Table III-2 of the Technical Support Document identifies the companies, associations, and organizations that were

contacted by staff. We also sent informational letters to diesel vehicle business owners in California, truck stops and repair facilities throughout the western United States.

7. **Comment:** I was advised by some of our local membership organizations that as a farmer I should attend one of the air board's “workshops.” I traveled from Salinas to San Jose to attend a workshop and quickly realized that the verbiage “workshop” was used very loosely; there was no input involved in this process that would actually accomplish any changes in the proposed regulation. It became evident that a broader group from the agriculture industry needed to become aware of these burdensome regulations and that many farmers and ranchers on the Central Coast had little to no knowledge of this issue. (CCAA)

Agency Response: The workshops conducted by staff always followed the same format whereby staff made a presentation regarding its current draft regulation followed by an open discussion among attendees and staff personnel. The open exchange of ideas often lead to refinements of the regulatory language, additions and deletions of various provisions, and better understand of the regulated community. Members from the agricultural community have been very active throughout the process of this regulation including representatives from associations that representative agriculture interests statewide and representative from very specific agricultural sectors. Over the course of several years, several iterations of the regulation were developed and reviewed by members of the agricultural community. Each revision of the regulation was built on the previous version as a result of working collectively over time with the affected stakeholders.

8. **Comment**: Associated California Loggers members still don't know that this devastating rule is potentially coming. We have members who are trying to buy trucks now to comply, that if this rule passes will not be in compliance in a year. We're doing what we can, but we think its incumbent on this Board and its staff to continue to communicate through all means necessary that this rule is coming and give people the proper lead time to try to prepare for it. (ACLOG2)

9. **Comment:** I don't think the rule is quite ready. I don't think it's quite prime time yet, but it's very close. And my suggestion would be that, as this Board has done on previous enormous rules like the off-road rule, you take a little bit more time. You bring in representatives from the environmental groups, the industry groups, and your staff and work through some of those questions that have been brought up. (SCACA)

Agency Response: Staff held numerous workshops and meetings throughout California including Redding, Arcata, and locations in Glenn County. For two years, staff operated a booth at the Sierra Cascade Logging/ Construction Conference and was featured speakers at the panel discussions. In addition, staff met with members of the California Forestry Association and other fleets to discuss elements of the regulation. Staff continues to outreach to members of the affected public through public speaking engagements, the Internet, informational flyers, media interviews, association meeting, and a variety of other source of communication.

During the development of the regulation, both state and national trucking related associations were notified, in addition to regional and local business groups. Numerous workshops and meeting were held as described in the response to comments 1 -4. In addition, emails were sent to over 3,400 members who subscribed to the electronic mailer. Regular notices concerning the regulation development were sent out to stake holders using this listserve.

Since the Board's approval to adopt the regulation, staff has been working to ensure that fleets, owners, dealers and anyone else affected by this regulation is aware of the requirements and understands the compliance options. Staff has created an industry advisory group to provide feedback on how to improve future outreach efforts, and has expanded the call center to provide more personal service to the affected public. All informational fact sheets are now available in multiple languages and the website has been made more user friendly. Staff has prepared and conducted training classes, continued to improve outreach materials, and has made materials available in alternative languages.

Staff will continue to work with industry representatives and associations on additional methods to educate stakeholders and will continue to work with industry groups to inform their members about the regulation. This effort will include holding public workshops, seminars, and individual meetings throughout the state. Staff is creating an online reporting system, as well as other tools, to assist fleets in determining what compliance options are available and to develop their own compliance plans.

10. Comment: I have an M.B.A. from Berkeley and I still to this day can't understand how the regulation will completely affect me – it is confusing. I have made calls to CARB and have been told they are too understaffed to explain it to me. If I can't understand it at my educational level, who can? (PMI)

Agency Response: Staff acknowledges that the regulation is complex; however, the complexity adds to the flexibility of the regulation and pertains mostly to the special provisions. For fleets not utilizing the special provision the regulation, the three main options are fairly straight forward. Still, staff acknowledges that to the average person, the regulation can initially appear intimidating. Staff is taking steps to ensure that the regulation is well understood.

ARB is making every effort to ensure that affected industries understand the regulation. An existing toll free phone number, 866-6DIESEL, has been expanded to provide fleet operators with a one-stop-shop to navigating the Truck and Bus regulation, other regulations that affect truck owners, and funding opportunities. Most calls are taken live and any messages have been regularly returned within one business day. Also, staff has developed the Truck Stop webpage which provides fleet operators with information and the tools necessary to understand the regulation and potential funding opportunities. Additionally, the fleet calculator has been available for fleets to determine how the regulation may affect their specific fleet. We will continue to develop other tools to better inform stakeholders of their compliance options.

11. **Comment:** CARB should be responsible for compiling a list of compatible technologies for all equipment subject to this regulation while simultaneously addressing compatibility and availability issues by providing a more robust off-ramp for unavailable or incompatible technology. (DTCC2) (DTCC3)

Agency Response: The regulation defines best available control technology (BACT) as being a technology that has been verified through ARB's verification procedure. Since only approved technology meets the definition of BACT, ARB keeps a list of these verified technologies on the website (http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm). ARB has also developed a list of approved installers approved to install the verified technologies. The installers on this list were provided by the manufacturers of the verified technologies. The list of installers can be found at: http://www.arb.ca.gov/msprog/publicfleets/onroaddeviceinstallerslist.pdf. ARB has also developed an online search engine that will provide the user with a list of technologies that are verified for use on a particular application. This search engine, called the Verification Database, can be accessed through the following site: http://arb.ca.gov/diesel/verdev/vdb/disclaimer.php.

The "off-ramp" staff has provided allows a vehicle owner the opportunity to request an extension from the PM BACT requirement should no VDECS be available for the vehicle's engine or should safety reasons prevent its use. From January 1, 2011 through January 1, 2017, the Executive Officer may annually grant a one-year extension of the compliance deadline based on the evaluation of information submitted pursuant to section 2025(q)(7) that a vehicle's engine cannot be equipped with the highest level VDECS for PM provided all other vehicles are in compliance with the PM BACT requirement of the compliance year. By January 1, 2018, any vehicle that is not equipped with the highest level VDECS for PM must be replaced or have its engine replaced with one that can be equipped with the highest level VDECS for PM.

12. Enforcement

a) Effective Enforcement

1. **Comment:** I've seen no plan on how CARB is planning to tie this program to any effective enforcement policy, leaving me to wonder will it be like so many other regulations that exist in our industry where legitimate companies are burdened with the costs of doing it right while competing with others that don't even come close. (RTC)

2. **Comment:** The cost and operational impact of the Proposed Truck and Bus Rule is immense, and it will be felt across a number of industries. The time, effort, and expense to insure compliance with the rule is enough to create a significant competitive advantage to a fleet that chooses to not take steps toward compliance with the rule. Granite will take all necessary steps to put ourselves in compliance, and a large amount of capital will be invested to take those steps. CARB needs to build mechanisms into the rule that will insure all fleets are held to the same standard. CARB Staff, California Highway Patrol, and other agencies that will be

enforcing this rule need to create protocol that will insure fair and equitable enforcement across different geographic areas, industries, and companies. (GCI1)

3. **Comment:** We're in favor having clean trucks not polluting the society. But the concern I have is how it is going to be enforced. What we often see that is one company or one size company has to be managed. The other sizes are not. We see that with water. We've seen it with several things. And if we lose our work, a lot of it will go to other people. And I would like to know they're being held to the same standards. (MATR)

4. **Comment:** I am President of a 29 year old small trucking company in Fresno. We employ 15 people and have 12 tractors with 16 refrigerated trailers. My concern with the new rule is unilateral enforcement. I have asked at several meetings how you will enforce this rule on everyone and I have yet to receive an answer that satisfies my concerns. If the new rule is not aggressively enforced on everyone I, and the other companies like us, will be at a huge competitive disadvantage. If my competition buys a tractor for $15,000 and we spend $125,000 for a tractor, it does not take an accountant to figure out what is going to happen. We are already dealing with unfair competition with regards to regulations, and with our business being down 25% due to the economy we will not be able to stay in business if this occurs. (MET1)

5. **Comment:** I have 12 tractors and 16 refrigerated trailers. I'm going to have to comply with two rules at the same time. I'm concerned about the notion that we're going to be able to pass the cost on to consumers. In that light, if you do not enforce whatever rule you adopt - I don't mean just throw it out there and do it randomly - you're going to create a really bad situation for those of us that have been in business for a long time. Because what's going to be created is I'm going to pay $125,000 for a truck, $65,000 for a trailer and my competitor will spend $10,000 for a truck and $5,000 for a trailer. So you don't have to be an accountant to understand the numbers there when they go in and they bid on loads that I'm doing. (MET2)

6. **Comment:** Chairman Nichols talked about in her videotape of 400,000 diesel trucks in California, and she also mentioned there were 500,000 visiting our state on a regular basis. I think there's the real problem we have to deal with. There's no way that I believe that your staff or any other enforcement is going to be able to monitor those trucks and keep them from polluting our air. After we've done all we can do, it's still incumbent upon your group to monitor and police it, and I don't believe it's possible. (ACTR)

Agency Response: ARB's goal is to ensure uniform compliance across industries, so that no one entity obtains an unfair economic advantage by not complying with the regulation. Any heavy-duty diesel vehicle traveling in California, including vehicles registered in other states and foreign countries (i.e. Mexico or Canada) is subject to ARB inspection. Current enforcement activities for existing regulations include inspections at border crossings, California Highway Patrol (CHP) weigh stations, fleet facilities, randomly selected roadside locations, and audits of records. Enforcement staff, in cooperation with the CHP, uses inspection and audit methods developed over

years of enforcing the Heavy-Duty Vehicle Inspection Program and Periodic Smoke Inspection Program. The enforcement program will grow to keep pace with the additional demands resulting from the implementation of the Truck and Bus regulation.

In addition to vehicle inspections, the regulation requires annual reporting by fleets opting to comply using the BACT percent limits or fleet average options. These fleets are required to provide vehicle information and compliance plans to the ARB. Staff will develop an electronic system to house fleet reports. While details of each fleet and its compliance strategy would not be made public, the companies and public would be able to search the reporting database to confirm whether their competitors have reported compliance with the regulation. Complaints from the public via calls to the 1-800- END-SMOG toll-free line or on-line reporting at http://www.arb.ca.gov/enf/complaints/complaints.htm will trigger inspections or further enforcement action.

7. **Comment:** I ask you to consider the enforcement proposal of tying emissions compliance to the bid program and DMV. If not, I will be competing against non-complying competitors who will run their trucks for years before getting caught, figuring that they have nothing to lose, all the while charging less than I need to operate. (BRIT2)

8. **Comment:** The ARB must work closely with the DMV to determine the most appropriate course of action for prohibiting registration of non-compliant trucks. Tie motor carrier permit to emissions compliance as it is tied to it for BIT. (DTCC2) (DTCC3)

9. **Comment:** I think some more work with the trucking industry needs to take place and a compliance program that has the CHP & DMV doing more in insuring that there is a level playing field. (CTTA1)

Agency Response: An assumption is made that by “bid program” you are referring to the California Highway Patrol’s (CHP) Biennial Inspection of Terminals (BIT) program. The BIT program is enforced by the CHP by auditing commercial motor carriers (i.e. truck fleets) for vehicle mechanical and safety issues. Each fleet is required to maintain their vehicles to meet CHP and U.S. Department of Transportation Federal Motor Carrier Safety Administration (USDOT/FMCSA) mechanical and safety standards. These fleets must maintain records of maintenance and repairs, and CHP audits these records and a sample of the vehicles for BIT compliance.

ARB’s mission is to reduce air pollution. ARB has direct authority to regulate mobile sources of air pollution which includes commercial trucks. ARB enforces a vast menu of programs to reduce commercial truck emissions. While theoretically CHP could perform commercial truck emissions inspections, in addition to their BIT inspections, this is not feasible for several reasons which include: 1) ARB and CHP are two distinct agencies with different missions and funding sources; 2) CHP is not staffed to handle this additional work load; 3) CHP personnel performing the BIT inspections are not trained to perform commercial truck emissions inspections and investigations.

ARB and CHP often work cooperatively on vehicle inspections and investigations; with the most notable working relationship being ARB's random roadside Heavy Duty Vehicle Inspection Program (HDVIP). Under this program, CHP stops commercial vehicles for ARB inspections and conducts a level 1 CHP safety inspection while the ARB conducts their emissions inspections. These roadside inspections are performed throughout the state at CHP scales, commercial vehicle inspection facilities and random roadside locations (e.g. marine ports in Los Angeles, Long Beach and Oakland; intermodal yards; interstate and international border crossings; etc.). CHP is also authorized under Vehicle Code section 27159 to remove commercial vehicles from service that have outstanding ARB violations. ARB and CHP have an excellent working relationship and often share information to help assure compliance throughout the motor carrier industry.

ARB also works closely with the Department of Motor Vehicles (DMV) to enforce vehicle emissions statutes and regulations. ARB utilizes DMV's data base to find violators and, based on California Vehicle Code section 4755, ARB is authorized to have DMV refuse registration or transfer of any vehicle(s) with outstanding ARB citations/violations. DMV registration holds are placed on vehicles that are not brought into immediate compliance and applicable penalties paid.

ARB strives to provide an even playing field for all regulated stakeholders and is continually looking for methods to improve enforcement.

10. Comment: We have had the smoke law for 11 years and it was not enforced until the last 3 years. When it was enforced it was only on a selective basis. (RNEL)

Agency Response: The roadside HDVIP was authorized under Senate Bill (SB) 1997 in 1988 and fleet PSIP was authorized by SB 2330 of 1990. Regulations for the HDVIP were first adopted in 1991 and amended in 1997 and 2006. Regulations for the PSIP were first adopted in 1992 and amended in 1997. These programs have been enforced continuously by ARB since 1998. Not all vehicles are inspected nor are all records checked. Compliance is ensured through random fleet audits and through roadside inspections throughout the state and at California's borders, inspections at CHP weigh scales. To view the enforcement activities for these programs, please see the ARB's "Annual Enforcement Reports" posted at: http://www.arb.ca.gov/enf/reports/reports.htm.

ARB also continues to conduct training and outreach for these programs to assure that all stakeholders are aware of the regulations that govern emissions from heavy duty diesel vehicles.

Enforcement has never been done on just a selective basis. ARB prides itself on fair and impartial enforcement. Fleet audits are also conducted based on complaints (many of which come from trucking and bus companies reporting non-compliant competitors), follow up on other enforcement activities, referrals from other government agencies and in-house investigations. Roadside inspections concentrate on the borders and environmental justice areas, but take place statewide to ensure equitable

enforcement. Many complaints are received through ARB's 1-800-END-SMOG toll-free line or ARB's on-line reporting at http://www.arb.ca.gov/enf/complaints/complaints.htm.

b) Compliance Assistance

11. Comment: My request would be that CARB start a courtesy inspection program similar to what Cal/OSHA offers where a company can request an inspection. And CARB can come out, work with the company. The company would open their books, open their fleet for inspections, and would then be given a grace period to remedy any situations that are uncovered. I have the same concern that there needs to be very strong enforcement with all of these CARB rules to maintain an even playing field. But I think a program like this would compliment the enforcement rather than undermine it. (GCI2)

Agency Response: During oral testimony at the Public Hearing, Granite Construction requested that ARB implement a courtesy inspection program for compliance assistance with existing ARB regulations. Further correspondence clarified that the request was for a courtesy inspection for all ARB regulations, rather than just for the Truck and Bus regulation.

ARB is committed to working with affected stakeholders towards compliance with all ARB regulatory requirements, and assisting fleets wherever possible. Towards this end we have been improving our outreach efforts by conducting training workshops, developing compliance assistance tools, providing information on the internet, and being responsive to questions and issues raised by affected stakeholders. As the Board directed, we will be including a courtesy inspection program as part of the implementation program for the Truck and Bus regulation. We believe that this will provide an important compliance resource for fleets to ensure they are in compliance with the Truck and Bus regulation, while at the same time helping ARB ensure that the anticipated emission reductions are realized. We do not currently have a similar inspection program that covers the other ARB regulations described by the commenter. We believe that the benefits of a courtesy inspection program can be applied to other regulations as well, and ARB staff has been asked to work with the commenter and other stakeholders to identify opportunities for such a program.

12. Comment: The staff report states, "For the regulation to be fair to fleets that would spend considerable funds and efforts to comply, fleets must be assured that their competitors would also be complying." Another statement, "Staff recognizes that creating a level playing field for all affected fleets is important." How does staff develop a level playing field with companies that have spent considerable funds complying with PERP over the past twelve years? What is the staff mitigation plans for changing the PERP regulations? (NWSC1)

13. Comment: The staff report states, "For the regulation to be fair to fleets that would spend considerable funds and efforts to comply, fleets must be assured that their competitors would also be complying." Another statement, "Staff recognizes that creating a level playing field for all affected fleets is important." How does

staff develop a level playing field with companies that have spent considerable funds complying with PERP over the past twelve years? (BJSC1)

Agency Response: This rulemaking includes a new regulation to reduce emissions from trucks and buses operating in California, as well as amendments to several existing regulations, including PERP and the portable equipment ATCM. The amendments to the PERP regulation are limited to bringing the auxiliary engines of two engine sweeper into the Truck and Bus regulation and to move the drive and auxiliary engines of the two engine cranes into the Off-Road Equipment regulation. Staff believes these changes do no provide a competitive advantage for cranes and sweeper fleets compared to fleets that perform other services. All cranes and sweepers will be treated equally from the changes. The changes ultimately achieve additional emissions reductions and require NOx reductions where none were required before. Portable engines on two-engine vehicles and other portable engines do not perform the same function as cranes and street sweepers, therefore, the change does not introduce a competitive advantage or disadvantage over other two-engine vehicles.

c) Regulation Difficult or Impossible to Enforce

14. Comment: I live in the Imperial Valley how are you going to control all the farm equipment (tractors, crawlers, swathes, pumps, field harvesters etc) just driving around in 2 days I counted 89 pieces of equipment blowing diesel exhaust. And California is a one big farm field spotted with a few cities. (BPAQ)

Agency Response: Off-road farm equipment, distinct from agricultural trucks and buses, is not subject to the Truck and Bus Regulation, but is the focus of a future regulation. More information can be found at ARB's website under In-Use Mobile Agricultural Equipment.

15. Comment: There are also some [farmers, ranchers, and other independent business people] without their own trucks who hire in-state and interstate trucking firms to transport their goods. The current rule makes the one hiring the truck responsible for the compliance of the hired trucking firm. This seems not only unfair but extremely difficult to administer such requirements across both in-state and out of-state trucks without a practical way for the person hiring a trucking firm to ensure that firm is in full compliance. (CCAA)

Agency Response: The requirement does not apply to someone hiring the services of trucking firm, but only applies to the entity that directs the operation of the vehicles. Motor carriers, brokers, or any person that directs the operation of a vehicle will need verify that each vehicle is comply with the regulation. To assist motor carriers, brokers, and people directing the operation of these vehicles, staff will develop an Internet based system allowing them to determine the compliance status of any business or vehicle operator. Under such a system, vehicle owners would electronically report to ARB the information regarding their vehicles and their compliance mechanism. The system will generate a Certification of Reported Compliance that would be available for printing and would be available on-line. The system would allow the determination of which businesses and drivers have reported compliance with the regulation to ARB.

d) Ease of Implementation and Enforceability

16. Comment: With hundreds of thousands of individual trucks, both in-state and out-of-state, affected by this regulation, it is extremely important that it be designed for ease of implementation and enforceability. The proliferation of exemptions, compliance pathway alternatives, regional variations, and special provisions has raised concern about enforceability. The labeling requirement for agricultural vehicles and two-engine sweepers, where the operator must affix or paint a label on the vehicle, may be subject to manipulation. Enforcement staff should target and inspect these vehicles, regardless of any visible label. Fleets opting to follow the fleet averaging compliance pathway should be subjected to periodic third party evaluations. While this would impose an additional cost on fleets, they would still be receiving the benefit from the flexibility of the fleet averaging provisions. It would also potentially reduce the additional ARB enforcement staff needed to effectively implement this regulation. This is an important consideration given ARB enforcement budgets are subject to the annual legislative budget process. (CTBRC)

Agency Response: Staff agrees that a robust enforcement program is essential to the success of the Truck and Bus regulation. Vehicles with and without labels with be equally scrutinized and no particular business sector will be excluded from the enforcement program. Vehicles that have labels must still meet performance requirements.

We believe the regulation will be adequately enforced by ARB and do not believe it is necessary to add an additional expense with a third party evaluation requirement. While ARB staff will be available to assist fleets, nothing in the regulation prevents owners from seeking compliance assistance from other sources.

17. Comment: The measures do not discuss enforcement or inspection or maintenance of the equipment. (PHEN)

Agency Response: The regulation does not discuss enforcement, because the ARB already has enforcement authority for ARB regulations. Maintenance of retrofit devices is addressed in ARB's Verification Procedures. The existing inspection programs at the borders, fleet audits, record audits, roadside check points and other methods will continue to be used by ARB to enforce existing regulations and the new Truck and Bus regulation.

e) Out of State Carriers

18. Comment: You are going to allow out of state non CARB trucks to operate in California, that will be putting more miles in Ca. than I will. Are you going to require that they conform to the same rules that we do? Also, what about the Mexican and Canadian trucks? The recession that we are going through now will be nothing compared to what will happen if these regulations are pass. (SDISA)

19. **Comment:** Trucks from out of state will not be impacted as the California trucks and buses. How does the ARB ensure that all vehicles will be compliant so we may have a level playing field? How will the ARB enforce compliance? (JJTI)

20. **Comment:** How are you going to monitor contractor's coming from out of state? (CGA6)

21. **Comment:** There has been very little mention of enforcement of vehicles from across the border. Do these vehicles have to comply? The enforcement aspect has not even been addressed, as to out of state entry, other border crossings etc. (BYAT)

22. **Comment:** Do you really think the out of state carriers will comply? California is already one of the least desirable states for out of state carriers, why would you want to add to it? I'm thinking if I was an out of state carrier, my trucks would stop at the border and tell California to come get it, or not come to the West Coast. I'll get out of trucking and build warehouses at the border to cross dock California's goods. How much will that add to the cost of goods coming in? (TEAT)

Agency Response: The regulation applies equally to vehicles regardless of what state they are based including vehicles registered in other states and foreign countries. However, typical long haul trucks that travel over 100,000 miles per year will replace their vehicles at a rate that will keep them in compliance with the regulation. Section XIII of the Technical Support Document identified that many long haul carriers keep their vehicles less than seven year. These fleets would meet the requirements of the regulation without changing their normal business practices. As such, enforcement will focus on vehicles that would have the greatest likelihood of being out of compliance. Please see staff's response to comments 1 to 9 on the enforcement activities and staff's response to comment 26 and 27 on the Internet based system to track companies having complied with ARB's reporting requirements.

23. **Comment:** With the recent publication from DOT (BTS57-08 Dec. 1, 2008 - copy attached) [regarding high surface trade volume between Mexico and Canada], how can CARB possibly check every vehicle that enters the State for compliance? I don't believe it can be done. With the California businesses baring the brunt of this regulation, the vehicle owners that are affected by this regulation are being subjected to higher costs. The reduction in tons per day of pollutants claimed in this regulation is false due to the inability to regulate the vehicles entering from our borders. There is nothing in the regulation that states vehicles entering this State will be checked for compliance. The only reference is a penalty to the companies inside the State of California that uses a non-compliant vehicle. (BROG)

Agency Response: All heavy-duty diesel vehicles operating in the state including vehicles registered in other states and foreign countries are subject to ARB inspection. ARB has never inspected every vehicle entering the country, but instead relies on random roadside checks at both the border and weigh scales and other appropriate road side sites. In addition, fleet records are randomly audited regardless of whether vehicles cross borders or not. Enforcement activities will be increased significantly for staff to accomplish the program's goal of consistent enforcement of the regulation.

These activities could result in corrective actions and substantial civil penalties for non-compliance with the regulation. For heavy-duty vehicles, current enforcement activities for existing regulations include inspections at border crossings, California Highway Patrol (CHP) weigh stations, fleet facilities, randomly selected roadside locations, and audits of records. ARB's enforcement staff currently uses the inspection and audit methods they have developed during their many years of experience enforcing the Heavy-Duty Vehicle Inspection Program, the Periodic Smoke Inspection Program, and in coordination with CHP staff. ARB intends to rigorously enforce the regulation, which we believe will ensure the accuracy of the forecasted emission reductions.

f) Inspection Method

24. Comment: Along that theme ARB inspectors can show up at any time and demand full access to your property and records. Even the IRS makes an appointment when they want to do an audit. This approach sounds more like intimidation and fine generation than compliance help. (IVCC)

Agency Response: Fleet owners are required to maintain all applicable records for all vehicles subject to the proposed regulations. The regulation also requires owners to maintain records to document changes they have made since the last reporting. The fleet owner or responsible person shall maintain the records for each vehicle subject to the reporting and record keeping requirements of the regulation and up to 3 years after the vehicle is retired or January 1, 2025, whichever is earlier. If a vehicle is sold, the seller is required to transfer the fleet records to the buyer.

ARB staff can request an audit to verify the accuracy of a fleet owner's records. The fleet owner is responsible for making the requested records available to ARB within 30 days of the request, after which ARB may assess penalties for non-compliance.

25. Comment: I'm not in favor of the regulation. I think anybody that has businesses has a lot of concerns. I do want to focus on one thing: I would hope the staff and the Board would be very cautious on. In your provision on page 33, you do emphasize enforcement. We will have to be very careful in agriculture, because under the Department of Labor, there is a provision called the Hot Goods Amendment. The Hot Goods Law of 1938, which deals with agriculture and its products upon when trucks are being held or not held, when products are being held based upon various issues. So I can see a problem heading that way with brokers. Our agricultural brokers in other states will not have the knowledge of what's going on for the enforcement of this to make sure if a trucker is coming into one trucking house or nine packing houses. So what I would ask the staff to be very cautious and work with industry on this enforcement part. I don't think the public or the business person should be responsible to enforce the regulation to know what they are as you know how complex it all is. So I would encourage you to deal with that part of it, because it is important. (NISEI)

Agency Response: The "hot goods" clause of Fair Labor Standards Act (FLSA) enacted in 1938 prohibits the sale of goods produced in violation of the minimum wage and maximum hours laws. The clause makes it illegal to knowingly ship, deliver, or sell

goods where violations of FLSA have occurred. ARB staff is only authorized to ensure enforcement of laws enacted by the Air Resources Board and are not authorized nor are they trained in enforcement actions of other agencies.

Compliance with regulation rests with the fleet owners, dispatchers, or any person that directs the operation of vehicles that are subject the requirement of the regulation. Staff will work with the agricultural industry to ensure that growers, brokers, and motor carriers are aware of the requirement of the regulation.

26. Comment: Shippers and receivers should be held liable for allowing non-certified equipment into their facilities. State vehicle truck inspection facilities should also check for certified equipment, and I would hope DMV records will be used. DMV records alone will not work because most of the carriers who do not want to comply will license out of state. (MET1)

Agency Response: The regulation establishes requirements for any in-state or out of state motor carrier, California based broker, or any California resident who hires or dispatches vehicles subject to the regulation. The regulation does not mention shippers and receivers specifically but refers to any California resident who hires or dispatches vehicles subject to the regulation. Shippers and receivers are often not involved in the operation or direction of the trucks that move goods. The regulation only affects fleet owners and those that operate to direct the operation of affected vehicles. State vehicle truck inspection facilities may be used to inspect vehicles to ensure compliance with the regulation.

g) Create Programs to Assist Enforcement

27. Comment: Create a compliance corral where shippers, brokers, members of the public can look up a fleet to see if it is in compliance. Participation should be voluntary. (DTCC2) (DTCC3)

28. Comment: Create certificate of reported compliance for equipment owners if compliance corral cannot be available for the initial rule implementation. Require that section 2025 b(l)(A) does not apply to person, business until there is a certificate of reported compliance program for equipment owners. (DTCC2) (DTCC3)

Agency Response: Section 2025(y) sets the requirements for the development of Internet based system where the name and motor carrier number will be available for fleets that reported compliance. The Internet based system will be available prior to the first compliance date and will be updated as information is received.

C. Summary of Comments and Agency Responses – First Notice of Modified Text

Table 9 lists all commenters who submitted comments on the modifications to the originally proposed regulation. Following the table is a summary of each pertinent objection or recommendation, together with an agency response providing an explanation of how the proposed action has been changed to accommodate the objection or recommendation or the reasons for making no change. The comments have been grouped by topic whenever possible. Comments not pertinent to the modifications proposed in the first 15-Day Notice are not summarized below. Additionally, any other referenced documents are not summarized below.

Table 9

List of Persons and Entities who Submitted Written Comments During the First 15-Day Comment Period

Reference Code	Commenter	Affiliation	
15-BSHE	Bob Shepherd	Bob Shepherd	
15-CBAS	Chris Riddington	California Bus Association	X
15-CCAIR	Nidia Bautista	Coalition for Clean Air	
15-CDTOA	Lee Brown	California Dump Truck Owners Association	
15-CIAQ	Michael Lewis	Construction Industry Air Quality Coalition	
15-CIMA	Charles Rea	California Construction and Industrial Material Association	
15-CTTA	Jeff Hunter	California Tow Truck Association	
15-FLFT	Chris Torres	F & L Farms Trucking Inc	
15-KAUB	Karl Aube	Karl Aube	X
15-KRIV	Steve Azevedo	Knife River Corporation	
15-MRC	Cheryl Moore	Mendocino Forest Products	
15-NAPSA	Mark Carter	North American Power Sweeping Association	
15-NWSA	Deborah Miley	National Wildfire Suppression Association	X
15-UPAC	Melissa Hagan	Union Pacific	

a) Agricultural

1. **Comment:** First Point of Processing" – CFA continues to be concerned, and have articulated to ARB Staff, with the wording ". . .receive more than half of its waste in the form of unprocessed [emphasis added] agricultural materials." We will continue to argue that chipping forest biomass in the woods is simply an economic method to put the unprocessed material in a suitable form to transport; chipping in the woods is not processing materials. Some ARB staff disagrees. You cannot economically transport tops, limbs, small trees and brush in box trucks to a biomass power plant; it has to be chipped at the woods operation in order to be able to carry an economic payload (13 bone dry tons). (CFA-3)

Agency Response: The, "first point of processing", is defined as the location where harvest crops are first altered from their original state. Staff recognized that the quantity of waste received by a biomass facility has no bearing on the whether a vehicle should meet the definition of an agricultural vehicle and was a remnant of the language used in the Off-Road Equipment regulation. This means a truck delivering a harvested crop to a first point of processing remains eligible for the agricultural vehicle provisions even if the facility receives less than half of its input directly from a farm. As such, the language was removed and is reflected in the language released in the first 15-day Notice of Public Availability of Modified Text dated from August 19, 2009 to Sept. 3, 2009 into Section 2025 (d) (33) of the regulation.

In the case of forest trees, where lumber is the end product, staff considers the lumber mill as the first point of processing. However, tree limbs from lumber trees, while removed from the tree trunk, could only be considered as going to the processor if they were transported to the mill where they would be processed. Transporting tree limbs that have been altered to a point where they no longer resemble their original form is clearly an act of processing and therefore meets the definition of the first point of processing. As a result, vehicles transporting chipped wood (processed tree limbs) do not qualify for the agricultural vehicle exemption.

2. **Comment:** The revisions are just a formality to make this regulation law. The agricultural provisions need to be further defined as to the "process" in first point of processing. (FLET)

Agency Response: The definition of "processing" as it is used in the definition of "first point of processing" is clearly stated as the altering of harvested crops, animals, fowl and others from their original state or packaged and prepared for transportation. Further definition will be provided in clarifying advisories if the need arises.

b) Drayage

3. **Comment:** Our primary concern is the exemption of drayage trucks from this rule. Our company will spend a significant amount of money to upgrade trucks under the drayage truck rule, yet we will get no credit under the truck and bus rule. In fact, if we have to take the drayage trucks out of the fleet averaging or other

BACT compliance methods, we will actually be penalized under the truck and bus rule. This is especially troublesome considering the very small amount of time our trucks spend in a port in relation to the amount of time these trucks spend on the road outside of a port. In some months, these trucks may not operate at all in a port and spend the entire time hauling materials that do not go into or out of a port or rail yard. We performed an internal analysis on 6 of our trucks that travel into the Port of Stockton to haul cement. These trucks operate a total 42 hours per day. Out of those 42 hours, the trucks operate approximately 1 hour within the port. This equates to about 225 hours per year of operation within the port, and that is probably over estimating. Considering the fleet makeup, we will be required to replace one truck every two years at approximately $75,000 to comply with the drayage truck rule. We estimate that the cost will equate to $333 for ever hour the trucks operating in the port. It is understood that this is not a forum to change the drayage truck rule, but considering the small percentage of time those trucks spend in the port versus on the highways, we request that language be inserted into the truck and bus regulation that allows drayage trucks to be part of the fleet for fleet averaging and BACT compliance. Considering the slow economy, this change would help to make retrofitting and replacements more cost effective. (KRIV)

4. **Comment:** It appears all trucks utilizing ports will be under the Drayage Rule-regardless of how much time is spent at the ports-rather than the On-road diesel rule. This is a concern, since there are instances where a very small percentage of a truck's activities will be at port. We recommend a threshold level at which a truck is in the On-road vs Drayage rule. (CIMA)

Agency Response: Staff acknowledges that trucks that go in and out of the port are part of the Drayage Truck rule and can not be part of this regulation. A vehicle can only be under one rule. Drayage trucks need to meet only PM requirement and do not have any NOx emission requirement. Therefore, can not be part of the fleet for fleet averaging and BACT compliance under the Truck and Bus rule. Starting in January 1, 2021, all drayage truck must comply with the BACT requirements of Truck and Bus rule.

Language removed from the Truck and Bus Regulation because the same requirement exists in the Drayage Truck Regulation. Initially, the same language was contained in both regulations because the Office of Administrative Law (OAL) has not finished its process to chapter the Drayage Truck Regulation into the California Code of Regulations (CCR). However, after the language of the Truck and Bus Regulation was released, the Drayage Truck Regulation was chaptering to the CCR making the language in the Truck and Bus Regulation unnecessary. As such, the language was removed. At the same time, language requiring drayage trucks to comply with the Truck and Bus Regulation beginning January 1, 2021 was moved to section 2025(e) from section 2025(k)(2). The change is reflected in the first 15-day Notice of Public Availability of Modified Text dated from August 19, 2009 to Sept. 3, 2009.

c) Requirements

5. **Comment:** Another part of the rule that language should be added is under the definition of "2008 Baseline". Under the current definition, the 2008 baseline if for trucks that operated 1000 miles in 2008. To be consistent with other parts of the rule (definition of low use), we request that the definition include trucks that also operated over 100 hours during 2008. Lastly, we appreciate the new provisions for early retirement. We do however, believe that there should be provisions for trucks that are scrapped or used for parts and not actually sold. Since the goal is to get the older trucks off the road, there should be credit giving to trucks that are taken permanently off the road and scrapped. (KRIV)

6. **Comment:** 2008 Fleet Baseline: Given the low economic activity in 2008, we recommend re-considering the base year for determining fleets. Recommendations include using either 2007 as a closer approximation to an average year, or using a 3 year average. We also believe the 1,000 miles threshold may be too high. The concern is, again, that many trucks will not drive that much given the reduced economic activity. In subsequent years, when the trucks are driven more, they will then be considered as a new truck entering the fleets, even though they have always been part of it. We suggest changing the definition to, "1,000 miles and less than 100 hours" as is in (d)(47). (CIMA)

7. **Comment:** Retired Vehicle Credit: This is very helpful provision, and we are very appreciative of the Board adopting it. We offer these comments to clarify its applicability and utility. We notice it does not appear to apply to those following BACT requirements. Again, we would suggest using different baseline. The year 2007 would make sense because it reflects more closely a typical year and would be same as the baseline used in the Off-road diesel rule.

   It would seem there may be need for more clarity on what is considered "retired". We mention this to ensure operators can receive credit for situations where a vehicle is 1)demolished; 2)an operator retires - but does not necessarily sell --a vehicle because it is non-operational or 3) the operator uses the vehicle for scrap parts and metal. (CIMA)

Agency Response: The hour limit was not added to the definition of 2008 Baseline because the older vehicles may not have the hour meter installed to record the time for the 2008 operation and could not have been relied upon. Staff originally recommended the 2009 Fleet Baseline; however, the board changed it to 2008 because the board believed that the activity in the year 2008 was normal. Staff does not believe there will be any difference between 2008 or 2007.

The regulation requires fleet to show the proof of transfer for the retirement credit. Fleets must show a copy of the bill of sale showing the date the transaction occurred of the retired vehicle or any form of vehicle transference approved by the Executive Officer.

The retirement credit provision was developed in acknowledgment that the recent economic slowdown has forced some businesses to reduce their fleet size in

accordance with their overall business. The provision is aimed at only providing credit for vehicles that were removed from service, but were actively used in the mainstream course of business and not for vehicles that may have been minimally used because of poor operating condition. As such, the credit was designed to be given only for vehicles that drove a minimum of 1,000 miles in California and not for vehicles that may have been driven rarely in the state. Finally, 1,000 miles was chosen as the minimum number of miles to be driven to be consistent with the low use vehicle provision which is also 1,000 miles.

The term "retirement" is used in its normal and usual fashion and means no more than the typical everyday understanding. The implication of the term retirement as such means that the vehicle needs to be removed from fleet. Any vehicle that is owned is subject to the requirements of the regulation, so to ensure that the vehicle is no longer considered part the fleet, and not just a vehicle that is parked waiting for business to pick up, ownership must be transferred.

8. **Comment:** VDEC requirement for Unique Vehicles –Letters from contacted VDECS vendors stating that retrofit technology s unavailable for the unique vehicle. Obtaining letters from all verified particulate filter vendors for every truck in every fleet will be a challenge at best. We believe that about 60 percent of on-road diesel trucks in-service in northern California rural counties are pre-1995 and have mechanical fuel injection engines. (CFA-3)

Agency Response: Fleets claiming an exception under the unique vehicle definition must demonstrate that every effort has been made to install a NOx or PM retrofit device. The same is true for vehicle meeting PM BACT. However, letters from verified diesel particulate filter vendors are not required if no verified diesel emission strategy (VDECS) is listed in ARB's list of verified devices for the engine family in the vehicle. A demonstration that no device can be installed is only required when a VDECS is listed in ARB's list of verified technologies, but reasons such as safety, exhaust temperature, or other reasons cannot be installed.

The Truck and Bus regulation was designed to reduce PM and NOx emissions from all diesel powered vehicles with a GVWR greater that 14,000 pounds. The requirements for using any of the exemptions were developed to be used only in cases where technology will not work or where vehicle replacement simply is not feasible. In the case of unique vehicles, retrofit technology may be available from vendors as time goes on and as new devices are developed.

9. **Comment:** Section 2025 (e) General Requirements (7)..one of the following is required for all fleet owners to utilize the BACT percent limit option…

Street sweepers are not a motor vehicle used to transport property for-hire or compensation. Therefore they are not required to or permitted to have a CA or Motor Carrier Permit number. In fact, in order to receive a CA number for a street sweeper, the vehicle owner would have to perjure themselves on the application. (DMV 706 MCP)

Not having a CA number unfairly prohibits street sweepers from utilizing this option for compliance. (NAPSA3)

Agency Response: Staff acknowledge that sweepers are not required to obtain any of the operating authority numbers as required in section 2025(e)(7)(A). To address this concern, staff proposed changes in the 2nd 15-Day Notice of Public Availability of Modified Text dated from October 6, 2009 to October 21, 2009 which addresses this issue.

10. Comment: Section 2025 (r) Reporting (7) Owner Contact Information For the same reason listed above, suggest adding the words “if applicable” to C): Motor carrier identification number (if applicable)

Section 2025 (y) ARB Certificate of Reported Compliance - For the same reason listed above. Street Sweeper fleets will be unable to be listed on the Compliance Web Site, due to their lack of a Motor Carrier Number. This unfairly labels all streets sweepers as non-compliant, simply because they can not lawfully obtain a Motor Carrier Number. I first urge the Board to scrap this entire rule and watch the immediate jump in economic activity and the drop in unemployment. Baring that outcome please considers allowing the street sweeping industry to utilize all the compliance options available to other industries. (NAPSA3)

Agency Response: Staff acknowledges that sweepers are not required to obtain any of the operating authority numbers that most commercial trucks are required to obtain. Knowing this, staff expects that when fleets with sweepers report their information on regarding these vehicles that they would indicate that no motor carrier number is required and staff would accept reporting without these numbers. If further clarification is required, it will be addressed in regulatory advisories.

11. Comment: Low Use Vehicle - Since installing an hour meter on the older equipment may not be possible, we suggest changing to a "functioning odometer or an hour meter". (CIMA)

Agency Response: A low use vehicle is defined as a vehicle where the propulsion engine is operated in California for fewer than 1,000 miles and less than 100 hours per year. The initial language only required a functioning odometer to record mileage and nothing to demonstrate that that the engine has operated less than 100 hours. As a result, language was added to require an hour-meter to record hour of use. The change was necessary to be consistent with the requirements of the definition.

12. Comment: Compliance Extension Based on Early Action. Again, this is a very helpful provision. However, we are concerned the action date of Jan. 1, 2010 will not make it a viable option for many operators. This is because the process to get a new VDECS installed has many aspects and is time-consuming from initial evaluation to installation. For instance, time is required to get a determination that a device is available and fits, time is required to order parts, and then it takes at

least 30 days to install once the VDECS arrive. Also, the initial fleets applying for VDECS are particularly going through a longer time-frame than can be expected at a later point when the devices are more common. We suggest moving this date to Jan. 1, 2011. (CIMA)

Agency Response: The provision for a compliance extension based the installation of PM retrofit technology has not changed in the 15-Day language from the initial language; therefore staff believes a response not necessary.

13. Comment: Early Retirement Reporting Date. Due to the limited time to gauge how fleets will be affected, current unavailability of reporting forms, and incomplete information on the details of the final regulation, we suggest moving the reporting day of March 31, 2010 to June 31, 2010. (CIMA)

Agency Response: The reporting date for fleets utilizing the vehicle retirement provision was already delayed from January 31, 2010 to March 31, 2010 to provide fleet owners more time to collect and submit the required information. The reporting information required has changed very little from the information specified in the October 2008 regulatory language.

14. Comment: More specifically, modifications embodied in Section 2025 (b)(1) wherein language has been added to include yard trucks with both on-road and off-road engines is worrisome to the construction industry. Original rule did not include those vehicles within the Truck and Bus Regulation. Therefore it is our request that CARB undertake an additional analysis to confirm its ability to include this narrow class of vehicles within the regulatory framework. (CIAQ3)

Agency Response: This change does not modify the scope of the regulation; it merely clarifies the existing language. The scope of the regulation has always included all diesel powered vehicles with GVWR greater than 14,000 pounds that are not already covered by another regulation, including yard trucks with off-road engines. Language was added to explicitly include yard trucks with on-road engines in effort to clarify the existing intent of the regulation. Yard trucks with off-road engines were explicitly identified in scope of the regulation, but are only subject to the requirement of the regulation when not already subject to another in-use diesel regulation.

15. Comment: We propose the following modification to achieve the clarification intended by Staff, by modifying 2025(d)(35)(B)(1)(b) and 2025(d)(35)(B)(2), as follows:

2025(d)(35)“Fleet Owner” means, except as modified below in paragraphs (A) and (B), either the person registered as the owner or lessee of a vehicle by the California Department of Motor Vehicles (DMV), or its equivalent in another state, province, or country; as evidenced on the vehicle registration document carried in the vehicle.

(B) For vehicles that are rented or leased:

1. The owner shall be presumed to be the rental or leasing entity for purposes of compliance with section 2025(e), if:

b. The rental or lease agreement for the vehicle is for a period of one year or longer, unless the terms of the rental or lease agreement or other equally reliable evidence identifies the party responsible for compliance with Section 2025 ~~state laws~~ for the vehicle to be the renting operator or lessee of the vehicle.

2. For purpose of enforcement, if at the time that the vehicle is inspected and cited for noncompliance with this regulation and the operator of the vehicle does not possess evidence of the party responsible for compliance with Section 2025 ~~state laws~~, the owner shall be presumed to be both the rental or leasing entity and the renting operator or lessees of the vehicle. (UPAC)

Agency Response: The definition of "Fleet Owner" addresses questions of ownership when vehicles are leased and therefore not owned outright. The current use of the term, "state laws", in the definition of rented or leased vehicles includes section 2025 in determining vehicle ownership. While the term, state laws, is broad term is serves the same purpose which is to make a determination as to who is responsible for compliance with this regulation.

16. Comment: The small fleet provision has been re-drafted in contradiction to the Board's direction. In response to the inequitable damage the Truck and Bus Regulation would inflict upon small fleets of 3 vehicles or less, at the December hearing the Board agreed to delay the compliance deadline by one year until January 1, 2014. Unfortunately, CARB Staff obfuscated this direction and re-drafted the small fleets provision in a manner that actually makes the rule more painful for businesses with two and three trucks. Previously, fleets with two or three vehicles had to ensure at least one vehicle was equipped with a 2004 NOx emissions equivalent engine (or newer) by January 1, 2013, while the second and third vehicle had to be in compliance one year later in 2014. Staff redrafted the provision such that now fleets with two or three vehicles may equip one vehicle with a 2004-2006 model year engine NOx emissions equivalent engine (or newer) by January 1, 2014, however, the second and third vehicle have no compliance delay whatsoever; they must abide by the traditional BACT schedule. This means that these vehicles will likely need to be in compliance even earlier than 2014, thus an earlier compliance deadline than the previous version. Staff also introduced an even more stringent alternative method of small fleet compliance, which requires a 2010 model year engine equivalent. Certainly the Board's direction was not to further decimate small fleets; rather it was to ease the financial burden on these small businesses already struggling to survive. We request the rule be re-modified to be consistent with the Board's direction to delay the previous small fleet provision until January 1, 2014. (CDTOA15)

Agency Response: During the December Board Hearing, the Board directed staff to extend the first deadline under the small fleet provision by one year to January 1, 2014

and the second deadline by another. The initial deadline was moved out one year from January 1, 2013 to January 1, 2014. The second deadline was also moved out one year from January 1, 2018 to January 1, 2019. So staff followed the directions it was given by the Board and moved out the deadlines for all fleets with one, two, or three vehicles that choose to utilize the small fleet provision. No other changes were made except to clarify the existing options whereby the addition of a 2010 vehicle puts a fleet in compliance until January 1, 2016. Staff did not introduce anything new.

17. Comment: The Retired Vehicle Credit contains an unnecessary end date. In an effort to encourage fleets to retire older vehicles early (and thus expedite emissions reductions in the state), the Board agreed to add a Retired Vehicle Credit for vehicles retired on July 1, 2008 or later. In the August 19, 2009 version, Staff unnecessarily placed a cap of January 1, 2014 as to when the credit may be obtained. This cap only discourages the continued elimination of older vehicles from California's roads. We strongly request that the 2014 end date be eliminated from the Retired Vehicle Credit provision. (CDTOA15)

18. Comment: Additionally, Staff failed to properly draft the Retired Vehicle Credit provision. As provided in the August 19th version, the provision contains an unnecessary end date of January 1, 2014. The Board previously approved the provision to encourage the continued elimination of older vehicles from California's roads and highways. However, by unnecessarily placing this end date, Staff is only discouraging their complete elimination. (CTTA4)

Agency Response: An end date for the retirement credit is necessary to ensure that the state meets its SIP requirements which include meeting the PM 2.5 air quality standards in South Coast by 2014 and the ozone standards some time later. Extending the retirement credit deadline would mean vehicles would continue operate while emitting diesel PM and NOx emissions and potentially jeopardizing attainment of the air quality standards. The sunset date of January 1, 2014 is the same date as the initial proposal.

The retired vehicle credit provision was designed to allow fleets extra time before complying with the requirements of the regulation in light of the current economic conditions. While temporary relief was provided, overall air quality would not improve at the rate necessary to meet our SIP requirements if an expiration date for these credits was not provided. The expiration of these credits in 2014 has no impact the operation of older trucks since the regulation contains provisions that older trucks and well as newer trucks comply according the schedule set forth.

The retired vehicle credit was not designed to encourage early retirement of older vehicles. However, the language of the regulation does create an incentive to replace older vehicles simply because they are likely the most polluting vehicles in the fleet. Each credit provided allows another vehicle in the fleet to operate longer without meeting either the PM or NOx requirements. As a result, the PM SIP commitments would be unattainable if no expiration date was provided.

19. **Comment:** We are concerned by the changes to the reporting deadline for agriculture fleets. The rule adopted in December 2008 required agriculture fleets to report by January 31, 2009. While we did not agree with the special provisions and exemptions afforded to agriculture fleets in the rule adopted in December 2008, we understood the emission reductions analysis would be forthcoming. This analysis would allow us to benefit from a full and accurate accounting of the missed emissions reductions. However, a 15 month delay in reporting will result in an even further delay in the analysis on the missed emission reductions from these vehicles. This is of particular concern in the San Joaquin Valley, Sacramento region and Imperial Valley where agriculture trucks are prevalent and where clean air deadlines are looming. We urge ARB to do all it can to require reporting earlier, so as to ensure accuracy and to allow ARB staff to quantify the missed emissions reductions. As of yet, there is no analysis to show the impact the agriculture special provisions and exemptions will have on our ability to meet regional and state air quality goals. (CCAIR3)

Agency Responses: The first reporting date has moved to March 31, 2010 in an effort to provide both ARB and agricultural community time to collect the required information and for ARB to develop the appropriate reporting forms. The January 31, 2009 reporting date in the October version of the regulation was an unintentional error.

There was no reason for any fleet to report more than a year in advance of the first compliance date. Furthermore, although the regulation was adopted in December 2008, the reporting requirement could not be enforced until the regulation becomes law, which would be December, 2009. The modification made to the reporting date in the first 15 day changes not only corrected the error but also delayed the initial date by two months. The two months delay was necessary to provide adequate time for the development of a reporting system.

The health risk assessment for agricultural fleets that utilize the agricultural vehicle provisions will consider the impact of localized diesel emissions on public health. This risk assessment will not depend on the agricultural vehicles reported to ARB as a requirement of the regulation, but will instead actively seek emissions data from a variety of sources. As such, the change in reporting date will have no effect on the health risk assessment.

20. **Comment:** The Electronic Tracking System requirement for NOx-exempt areas. Due to the topography of Mendocino County, there will be numerous occasions when our trucks are operating in the woods and data gaps will exceed 30 minutes because of inability to have access to a satellite. There must be an alternate means of meeting this requirement when satellite tracking is not consistently feasible. (MRC)

Agency Responses: The regulation permits the use of an alternate method to demonstrate compliance if approved by the Executive Officer and does not require GPS.

21. **Comment:** The revision of the fleet size definition to include segments of the business located outside of California is inappropriate. This is a California regulation intended to control emissions within the state. The number of vehicles a company may have operating in other states that never enter California should have no bearing on their compliance with this rule. (MRC)

Agency Response: The definition of fleet size is used to only classify the size of the fleet and not to require vehicles that never operate in California to comply with the regulation. However, all vehicles in the fleet, regardless of where they are located or if ever operate in California count in determining fleet size for the sole purpose of determining whether the fleet can utilize the small fleet provision. Again, only vehicles operated in California are subject to the requirements of the regulation.

22. **Comment:** I have spoken to several customers that have personal trucks that are over 19500 GVWR that are used exclusively as a 5th wheel to haul recreational travel trailers and horse trailers. Much like the motors homes that were excluded because these were typically used by people with fixed incomes, the owners of these vehicles are also on fixed income. Most of them are retired people that have no source of income to set aside for purchase of new vehicles. As you well know the only way to address the NOx for this regulation on older trucks is with replacement of these very expensive vehicles. These vehicles are not being used for commercial use. These vehicles need to be excluded from this regulation. (BSHE)

Agency Response: When staff drafted the Truck and Bus regulation, we did not intend to include personal use pick-up trucks. We later recognized that some pick-up trucks exceed the 14,000 GVWR limit set in the regulation and, subsequently, added an exemption for personal use trucks originally equipped with pick-up beds with a GVWR of 19,500 pounds or less.

Staff also modified the Motor Home definition to include personal use vehicles that exclusively tow trailers that was originally designed for human habitation. The change was made because we later learned that some heavy heavy-duty diesel trucks are used to pull fifth wheel travel trailers. This expansion of definition addresses the concern and is consistent with the intention of motor home exemption. The language of this change was made available in the second 15-Day notice contained in the Attachment 1: Modified Regulatory Language on October 6, 2009.

d) Emission

23. **Comment:** We are concerned by the inclusion of motorcoaches in the NOx exempt category. We have not benefited from an analysis about the impacts this change will have on clean air efforts across the state. A more fundamental concern is the change in a category after the rule has been adopted and at a stage in the rule-making process where public input is limited. We urge you to reconsider this approach. (CCAIR3)

Agency Response: Motorcoaches are a subset of the “other bus” category in the inventory, which includes all heavy duty (light, medium, and heavy) for-hire motor coaches, non-commercial buses, airport shuttles, hotel shuttles, tour buses, and other bus types. For 2006 we estimated about 9000 other buses to be operating in California statewide, of which approximately 3500 are motorcoaches as defined in the regulation. The inventory database posted to the ARB web site on November 7, 2008 estimates baseline and with rule NOx emissions for the other bus category without the motorcoach regulatory provisions which were added after that inventory was published. This means that in that posted inventory motorcoaches were assumed to be regulated the same as other vehicles. Statewide benefits vary by year – maximum benefits from the other bus category are achieved in 2015-2017 at 2 tons per day statewide. Using the population ratio one can estimate the potential benefits foregone by moving motorcoaches into the NOx exempt category. Motorcoaches represent about one-third of the population of all other buses (3500 motorcoaches / 9000 other buses); and 2 tons/day NOx benefits * 0.33 is about 0.7 tons/day NOx benefits foregone statewide between 2015 and 2017. Motorcoaches are expensive. Table 3 in Appendix J states that a new motorcoach costs around $450,000 dollars, and a 10 year old motorcoach costs more than $110,000 dollars. The age ten value of a motorcoach is four times more expensive than other commonly used body types. It is true that some trucking fleets in California operate relatively unique truck configurations that are as expensive as a motorcoach, but those fleets typically operate one expensive vehicle in a fleet of less expensive, commonly used trucks. In contrast motorcoach operators use motorcoaches almost exclusively. Given the high cost of replacement with a compliant used vehicle, the relatively small population of motorcoaches, the high proportion of motorcoaches in a motor coach fleet, and the projected NOx benefits foregone for motorcoaches, staff decided that including motorcoaches in the NOx exempt category was reasonable.

e) General

24. Comment: UPRR notes that the effect of Staff’s modification broadly modifies the compliance responsibility of the regulation, and that such modification exceeds the scope allowed in a 15-day change. (UPAC)

Agency Response: Staff has made the changes as directed by our Board and non-substantive changes. Theses changes do not exceed the scope of the 15 day changes.

25. Comment: So to directly address this latest round of amendments, let me say "I don't understand due to the extreme volume and complexity of the wording". That is my comment. (DRUO)

Agency Response: Comment noted

D. Summary of Comments and Agency Responses – Second Notice of Modified Text

Two letters submitted during the second supplemental 15-day comment period are pertinent to the second notice. The letters were submitted by Eric Sauer, California Trucking Association (CTA), and by Elizabeth Booth. Comments that are not pertinent

to the modifications proposed in the first 15-Day Notice are not summarized below. Additionally, any other referenced documents are not summarized below.

1. **Comment:** I myself am an owner of a truck and trailer that is more that 19,500 GVWR used for horse shows. It is a living quarters trailer (combination living space and horse trailer). The living quarters are integral to the trailer being pulled. This vehicle is used entirely for hobby and would be impossible to replace as it would not only be costly, but unreasonable. These vehicles are not being used for commercial use. These vehicles need to be excluded from this regulation. (Elizabeth Booth)

Agency Response: Your vehicle as described in your comment meets the definition of "motor home" and is exempt from the regulation. The exemption is written in section 2025(d)(51) of the modified text made available for comment with the second 15-Day notice.

2. **Comment:** Despite the availability of documents, based on the documentation provided, it is still impossible to determine exactly what data CARB analyzed and how, if at all, the data and analysis support the 2.66% per year VMT growth projection used by CARB staff. The 2007 economic forecast document created by Caltrans and included in the database does not reflect current economic conditions. Even the most recent forecast from Caltrans for 2008, which was not included in the illegible documentation provided by CARB, does not reflect current economic conditions. From the material provided it is not clear how CARB staff used these forecasts. Yet they are provided as "documentation" and justification for the on-road regulation without any explanation into how they were used. The pages from the California Department of Finance reflect November 2007 "Governor's Budget Forecast" for 2004 to 2010 that include transportation sector employment data and annual % change data which is far lower than the 2.66% increase in VMT used by CARB staff. These data are not mentioned in Appendix G and it is not clear why CARB staff choose to ignore them. A thorough explanation is needed to understand why the two differ or at least why staff chose to ignore the difference. Additionally, within the June 2007 long term UCLA economic forecast, one of the variables included is transportation sector employment and forecasts are provided for 1991 to 2020 on a quarterly basis. There is no indication of exactly what variables were used in any analysis by CARB staff nor has any documentation regarding an analysis been provided. Staff should be expected to provide documentation on what variables were used along with an analysis of the findings in order to ensure sound public policy based upon factual data. (Eric Sauer, CTA)

Agency Response: Our assessment of assumed growth in vehicle miles traveled is described in Appendix G, pages 44 and 45. The growth rates we assumed, which were 2.66 percent per year for most truck categories, represented the best information available at the time of the rulemaking. The growth rates assumed in the rule forecasts were designed to reflect long term growth trends, not near term economic cycles. Subsequent to the December 2008 Board hearing, additional data and updated

economic forecasts have become available, allowing staff to better reflect the impact of the recession on the trucking sector.

Since the December 2008 Board hearing, staff has been monitoring and evaluating economic data, highway activity measurements, fuel sales, vehicle sales, and other metrics to gauge the impact of the recession. These metrics indicate that trucking activity and new vehicle sales are currently lower than projected in the rule inventory because of the recession, and staff is working to assess the magnitude of the change on current and future emissions. Staff will report its findings regarding the impact of the economic recession on trucking activity and emissions to the Air Resources Board at the December 2009 Board hearing.

APPENDIX A

Lists of Commenters Assigned to Groups

Table A-1

Signers of Clean Truck/Bus Rule Coalition (CTBRC) Letter

CTBRC Coalition Members	*Affiliation*
Allyson Holman	Merced/Mariposa County Asthma Coalition
Andy Katz	Breathe California
Angelo Logan	East Yard Communities for Environmental Justice
Anne Lamb	Regional Asthma Management and Prevention & Community Action to Fight Asthma
Barbara Young, MA	Sonoma County Asthma Coalition
Betsy Reifsnider	Catholic Charities, Diocese of Stockton
Bill Magavern	Sierra Club
Bonnie Holmes-Gen & Linda Weiner	American Lung Association of California
Brent Newell	Center on Race, Poverty & the Environment
Brian Beveridge	West Oakland Environmental Indicators Project
Catherine Garoupa	Madera Coalition for Community Justice
Dede Greybeck, RN	
Diane Bailey	Natural Resources Defense Council
Don Anair	Union of Concerned Scientists
Dr. Michael Kelly	San Diego Regional Asthma Coalition
Ed Welch	Save the Air in Nevada County
Elina Green, MPH	Long Beach Alliance for Children with Asthma
Isaac Lieberman	
Jill Ratner	Rose Foundation for Communities and the Environment
Jim Stewart	Earth Day Los Angeles
Joy Williams	Environmental Health Coalition
Kevin Hamilton & Dr. David Pepper	Medical Advocates for Healthy Air (MAHA)
Lisa Kayser-Grant	Moms Clean Air Network (Moms CAN)
Madelyn Weiss, MD	
Mara Burstein	Environment Now
Marylia Kelley	Tri-Valley Cares
Nidia Bautista	Coalition for Clean Air
Nury Martinez	Pacoima Beautiful
Patricia Castellanos	Los Angeles Alliance for a New Economy
Rajiv Bhatia, MD, MPH	
Ryan Wiggins	EndOil
Sarah Sharpe	Fresno Metro Ministry
Tina Andolina	Planning and Conservation League
Tom Frantz	Association of Irritated Residents
Wafaa Aborashed	Bay Area Healthy 880 Communities – San Leandro

Table A-2

Signers of Farm Coalition (FCOAL) Letter

FCOAL Coalition Members	*Affiliation*
Al Oliveira	G.O. Farming / Basport
April England-Mackie	Martin Jefferson & Sons
Benny Jefferson	Martin Jefferson & Sons
Bill Hammond	Vineyards of Monterey
Bill Tarp	Triangle Farms, Inc
Bob Martin	Rio Farms
Brad Rice	Salinas Land Company
Central Coast Ag Task Force	
Chris Bunn	Crown Packing
Colby Willoughby	Costa Family Farms, Inc
David Kegebein	KB Farms
Dirk Giannini	Christensen & Giannini
Gary Tanimura	Tanimura & Antle
George Fontes	
Jason Smith	Paraiso Vineyard; Valley Farm Management
Jeff Pereira	King City Nursery; Mayor of King City
Jennifer Clarke	Christensen & Giannini
Kay Filice	Filice Farms, Hollister
Kent Hibino	Henry Hibino Farms, LLC
Kevin Piearcy	Industrial Pump Shop, Inc.
Louie Manzoni	Louie Manzoni Farms Inc
Matt Panziera	Royal Packing Company
Matt Plymale	Tanimura & Antle
Miguel Errea	Miguel Family Ranch
Monterey County Farm Bureau	
Pat Collins	Dole Fresh Vegetables
Peter Odello	Higashi Farms, Inc.
Ross Jenson	Jensen Farms
Russ Cauley	Lonoak Farms
Scott Anthony	Scott Anthony Ranches
Scott Storm	
Steve Storm	Duda California, Farm Fresh Foods
Tom Rianda	Rianda Farms

Table A-3

Signers of Environmental Coalition (ECOAL1) Letter

ECOAL1 Coalition Members	*Affiliation*
Myles Abbott, M.D., District Chair	American Academy of Pediatrics – CA,
James K. Knox, Vice President, Legislative Advocacy	American Cancer Society - CA,
Jamie Morgan, Senior Legislative Director	American Heart Association – Western States Affiliate,
Bonnie Holmes-Gen, Senior Policy Director	American Lung Association of California,
Andy Katz, MCP, Government Relations Director	Breathe California,
Dev Gnanadev, M.D., President	California Medical Association,
Donna Gerber, Executive Director	California Nurses Association,
David Claman, MD, President	California Thoracic Society,
Sandi Palumbo, Executive Director	Fresno-Madera Medical Society,
Elina M. Green, MPH	Long Beach Alliance for Children with Asthma,
Kevin Hamilton, RRT, RCP, Co-Director	Medical Advocates for Healthy Air (Fresno),
Allyson Holman, Chair	Merced-Mariposa County Asthma Coalition,
Marta Arguello, Executive Director	Physicians for Social Responsibility - LA,
Evan Krasner, M.D., Executive Director	Physicians for Social Responsibility - SF,
Joel Ervice, Associate Director	RAMP (Regional Asthma Management and Prevention),
Steve Heilig, MPH, Director, Public Health & Education	San Francisco Medical Society,
William A. Sandberg, Executive Director	Sierra Sacramento Valley Medical Society

Table A-4

Signers of Environmental Coalition (ECOAL2 and ECOAL3) Letter

ECOAL2 and ECOAL3 Coalition Members	*Affiliation*
Tom Frantz	Association of Irritated Residents
Martha Guzman Aceves	California Rural Legal Assistance Foundation
Sofia Sarabia	Center on Race, Poverty & the Environment
Renee Wilson	Clean Water and Air Matter
Jesse N. Marquez	Coalition For A Safe Environment
Angelo Logan	East Yard Communities for Environmental Justice
Ryan Wiggins	EndOil

Table A-5

Signers of Environmental Coalition (ECOAL4) Letter

ECOAL4 Coalition Members	*Affiliation*
Anthony Molina, M.D.,	California State University, Fresno, University Health and Psychological Services (Staff Physician)
Dean Baker, M.D., M.P.H. Professor and Director,	Center for Occupational and Environmental Health, University of California, Irvine
Suzanne Paulson, Ph. D., Professor of Atmospheric Chemistry,	Department of Atmospheric and Oceanic Sciences, University of California at Los Angeles
Robert Harrison, M.D., M.P.H., Professor of Medicine,	Division of Occupational and Environmental Medicine, University of California, San Francisco
Arthur M. Winer, Ph.D., Distinguished Professor, Environmental Science and Engineering Program,	Environmental Health Sciences Department, School of Public Health, University of California
Rob McConnell, M.D., Professor of Preventive Medicine,	Keck School of Medicine, University of Southern California,
Rajiv Bhatia, M.D., M.P.H., Director, Occupational & Environmental Health,	San Francisco Department of Public Health, Assistant Clinical Professor of Medicine, University of California, San Francisco
Richard J Jackson, M.D., M.P.H., Professor and Chair, Environmental Health Sciences,	School of Public Health, University of California, Los Angeles
Beate Ritz, M.D., Ph.D., Vice Chair, Department of Epidemiology, Professor of Epidemiology, Environmental Health Sciences, and Neurology,	Schools of Public Health and Medicine, University of California, Los Angeles
Linda Rosenstock, M.D., M.P.H., Dean, School of Public Health,	University of California, Los Angeles

Table A-6

List of Commenters Submitting FORM1 Letter

Reference Code	*Commenter*	*Affiliation*
SCRA	Scott Cramer	Scott Cramer
TJSLHC	Jeff Cyphers	TJS Leasing & Holding Co
PDMTI	Daniel Del Muro	PDM Transportation Inc
MVE1	Dan Souza	Mountain Valley Express Co Inc
KCC	Linda Geringer	Kerman Chamber of Commerce
711MI	Bob Saia	711 Materials Inc
711AI	Steve Casa	711 Aggregates Inc

Table A-7

List of Commenters Submitting FORM2 Letter

Reference Code	*Commenter*	*Affiliation*
ABCON	Andrew Jordan	A & B Construction
AEAI	David Bacchi	American Engineering & Asphalt, Inc
BRI2	Sarah Henderson	Basic Resources, Inc.
CASU	Michael Iwata	City Auto Supply
DHE2	Robert Massman	Dependable Highway Express
DWA	David K. Luker	Desert Water Agency
ECCO	Gary Rohman	ECCO Equipment Corporation
GSCL1	John Baudendistel	GSC Logistics, Inc
KFS	Jim Kelly	Kelly Freight Services
LHHCG	David R. Hummel	Lehigh Hanson Heidelberg Cement Grp
NCPWD	Harkrishan Heer	Nor-Cal Pump & Well Drilling, Inc.
NEI2	Ron Nuss	Northwest Excavating, Inc.
NTKC	Tin Tran	NTK Construction, Inc.
RELEC	Luke Middleton	Ray's Electric
SHUE	Kenneth Shuemake	Shuemake Trucking
SRT	Daniel Miller	Smart Refrigerated Tansport
TESI	Kent Baucher	Technicon Engineering Services, Inc
UTCI	Daniel G Uglade	Uglade Trucking Company, Inc

Table A-8

List of Commenters Submitting FORM3 Letter

Reference Code	*Commenter*	*Affiliation*
BDAI	Bill Sudhoff	Black Diamond Aggregates, Inc.
CVTC	James Pollack	Central Valley Truck Center
GRI	Bill Faris	George Reed, Inc.
GUGL	David Guglielmetti	Guglielmetti Trucking, LLC
ISS	Marc Bertsch	International Surfacing Systems
MCA3	Paul Trump	Mike Campbell & Associates
RELT	Ed Brown	Roy E Lay Trucking
SATECH	Doug Hogue	Saunco Air Technologies
VSS	Alan Berger	Valley Slurry Seal Co.
WHIT	Moe Whitchurch	Whitchurch & Son
WTS1	Michael Darling	Western Truck School

Table A-9

List of Commenters Submitting FORM4 Letter

Reference Code	*Commenter*	*CompanyAffiliation*
BSGCC	Perry Lewis	Blue Star Gas - Coast Co.
BSGEN	William Stewart	Blue Star Gas - Engineering
BSGLC	Wade Boyman	Blue Star Gas-Lake Co.
BSGMS	Michael Slabaugh	Blue Star Gas - Mt. Shasta Co.
BSGRC	Dave Kiker	Blue Star Gas - Redding Co.
BSGSR	Chris Fleming	Blue Star Gas - Santa Rosa Co.

Table A-10

Signers of DTCC1 Letter

Commenter/Company/Affiliation of DTCC1 Member
A&A Concrete Supply, Inc.
All Vehicle Registration Services
American Trucking Associations
Arborwell, Inc.
Associated Builders and Contractors of California
Associated Roofing Contractors of the Bay Area Counties, Inc.
Bay Counties Dump Truck Association
Beck Oil, Inc
Blood Centers of California
Butte Sand and Gravel
California Business Association
California Beer and Beverage Distributors
California Chamber of Commerce
California Dump Truck Owners Association
California Construction and Industrial Materials Association
California Delivery Association
California Diesel Compliance
California Grocers Association
California Independent Oil Marketers Association
California League of Food Processors
California Manufacturers & Technology Association
California Moving and Storage Association
California Pavement Maintenance
California Professional Association of Specialty Contractors
California Refuse Removal Council
California Sheet Metal Air Conditioning Contractors
California Spa & Pool Industry Education Council
California Tow Truck Association
California Trucking Association
Carolyn Pendergrass Trucking
Cars Go USA, Inc.
Chemical Industry Council of California
Chocolate Express
Coca-Cola Bottling Company of Southern California
Construction Industry Air Quality Coalition
Coastal Transport Co.
Cross Petroleum
Dairy Institute of California
Del Monte Foods
Dependable Highway Express

Commenter/Company/Affiliation of DTCC1 Member
Elk Grove Waste Management
Engineering & Utility Contractor Association (EUCA)
Exeter Chamber of Commerce
Far West Equipment Dealers Association
Ford Construction Company, Inc.
Golden West Travel Inc.
Greg Lyon Trucking
Griffin Materials
Harbor Distributing LLC
Impact Transportation
Industrial Materials Association
J.C. Lansdowne, Inc.
Kamps Propane
Koder Construction, Inc.
Legacy Transportation Services
Leonard De Coud
Mack Trucks, Inc
Mid Coast Transportation Inc.
Milpitas Chamber of Commerce
Monterey County Business Council
Mountain Valley Express Co. Inc
Napa Chamber of Commerce
North American Power Sweeping Association CA Chapter
Northern Truck and Crane Inc.
Northwest Excavating, Inc.
Pacific Corrugated Truck Lines Inc.
Pat Cramer Insurance Agency, Inc.
PCC Logistics, Inc.
PDM Transportation, Inc
Peniston Transportation
Peterson Power Systems
Pure Power!, Inc.
Ramirez & Sons Trucking, Inc
Ramsey Express Trucking Inc.
RaynGuard
Redding Oil Company
Reliable Liquid Transport, Inc
Rinehart Oil Inc.
RPT
Saied Trucking Company
Santa Barbara County Nursery & Flower Grower Association
Santa Barbara County Taxpayers Association
Santa Clara Chamber of Commerce and Convention-Visitors Bureau

Commenter/Company/Affiliation of DTCC1 Member
SC Fuels
Shalimar Tours & Charter
Simi Valley Chamber of Commerce
SYSCO Food Services of San Diego, Inc.
Tesei Petroleum
Tow Trucks For Less
Transerve, Inc.
Triangle Distribution Company
Trucks Feed Our Families
Valley Contractors Exchange
Valley Iron Inc.
Valley Rock Ready Mix, Inc.
Vegiworks Inc.
Vert Biodiesel
Watsonville Coast produce
Western Electrical Contractors Association
Independent Electrical Contractors
Western States Oil Co.
Western States Petroleum Association
Yandell Truckaway, Inc.

Table A-11

Members of IND1 Group of Commenters

Reference Code	*Commenters in IND1 Group*	*Affiliation*
ADC1	Cherisse Alford	Alford Distributing Company
ATER	Anthony Teresi	Teresi Trucking
ATI	Shellie Archer	Archer Trucking Inc.
AVLN	Jon Levine	Atlas Van Lines
AWWMS	David Blair	Ace World Wide Moving & Storage
CCTO	Jay Van Arsdale	Country City Towing
CIOMA1	Nathan Crum	California Independent Oil Marketers Association
CMSA1	Stephen Weitekamp	California Moving And Storage Association
DACH	David Achiro	Tahoe Truckee Sierra Disposal
DCCI1	Andrew Recalde	The Don Chapin Co. Inc.
DCCI2	Andrew Recalde	Don Chapin Company Inc.
DDMU	Daniel Del Muro	PDM Transportation
DEAS	Dan Easley	Dan Easley Trucking
DHOG	Doug Hogue	Saunco Technologies

Reference Code	*Commenters in IND1 Group*	*Affiliation*
EFUL	Elizabeth Fuller	California Moving And Storage Association
EHAU	Edward Hauser	S and E Carriers Inc.
FDKL	Franz De Klotz	Growers Transport LLC
HPRO1	Pete Overgaag	Hollandia Produce
HWAR	Hilary Wardlaw	Wardlaw Trucking
HWSG	Wes White	Hambro WSG
JJAN	John Janosko	DBI Beverage Company
JNAD	Jeff Nadeau	California Moving And Storage Association
JNAI	Jana Nairn	Golden By-Products Inc
JSOL	Jovan Solis	Jovan Solis
MASH	Mad As Hell	Mad As Hell
MCA1	Paul Trump	Mike Campbell and Associates
MCC2	Frank J. De Smidt	Milpitas Chamber of Commerce
MFOS1	Mike Foster	AMS Relocation
MVOIP	Irene Whiteside	Meridian VOIP Inc
NEI1	Ron Nuss	Northwest Excavating, Inc.
RGRI	Robert Grigas	Sierra Bay Transport Inc.
STIE	Shelbie Tieman	EUCA
TDEA	Timothy Deary	Nor-Cal Beverage Company

Table A-12

List of Commenters of IND2 Group of Truck/Bus Rule

Reference Code	*Commenters in IND2 Group*	*Affiliation*
AGAS1	Jeff Jones	Amerigas
AGAS10	Jason Huie	Amerigas
AGAS12	Tom Read	Amerigas
AGAS12	Erik Contreras	Amerigas
AGAS13	Laura Kendall	Amerigas
AGAS2	Larry Loudermilk	Amerigas
AGAS3	Roland Wilson	Amerigas
AGAS4	Ron Taylor	Amerigas
AGAS5	Hank Gray	Amerigas
AGAS6	Dale Gibbs	Amerigas
AGAS7	Marc Steinbuch	Amerigas
AGAS8	Maria Stackhouse	Amerigas
AGAS9	Eric Rath	Amerigas
ATPRO1	O.J. Atchison	Atchison Propane Service, Inc.
ATPRO2	Suzan Atchison	Atchison Propane Service, Inc

Reference Code	*Commenters in IND2 Group*	*Affiliation*
ATPRO3	Linda Archer	Atchison Propane Service, Inc
ATPRO4	Kevin Kyt	Atchison Propane Service, Inc
ATPRO5	Dennis Harmening	Atchison Propane Service, Inc
ATPRO6	Dan Elam	Atchison Propane Service, Inc
ATPRO7	April Bechtel	Atchison Propane Service, Inc
ATPRO8	James Hurst	Atchison Propane Service, Inc
AWTLLC	Robert Shirey	American Welding And Tank LLC
BDUM	Bruce Dumars	Bruce Dumars
BSGAS	Larry Sprague	Blue Star Gas
BUPRO	Mark Souza	Butane-Propane Inc.
CCPI	Brent Wingett	Central Coast Propane, Inc
CMSA3	Joseph Biskner	California Moving and Storage Association
DGAS	Randy Smith	Dorns Gas
DPI1	James P Dassel	Dassel's Petroleum, Inc
DPI2	James P Dassel	Dassel's Petroleum, Inc
DPI3	Graham Mackie	Dassel's Petroleum, Inc
DPI4	Peter Carpenedo	Dassel's Petroleum, Inc
FPFI	William Thacher	1st Propane Franchising, Inc
HPRO1	James Gunnink	Heritage Propane
HPRO2	Michael Johnson	Heritage Propane
HPRO3	Edward Varela	Heritage Propane
HPRO4	Jim Brown	Heritage Propane
JHAM	Joseph Hammer	Joseph Hammer
JSWP1	Hank Easton	JS West and Co. VP
JSWP2	Russ Cleland	JS West Propane
JSWP3	W. Scott Hawkins	JS West Propane
JSWP4	Donald Williams	JS West Propane
JSWP5	Sandra Ten Brink	JS West Propane
JSWP6	Steve Hunt	JS West Prpoane
KPRO1	Bob Scarpitto	Kamps Propane
KPRO2	Terry Ayres	Kamps Propane
KPRO3	Lee Dobbs	Kamps Propane
KPRO4	Dan Holt	Kamps Propane
KPRO5	Craig Linden	Kamps Propane, Inc
KPRO6	Michael Sealy	Kamps Propane
KRP	Suzan Blair	Kings River Propane
LPGAS	Michael Sims	LP Gas Safety
LRPO	Bill Lovewell	Lovewells Propane
NPGA	Michael Caldarera	National Propane Gas Assoc.
PPRO	David Barrett	Patriot Propane
PPRO	David Barrett	Patriot Propane
PPRO	David Barrett	Patriot Propane

Reference Code	*Commenters in IND2 Group*	*Affiliation*
PPRO	David Barrett	Patriot Propane
RAGI	Bruce Adams	Reed and Graham, Inc
SBRO	Shelly Brown	Shelly Brown
SMCP	Scott McPhail	Fuel Company
SPLP	Norman Fearrington	Suburban Propane L.P.
SPRO1	Toby Robinson	Suburban Propane
SPRO12	Rudy Barajas	Suburban Propane
SPRO13	Ken Rich	Suburban Prpoane
SPRO14	David Crider	Suburban Propane
SPRO15	Jason Edwards	Suburban Propane
SPRO16	Philip Emanuelson	Suburban Propane
SPRO17	Kirk Neil	Suburban Propane
SPRO18	Jaclyn Hifai	Suburban Propane
SPRO19	Ho Jang	Suburban Propane
SPRO2	Angie Archie	Suburban Propane
SPRO20	Mark Bozin	Suburban Propane
SPRO21	Steve Lofgren	Suburban Propane
SPRO22	Brian Case	Suburban Propane
SPRO23	Jeff Boyd	Suburban Propane
SPRO24	Mitchell Satz	Suburban Propane
SPRO3	Debra Jackson	Suburban Propane
SPRO4	L. Iona Muskrat	Suburban Propane
SPRO5	Jerry Behlen	Suburban Propane
SPRO6	William Harling	Suburban Propane
SPRO7	Carla Malveaux	Suburban Propane
SPRO8	Jason Kirby	Suburban Propane
TJPRO	Amy Moran	Ted Johnson Propane
TMCF	Tom McFarlane	Burns And Sons Trucking
WPGA1	Dwaine Goodwin	Western Propane Gas Association
WPGA2	Ken Hitchen	Western Propane Gas Association
WPGA3	Lesley Garland	Western Propane Gas Association
WPGA4	Cynthia Jimenez	Western Propane
WPGA5	Paul Dotson	Western Propane
WPGA6	Susy Raya	Western Propane
WPS1	Steve Brown	Western Propane Service

Table A-13

List of Commenters in ENVI Group

Reference Code	*Commenters in ENVI Group*	*Affiliation*
ENVI	John Vardanian	John Vardanian
ENVI1	Lindsay Space	American Lung Association of California (ALA)
ENVI2	April Barnes	N.A.
ENVI3	Igor Berenboim	N.A.
ENVI4	Stephen McDaniel	N.A.
ENVI5	Wendy Lohman	N.A.
ENVI6	Laura Herndon	N.A.
ENVI7	Gloria Rabenstein	N.A.
ENVI8	Ruth Weinberger	N.A.
ENVI9	John Sefton	N.A.
ENVI10	Mark Reback	N.A.
ENVI11	Robert Brandin	N.A.
ENVI12	Sheri Hockaday	N.A.
ENVI13	Susan Day	N.A.
ENVI14	Maja Silberberg	N.A.
ENVI15	Noah Darling	N.A.
ENVI16	Steve O'Mara	N.A.
ENVI17	Louis Rhodes III	N.A.
ENVI18	Robert Goldberg	N.A.
ENVI19	John Steffen	N.A.
ENVI20	Annymous Annymous	N.A.
ENVI21	Jenny Bard	ALA
ENVI22	Elizabeth Guise	N.A.
ENVI23	Theresa O'Brien	N.A.
ENVI24	Miryam Bachrach	N.A.
ENVI25	Jodi McEdward	Citizen of Madera
ENVI26	Timothy Martin	N.A.
ENVI27	Richard Cramer	N.A.
ENVI28	Jewell Peters	N.A.
ENVI29	Probyn Gregory	N.A.
ENVI30	Brian Davis	N.A.
ENVI31	Carmen Klucsor	N.A.
ENVI32	David Hagyard	N.A.
ENVI33	Brian Murphy	N.A.
ENVI34	Richard Cooper	N.A.
ENVI35	Mark Van Uden	N.A.
ENVI36	Terrie Johnson	ALA

Reference Code	*Commenters in ENVI Group*	*Affiliation*
ENVI37	Natalie Martinez	ALA
ENVI38	M Templeton	N.A.
ENVI39	Joy Kuester	N.A.
ENVI40	Wendy Oser	N.A.
ENVI41	Christian Elliott	N.A.
ENVI42	John Holtzclaw	N.A.
ENVI43	Ruth Vitale	N.A.
ENVI44	Andres Gonzalez	ALA
ENVI45	Dan Esposito	N.A.
ENVI46	Beverly Hoey	N.A.
ENVI47	Marsha Epstein MD	N.A.
ENVI48	Chuck Riess	N.A.
ENVI49	Jill Blaisdell	N.A.
ENVI50	Mark Salamon	N.A.
ENVI51	Jimmy Nguyen	N.A.
ENVI52	Don Perry	N.A.
ENVI53	Alex Vollmer	N.A.
ENVI54	Susan Catlin	N.A.
ENVI55	Laura Fultz Stout	Coalition for Clean Air
ENVI56	Wendy Truss	N.A.
ENVI57	Patricia Symkowick	N.A.
ENVI58	Cassie Shafer	ALA
ENVI59	Ken Burke	Mills College
ENVI60	Harvey Levin	N.A.
ENVI61	Irvin Dawid	Sierra Club
ENVI62	Doris Anderson	N.A.
ENVI63	Cynthia Vargas	N.A.
ENVI64	Alexis Baker	N.A.
ENVI65	Chinh Nguyen	N.A.
ENVI66	Paul Statman	N.A.
ENVI67	Bob Gordon	N.A.
ENVI68	Mary Eaton Fairfield	N.A.
ENVI69	Deanna Knickerbocker	N.A.
ENVI70	Tim Barrington	N.A.
ENVI71	Rebecca Woolston	N.A.
ENVI72	Patricia Matejcek	N.A.
ENVI73	Lee Frank	N.A.
ENVI74	David Madsen	ALA
ENVI75	James R Dawson	N.A.
ENVI76	Wayne P. Flottman	N.A.
ENVI77	Bob Porter	N.A.
ENVI78	Andrea Graboff	N.A.
ENVI79	Barry Rabin	N.A.

Reference Code	*Commenters in ENVI Group*	*Affiliation*
ENVI80	Karen Higgins	N.A.
ENVI81	Christen Powell-Essinger	N.A.
ENVI82	Anita Simons	N.A.
ENVI83	Aglaia Cardona	N.A.
ENVI84	Ofelia Alvarado	N.A.
ENVI85	Jim Howard	N.A.
ENVI86	Sutida Jariangprasert	N.A.
ENVI87	Craig Thrasher	N.A.
ENVI88	Karen Lind	N.A.
ENVI89	JoAnne Ebba	N.A.
ENVI90	Dan McCormack	N.A.
ENVI91	Marc Techner	N.A.
ENVI92	Stephanie Pacheco	N.A.
ENVI93	Andrew Bezella	N.A.
ENVI94	Robert Conner	N.A.
ENVI95	Brian Smalley	N.A.
ENVI96	Lilian Laskin	N.A.
ENVI97	Sarah Van Mantgem	N.A.
ENVI98	Robin Salsburg	N.A.
ENVI99	Lynn Sawyer	N.A.
ENVI100	Timothy Lippert	N.A.
ENVI101	Julian Chazin	Union of Concerned Scientists; ALA
ENVI102	Barbara Murray	N.A.
ENVI103	Alice Polesky	N.A.
ENVI104	Mark Davis	N.A.
ENVI105	Jo-Ann Work	N.A.
ENVI106	Sarah Hafer	N.A.
ENVI107	Rolando Valle	N.A.
ENVI108	Marilyn Shirey	N.A.
ENVI109	Candy Bowman	N.A.
ENVI110	Peter Berg	N.A.
ENVI111	Peter Ring	N.A.
ENVI112	Jim Phillips	N.A.
ENVI113	Jeff Ball	N.A.
ENVI114	Christine Anastasi	N.A.
ENVI115	Stephen Perlman	Siskiyou County, Public Health
ENVI116	Ann MacLaren	N.A.
ENVI117	Michael Kelly	San Diego Asthma Coalition
ENVI118	Vince Cukrov	N.A.
ENVI119	James Stephens	N.A.
ENVI120	R. James	N.A.

Reference Code	*Commenters in ENVI Group*	*Affiliation*
ENVI121	Tonya Walker	N.A.
ENVI122	Randall Tyers	Nature Berkeley
ENVI123	Christiane Roedel	N.A.
ENVI124	Sheryl Iversen	N.A.
ENVI125	Jason Barbose	N.A.
ENVI126	Naomi Goldberg	N.A.
ENVI127	David Oconnor	N.A.
ENVI128	Janis Smith	N.A.
ENVI129	Roberta E. Newman	N.A.
ENVI130	Kenneth Saffier	N.A.
ENVI131	Kerlyn Graham	ALA
ENVI132	Kali Clark	ALA
ENVI133	Rachel M Hervey PHN	Public Health Nurse
ENVI134	Susan Adler	N.A.
ENVI135	Mike Sasnett	N.A.
ENVI136	Richard Ryan	N.A.
ENVI137	Carolyn Sekela	N.A.
ENVI138	Howard Read	N.A.
ENVI139	Nejat Duzgunes	University of the Pacific
ENVI140	Sharon Borradori	N.A.
ENVI141	Cheryl Reiff	Sierra Club
ENVI142	Dr. Ann H Duncan	N.A.
ENVI143	Walter Reece	N.A.
ENVI144	Vandana Bali	N.A.
ENVI145	Bruce Ramsay	N.A.
ENVI146	Richard Gasser	N.A.
ENVI147	Albert Sekela	N.A.
ENVI148	Madeline Landau	Institute of Governmental Studies UCB
ENVI149	Brian & Rita Cohen	N.A.
ENVI150	Bruce Richman	Cal Tech Alumni
ENVI151	Carole Grace	N.A.
ENVI152	Camille Scott	N.A.
ENVI153	Amy Lippert	N.A.
ENVI154	Lawrence Bruguera	N.A.
ENVI155	M S Meyers	N.A.
ENVI156	K. Bandell	N.A.
ENVI157	Barbara Rapoport	University California, Los Angeles
ENVI158	John Honnette	N.A.
ENVI159	Natalie Hall	N.A.
ENVI160	Pamela Hall	N.A.
ENVI161	Yuko Nakajima	University California, Berkeley

Reference Code	*Commenters in ENVI Group*	*Affiliation*
ENVI162	George Hosang	N.A.
ENVI163	Fred Mundy	N.A.
ENVI164	Nancy Brueheim	N.A.
ENVI165	Erica Halchak	N.A.
ENVI166	David McCoard	Sierra Club
ENVI167	Margaret Murphy	N.A.
ENVI168	Robert Hicks	N.A.
ENVI169	William Josephs	N.A.
ENVI170	Frank Nieman	N.A.
ENVI171	Kathleen Sullivan	N.A.
ENVI172	Ron Avila	N.A.
ENVI173	Nick Perry	N.A.
ENVI174	Sheree Poitier	N.A.
ENVI175	Andrew Weisser	N.A.
ENVI176	Judith Thigpen	N.A.
ENVI177	Bartt Emerson	N.A.
ENVI178	Victoria Merkel	N.A.
ENVI179	Yolande Collins	N.A.
ENVI180	Shan Magnuson	Family Service Agency
ENVI181	Shanon Day	N.A.
ENVI182	Wesley Reutimann	N.A.
ENVI183	Susan Reutimann	N.A.
ENVI184	Tanja Reutimann	N.A.
ENVI185	Phyllis D.	N.A.
ENVI186	Michael W Evans	N.A.
ENVI187	Steve Mendoza	N.A.
ENVI188	Jenine Wilson	N.A.
ENVI189	Rachel M Hervey PHN	N.A.
ENVI190	Rachel M Hervey PHN	N.A.
ENVI191	Kristen Osman	N.A.
ENVI192	Craig Pastor	N.A.
ENVI193	Penelope Johnstone	N.A.
ENVI194	Robert Kurz	N.A.
ENVI195	PJ Rosch	N.A.
ENVI196	Paul Pollock	N.A.
ENVI197	Holly Pereira	N.A.
ENVI198	Richard Robinson	N.A.
ENVI199	Hannah Freed	N.A.
ENVI200	Carla Haim	N.A.
ENVI201	Margaret Adam	N.A.
ENVI202	Rosemary Jones	N.A.
ENVI203	Colin Pinoni	N.A.
ENVI204	Andres Gonzalez	N.A.

Reference Code	*Commenters in ENVI Group*	*Affiliation*
ENVI205	Robert Brandin	N.A.
ENVI206	Sarah Barrs	N.A.
ENVI207	Sean Hallissey	N.A.
ENVI208	Lacey Hicks	N.A.
ENVI209	Jon Schell	N.A.
ENVI210	Sharon Earle	N.A.
ENVI211	Roy de Vries	N.A.
ENVI212	RRT Kennedy	Breath Free 1
ENVI213	Harriet Charney	N.A.
ENVI214	Lionel Gambill	N.A.
ENVI215	Gary Krumwiede	N.A.
ENVI216	Susie Vasquez	ALA
ENVI217	Laura Herndon	N.A.
ENVI218	Anita Simons	N.A.
ENVI219	Miriam Iosupovici	N.A.
ENVI220	Albert Lerma	Sonoma County Asthma Coalition
ENVI221	Lindsay Space	N.A.
ENVI222	Ruth Weinberger	N.A.
ENVI223	Cristina Colissimo	N.A.
ENVI224	Jack Nicholl	N.A.
ENVI225	Julian Chazin	ALA; Union of Concerned Scientists
ENVI226	Maria Watkins	N.A.
ENVI227	Andreas Wittenstein	N.A.
ENVI228	Ron Avila	N.A.
ENVI229	Ted Bayer	N.A.
ENVI230	Cal Collier	N.A.
ENVI231	Mary Riblett	N.A.
ENVI232	Kathleen Lilly	N.A.
ENVI233	Ofelia Alvarado	N.A.
ENVI234	Geraldine West	N.A.
ENVI235	Ralph Bocchetti	N.A.
ENVI236	Dian Kiser	N.A.
ENVI237	Helen Denning	ALA
ENVI238	Ken Burke	Mills College
ENVI239	Cesar Garcia	N.A.
ENVI240	Er Richmond	N.A.
ENVI241	Esteban Ripoll	N.A.
ENVI242	Dan Kerlin	N.A.
ENVI243	Lee Frank	N.A.
ENVI244	Ph.D. Williams	N.A.
ENVI245	Terrie Johnson	N.A.

Reference Code	*Commenters in ENVI Group*	*Affiliation*
ENVI246	MD Carlson	N.A.
ENVI247	Anna Cameron	N.A.
ENVI248	Laura Berke	N.A.
ENVI249	Kerlyn Graham	ALA
ENVI250	Beverly Hoey	N.A.
ENVI251	Jean Jackman	N.A.
ENVI252	Adriene Hall	Monterey County Health Department
ENVI253	Rose Marie Kuhn	N.A.
ENVI254	Margaret Marshall	N.A.
ENVI255	Barbara Odegard	N.A.
ENVI256	Rita Watson	ACOE
ENVI257	Heidi Combs	Kern County Superintendent of Schools
ENVI258	Roberta E. Newman	N.A.
ENVI259	Jane Affonso	N.A.
ENVI260	Sarah Hafer	N.A.
ENVI261	Sharon McCarthy	N.A.
ENVI262	Mr. K. Aminian	N.A.
ENVI263	Kenneth Thomas	N.A.
ENVI264	Henry Tang	N.A.
ENVI265	George Hosang	N.A.
ENVI266	Shirley Smith	N.A.
ENVI267	Maja Silberberg	N.A.
ENVI268	Carol Shenon	N.A.
ENVI269	Jonathan Krueger	N.A.
ENVI270	Pamela Granger	N.A.
ENVI271	Noah Darling	N.A.
ENVI272	Dan Esposito	N.A.
ENVI273	John Sefton	N.A.
ENVI274	Neil Hertsch	N.A.
ENVI275	Alexis Baker	N.A.
ENVI276	Mark Van Uden	N.A.
ENVI277	Harvey Levin	N.A.
ENVI278	Mark Salamon	N.A.
ENVI279	Mary Sigala	N.A.
ENVI280	Richard Cramer	N.A.
ENVI281	Judith Sanger	N.A.
ENVI282	Wendy Hoffman	N.A.
ENVI283	Beth Wilcoxen	N.A.
ENVI284	Robert Meagher	Sierra Sacramento Valley Medical Society
ENVI285	John Reilly	N.A.

Reference Code	*Commenters in ENVI Group*	*Affiliation*
ENVI286	Craig Thrasher	N.A.
ENVI287	Anthony Montapert	N.A.
ENVI288	Jan Lochner	N.A.
ENVI289	Tim Barrington	N.A.
ENVI290	Perrin French	N.A.
ENVI291	Marc Techner	N.A.
ENVI292	Andrew Bezella	N.A.
ENVI293	Peter Ring	N.A.
ENVI294	Melissa Slonim	San Diego Photo
ENVI295	Alice Polesky	N.A.
ENVI296	Michelle Tsutsui	N.A.
ENVI297	Christine Jones	N.A.
ENVI298	Anonymous Anonymous	N.A.
ENVI299	Pamela Hall	N.A.
ENVI300	Janis Smith	N.A.
ENVI301	Bob Porter	N.A.
ENVI302	Martha Stassinos	N.A.
ENVI303	Lynn Sawyer	N.A.
ENVI304	James Hunt	Sierra Club
ENVI305	Penelope Johnstone	N.A.
CADA	Cynthia Adams	
MCIO	Mark Ciotti	
JHEL	Jennifer Hellerud	
CBOW	Candy Bowman	N.A.
JABOW	Jason Bowman	
JBUR	Jens Burkhart	
LWAT	Lynn Watkins	
JSTE	James Stephens	N.A.
ENVI306	Julie West	N.A.
ENVI307	Rachael Jett	N.A.
ENVI308	Josefina Alvarez	N.A.
ENVI309	Marcela Herrera	N.A.
ENVI310	Maria de los Angeles Trejo	N.A.
ENVI311	Raquel Ortega	N.A.
ENVI312	Michael Sage	N.A.
ENVI313	Keith Law	N.A.
ENVI314	Elaine Gorman	N.A.
ENVI315	Michael Gardner	ALA
ENVI316	Carolynn Leifker	N.A.
ENVI317	Maria E. Olvera	N.A.
ENVI318	Debra Kelley	N.A.
ENVI319	Erik Scott	N.A.
ENVI320	Kali Clark	ALA

Reference Code	*Commenters in ENVI Group*	*Affiliation*
ENVI321	Christen Powell-Essinger	N.A.
ENVI322	Timothy Lippert	N.A.
ENVI323	Jennifer Roberts	N.A.
ENVI324	Diana Siciliano	N.A.
ENVI325	Barbara Voss	N.A.
ENVI326	Elizabeth LaGuardia	Children's Hospital Los Angeles
ENVI327	Maria Becerra	East Yard Communities for EJ
ENVI328	Anita Gardner	N.A.
ENVI329	Natalie Hall	N.A.
ENVI330	Nick Perry	N.A.
ENVI331	Miguel Ortega	East Yard Communities for EJ
ENVI332	Jerry Craig	N.A.
ENVI333	Maureen Nixon-Holtan	N.A.

Note: N.A. means commenters that did not provide an affiliation.