

State of California  
California Environmental Protection Agency

AIR RESOURCES BOARD

**Final Statement of Reasons for Rulemaking,  
Including Summary of Comments and Agency Responses**

**PUBLIC HEARING TO CONSIDER REGULATORY AMENDMENTS TO THE  
EXHAUST EMISSION STANDARDS FOR 2007-2009 MODEL-YEAR HEAVY DUTY  
URBAN BUS ENGINES AND THE FLEET RULE FOR TRANSIT AGENCIES**

Public Hearing Date: September 15, 2005  
Agenda Item No.: 05-8-6  
Continued on October 20 and October 27, 2005  
Agenda Item No.: 05-10-2

**I. GENERAL**

In this rulemaking the Air Resources Board (ARB or the Board) is amending the regulations for two programs that reduce emissions from urban buses. One program affects emissions from in-use urban buses operated by transit agencies (Fleet Rule for Transit Agencies - Urban Bus Requirements, contained in section 2023.1, title 13, California Code of Regulations (CCR) and the related Reporting Requirements for Transit Agencies, contained in section 2023.4). The other program achieves emission reductions by establishing new engine standards for urban buses (contained in sections 1956.1 and 1956.8).

The rulemaking was initiated on July 29, 2005, with the publication of a notice of public hearing scheduled for September 15, 2005. Notices of continuation, dated September 9, 2005, and October 20, 2005, continued the Board's consideration of the rulemaking to October 20 and 27, 2005, and were also posted and made available to the public. The Staff Report: Initial Statement of Reasons, entitled "Proposed Amendments to the Exhaust Emission Standards for 2007-2009 Model-Year Heavy Duty Urban Bus Engines and the Fleet Rule for Transit Agencies" (Staff Report or ISOR) was made available for public review and comment beginning on July 29, 2005. The Staff Report, which is incorporated by reference herein, describes the rationale for the amendments. This Final Statement of Reasons for Rulemaking (FSOR) updates the staff report by identifying and explaining the modifications that were made to the original proposal at the Board's direction and summarizes and responds to written comments and hearing testimony.

At the public hearing held on September 15, 2005, the Board considered amendments presented by staff affecting urban buses owned or operated by transit agencies. Staff presented two policy decisions for the Board's consideration: 1) amending the statewide urban bus engine emission standards, and 2) mandating that all transit agencies operating in the South Coast Air Quality Management District (SCAQMD or South Coast District) be required to follow the alternative-fuel compliance path. The Board adopted Resolution 05-47 at the hearing, which adopted the staff's proposed amendment mandating transit agencies in SCAQMD to switch to the alternative-fuel path. The Board deferred consideration of the amendment to the statewide urban bus emission standard until October 20, 2005.

On October 20, 2005, staff presented modifications to the regulation originally proposed in the Staff Report. Staff presented three options to the Board: 1) retain the current new urban bus emissions standards, 2) align the 2007 and subsequent model-year new urban bus engine emission standards with the equivalent model-year heavy-duty truck-engine emission standard, and 3) require all transit agencies statewide to purchase/lease only alternative fuel buses. At the conclusion of the hearing, the Board adopted Resolution 05-53, in which it approved modified amendments subject to the Board's consideration at an October 27, hearing of a report from the staff on the likely effect of one element of the modified amendments.

At the October 27, 2005, hearing, after considering the staff's report, the Board adopted Resolution 05-61, approving the modifications previously approved with one additional modification. The modified amendments align the 2007 and subsequent model-year urban bus engine emission standards with the equivalent model-year California heavy-duty truck engine emission standards, but require diesel path transit agencies with more than 30 urban buses in their fleets that purchase 2007 through 2009 model-year urban buses with diesel engines not certified at or below 0.2 grams per brake horsepower-hour (g/bhp-hr) oxides of nitrogen (NOx) engine emission standard to meet specified conditions. The conditions require the transit agency to mitigate the NOx emissions through retrofitting an existing urban bus or transit fleet vehicle within its fleet with a level 3 diesel emission control strategy with a 40 percent NOx reduction, and if a device is not verified, a minimum of 25 percent NOx reduction, until vehicles in the agency's fleet are retrofitted or are incapable of being retrofitted.

Resolution 05-61 reaffirmed the directions in Resolution 05-53 that the Executive Officer incorporate the approved modifications into the proposed regulatory text, with such other conforming modifications as may be appropriate, and make the modified text available for a supplemental comment period of 15 days or more. The Executive Officer was then directed either to adopt the amendments with such additional modifications as may be appropriate in light of the comments received, or to present the regulations to the Board for further consideration if warranted in light of the comments.

On April 28, 2006, ARB issued a Notice of Public Availability of Modified Text, which advised of, and requested comment on, the above described modifications to the

regulations. The notice included an additional conforming modification as authorized in Resolution 05-53. The additional modification adds a reporting requirement to title 13, CCR, section 2023.4 for transit agencies. No further substantive modifications were made following the April 28, 2006 notice and the Executive Officer issued Executive Order R-05-007, in which she adopted the amendments to 1956.1, 1956.8, 2023.1, and 2023.4.<sup>1</sup>

**Fiscal Impacts.** Pursuant to Government Code section 11346.9(a)(2), ARB has determined that the amended regulations will not impose a mandate upon or create costs or savings, as defined in Government Code section 11346.5(a)(6), to any school district. The ARB has also determined that while the amendments will impose a mandate on local agencies (i.e., transit agencies), there are no costs that require reimbursement as explained below.

**Alternative-Fuel Path Mandate for All Transit Agencies in the District.**

The direct cost impacts of this amendment affect transit agencies that are public agencies in SCAQMD. Requiring all transit agencies in SCAQMD to follow the alternative-fuel path for urban buses would not have a fiscal impact on transit agencies or on transportation planning agencies and commissions within the South Coast District because SCAQMD Rule 1192 already requires transit agencies operating in the District to purchase only alternative-fuel buses. For this reason, the amendment of ARB's regulation will not cause additional costs to be incurred. Further, this proposal does not require a new program nor does it expand existing programs, but simply affects transportation agencies' methods for providing existing services.

Transit agencies receive 80 to 83 percent of their direct capital costs in the form of grants from the federal government (Federal Transportation Administration). Transit agencies in California generally make up the additional 17 to 20 percent of capital costs and all operating costs through a variety of grant programs administered by state and local governments and through fares.

**Amend the Statewide Urban Bus Emission Requirements.**

The amendments will have a fiscal impact on those transit agencies and transportation planning agencies and commissions statewide which elect to purchase diesel buses before 2010 because such buses would require mitigation. The amended regulations, however, require neither a new program nor an expanded level of service from existing

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<sup>1</sup> The Proposed Regulation Order attached to the ISOR showed the text of section 1956.1(a)(8) as it then existed, without change. This subsection was adopted in 2001 and became operative January 13, 2001. On January 7, 2005, ARB submitted to OAL another rulemaking package that included amendments to section 1956.1(a)(11); the Final Regulation Order showed those amendments and indicated that no changes were being made to subsection (a)(8). Nevertheless, due to an apparent printing error, section 1956.1(a)(8) was omitted when the amendments to section 1956.1(a) were printed in Barclays Register 2006, No. 5. To correct this error, the Final Regulation Order in this rulemaking shows subsection (a)(8) in underline format. Item 19 of the rulemaking file contains the Secretary of State filings for the rulemaking that adopted section 1956.1 (January 2001) and the most recent rulemaking before the current rulemaking in which section 1956.1 was amended (January 2006). The latter filing shows the paragraph without amendment, i.e., as an extant regulatory provision.

programs; they simply affect transportation agencies' methods for providing existing services.

No costs are expected for the 2005-2006 fiscal year. The expected costs of the proposal for the 2006-2007 fiscal year are about \$736,700, with a range of about \$345,000 to \$1,129,000; and expected costs for the 2007-2008 fiscal year are about \$1,438,000, with a range of about \$673,000-\$2,204,000. These costs are for the purchase and maintenance of an expected 40 to 130 diesel emission control systems each year for calendar years 2007-2009. It is assumed that half of the controls purchased in calendar year 2007 are purchased in fiscal year 2006-7. There is also a small possible variation in the range of the purchase cost of plus-or-minus 2.7 percent in addition to the ranges given above.

Transit agencies receive 80 to 83 percent of their direct capital costs in the form of grants from the federal government (Federal Transportation Administration). Transit agencies in California generally make up the additional 17 to 20 percent of capital costs and all operating costs through a variety of grant programs administered by state and local governments and through fares.

**Consideration of Alternatives.** The Board has determined that no reasonable 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 and less burdensome to affected private persons or small businesses than the action taken by the Board.

## **II. MODIFICATIONS TO THE ORIGINAL AMENDMENTS**

At the October 27, 2007, hearing, the Board adopted Resolution 05-61, approving the originally noticed alignment of the statewide urban bus engine standards with the heavy-duty truck engine standards with additional modifications. The Board further directed staff to work with stakeholders regarding modifications or clarifications to the approved regulations. The following is a description of the final modifications and clarifications, by section number.

### **Title 13, CCR**

#### **§ 1956.1 – Exhaust Emission Standards and Test Procedures**

Paragraph (a) (12) was modified by removing the 2007 and subsequent model year urban bus engine standard.

#### **§ 1956.8 – Exhaust Emission Standards and Test Procedures**

Paragraph (a)(2)(A) was modified to include additional footnotes to the chart of Exhaust Emission Standards. These footnotes clarify the applicable emission standard for

model year 2007 through 2009 urban bus engines and reference purchasing requirements for transit agencies.

§ 2023.1 – Fleet Rule for Transit Agencies – Urban Bus Requirements

Paragraph (a) was modified to include subparagraph (5) which details the mitigation and reporting requirements for transit agencies on the diesel path purchasing urban buses with engines not certified at or below 0.2 g/bhp-hr.

§ 2023.4 – Reporting Requirements for Transit Agencies

Paragraph (b) was modified to include subparagraph (4) which details the reporting requirement for transit agencies purchasing urban buses with engines not certified at or below 0.2 g/bhp-hr.

**III. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES**

During the 45-day comment period, the Board received written comments from:

Albert Chang	Rowland Unified School District (Rowland)
Angelo J. Bellomo	Los Angeles Unified School District (LAUSD)
Austin O'Dell	San Luis Obispo Transit (SLO)
Barry Wallerstein	South Coast Air Quality Management District (SCAQMD)
Bonnie Holmes-Gen	American Lung Assoc. of Calif. (Enviro Coalition)
Bhrham Fazeli	Communities for a Better Environment (Enviro Coalition)
Carl Sedoryk	Monterey-Salinas Transit (MST)
Catherine Reheis-Boyd	Western States Petroleum Association (WSPA)
Charles Saylor	Ocean Conservation Society, Form Letter #3, 7 form letters stating similar opinions (FL#3);
Craig Perkins	City of Santa Monica (Santa Monica)
Don Anair	Union of Concerned Scientists (Enviro Coalition)
Enrique Chiock	American Lung Assoc. of Los Angeles County (Enviro Coalition)
Gary Patton	Planning and Conservation League (Enviro Coalition)
Jac A. Crawford	San Luis Obispo RTA and South County Transit Authorities (RTA, SCAT)
Jeffrey Noonan-Day	John Deere (Deere)
Jesse Marquez	Coalition for a Safe Environment (Enviro Coalition)
Jose Carmona	Center for Energy Efficiency & Renewable Technologies (Enviro Coalition)
Jose Huizar	Los Angeles Unified School District (LAUSD)
Joseph Haraburda	Oakland Metro Chamber of Commerce, Form Letter #2, 3 form letters stating similar opinions (FL#2)
Julie Masters	Natural Resources Defense Council (Enviro Coalition)
Mark Wall	Lake Transit Authority (Lake)
Matthew Haskett	private citizen (Haskett)

Michael T. Burns	Santa Clara Valley Transportation Authority (VTA)
Michael Eaves	California Natural Gas Vehicle Coalition (CNGVC)
Mitchell Pratt	Clean Energy
Neil Miller	City of Manhattan Beach Public Works Department, Form
Letter #1	20 form letters stating similar opinions (FL#1)
Noel Park	San Pedro & Peninsula Homeowner's Coalition (Enviro Coalition)
Patricia Ochoa	Pacoima Beautiful (Pacoima)
Patrick Kudell	American Lung Assoc. of the Inland Counties (Enviro Coalition)
Paul J. Phillips	City of Covina (Covina)
Peter Spaulding	California Association for Coordinated Transportation (CalACT)
Racheal Lopez	Center for Community Action and Environmental Justice (CCA EJ)
Richard Prentice	City of Hawthorne (Hawthorne)
Rick Fernandez	Alameda-Contra Costa Transit District (AC Transit)
Rick Ramacier	The County Connection (CCCTA)
Robert Mack	private citizen (Mack)
Robina Suwol	California Safe Schools (Enviro Coalition)
Sarang S. Dalal	private citizen (Dalal)
Steve Wallauch	Lynn Suter & Assoc. for MCI (MCI)
Susan Smartt	California League of Conservation Voters (Enviro Coalition)
Todd Campbell	Coalition for Clean Air (Enviro Coalition)
Tom Whittle	City of Torrance (Torrance)
Tonia Reyes Uranga	Councilmember, 7th District, City of Long Beach (Uranga)

At the September 15, 2005, hearing, oral testimony was presented by:

Allan Pollock*	Montebello Bus Lines (Montebello)
Allen Schaeffer*	Diesel Technology Forum (DTF)
Barry Wallerstein*	South Coast Air Quality Management District (SCAQMD)
Bill Haller	Sierra Club & West Van Nuys Neighborhood Council (WVNNC)
Brian Decker	California Independent Oil Marketers Association (CIOMA)
Bruce Magnani	California Chamber of Commerce (CCC) & Californians for Sound Fuel Strategy (CSFS)
Catherine Reheis-Boyd*	Western States Petroleum Association (WSPA) & Californians for Sound Fuel Strategy (CSFS)
Charles Lapin	International Truck and Engine Corporation (ITEC)
Charlie Ker	Westport Innovations (Westport)
Clay Thomas Barrio*	Montebello Bus Lines (Montebello)
Dave Smith	British Petroleum (BP)
Dave Winnett	City of Torrance (Torrance)
Francisca Porchas	Bus Riders Union (BRU)
Gordan Exel	Cummins Westport (CWI)

Henry Lo	Senator Gloria Romero, 24th District (Romero)
Jacqueline McHenry	Councilmember, City of Claremont (McHenry)
James Lyons*	Diesel Technology Forum (DTF)
Jed Mandel*	Engine Manufacturers Association (EMA)
Jeffrey Noonan-Day*	John Deere (Deere)
Jim Parker	Norwalk Transit (Norwalk)
John Hall	Torrance Transit (Torrance)
Joseph Lyou, Dr.	California Environmental Rights Alliance (CERA)
Joshua Goldman*	ISE Corporation (ISE)
Joshua Shaw*	California Transit Association (CalTransit)
Julie Masters*	Natural Resources Defense Council (NRDC)
Laurene Weste	City of Santa Clarita (Santa Clarita)
Lee Wallace*	Southern California Gas Company (SCG) and San Diego Gas and Electric (SDGE)
Margaret Wilkinson	private citizen (Wilkinson)
Michael Eaves*	California Natural Gas Vehicle Coalition (CNGVC)
Mike Tunnell	American Trucking Association (ATA)
Mitchell Pratt*	Clean Energy
Patricia Byrd	American Lung Association (ALA)
Patrick Charbonneau	International Truck and Engine Corporation (ITEC)
Patrick O'Connor*	National Assoc. of Fleet Administrators (NAFA)
Richard Teebay	Los Angeles Department of Public Works (LADPW)
Rick Sikes	City of Santa Monica (Santa Monica)
Rick Zbur*	International Truck and Engine Corporation (ITEC)
Rosa Washington	Western Riverside Council of Government & the Western Riverside Clean Cities Coalition (WRCOG/CCC)
Shabaka Heru	Community Coalition for Change and Society for Positive Action (CSPA)
Stephanie Magnien	Judy Chu, Assemblywoman 49th district (Chu)
Stephanie Williams	Californians for Sound Fuel Strategy (CSFS)
Todd Campbell*	Coalition for Clean Air (CCA)
Tzeitel P. Caracci	Mayor Pro Tem, City of Duarte (Caracci)

The people listed above with asterisks also submitted written comments.

Prior to the October 20, 2005 Board Hearing, the Board received written comments from:

A.L. Andrews	Clean Air Partners Transportation Systems (CAPTS)
Alna & Doug Cameron	private citizens (Carmerons)
Andrew Littlefair	private citizen (Littlefair)
Austin O'Dell	City of San Luis Obispo (SLO)
Barry Wallerstein	South Coast Air Quality Management District (SCAQMD)
Bill Vernon	private citizen (Vernon)
Bob Guzman	private citizen (Guzman)
Bob Jorgensen	Cummins, Inc. (Cummins)

Bonnie Holmes-Gen	American Lung Association of California (Enviro Coalition)
Brian Stokes	Pacific Gas and Electric (PG&E)
Bret Banks	private citizen (Banks)
Catherine Reheis-Boyd	Western States Petroleum Association (WSPA)
Carl G. Sedoryk	Monterey-Salinas Transit (MST)
Carol Harmon	private citizen; Form Letter #3-2, 4 form letters stating similar opinions (FL#3-2)
Chad Lindhom	private citizen (Lindhom)
Charlie Ker	Westport Innovations (Westport)
Charlie Stringer	private citizen. Form Letter #1-2, 8 form letters stating similar opinions (FL#1-2)
Chris Ferrera	East Bay Clean Cities (EBCC)
Crista Worthy	private citizen (Worthy)
Daniel Price	private citizen (Price)
Dave Aasheim	private citizen (Aasheim)
David Lilly	San Luis Obispo RTA (RTA) & San Luis Obispo SCAT (SCAT)
David Mazer	private citizen (Mazer)
David Pearce	private citizen (Pearce)
David Shonbrunn	Transportation Solutions Defense & Education Fund (TSDEF)
Debra Padilla	private citizen, Form Letter #2-2, 12 form letters stating similar opinions (FL#2-2)
Diane Bailey	Natural Resources Defense Council (Enviro Coalition)
Don Anair	Union of Concerned Scientists (Enviro Coalition)
Fred Cavanah	Modesto (Modesto)
Gayle Pratt	private citizen (Pratt)
Henry McElvery	private citizen (McElvery)
Jared Hightower	private citizen (Hightower)
Jean-Francois Oeullet	Xebec Inc. (Xebec)
Jeanne Cain	California for a Sound Fuel Strategy (CSFS)
Jeffrey Noonan-Day	John Deere (Deere)
Jim Hekkers	Monterey Bay Aquarium (MBA)
Joseph Lyou	California Environmental Rights Alliance (Enviro Coalition)
Joseph J. Haraburda	Oakland Metropolitan Chamber (FL#2)
Judith Morgan	Richmond Chamber of Commerce (FL#2)
Julie Ivy	Kids First (Kids)
Kathryn Phillips	Environmental Defense (Enviro Coalition)
Kenneth Scheidig	Alameda-Contra Costa Transit District (AC Transit)
Larry Ozier	Gas Equipment Systems Incorporated (GESI)
Laura Dennison	private citizen (Dennison)
Lawrence Smith	private citizen (Smith)
Lewis Nelson	City of Tulare (Tulare)
Lila Hussain	Urban Habitat
Lola Ungar	private citizen (Ungar)
Mark Perez	private citizen (Perez)



Mary Pitto	Regional Council of Rural Counties (RCRC)
Melantha Tatum	private citizen (Tatum)
Michael Eaves	California Natural Gas Vehicle Coalition (CNGVC)
Mike Wixon	City of Roseville (Roseville)
Neal Mulligan	City Engines Inc (CEI)
Nelsen Fregoso	Humboldt Transit Authority (HTA)
Pattie Sanchez	private citizen (Sanchez)
Peter Slaby	private citizen (Slaby)
Rich Wagner	Cummins, Inc. (Cummins)
Richard Kolodziej	Natural Gas Vehicle Coalition (NGVC)
Robert A Lynch	private citizen (Lynch)
Scott Raty	Hayward Chamber of Commerce (FL#2)
Sherrie Fisher	Santa Barbara Metro Transit District (SBMTD)
Shirley Bianchi	San Luis Obispo RTA (RTA)
Stuart Sunshine	SF MUNI (MUNI)
Steve Wallauch	Motor Coach Industries (MCI)
Susan Chiaroni	Golden Gate Transit (GGT)
Todd Campbell	Coalition for Clean Air (Enviro Coalition)
Virginia Field	private citizen (Field)

At the October 20, 2005, hearing, oral testimony was received from:

Arthur Douwes	Santa Clara Valley Transportation Authority (VTA)
Bonnie Holmes-Gen*	American Lung Association of California (ALA)
Brian Stokes*	Pacific Gas and Electric (PG&E)
Bruce Magnani	California Chamber of Commerce (CCC) and Californians for a Sound Fuel Strategy (CSFS)
Carl Sedoryk*	Monterey-Salinas Transit (MST)
Chuck Harvey	San Mateo County Transit District (Samtrans)
Dawn Friest*	Engine Manufacturers Association (EMA)
Diane Bailey*	Natural Resources Defense Council (NRDC)
Don Anair*	Union of Concerned Scientists (UCS)
Gene Walker*	California Transit Association (CalTransit) and Golden Gate Bridge Highway & Transportation District (GGT)
Jean Roggenkamp	Bay Area Air Quality Management District (BAAQMD)
Jeanne Krieg	Eastern Contra Costa Transit Authority (ECCTA)
Joe Sparano	Western States Petroleum Association (WSPA)
Joshua Goldman*	ISE Corp (ISE)
Joshua Shaw*	California Transit Association (CalTransit)
Kenneth Scheidig*	Alameda-Contra Costa Transit District (ACTransit)
Marty Meller	San Francisco MUNI and Regional Transit Association (RTA) (MUNI)
Mary King	Alameda-Contra Costa Transit District (ACTransit)
Michael Eaves*	California Natural Gas Vehicle Coalition (CNGVC)
Mitchell Pratt*	Clean Energy

Peter Spaulding*	California Association for Coordinated Transportation (CalACT)
Rebecca Kaplan	Alameda-Contra Costa Transit District (ACTransit)
Steve Heminger*	Metropolitan Transportation Commission (MTC)
Todd Campbell	Coalition for Clean Air (CCA)
Vallerie Turella	Assembly Majority Leader Dario Fromer from LA County (Fromer)

The people listed above with asterisks also submitted written comments.

Set forth below is a summary of each objection or recommendation made regarding the specific adoption, amendment, or repeal proposed, together with an explanation of how the proposed action has been changed to accommodate each objection or recommendation, or the reasons for making no change. The requirement applies only to objections or recommendations directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the action. The agency may aggregate and summarize repetitive or irrelevant comments as a group, and may respond to repetitive comments or summarily dismiss irrelevant comments as a group. For the purposes of this paragraph, a comment is "irrelevant" if it is not specifically directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the action. The comments have been grouped by topic wherever possible.

As stated previously, the September 15 rulemaking was continued to October 20 and 27. The Board heard testimony and approved actions regarding the SCAQMD transit bus fleet rulemaking at the September 15 hearing, and heard testimony and approved actions for the statewide urban bus engine emission standards at the October 20 and 27 hearings. At the September 15 Board hearing, the SCAQMD fleet rulemaking was considered with two related fleet rulemakings which the Board did not approve. The comments received during the 45-day notice period and testimony at the September 15 hearing included comments and testimony on all three related fleet rulemakings. Many of the commentors and testifiers included background information which was not related to the specific regulatory proposals. Among these at the September 15 hearing, the SCAQMD's presentation and testimony provides background information about the South Coast District's circumstances, its rules, and its views about the merits of alternative fueled vehicles. As these comments and a numbers of other comments in the same vein do not make specific objections to, or recommendations on, the ARB's amendments to the regulations, ARB has not responded as provided in Government Code section 11346.9 paragraph (a)(3).

**Part 1. Related to requiring all transit agencies operating in the South Coast Air Quality Management District to follow the alternative-fuel compliance path**

**A. General**

1. Comment: The Board received general support to amend the urban transit bus rule mandating transit fleets in the South Coast Air Quality Management District to follow the alternative-fuel compliance path. (SCAQMD, Rowland, LAUSD, Enviro Coalition, FL#3, Santa Monica, Hasket, CNGVC, Clean Energy, FL#1, Pacoima, Covina, CCAEJ, Hawthorne, Uranga, WVNNC, Westport, BRU, Romero, McHenry, Deere, CERA, NRDC, Santa Clarita, SCG & SDGE, Wilkinson, ALA, Santa Monica, WRCOG/CCC, Chu, CCA, Caracci)

Agency Response: The Board adopted the amendment to the Fleet Rule for Transit Agencies requiring all transit agencies operating in the South Coast Air Quality Management District to follow the alternative-fuel compliance path.

2. Comment: The Board received general opposition based on the request that ARB maintain fuel neutrality in all aspects of ARB transit fleet rules and engine regulations and not mandate a local or regional "carve out" or regional exception to the ARB's statewide transit fleet rule. (SLO, WSPA, CalACT, Mack, MCI, Torrance, Montebello, DTF, CIOMA, CSFS, CCC, ITEC, BP, EMA, Norwalk, CalTransit, ATA, NAFA, LADPW)

Agency Response: See the response to Comment E-1.

3. Comment: Existing rules already provide for substantial decreases in the contributions of diesel to emissions of NOx and of its already modest share of PM 2.5 emissions. (DTF)

Agency Response: Comment noted.

4. Comment: The proposed fleet rules do not provide any PM [particulate matter] or NOx [oxides of nitrogen] emission benefits. The projected NOx benefits in the staff report are completely illusory and come at an incredible cost. (EMA, CSFS)

Agency Response: While the South Coast District is able to enforce Rule 1192, we believe the ARB's rule and the District's rule will get the same benefits. There are no additional emission benefits of ARB's rule beyond the District's rule. Nonetheless, the Board's decision reflects a balancing of legal and policy considerations. By amending ARB's fleet rule to require that all transit agencies within the South Coast District follow the alternative fuel path, the Board assists the South Coast District in continuing to exercise its authority in HSC section 40447.5. This statute authorizes the South Coast District to impose alternative fuel requirements on fleets within its jurisdiction. Further, the Board's assistance to the South Coast District is consistent with the Board's authority in Health and Safety Code section 39605 to provide any assistance to any district. If ARB's rule were a stand-alone rule it would reduce NOx emissions by 0.13 tons per day in 2010. See the response to Comment C-1 for cost effectiveness information.

5. Comment: We are committed to have engines that will meet the 0.2 gram NOx per brake horsepower-hour for model year 2007. (Deere, CWI)

Agency Response: The Board appreciates the manufacturers' commitment to offering engines that meet a NOx emission rate of 0.2 grams per brake horsepower-hour in the 2007 model year. The availability of Carl Moyer Program funding for these engines will likely encourage their purchase by transit agencies in the South Coast District and statewide.

6. Comment: If you choose to adopt this rulemaking, I request that the fleets maintain records that demonstrate that they have purchased fully compliant motor vehicle fuels. (BP)

Agency Response: This comment is outside the scope of this rulemaking. But the commentor may wish to know that Reporting Requirements for Transit Agencies, adopted in title 13, CCR, section 2023.4, already require that each transit agency to submit an annual report that includes the fuel used for each urban bus it currently owns and operates. Additionally, ARB's Standards for Motor Vehicles, title 13, CCR division 3 chapter 5, commencing with section 2260, require that all fuels sold for motor vehicles in California, except as waived, excluded, or otherwise exempted, comply with the appropriate standard for fuel type.

7. Comment: I would like to see the Board seriously consider mandating biodiesel as an alternative to the current proposal. This would be a cost-effective solution that every transit agency can implement here and now, without abandoning their significant capital investments in diesel. (Dalal)

Agency Response: In the definition applicable to the Fleet Rule for Transit Agencies – Urban Bus Requirements, “Alternative fuel” means natural gas, propane, ethanol, methanol, gasoline (when used in hybrid electric buses only), hydrogen, electricity, fuel cells, or advanced technologies that do not rely on diesel fuel. “Alternative fuel” also means any of these fuels used in combination with each other or in combination with other non-diesel fuels. Most biodiesel blends are considered to be diesel fuel since they consist primarily of petroleum-derived diesel fuel. This suggested modification is not within the scope of the notice for the rulemaking since ARB did not propose to amend the definition of alternative fuel.

## **B. Authority**

1. Comment: The rules are not necessary. Based on Judge Cooper's decision, the South Coast is enforcing its own Fleet Rules against public and private fleet operators. The rules will not act as a backstop for the South Coast. They need an EPA waiver, which could take a year or more and likely would themselves be the subject of litigation. ARB should not risk its prestige or its authority by adopting rules which EPA disfavors and which require EPA waivers and do not meet Clean Air Act waiver requirement[s]. (EMA, WSPA)

Agency Response: The Board's decision reflects a balancing of legal and policy considerations. The ultimate outcome in the litigation to which the comment refers is yet to be determined as Judge Cooper's decision in this litigation has been appealed.<sup>2</sup> In amending ARB's fleet rule to require that all transit fleets within the South Coast District follow the alternative fuel path, the Board assists the South Coast District in continuing to act under its authority in Health and Safety Code (HSC) section 40447.5 to impose alternative fuel requirements on public fleets within its jurisdiction. The Board's action is consistent with the waiver provisions in section 209(b) of the federal Clean Air Act (FCAA) since the purpose of section 209(b) is to allow California to adopt and enforce its own emission standards for new motor vehicles and engines that are not identical to federal requirements.

Over the years, the criteria in section 209(b) for granting waivers of preemption have been interpreted in many waiver decisions issued by the United States Environmental Protection Agency (U.S. EPA). In granting waivers to California's motor vehicle program, U. S. EPA has routinely deferred to the policy judgments of California's decision makers. Recognizing Congress's intent to create a limited review of California's determinations, U.S. EPA has said:

The structure and history of the California waiver provision clearly indicate both a congressional intent and an U.S. EPA practice of leaving the decision on ambiguous and controversial matters of public policy to California's judgment. (40 Fed.Reg. at 23104.) See also 58 Fed.Reg. 4166, LEV I Decision Document at p. 64.)

Given the broad policy discretion accorded to California under FCAA section 209(b), the Board has not violated 209(b) by exercising its discretion to assist the South Coast District to exercise its authority under HSC section 40447.5 to require that transit-agency urban buses in the South Coast District use alternative fuels.

2. Comment: We believe this represents an abandonment of CARB's long-standing policy of fuel neutrality, which has served the State's clean air programs well. If adopted, we believe this would be the first time CARB will adopt an emissions standard with the intention and effect of excluding a comparably low emitting technology. Because the proposed rules are not fuel neutral, as our comments discuss, we believe they violate requirements for approval of a waiver under Section 209(b) of the Federal Clean Air Act because they're not consistent with the federal regulatory framework, which is fuel neutral. (ITEC, EMA, WSPA)

Agency Response: The Board's decision reflects a balancing of legal and policy considerations. By amending ARB's fleet rule to require that all transit agencies within the South Coast District follow the alternative fuel path, the Board assists the South Coast District in continuing to exercise its authority in Health and Safety Code (HSC) section 40447.5. This statute authorizes the South Coast District to impose

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<sup>2</sup> *Engine Manufacturers Association, et al. v. South Coast Air Quality Management District, et al.*, United States District Court Central District of California, CV 00-09065 FMC (BQRx).

alternative fuel requirements on fleets within its jurisdiction. Further, the Board's assistance to the South Coast District is consistent with the Board's authority in Health and Safety Code section 39605 to provide any assistance to any district.

The Board's action is also consistent with section 209(b) of the federal Clean Air Act (FCAA). See the response to Comment B-1.

3. Comment: Adoption of the proposed rule would be the first time CARB has adopted piecemeal emissions standards applicable to only a portion of the state. Again, the Federal Clean Air Act Section 209(b) gives EPA authority to waive preemption for emissions standards adopted by the State of California. Congress clearly envisioned that only emissions standards of statewide applicability would qualify for such waivers. CARB has never previously adopted, nor has the U.S. EPA granted a waiver for, emission standards that apply to only a limited portion of the state. (ITEC)

Agency Response: The ARB's current regulation, title 13, CCR, section 2023.1, Fleet Rule for Transit Agencies - Urban Bus Requirements, establishes two paths for compliance by transit agencies: a diesel-fuel path and an alternative-fuel path. Since 2001 when the regulation was first adopted,<sup>3</sup> transit agencies on differing fuel paths have followed differing requirements. This results in differing requirements for transit districts throughout the State. The present amendments to the regulations affect the option available to transit agencies operating in the South Coast District, but do not otherwise amend the differing requirements for transit agencies throughout the State. As noted earlier, U.S. EPA's consideration of the California's waiver request must give deference to California's policy choices as explained in the response to Comment B-1.

4. Comment: The proposed rules violate both the Federal Clean Air Act Section 209(b) and the California Health and Safety Code because the proposed rules, implementation, and enforcement would be delegated to the AQMD. And that's the provision under the Health and Safety Code. Importantly, Health and Safety Code Section 43101 requires that CARB implement emission standards that it adopts. The delegation to the AQMD violates CARB's authority under this provision. (ITEC)

Agency Response: The amendments adopted in this rulemaking do not delegate enforcement to the South Coast District.

5. Comment: The proposed rules are inconsistent with Section 209(b) of the Federal Clean Air Act, because they violate lead time and stability requirements. I won't go into this in more detail other than to say the letter that was addressed to the AQMD from the U.S. EPA on February 1 of this year indicated that EPA believed lead time standards applied in this case. (ITEC)

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<sup>3</sup> First adopted in title 13, CCR, section 1956.2, filed with the Secretary of State on January 23, 2001; renumbered to section 2023.1 and amendments filed with the Secretary of State on January 31, 2006.

Agency Response: The provisions for lead time and stability to which the comment refers are found in federal Clean Air Act (FCAA) section 202(a)(3)(C), not section 209(b). Whether the lead time and stability requirements apply to California in the context of a fleet regulation remains an open question since U.S. EPA has not issued any waiver decision on the specific question. As noted in several recent ARB waiver requests, California continues to believe that the requirements of FCAA section 202(a)(3)(C) do not apply to California's adoption of heavy-duty vehicle and engine standards. The text of the FCAA provision itself indicates that the provision is not applicable to California:

Any standard promulgated or revised under this paragraph and applicable to classes or categories of heavy-duty vehicles or engines shall apply for a period of no less than 3 model years beginning no earlier than the model year commencing 4 years after such revised standard is promulgated.  
[FCAA section 202(a)(3)(C).]

The provision's text states that "standards promulgated or revised under this paragraph," that is, under FCAA section 202(a), must provide the specified lead time and stability. In the person of the Administrator, U.S. EPA prescribes standards under 202(a). Clearly the provision applies to U.S. EPA's promulgation of standards.

California, however, does not promulgate its standards under the grant of authority in section 202(a). California promulgates vehicular emission standards under grants of authority in state law<sup>4</sup> and under the waiver of federal preemption for California's standards contained in FCAA section 209(b). Since section 202(a)(3)(C) is only applicable to standards promulgated under section 202(a) and since California does not promulgate its standards under 202(a), the provision does not apply to California. And, if the provision does not apply, its specified lead-time and stability requirements do not apply to California.

With regard to the consistency issue, U.S. EPA's Administrator has stated that California's standards and accompanying test procedures are inconsistent with section 202(a) if: (1) there is inadequate lead time to permit the development of technology to meet those requirements, giving appropriate consideration to the cost of compliance within that time frame, or (2) the federal and California test procedures impose inconsistent certification requirements so as to make manufacturers unable to meet both sets of requirements with the same vehicle.<sup>5</sup>

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<sup>4</sup> California Health & Safety Code Division 26.

<sup>5</sup> See, e.g., 46 F.R. 26371 (May 12, 1981). Even where there is incompatibility between the California and federal test procedures, U.S. EPA's Administrator has granted a waiver when U.S. EPA is able to determine that federal compliance can be demonstrated based on California test results, thus obviating the need for two separate tests. (43 F.R. 1829, 1830 (January 12, 1978); 40 F.R. 30311, 30314 (July 18, 1975).)

Notable as well, the U.S. Supreme Court decision in *Engine Manufacturers Association and Western States Petroleum Association, et al. v. South Coast Air Quality Management District, et al.* suggested that fleet rules that can be characterized as internal state purchasing decisions would not be preempted.<sup>6</sup> Because transit districts are created in the California Public Utilities Code, an ARB regulation that imposes fleet requirements on transit district agencies is consistent with a characterization of the regulation as an internal state purchasing decision to which preemption would not apply.

6. Comment: There are only 21 [school] buses that will be affected by this, and that's in response to Dr. Gong's question. And there have been a number of exemptions that have been applicable to the AQMD by AQMD contractors, one in which we are involved with, which I think affected over 150 buses. So the LAUSD's [Los Angeles Unified School District] issues, they have required significant exemptions under the AQMD rule. (ITEC)

Agency Response: This comment does not relate to the fleet rule for transit agencies.

7. Comment: ARB must obtain a preemption waiver from U.S. EPA under FCAA section 209(b) before attempting to enforce the alternative-fuel mandate. Stated differently, ARB cannot grant itself a preemption waiver, but must wait to receive (or not) the grant of a waiver from EPA as a condition precedent to enforcing any new motor vehicle emission standard. In this instance, ARB is not allowing sufficient time for EPA to act on a preemption waiver request (especially since OAL approval will itself take approximately 60 days). Moreover, a condition to EPA's grant of a preemption waiver is that the ARB standard and accompanying enforcement procedures must be consistent with FCAA section 202(a). That section includes the 4-year lead time and 3-year stability requirements, which would be violated by the ARB rule. Thus, EPA may not properly grant a preemption waiver for the proposed urban bus fleet rule. (EMA, WSPA)

Agency Response: Under the waiver process established by U.S. EPA, regulations that represent amendments or modifications to requirements for which a waiver of preemption has been granted pursuant to FCAA section 209(b) may be treated as within the scope of the previously granted waiver and are federally enforceable. The current rulemaking represents an amendment of the Fleet Rule for Transit Agencies – Urban Bus Requirements. The ARB believes that these amendments may be considered as within the scope of the earlier rulemaking and, therefore, will not need a new waiver of preemption. As to the issues of lead time and stability, see the response to Comment B-5. As to consistency with FCAA section 202(a), see the response to Comment B-9.

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<sup>6</sup> *Engine Manufacturers Association and Western States Petroleum Association v. South Coast Air Quality Management District, et al.* (2004) 124 S.Ct. 1756, 1764-1765.



8. Comment: CAA section 209(b) contemplates a preemption waiver for ARB standards and accompanying ARB enforcement procedures. Here, however, ARB is proposing to allow the SCAQMD's Executive Officer to administer the enforcement procedures for the proposed fleet rule. The CAA makes no allowance for a preemption waiver of any kind – whether for standards or enforcement procedures – in favor of a political subdivision, such as the SCAQMD. (EMA, WSPA)

Agency Response: See the responses to Comments B-3 and B-4.

9. Comment: The alternative-fuel mandate (or, alternatively, the outright ban of new diesel-fueled urban bus engines) through 2015 is not "within the scope" of any prior ARB rulemaking. Historically, EPA has treated regulatory packages as "within the scope" only where the action was straightforward and noncontroversial. The proposed fleet rule is neither. Thus, ARB's claim that it can proceed to enforce its alternative-fuel mandate upon the mere filing of a waiver request is baseless. (EMA, WSPA)

Agency Response: See the response to Comment B-7. Additionally, U.S. EPA considers ARB's amended standards as within the scope of a previous waiver of preemption if California's rulemaking action does not undermine California's determination that its standards, in the aggregate, are as protective of public health and welfare as comparable federal standards, does not affect the consistency of California's requirements with section 202(a) of the Act, and raises no new issues affecting the U.S. EPA's previous waiver determination.<sup>7</sup> With regard to the consistency issue, U.S. EPA's Administrator has stated that California's standards and accompanying test procedures are inconsistent with section 202(a) if: (1) there is inadequate lead time to permit the development of technology to meet those requirements, giving appropriate consideration to the cost of compliance within that time frame, or (2) the federal and California test procedures impose inconsistent certification requirements so as to make manufacturers unable to meet both sets of requirements with the same vehicle.<sup>8</sup>

10. Comment: MCI is concerned with the precedent setting nature of the proposal to adopt a separate fleet rule for the South Coast District, and the lack of a clearly defined process for securing a waiver to this proposed rule. (MCI)

Agency Response: See the responses to Comments B-3, B-7, and B-9.

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<sup>7</sup> Decision Document accompanying scope of waiver determination in 51 F.R. 12391 (April 10, 1986), at p. 2; see also, e.g., 46 F.R. 36742 (July 15, 1981).

<sup>8</sup> See, e.g., 46 F.R. 26371 (May 12, 1981). Even where there is incompatibility between the California and federal test procedures, U.S. EPA's Administrator has granted a waiver when U.S. EPA is able to determine that federal compliance can be demonstrated based on California test results, thus obviating the need for two separate tests. (43 F.R. 1829, 1830 (January 12, 1978); 40 F.R. 30311, 30314 (July 18, 1975).)

11. Comment: The proposed process for adopting these new standards has been identified by the US EPA as inappropriate for consideration as within the scope of a previously issued waiver for State standards, which would impose a four year lead time from adoption – effectively making the issue moot until 2010. (Torrance)

Agency Response: See the responses to Comments B-1, B-5, and B-7.

12. Comment: Supports the Board's consideration for a waiver to avoid any lag time should the District's rules be ruled invalid by the courts. (CCA)

Agency Response: The Board appreciates the commentor's support.

13. Comment: The rules would pull the rug out from under the manufacturers who in response to EPA's and ARB's challenge and in reliance on their rulemaking commitment to certainty, stability, and lead time have invested billions in successfully achieving clean diesel technology. (EMA)

Agency Response: The amendments to the Fleet Rule for Transit Agencies – Urban Bus Requirements only affect the transit agencies in the South Coast District. Transit agencies in the balance of California, if on the diesel path, may continue to purchase diesel urban buses and engines. See also the responses to Comments B-3 and B-5.

### **C. Cost-Effectiveness and Emission Reductions**

1. Comment: The cost-effectiveness and emission reductions calculations published in the Staff Report are in question. (SCAQMD, EMA, CNGVC, ATA, DTF)

Agency Response: During the 45-day comment period, staff was notified of the calculation error in the cost-effectiveness and emission reductions published in the Staff Report. Subsequently, staff made the corrections and presented the information at the Board Hearing. Comments were received supporting the new numbers. The revised cost-effectiveness is estimated to be \$10,784 per ton of NOx reduced with an emission benefit of 0.13 tons per day NOx in 2010.

The cost-effectiveness analysis is based on estimates of expected emissions reductions and of costs for implementation. The incremental cost is determined by the difference between the capital and operations and maintenance costs of diesel urban buses and alternative-fuel urban buses. In order to determine cost-effectiveness, ARB took the typical incremental cost of the buses to be purchased, with FTA funding, and divided by the total NOx emission reductions for the life of the regulation.

2. Comment: This is staff's analysis of the cost of the three rules that were before you today. The most expensive under staff's analysis is the transit rule, which is that dot

way up there. So I don't think we want to suggest that this transit bus rule is cost-effective. (EMA)

Agency Response: See the response to Comment C-3.

3. Comment: This rulemaking is not cost-effective. (EMA, CCC, CSFS)

Agency Response: The information presented by EMA at the hearing was based on information provided in the Staff Report published on July 29, 2005. As stated in the response to Comment C-1, staff presented updated information at the hearing. This rulemaking is cost-effective and the cost-effectiveness value of \$10,784 per ton of NOx reduced is in line with other adopted regulations.

## **D. Exemptions**

1. Comment: We ask the Board to consider having the same 30 bus exemption standard for sections 2023(e) and (g). Requiring all transit agencies to purchase or lease only alternative fuel buses will work an extreme financial hardship. (SCAT, RTA)

Agency Response: The alternative-fuel compliance path requires that 85 percent of a transit agency's annual purchases or leases be powered by alternative fuels. Section 2023.4(a)(2) provides a transit agency an opportunity to apply for a waiver from the 85 percent requirement. Section 2023(e) provides that a transit agency with fewer than 30 buses in its transit fleet may apply for waiver based on financial hardship. Section 2023(g) provides for an extension of the particulate matter requirements for a transit agency with fewer than 20 buses in its transit fleet in a federal one-hour ozone attainment area. No amendments to these provisions were proposed in this rulemaking. Any amendments to title 13, CCR, section 2023, paragraphs (e) and (g) would not be within the scope of this rulemaking.

2. Comment: Alternative fuel technology is currently insufficient to power 40- and 45-foot coaches in all conditions. Therefore, it is important for CARB to develop a process that allows transit operators to request a waiver in the event that no alternative fuel technology exists. (MCI)

Agency Response: Exemptions or waivers are already available under title 13, CCR, section 2023.4(a)(2). Exemption criteria are not within the scope of this rulemaking.

## **E. Fuel Neutrality**

1. Comment: An ARB fleet rule potentially can be adopted by other States under Section 177 of the CAA, which (as noted above) could undermine the nationwide 2007/2010 HDOH [federal heavy-duty on-highway engine] standards that ARB and EPA developed, and on which engine manufacturers expressly relied. The possible

proliferation of bans on diesel technologies when those technologies are becoming as clean as or cleaner than alternative fuel technologies should be avoided.

Adopting an alternative-fuel mandate will make a departure from ARB's policy of "fuel neutrality," and will also amount to an abrogation of ARB's agreement to pursue general alignment with the 2007/2010 HDOH engine standards. Engine manufacturers have spent billions of dollars to achieve compliance with the near-zero 2007/2010 emission standards in express reliance on ARB's commitment to adopt and maintain those standards. Banning the sale of otherwise-compliant HDOH diesel-fueled engines amounts, in effect, to changing the rules in the middle of the game, and bespeaks regulatory bad faith. It also opens the door for other jurisdictions to attempt similar rulemakings, thereby directly threatening the regulatory uniformity that was and remains such a fundamental tenet supporting the cost-effectiveness and feasibility of the 2007/2010 emission standards. ARB should not be seen as engaging in such blatant efforts to renege on core regulatory commitments. (EMA)

Agency Response: This rulemaking does not ban the use of diesel buses. Of the 17 transit agencies in the South Coast District, 16 are using and/or purchasing alternative fuel buses, including five of the six agencies on the diesel path. This is a result of ARB's fleet regulations and South Coast District Rule 1192. Thus the adoption of this regulatory amendment will have little affect on the status quo, and will serve mainly as a backstop to prevent any of the six agencies from purchasing higher emitting diesel engines during 2007 through 2009 should the South Coast District's authority be invalidated.

The Board's decision reflects a balancing of legal and policy considerations. By amending ARB's fleet rule to require that all transit agencies within the South Coast District follow the alternative fuel path, the Board assists the South Coast District in continuing to exercise its authority in HSC section 40447.5. This statute authorizes the South Coast District to impose alternative fuel requirements on fleets within its jurisdiction. Further, the Board's assistance to the South Coast District is consistent with the Board's authority in Health and Safety Code section 39605 to provide any assistance to any district.

2. Comment: It is my understanding that the diesel engines used by the majority of public transit agencies will effectively be banned by this proposal, as no diesel technology available or under development will be able to meet the proposed standards. This would effectively force these agencies to abandon their diesel fleets and switch to natural gas vehicles. (Dalal, CCC, CSFS)

Agency Response: See response to Comment E-1 above.

3. Comment: Supports fuel neutrality. Encourage clients to buy the cleanest. Complex technology development and certification needs market certainty. It is important that when standards are set, they are maintained. (ISE)

Agency Response: South Coast District Rule 1192 has been in place since 2000. This rulemaking maintains the status quo. ARB appreciates the cooperation from industry and looks forward to working with the industry in the future.

4. Comment: It is our position that recent advances in clean air technology, especially as they pertain to cleaning up diesel emissions, both NOx and PM, make such an action both untimely and unnecessary. The gap between diesel and natural gas is quickly disappearing; PM is very much under control, and as regards the overall emissions profiles of the fuels in question, the toxic equivalence issue remains a very open question. (Torrance)

Agency Response: See the response to Comment B-2.

5. Comment: Elimination of the diesel path would eradicate the investment we have made in diesel clean-up technology and infrastructure. (Torrance, Norwalk, Montebello, EMA)

Agency Response: The six public transit agencies within the South Coast District that will be affected by this rulemaking are already subject to SCAQMD Rule 1192. The South Coast District currently enforces the alternative fuel new purchase requirement. This rulemaking will support the status quo within the South Coast District.

## **F. Fuel Supply**

1. Comment: Rules not fuel-neutral, effectively ban the use of ultra low sulfur diesel, advanced engines, and highly efficient after-treatment devices with little or no air quality benefit in a cost ineffective manner between now and 2010. Clean diesel is a success. A fuel monopoly will create supply shortages and price instability among other unintended consequences. Discussion of likely NG supply constraints. Requiring CNG will not pave the way for hydrogen. (WSPA)

Agency Response: As stated in the response to Comment E-1, this rulemaking is not a ban on diesel, will have little affect on the status quo, and will serve mainly as support for South Coast District's Rule 1192 to prevent any of the six agencies from purchasing higher emitting diesel engines during 2007 through 2009 should the South Coast District's authority be invalidated.

This rulemaking will not create a fuel monopoly creating fuel supply shortages and price instability. "Alternative fuel" means natural gas, propane, ethanol, methanol, gasoline (when used in hybrid electric buses only), hydrogen, electricity, fuel cells, or advanced technologies that do not rely on diesel fuel. Many of these fuels are currently used by transit agencies within SCAQMD.

2. Comment: The rules eliminate fuel and technology choices and place the public's transportation and refuse collection needs at the risk of a single source off-shore fuel supply. (EMA)

Agency Response: See the response to Comment F-1.

3. Comment: Adopting an alternative-fuel mandate will create unwarranted dependencies on one type of fuel and technology, which in turn can lead to shortages in supply and instabilities in pricing. Fuel-neutral standards allow for a diverse range of fuels and products to compete in the marketplace, resulting in an optimized mix of standard-compliant options at a market-driven price. (WSPA)

Agency Response: See the response to Comment F-1.

4. Comment: If you lock in CNG and eliminate the propane path, what happens is it eliminates all the small businesses. (LADPW)

Agency Response: Propane is an alternative fuel and is not prohibited from use under this rulemaking.

5. Comment: We can not depend on an interruptible fuel supply, such as natural gas, after a disaster such as a catastrophic earthquake. (Torrance, NAFA)

Agency Response: The needs of public safety and demands on public service during the times of a natural disaster are understood. State law provides regulatory flexibility during catastrophic or emergency events.

## **Part 2. Related to aligning California's urban bus engine standards in the 2007 and subsequent model years with California's heavy-duty truck engine standards**

### **A. Keep the current 2007 model-year urban bus emissions standards**

1. Comment: Staff received several comments in general support for maintaining the existing 2007 model year urban bus emission standards. Commentors did not want to "roll back" the emission standard in order to maintain the progress on cleaning up California's air. (FL#3, Pacoima, CAPTS, Cameron, Littlefair, SCAQMD, Vernon, Guzman, Environ Coalition, PG&E, Banks, FL#3-2, Lindhom, Westport, FL#1-2, EBCC, Worthy, Price, Aashiem, Maxer, Pearce, TSDEF, FL#2-2, Pratt, McEvery, Hightower, Xebec, Kids, GESI, Dennison, Smith, Tulare, Ungar, Perez, Tatum, CNGVC, Sanchez, Slaby, NGVC, Field, ALA, NRDC, UCS, BAAQMD, Clean Energy, CCA, Fromer)

Agency Response: The Board adopted alignment of the urban bus engine emission standard with the California heavy-duty truck engine standard starting in the 2007 model year. With alignment, purchases of diesel urban bus engines and fleet turn-

over will be able to resume in 2007 since engines meeting the phased-in heavy-duty truck engine standard will be available. These 2007-2009 purchases will replace older, dirtier urban buses and engines that are in use now. As a consequence, near-term emissions will be lowered by up to about 1.6 tons per day NOx and 80 pounds per day PM in 2009, compared to retaining the 2007 model-year urban bus standards.

However, the sale of urban bus engines in 2007 through 2009 meeting the phased-in heavy-duty truck engine NOx standard will increase mid-term NOx emissions after 2009 as a result in-use emissions from urban buses certified to the relaxed NOx standard. Projections show a maximum disbenefit in NOx emissions in 2015. There is no difference in diesel PM emissions after the initial near-term benefit attributable to alignment. By 2025, emissions of both NOx and PM will be the same whether the 2007 urban bus standards are retained or whether they are aligned with the heavy-duty truck engine standards. The Board's approval of alignment balances the near-term benefits in NOx and PM against the mid-term NOx disbenefit. The Board's action acknowledges and accepts the mid-term NOx disbenefit, but mitigates it by requiring the retrofiting of in-use diesel engines. See the response to Comment B-4.

2. Comment: Keeping the current 2007 model year urban bus engine standard keeps pressure on engine manufacturers to meet the 0.2 grams per brake horsepower-hour standard and rewards those companies who invested into cleaner technologies to meet this standard. (Banks, Sanchez, Xebec, GESI, Lynch, CEI, CNGVC, TSDEF, Fromer, SCAQMD, CCA, Deere, Clean Energy, NGVC)

Agency Response: The California market for new urban bus engines is small, and meeting the California 2004 and 2007 NOx urban bus engine exhaust standards proved to be technologically challenging for diesel engines. In addition, U.S. EPA adopted new heavy-duty engine standards for trucks and urban buses that were less stringent than the urban bus standards previously adopted by ARB. As a result, diesel engine manufacturers decided not to attempt to comply with California's new urban bus engine standards but instead to work towards achieving the less stringent, but still technologically challenging, national heavy-duty truck and urban bus engine standards.

Although 2007 model year urban bus engines powered by alternative fuel will be available, transit agencies on the diesel path have stated that they are prepared to forgo purchases of new buses until 2010 if only alternative fuel engines are available.

## **B. Align the 2007 model-year urban bus emission standard with the California heavy-duty truck engine standard**

1. Comment: Staff received several comments in general support of the alignment of the 2007 model year urban bus engine standard with California's equivalent model

year regulations for heavy-duty trucks. (SLO, MST, WSPA, RTA, SCAT, VTA, CALACT, CCCTA, Torrance, DTF, CCC, CSFS, ITEC, Cummins, Modesto, MBA, FL#2, RCRC, Roseville, HTA, SBMTA, MUNI, GGT, SamTrans, EMA, CalTransit, ECCTA, ACTransit, MTC)

Agency Response: The Board adopted alignment of the urban bus engine emission standard with the California heavy-duty truck engine standard starting in the 2007 model year with modifications that apply to transit agencies in specified circumstances. See the responses to Comments A-1 and C-1.

2. Comment: Aligning with the heavy-duty engine standard punishes those who have invested in developing the cleaner technologies and sends the message to the engine manufacturers that these standards can be changed – providing a disincentive for companies to invest in future cleaner technologies. (CEI, CNGVC, TSDEF, Fromer, SCAQMD, CCA, Deere, Clean Energy, CNGVC, FL#2-2, FL#1-2)

Agency Response: The investment in low emission natural gas engine development will continue. Alignment allows for incentive funds for cleaner technologies to remain available until 2010. In addition, transit districts on the alternative fuel path account for nearly 60 percent of all California transit buses, and they will provide a continuing demand for natural gas and other alternative fuel engines through at least 2015.

3. Comment: Harmonizing the standard with weaker federal standards would likely remove the alternate fuels path as an option for many transit agencies. (PG&E)

Agency Response: The amendment of the emission standards for urban bus engines does not alter the path selection required of transit agencies statewide. Transit agencies on the alternative fuel path account for nearly 60 percent of all California's urban buses and they will provide a continuing demand for natural gas and other alternative fuel engines through at least 2015.

4. Comment: Alignment of 2007 urban bus emission standard with the California heavy-duty truck engine standard will allow diesel engines to be purchased that are six times dirtier than what is now required. These dirtier buses will be on the road for at least 12 years. (GESI, Field, Perez, Lindhom, Pearce, FL#3-2)

Agency Response: The commentors are correct that aligning the urban bus and heavy-duty truck engine standards relaxes the standards for urban buses in the 2007-2009 model years. Diesel engine manufacturers have said that they plan to certify urban bus engines in 2010 when they will certify all families of engines to the fully phased-in parallel heavy-duty truck engine standards. Under the anticipated circumstances, therefore, for transit agencies on the diesel path statewide, there would be no available diesel urban bus engines in 2007-2009, resulting in no fleet turnover in diesel urban buses. The lack of fleet turnover increases NOx in the near term as explained below.



With alignment, purchases of diesel urban bus engines and fleet turn-over will be able to resume in 2007 since engines meeting the phased-in heavy-duty truck engine standard will be available. These 2007-2009 purchases will replace older, dirtier urban buses and engines that are in use now. As a consequence, near-term emissions will be lowered by up to about 1.6 tons per day NOx and 80 pounds per day PM in 2009, compared to retaining the 2007 model year urban bus standards. However, the sale of urban bus engines in 2007-2009 meeting the phased-in heavy-duty truck engine NOx standard will increase mid-term NOx emissions after 2009 as a result in-use emissions from urban buses certified to the relaxed NOx standard. Projections show a maximum disbenefit in NOx emissions in 2015. There is no difference in diesel PM emissions after the initial near-term benefit attributable to alignment. By 2025, emissions of both NOx and PM will be the same whether the 2007 urban bus standards are retained or whether they are aligned with the heavy-duty truck engine standards. Figures 3 and 4 on page 47 of the ISOR illustrate these findings.

The Board's approval of alignment balances the near-term benefits in NOx and PM against the mid-term NOx disbenefit. The Board's action acknowledges and accepts the mid-term NOx disbenefit, but mitigates it by requiring the retrofitting in-use diesel engines. The mitigation occurs whenever a diesel-path transit agency with more than 30 buses in its fleet purchases an urban bus engine not certified to a NOx emission level at or below 0.2 gram per brake horsepower-hour. For this purchase, the transit agency must concurrently retrofit on a one-to-one basis its diesel urban buses and transit fleet vehicles by equipping them with verified diesel emission control strategies that meet specified NOx reduction criteria. In this way, the Board effects a mitigated negative declaration for any adverse environmental impact attributable to the amended urban bus standards.

5. Comment: The California market for bus engines is just too small for engine manufacturers to produce compliant engines until required by EPA in 2010. From 2007 through 2009 transit agencies on the diesel path will not be able to purchase buses with compliant engines and will continue to operate older, dirtier buses. Harmonization will allow transit agencies to remove older dirty diesel engines from service sooner than 2010 and would achieve greater emission reductions from California transit fleets. (EMA, HTA, RCRC, VTA, MST, CCCTA, Torrance, Covina, Modesto, CCC, CSFS, MTA, SBMTD, SCAT, CalACT, SLO, RTA, GGT, Cummins)

Agency Response: The Board aligned California's urban bus standard with the California heavy-duty truck engine standards.

6. Comment: Keep the current standard. ARB staff seemed to have ignored many of the incentive programs in the state that could impact cost effectiveness. In August, the federal Energy and Highway Bills passed and were signed into law by the President. These bills will offer as much as a \$32,000 tax credit for purchasers of heavy-duty natural gas vehicles. There will be also tax credits for the installation of

fueling infrastructure. Their impact on cost-effectiveness calculations and customer economics will be significant. (CNGVC, Clean Energy, PGE)

Agency Response: At the October 20 Board hearing, the Board asked staff to evaluate the effect of keeping the separate, more stringent, 2007 urban bus engine standard on incentive funding for urban bus and engine purchases. Staff reported to the Board on the available funds for transit agencies at the October 27 Board hearing. Based on a review of Federal Transit Administration funding mechanisms and the new energy bill tax credit legislation, staff illustrated the effect for the Board in an example. Looking at the funding of a diesel bus and the incremental cost of the natural gas bus with the new federal tax credit included, the local transit agency's share cost for a natural gas bus was about \$60,860 versus \$68,000 for a diesel bus. This estimate, however, did not include infrastructure costs. Thus the Board's alignment of the urban bus engine standard with the heavy-duty truck engine standards allows transit districts that want to seek incentive funding to do so, and provides flexibility to all transit agencies.

7. Comment: I do not believe if you uphold the standard the Carl Moyer funding will be in jeopardy for anyone, particularly if you are buying .2 gram engines because the standard is .5. And, therefore, you would have an advantage and be able to use those funding. (CCA)

Agency Response: As Executive Officer Witherspoon responded at the October 20 hearing, "The standard in 2007 goes to .2 for both technologies, diesel and natural gas. And at that time, natural gas becomes ineligible for Carl Moyer funding unless you adjust the standard. And [the testifier] was correct in indicating that currently and until '07 they can still qualify. But that will no longer be the case after '07."

The Board requested additional analysis to be conducted by staff on the affect to Carl Moyer funding availability if the Board did not align the urban bus and truck engine standards. At the October 27 hearing the Board determined that transit agencies lose sufficient funding opportunities from Carl Moyer and modified the 2007 urban bus standard to align with the California heavy-duty truck engine standard the engines standards to maintain this funding opportunity through 2009.

**C. Allow for the purchase of urban bus engines above the current 2007 urban bus emission standard and require transit agencies to mitigate the excess NOx emissions from those purchases**

1. Comment: General support for a policy to allow the purchase of buses certified to NOx emissions greater than 0.2 g/bhp-hr by requiring certain conditions to be met to mitigate the NOx. (ACT, VTA, CalTransit, ECCTA, WSPA)

Agency Response: The Board adopted a NOx mitigation requirement for diesel path transit agencies with more than 30 urban buses. When purchasing diesel urban buses with an engine certified to greater than 0.2 grams NOx per brake horsepower-

hour, for each new purchase, a transit agency must retrofit one bus in its fleet. The retrofit is to be made with a level 3 diesel emission control strategy with 40 percent NOx reduction, if available, or a minimum 25 percent NOx reduction, until all urban buses and transit fleet vehicles are retrofitted or are unable to be retrofitted.

As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

2. Comment: Preserve the 2007 urban bus standard with the following flexibility – small transits with fewer than 30 buses are exempt from the California standards; large diesel fuel path transits can also have the exemption as long as they purchase the cleanest available diesel buses and as long as they retrofit an existing bus in their fleet with the best available NOx control device for every new bus purchased. (EBCC, Enviro Coalition, TSDEF, CNGVC, PG&E, NRDC, Urban Habitat)

Agency Response: As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

3. Comment: Require 100% offset of emissions for the purchase of engines above the current 2007 urban bus emission standard that include repowers of older buses and verified NOx control devices in offset formulas. (CNGVC)

Agency Response: As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

4. Comment: Keep the current 2007 standard. Where the standard is waived, if the cleanest diesel equipment available is purchased, require the property to pay for additional emission reductions, either from its own fleet or from another fleet of buses or trucks in its air basin. These reductions would make the State whole for the emission reductions expected from implementing the 2007 standard. (TSDEF)

Agency Response: As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

5. Comment: For every non-compliant bus purchased, an existing bus within the same fleet must be retrofitted with a verified NOx control. If no other buses within that fleet are available for retrofit, funds equivalent to cost of the retrofit shall be deposited in an account established for NOx emission reductions measures. The in-lieu payment shall be borne by the engine manufacturer selling a non-compliant engine. (PG&E)

Agency Response: As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

6. Comment: We propose that ARB adopt a variation to the rule that allows a transit bus operator to purchase a non-compliant conventional bus only if 1) they purchase the cleanest available option; and 2) for every non-compliant bus purchased, an existing bus within the same fleet must be retrofitted with a verified NOx control, and 3) if no other buses within the fleet are available for retrofit, funds equivalent to cost of the retrofit shall be deposited in an account established for NOx emission reductions measures. The in-lieu payment shall be borne by the engine manufacturer selling a non-compliant engine. (Modesto)

Agency Response: As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

7. Comment: Supports staff proposal for retrofits in return for buying buses that don't meet the current standards. This provides flexibility in the rule that allows transit agencies that need to purchase diesel buses the option to do so and also maintain some of the benefits that we expected from the engine standards that are currently on the books. (Enviro Coalition)

Agency Response: As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

8. Comment: Support one-to-one mitigation as an alternative to keeping standard. We would also like to see you do everything possible to promote additional NOx reduction beyond the one-to-one. We also want to see you write into the regulation a requirement that transits that are on the diesel path that cannot buy complying buses and do go ahead and buy non-complying diesel technology buses, they buy the cleanest diesel bus that's available. (Enviro Coalition)

Agency Response: As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

9. Comment: Support mitigating for those operators that need to purchase diesel buses. We also think that you need to require transit properties offset the emissions of non-compliant engines. (BAAQMD)

Agency Response: As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

10. Comment: Supports exemption with a one-to-one mitigation across fleets. WSPA supports allowing regulated entities some flexibility in how they comply with state regulations in order to ensure the regulations get implemented in a cost-effective manner based on individual business variations. Therefore, WSPA supports the staff's optional policy decision to align. (WSPA)

Agency Response: As reflected in the numerous comments, various options for mitigation were suggested. The Board's approval in Resolution 05-61 of the mitigations that are reflected in the final regulation order for section 2023.1 represent the Board's view of the options that provide the greatest flexibility to transit agencies while achieving significant mitigation.

**D. Require all transit agencies (statewide) to purchase/lease only alternative-fuel buses.**

1. Comment: General opposition to a statewide alternative fuel mandate because of the lack of infrastructure availability throughout the State and the capital expenses already spent by transit agencies on the diesel path. In some cases, alternative fuel vehicles are not a viable option given the necessary duty cycles required by some transit authorities. (MUNI, ACT, Lake, HTA, RCRC, Samtrans, MTA, VTA, WSPA, GGT, MTC, TSDEF, Hayward, Richmond, RTA, FL#2)

Agency Response: Comment noted. The Board did not adopt this option; rather the Board acted to align the urban bus standard with the heavy-duty truck engine standard. This action maintains the status quo for transit agencies as diesel and alternative fuel engines will be able for transit agencies on the diesel fuel path and those on the alternative fuel path.

2. Comment: This [statewide mandate to alternative fuel path] would create competition for the limited supply of natural gas and thus increase the price of

natural gas. Any conversion to an alternative fuel path would require funds be diverted from transit services in order to install infrastructure, purchase vehicles, and pay for higher operating costs associated with maintenance. No backfill is available to fund services on the streets. This would result in service cuts effecting the poor and transit dependant, youth, seniors, and disabled populations. (AC Transit)

Agency Response: See response to Comment D-1 above.

3. Comment: Maintain technology and fuel neutrality in all aspects of ARB transit fleet rules and engine regulations, and accept and allow technology that meets adopted emission standards, including diesel-electric hybrid buses on the diesel path starting in 2007. (MST, GGT, RTA, SLO, SBMTD)

Agency Response: Comment noted. The Board did not adopt this option, but did require all transit agencies within the South Coast District to follow the alternative-fuel path. The alternative-fuel path requires 85 percent of a transit agency's urban bus annual purchases be fueled by alternative fuel. Of the 17 transit agencies in the South Coast District subject to ARB's Fleet Rule for Transit Agencies, eleven are on the alternative-fuel path and under current state law must continue to purchase alternative fuel buses through 2015. These agencies represent 90 percent (4120 buses) of the transit buses in the South Coast District.

The Board's decision also reflects a balancing of legal and policy considerations. By amending ARB's fleet rule to require that all transit agencies within the South Coast District follow the alternative fuel path, the Board assists the South Coast District in continuing to exercise its authority in Health and Safety Code (HSC) section 40447.5. This statute authorizes the South Coast District to impose alternative fuel requirements on fleets within its jurisdiction. Further, the Board's assistance to the South Coast District is consistent with the Board's authority in Health and Safety Code section 39605 to provide any assistance to any district.

4. Comment: To require transit operators, least of all small transit operators with less than 100 buses in the entire fleet, to convert to alternative fuel urban buses would be a substantially inappropriate investment of public funds. (Roseville)

Agency Response: Comment noted. The Board did not adopt this option for transit agencies outside of the South Coast District. See the response to Comment D-3.

5. Comment: It is the District's position that the Board cannot legally adopt the regulations because the Board has not complied with its own regulations implementing the California Environmental Quality Act (CEQA). The financial costs associated with the proposed regulation have been woefully underestimated. The proposed policy is contrary to the Board's Environmental Justice policy. Finally, if adopted, the regulation constitutes a "state mandated program" for which the State is responsible for compensating the 48 transit agencies that adopted the "diesel path" for the costs of compliance. (ACTransit)

Agency Response: Comment noted. The Board has not required transit districts outside the South Coast District to be on the alternative fuel path. See the response to Comment D-3.

6. Comment: Supports fuel neutrality. Encourage clients to buy the cleanest. If standards are aligned with EPA, we will likely defer further emissions reduction and develop more cost effective systems with those standards that are met. Complex R&D needs market certainty. (ISE)

Agency Response: ARB appreciates the cooperation from industry and looks forward to working the industry in the future.

7. Comment: I would ask you not to fall for false choices. The choice Option 3 to go to natural gas option only is a false choice. You'd have to redo the rule. We never asked you to do that. All we asked for is for public health standard to be maintained and for you to require the transit agencies to meet it. (CCA)

Agency Response: Comment noted. The Board did not adopt this option for transit agencies outside of the South Coast District. See the response to Comment D-3.

#### **IV. SUMMARY OF 15-DAY SUPPLEMENTAL COMMENTS AND AGENCY RESPONSES**

During the 15-day supplemental comment period, the Board received written comments from:

Kevin Beach	City of Westminster
John Dayton/Richard Hunt	Metropolitan Transportation Authority (MTA)
Susan Chiaroni	Golden Gate Bridge Highway & Trans District (GGT)

The comment letter from GGT supported the Board's modifications to the proposed amended regulations. The other two comment letters did not direct any objections or recommendations at the Board's proposed modifications or to the procedures followed by the Board in rulemaking action.