ATTACHMENT II

REGULATORY AMENDMENTS

TEXT OF THE 15-DAY MODIFICATIONS TO:
REGULATION FOR A PUBLIC TRANSIT BUS FLEET RULE AND EMMISSION STANDARDS FOR NEW URBAN BUSES

TEXT OF THE 15-DAY MODIFICATIONS

Amend the following sections of title 13, California Code of Regulations, to read as set forth on the following pages:

Section 1956.1	Exhaust Emission Standards and Test Procedures – 1985 and Subsequent Model Heavy Duty Urban Bus Engines and Vehicles.
Section 1956.2	Fleet Rule for Transit Agencies
Section 1956.4	Reporting Requirements for all Urban Bus Transit Agencies

Notes:

a) Paragraphs within these sections that are not proposed for amendment in this rulemaking are indicated by "[No Change]".

b) The proposed regulatory amendments adopted by the Board on October 25, 2002 are shown in underline to indicate additions to the text and ~~strikeout~~ to indicate deletions.

c) The modifications to the original proposal are shown in double underline to indicate additions and ~~double strikethrough~~ to indicate deletions.

d) Adopted amendments in a separate rulemaking, "Public Hearing to Adopt the Incorporation of Federal Exhaust Emission Standards for 2008 and Later Model-Year Heavy-Duty Gasoline Engines and the Adoption of Minor Amendments to the Low-Emission Vehicle Regulations" considered by the Board at the December 12, 2002 hearing, are separately shown in dotted underline and ***~~bold italic strikethrough~~*** to indicate additions and deletions, respectively.

Amend section 1956.1 to read as follows:

1956.1 Exhaust Emission Standards and Test Procedures - 1985 and Subsequent Model Heavy Duty Urban Bus Engines and Vehicles

(a) [No Change]

(1) [No Change]

(2) [No Change]

(3) [No Change]

(4) [No Change]

(5) [No Change]

(6) [No Change]

(A) [No Change]

(B) ~~[No Change]~~ 1998 through 2003 model year engines may generate averaging, banking, and trading credits in accordance with the requirements for averaging, banking and trading programs set forth in "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy Duty Diesel Engines and Vehicles" incorporated by reference in subdivision ~~(b)~~ (c) of this section.

(C) ~~[No Change]~~ Manufacturers may choose to certify 1998 through 2002 model year bus engines produced before October 1, 2002, to an optional NOx emissions standard between 0.5 g/bhp-hr and 2.5 g/bhp-hr. A manufacturer may certify to any standard between the values of 2.5 g/bhp-hr and 0.5 g/bhp-hr, by 0.5 g/bhp-hr increments. Manufacturers may not use engines certified to this optional NOx standard for any averaging, banking, or trading program set forth in "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy Duty Diesel Engines and Vehicles" incorporated by reference in subdivision ~~(b)~~ (c) of this section.

(7) ~~[No Change]~~ October 1, 2002, PM standard - For diesel-fueled, dual-fuel, and bi-fuel bus engines except for heavy-duty pilot ignition engines, the PM standard shall be 0.01 g/bhp-hr (0.01 PM g/bhp-hr in-use) for 2002 and subsequent model year engines produced beginning October 1, 2002. Manufacturers may choose to meet this standard with an aftertreatment system that reduces PM to 0.01 g/bhp-hr.

(8) ~~[No Change]~~ October 2002-2006 optional standards – Except for diesel-fueled, dual-fuel, and bi-fuel engines but including heavy-duty pilot ignition engines, manufacturers may choose to certify 2002 – 2006 model year bus engines produced beginning October 1, 2002, to an optional 1.8 g/bhp-hr to 0.3 g/bhp-hr NOx plus NMHC standard, measured as the arithmetic sum of the NOx and NMHC exhaust component certification values, without restriction on individual component certification values; provided that engines certified to this optional reduced-emission NOx plus NMHC standard may not participate in any averaging, banking, or trading program set forth in the test procedures document incorporated by reference in subdivision ~~(b)~~ (c) of this section. A manufacturer may certify to any standard between the values of 1.8 g/bhp-hr to 0.3 g/bhp-hr, by 0.3 g/bhp-hr NOx + NMHC increments. Manufacturers certifying to this optional standard must also certify to a PM standard of 0.03, 0.02, or 0.01 g/bhp-hr.

(9) ~~[No Change]~~ October 2002-2003 optional standards for diesel-fueled, dual-fuel, and bi-fuel engines except for heavy-duty pilot ignition engines -- Manufacturers may choose to certify 2002 – 2003 model year diesel-fueled, dual-fuel, and bi-fuel bus engines produced beginning October 1, 2002, to an optional 1.8 g/bhp-hr to 0.3 g/bhp-hr NOx plus NMHC standard, measured as the arithmetic sum of the NOx and NMHC exhaust component certification values, without restriction on individual component certification values; provided that engines certified to this optional reduced-emission NOx plus NMHC standard may not participate in any averaging, banking, or trading program set forth in the test procedures document incorporated by reference in subdivision ~~(b)~~ (c) of this section. A manufacturer may certify to any standard between the values of 1.8 g/bhp-hr to 0.3 g/bhp-hr, by 0.3 g/bhp-hr NOx + NMHC increments. Manufacturers certifying to this optional standard must also certify to a PM standard of 0.01 g/bhp-hr.

(10) [No Change]

(11) ~~[No Change]~~ 2004-2006 – For diesel-fueled, or dual-fuel, and bi-fuel urban bus engines except for heavy-duty pilot ignition engines, the standards are 0.5 g/bhp-hr NOx, 0.01 g/bhp-hr PM, 0.05 g/bhp-hr NMHC, 5.0 g/bhp-hr CO, and 0.01 g/bhp-hr formaldehyde. As an option, manufacturers may choose to meet the NOx and PM standards with a base engine that is certified to the standards in paragraph (10) above, equipped with an aftertreatment system that reduces NOx to 0.5 g/bhp-hr and PM to 0.01 g/bhp-hr standards. The NMHC, CO, and formaldehyde standards in this paragraph (11) shall still apply. Manufacturers shall be responsible for full certification, durability, testing, and warranty and other requirements for the base engine. For the aftertreatment system, manufacturers shall not be subject to the certification durability requirements, or in-use recall and enforcement provisions, but are subject to warranty provisions for functionality.

(12) [No Change]

(b) 2003-2006 – A bi-fuel engine meeting the definition of a heavy-duty pilot ignition engine set forth in section1956.2 (b)(4) may be certified to the standards in section1956.1 (a) (8) and (a)(10), provided that the engine is certified to an optional PM standard of 0.03, 0.02, or 0.01 g/bhp.hr.

~~(b)~~ (c) The test procedures for determining compliance with standards applicable to 1985 and subsequent heavy-duty diesel cycle urban bus engines and vehicles and the requirements for participation in the averaging, banking and trading programs, are set forth in the "California Exhaust Emission Standards and Test Procedures for 1985 through 2003 ***~~and Subsequent~~*** Model Heavy-Duty Diesel Engines and Vehicles," adopted April 8, 1985, as last amended ***~~December 8, 2000~~*** [insert last amended date], "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines," adopted [insert date of adoption], and the "California Interim Certification Procedures for 2004 and Subsequent Model Hybrid-Electric Vehicles, in the Urban Bus and Heavy-Duty Vehicle Classes", adopted [insert adopted date],which ~~is~~ are incorporated by reference herein.

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43100, 43101, 43104, and 43806 Health and Safety Code and section 28114 Vehicle Code

Reference: Sections 39002, 39003, 39017, 39033, 39500, 39650, 39657, 39667, 39701, 40000, 43000, 43000.5, 43009, 43013, 43018, 43102, 43806, Health and Safety Code, and section 28114 Vehicle Code.

Amend section 1956.2 to read as follows:

1956.2 Fleet Rule for Transit Agencies

(a) To encourage transit agencies that operate urban bus fleets to purchase or lease lower emission alternative-fuel buses, while also providing flexibility to such fleet operators to determine their optimal fleet mix in consideration of such factors as air quality benefits, service availability, cost, efficiency, safety, and convenience, two paths to compliance with this fleet rule are available: the alternative-fuel path and the diesel path.

(1) Transit agencies must choose their compliance path, and shall notify ARB of their intent to follow either the diesel or the alternative-fuel path, by January 31, 2001. Reporting requirements for that notification are set forth in subdivisions (a) and (b) of section 1956.4, ~~T~~title 13, CCR.

(2) A transit agency within the jurisdiction of the South Coast Air Quality Management District may elect to change its compliance path from the diesel path to the alternative-fuel path, provided that the transit agency notifies the Executive Officer of the change by January 31, 2004, and provided that the transit agency is in compliance with all requirements of this rule, including specific requirements of the diesel path, on or before January 1, 2004. Reporting requirements for this notification are set forth in paragraph (b)(3) of section 1956.4, title 13, CCR.

(b) For ~~the~~ purpose**s** of the fleet rule specified in this section, the following definitions apply:

(1) "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 ~~except as a pilot ignition source at an average ratio of less than 1 part diesel fuel to 10 parts total fuel on an energy equivalent basis.~~ Alternative fuel also means any of these fuels used in combination with each other or in combination with other non-diesel fuels. ~~Urban bus engines operating on alternative fuel shall not have the capability to idle or operate solely on diesel fuel at any time.~~

(2) "Active fleet" means the ~~a transit agency's~~ total ~~active fleet~~ number of urban buses operated by a transit agency or

under contract to a transit agency, including spare buses, but not emergency contingency vehicles ~~(e.g., for emergencies)~~ or non-revenue producing vehicles.

(3) "Emergency contingency vehicle" means an urban bus placed in an inactive contingency fleet for energy or other local emergencies, after the urban bus has reached the end of its normal minimum useful life.

(4) "Heavy-duty pilot ignition engine" means an engine designed to operate using an alternative fuel, except that diesel fuel is used for pilot ignition at an average ratio of no more than 1 part diesel fuel to 10 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.

~~(4)~~ (5)"Spare bus" means an urban bus that is used to accommodate routine maintenance and repair operations, and to replace a bus in scheduled service that breaks down or is involved in an accident.

~~(35)~~(6)"Transit agency" means a public entity responsible for administering and managing transit services. Public transit agencies can directly operate transit service or contract out for all or part of the total transit service provided.

~~(46)~~(7)"Urban bus" means a passenger-carrying vehicle powered by a heavy heavy-duty diesel engine, or of a type normally powered by a heavy heavy-duty diesel engine, with a load capacity of fifteen (15) or more passengers and intended primarily for intra-city operation, i.e., within the confines of a city or greater metropolitan area. Urban bus operation is characterized by short rides and frequent stops. To facilitate this type of operation, more than one set of quick-operating entrance and exit doors would normally be installed. Since fares are usually paid in cash or token, rather than purchased in advance in the form of tickets, urban buses would normally have equipment installed for the collection of fares. Urban buses are also typically characterized by the absence of equipment and facilities for long distance travel, e.g., restrooms, large luggage compartments, and facilities for stowing carry-on luggage.

(c) Transit agencies on the alternative-fuel path shall meet the following requirements:

(1) Upon approval of the regulation, and through Model Year 2015, at least 85 percent of all urban buses purchased or leased each year must be alternative-fuel buses or buses with engines purchased under section (c)(9).

(2) NOx fleet average requirements as set forth in subdivision (e), below.

(3) Beginning October 1, 2002, only engines certified to an optional PM standard of 0.03 g/bhp-hr or lower shall be purchased when making new bus purchases.

(4) Total diesel PM ~~retrofit~~ emission reduction requirements and use of low-sulfur or other allowed fuel as set forth in subdivision (f), below.

(5) Transit agencies on the alternative-fuel path shall not purchase any diesel-fueled, dual-fuel, or bi-fuel buses with 2004 – 2006 model year engines certified to emissions levels in excess of those specified in paragraph (a)(11) of section 1956.1, ~~T~~title 13, CCR, except as provided in paragraph (c)(8) or (c)(9) of this section.

(6) Zero-emission bus purchase requirements beginning in model year 2010, in accordance with the requirements set forth in subdivision (c) of section 1956.3, ~~T~~title 13, CCR.

(7) Reporting requirements as set forth in section 1956.4, ~~T~~title 13, CCR.

(8) The Executive Officer may exempt transit agencies on the alternative-fuel path from the requirements of paragraph (c)(5) of section 1956.2, ~~T~~title 13, CCR, provided that:

(A) A transit agency applies to the Executive Officer for such exemption by June 30, 2001;

(B) A transit agency demonstrates to the Executive Officer that it will achieve NOx emissions benefits through 2015 greater than what would have been achieved through compliance with paragraph (c)(5); and

(C) The Executive Officer finds that transit agencies, after consulting with the Engine Manufacturers Association, have demonstrated, or are contractually committed to demonstrate, advanced NOx aftertreatment technology.

(9) A transit agency on the alternative-fuel path may purchase a bus operated with a heavy-duty pilot ignition engine provided the engine meets the standards set forth in subdivision (b) of section 1956.1.

(d) Transit agencies on the diesel path shall meet the following requirements:

(1) NOx fleet average requirements as set forth in subdivision (e), below.

(2) Total diesel PM ~~retrofit~~ emission reduction requirements and use of low-sulfur or other allowed fuel as set forth in subdivision (f), below.

(3) Zero-emission bus demonstration in 2003-2004, as required in subdivision (b) of section 1956.3, ~~T~~title 13, CCR.

(4) Transit agencies on the diesel path shall not purchase any diesel-fueled, dual-fuel, or bi-fuel~~, or alternative-fuel~~ buses with 2004 – 2006 model year engines certified to emissions levels in excess of those specified in paragraph (a)(11) of section 1956.1, ~~T~~title 13, CCR, except as provided in paragraph (d)(7) or (d)(8) of this section. Beginning July 1, 2003, a transit agency may not purchase alternative fuel buses certified to a PM emission level in excess of the optional standard of 0.03 g/bhp-hr when making new bus purchases.

(5) Zero-emission bus purchase requirements beginning in model year 2008, in accordance with the requirements set forth in subdivision (c) of section 1956.3, ~~T~~title 13, CCR.

(6) Reporting requirements as set forth in section 1956.4, ~~T~~title 13, CCR.

(7) The Executive Officer may exempt transit agencies on the diesel path from the requirements of paragraph (d)(4) of section 1956.2, ~~T~~title 13, CCR, provided that:

(A) A transit agency applies to the Executive Officer for such exemption by June 30, 2001;

(B) A transit agency demonstrates to the Executive Officer that it will achieve NOx emissions benefits through 2015 greater than what would have been achieved through compliance with paragraph (d)(4); and

(C) The Executive Officer finds that transit agencies, after consulting with the Engine Manufacturers Association, have demonstrated, or are contractually committed to demonstrate, advanced NOx aftertreatment technology.

(8) A transit agency on the diesel-fuel path may purchase a bus operated with a heavy-duty pilot ignition engine provided the engine meets the standards set forth in subdivision (b) of section 1956.1.

(e) Beginning October 1, 2002, no transit agency shall own, operate, or lease an active fleet of urban buses with average NOx emissions in excess of 4.8 g/bhp-hr, based on the engine certification standards of the engines in the active fleet.

(1) This active fleet average requirement shall be based on urban buses owned, operated, or leased by the transit agency, including diesel buses, alternative-fuel buses, all heavy-duty zero-emission buses, electric trolley buses, and articulated buses, in each transit agency's active fleet. The Executive Officer may allow zero-emission buses that do not meet the definition of an urban bus to be included in the calculation of the fleet average standard upon written request to the ARB by January 31, 2002, and upon approval by the Executive Officer. The request shall include a description of the zero-emission buses, the zero-emission technology utilized, and the number of zero-emission buses to be used in calculating the NOx fleet average standard. Zero-emission buses not meeting the definition of an urban bus may not be used to satisfy the requirements of the Zero-emission Bus Demonstration Project set forth in subdivision (b) of section 1956.3, title 13, CCR.

(2) Transit agencies may use ARB-certified NOx retrofit systems to comply with the fleet average requirement (in addition to bus purchases, repowerings, and retirements).

(3) Transit agencies have the option of retiring all 1987 and earlier model year diesel urban buses by October 1, 2002, to comply with the fleet average standard requirement.

(f) To reduce public exposure to diesel particulate matter, each transit agency ~~agencies and companies that lease buses to transit agencies shall retrofit~~ shall reduce the total diesel PM emissions of the diesel buses in ~~their~~ its active fleet~~s~~ relative to its total diesel PM emissions as of January 1, 2002, according to the schedule below, and shall operate ~~their~~ its diesel buses on diesel fuel with a maximum sulfur content of 15 parts per million by weight. A transit agency shall calculate its diesel PM emission total by summing the PM exhaust emission values specified in section 1956.1(a) for each diesel-fueled, dual-fuel, bi-fuel (except for heavy-duty pilot ignition

engines), and diesel hybrid-electric engine in its active fleet in grams per brake horsepower-hour (g/bhp-hr). For 1987 and earlier engines, the PM exhaust emission value shall be presumed to be 1.0 g/bhp-hr. Documentation of compliance with these requirements must be provided in accordance with the provisions of subdivision (d) of section 1956.4, ~~T~~title 13, CCR.

(1) ~~Tier 1 – Except as provided in (B) below, by January 1, 2003, transit agencies shall not own, operate or lease diesel-fueled, dual-fuel, bi-fuel, or diesel hybrid buses in their active fleets with 1990 and earlier model year engines, unless those engines have been retrofitted as provided in paragraph (A), below. Transit agencies with fewer than 20 buses in their active fleets, and that operate in federal one-hour ozone attainment areas, are not required to comply with this requirement until January 1, 2007; provided that in areas redesignated as one-hour ozone non-attainment areas prior to January 1, 2007, transit agencies initially eligible for delayed compliance shall submit a plan to the Executive Officer within 30 days of redesignation for achieving compliance with this retrofit requirement.~~No later than January 1, 2004:

(A) ~~The retrofit device must be certified by the Executive Officer of the ARB in accordance with the procedures set forth in the "California Certification Procedures for PM Retrofit Devices for On-Road Heavy-Duty Diesel Engines" incorporated by reference in paragraph (f)(7) below.~~ The diesel PM emission total for a transit agency on the diesel path shall be no more than 60 percent of its diesel PM emission total on January 1, 2002.

(B) ~~1990 and earlier engines were originally certified to a PM standard of 0.60 grams per brake horsepower-hour. Only those 1990 and earlier engines that have been retrofitted to 0.10 grams per brake horsepower-hour PM with an ARB-certified retrofit device (to meet the requirements of the U.S. EPA urban transit bus rebuild and retrofit program, 40 CFR 85.1401 - 1415) are exempt from further retrofit requirements under this section.~~ The diesel PM emission total for a transit agency on the alternative fuel path shall be no more than 80 percent of its diesel PM emission total on January 1, 2002.

(2) ~~Tier 2 -- Transit agencies shall not own, operate or lease diesel-fueled, dual-fuel, bi-fuel, or diesel hybrid transit buses in their active fleets with 1991 through 1995 model year engines, unless the engines have been retrofitted with a device that has been certified by the Executive Officer in accordance with the procedures set forth in the "California Certification Procedures for PM Retrofit Devices for On-Road Heavy-Duty Diesel Engines" incorporated by reference in paragraph (f)(7) below, and in accordance with the following schedule. Transit agencies with fewer than 20 buses in their active fleets, and that operate in federal one-hour ozone attainment areas shall comply with the 100 percent retrofit requirement by January 1, 2007, and are exempt from the interim requirements described in (A) and (B) below that apply before that date. In areas redesignated as one-hour ozone non-attainment areas prior to January 1, 2007, transit agencies initially exempt from the interim requirements shall submit a plan to the Executive Officer within 30 days of redesignation for achieving compliance with this retrofit requirement.~~ No later than January 1, 2005:

(A) ~~Alternative-fuel path: 20 percent of these buses shall be retrofitted by January 1, 2003; 75 percent of these buses shall be retrofitted by January 1, 2004; and 100 percent of these buses shall be retrofitted by January 1, 2005, except for those buses eligible for the retirement exemption set forth in paragraph (f)(4), below.~~ The diesel PM emission total for a transit agency on the diesel path shall be no more than 40 percent of its diesel PM emission total on January 1, 2002.

(B) ~~Diesel path: 50 percent of these buses shall be retrofitted by January 1, 2003; and 100 percent of these buses shall be retrofitted by January 1, 2004, except for those buses eligible for the retirement exemption set forth in paragraph (f)(4), below.~~ The diesel PM emission total for a transit agency on the alternative fuel path shall be no more than 60 percent of its diesel PM emission total on January 1, 2002.

(3) ~~Tier 3 -- Transit agencies shall not own or operate diesel-fueled, dual-fuel, bi-fuel, or diesel hybrid buses in their active fleets with 1996 through 2002 model year engines produced before October 1, 2002, unless the engines have been retrofitted with a device that has been certified by the~~

~~Executive Officer in accordance with the procedures set forth in the "California Certification Procedures for PM Retrofit Devices for On-Road Heavy-Duty Diesel Engines" incorporated by reference in paragraph (f)(7) below, and in accordance with the following schedule.~~ No later than January 1, 2007:

(A) ~~Alternative-fuel path: 20 percent of these buses shall be retrofitted by January 1, 2007; 75 percent of these buses shall be retrofitted by January 1, 2008; and 100 percent of these buses shall be retrofitted by January 1, 2009, except for those buses eligible for the retirement exemption set forth in paragraph (f)(4), below.~~ The diesel PM emission total for a transit agency on the diesel path shall be no more than 15 percent of its diesel PM emission total on January 1, 2002.

(B) ~~Diesel path: 20 percent of these buses shall be retrofitted by January 1, 2005; 75 percent of these buses shall be retrofitted by January 1, 2006; and 100 percent of these buses shall be retrofitted by January 1, 2007.~~ The diesel PM emission total for a transit agency on the alternative fuel path shall be no more than 40 percent of its diesel PM fleet average on January 1, 2002.

(4) ~~For transit agencies on the alternative-fuel path, those buses that are within two years of retirement are exempt from the 100 percent retrofit requirement set forth in paragraphs (2)(A) and (3)(A), above, provided documentation of retirement is supplied to the Executive Officer in accordance with the requirements set forth in paragraph (d)(2) of section 1956.4, Title 13, CCR.~~ No later than January 1, 2009, the diesel PM emission total for a transit agency on the alternative fuel path shall be no more than 15 percent of its diesel PM emission total on January 1, 2002.

~~For transit agencies on the diesel path, those buses that are within one year of retirement are exempt from the 100 percent retrofit requirement set forth in paragraph (2)(B), above, provided documentation of retirement is supplied to the Executive Officer in accordance with the requirements set forth in paragraph (d)(2) of section 1956.4, Title 13, CCR.~~

(5) A transit agency that is unable to comply with an implementation deadline specified in paragraph (f)(1), (2), (3), or (4) because of the unavailability of technology may apply in writing to the Executive Officer for an extension to comply no later than ninety days prior to the applicable implementation deadline, for a time of up to, but not to exceed, one year. The applicant must demonstrate that the technology is unavailable; shall explain why the transit agency cannot comply by retiring older buses; and shall provide a schedule for compliance.

~~(5)~~(6) Beginning July 1, 2002, a transit ~~agencies~~ agency shall not operate its diesel buses on diesel fuel with a sulfur content in excess of 15 parts per million by weight, except that a transit agency may operate its diesel buses on a fuel that is verified by the Executive Officer as a diesel emission control strategy that reduces PM in accordance with section 2700 et seq., title 13, CCR. A t~~T~~transit ~~agencies~~ agency with fewer than 20 buses in ~~their~~ its active fleet~~s~~, and that operates in a federal one-hour ozone attainment area~~s~~, ~~are~~ is not subject to this low-sulfur fuel requirement until July 1, 2006. In areas redesignated as one-hour ozone non-attainment areas prior to July 1, 2006, a transit ~~agencies~~ agency initially exempt from the low-sulfur fuel requirement shall submit a plan to the Executive Officer within 30 days of redesignation for achieving compliance with this requirement.

~~(6)~~(7) A t~~T~~transit ~~agencies~~ agency that owns, operates, or leases ~~a~~ fewer than 20 diesel-fueled, dual-fuel, bi-fuel, or diesel hybrid-electric buses in its active fleet and that operates in a federal one-hour ozone attainment area may delay implementation of the intermediate total diesel PM emission reduction requirements provided the transit agency complies with the implementation deadlines set forth in paragraphs (f)(3)(A) or (f)(4). ~~with an engine for which a retrofit device is not, or will not be, available to meet the retrofit requirements within 6 months of the dates specified in paragraphs (f)(1) through (f)(3) shall be eligible for a one-year delay in complying with the retrofit requirements, upon submittal of documentation of device unavailability to the ARB in writing at least 30 days before the retrofit requirement becomes applicable and upon approval of the delay by the Executive Officer of the ARB.~~

~~(7)~~(8) ~~The retrofit certification procedures for use in complying with the PM retrofit requirements for 2002 model year diesel-fueled, dual-fuel and bi-fuel urban bus engines produced before October 1, 2002, and earlier model year urban bus engines (including engines used in diesel hybrid buses) are set forth in the "California Certification Procedures for PM Retrofit Devices for On-Road Heavy-Duty Diesel Engines" adopted November 22, 2000, which are incorporated herein by reference.~~A transit agency that installs a diesel emission control strategy to reduce diesel PM shall use a diesel emission control strategy that is verified by the Executive Officer in accordance with section 2700 et seq., title 13, CCR, or an urban bus retrofit device that has been exempted under Vehicle Code section 27156 as an engine rebuild kit and that reduces PM to 0.10 g/bhp-hr when used on an engine model 6V92TA DDEC for the model years specified for that engine.

(9) A transit agency that installs a diesel emission control strategy on an urban bus engine shall use the following percentage reductions from the engine certification standard value when calculating its total diesel PM emissions: 25 percent for a Level 1, 50 percent for a Level 2, and 85 percent for a Level 3 diesel emission control strategy.

(g) A transit agency with fewer than 20 buses in its active fleet may apply for an extension to comply with the provisions of section 1956.2 by submitting documentation of financial hardship to the Executive Officer, in writing, at least 30 days before the requirement becomes applicable for approval by the Executive Officer. Documentation of financial hardship shall include, but is not limited to, an analysis of the cost of compliance, the sources of available funds, and the shortfall between funds available and the cost of compliance. The transit agency must also specify the date and means by which compliance will be achieved in the request for a delay.

NOTE: Authority cited: Sections 39600, 39601, 39667, 43013, 43018, 43701(b) Health and Safety Code. Reference: Sections 39002, 39003, 39017, 39500, 39650, 39667, 40000, 43000, 43000.5, 43013, 43018, 43701(b), 43801, 43806 Health and Safety Code, and sections 233, 28114, Vehicle Code.

Amend section 1956.4 to read as follows:

1956.4 Reporting Requirements for all Urban Bus Transit Agencies

(a) The following reports on new bus purchases and/or leases by transit operators on the alternative-fuel path shall be submitted as described below:

(1) The initial report shall be submitted by January 31, 2001, and shall state the transit agency's intent to follow the alternative-fuel path.

(2) Any requests for deviation from the requirement that 85 percent of buses purchased per year must be alternative-fuel buses must be submitted in writing and approved by the Executive Officer of the Air Resources Board 90 days prior to purchase. The written request must include the reason for requesting the deviation from the 85 percent annual purchase requirement and the transit agency's future planned alternative-fuel bus purchases.

(3) Each t~~T~~ransit agency~~ies~~ shall submit an annual report~~s~~ containing: the number, manufacturer, make, and model year of engines, and fuel used ~~for engines in~~ for each transit bus~~es~~ it ~~they~~ currently owns or operates, bus purchases and/or leases beginning January 1, 2000, and annual average percentage of total bus purchases and/or leases that were alternative-fuel buses. The first report shall be submitted by January 31, 2001. Subsequent reports shall be submitted annually by January 31 through the year 2016.

(b) The following reports on new bus purchases and/or leases by transit operators on the diesel path shall be submitted as described below:

(1) The initial report shall be submitted by January 31, 2001, and shall state the transit agency's intent to follow the diesel path.

(2) Each t~~T~~ransit agency~~ies~~ shall submit an annual report~~s~~ containing the number, manufacturer, make, and model year of engines, and fuel used ~~for engines in~~ for each transit bus~~es~~ it ~~they~~ currently owns or operates, and bus purchases and/or leases beginning January 1, 2000. The first report shall be submitted by January 31, 2001. Subsequent reports

shall be submitted annually by January 31 through the year 2016.

(3) A transit agency within the jurisdiction the South Coast Air Quality Management District that chooses to change from the diesel path to the alternative fuel path in accordance with paragraph (a) (2) of section 1956.2, title 13, CCR, must submit to the Executive Officer a letter of intent to follow the alternative fuel path no later than January 31, 2004. The letter of intent shall contain a statement certifying that the transit agency is in compliance with all provisions of the fleet rule for transit agencies on or before January 1, 2004.

(c) Each transit agency shall submit t~~T~~he following reports on the NOx fleet average requirement~~ shall be submitted as described below~~:

(1) Initial documentation shall be submitted by January 31, 2001, and contain, at a minimum, the active urban bus fleet NOx emission average, and if that number exceeds the average required in subdivision (e), section 1956.2, title 13, CCR, a schedule of actions planned to achieve that average by October 1, 2002, including numbers and model years of bus purchases, retirements, retrofits, and/or repowerings, or shall indicate the intent of the transit agency to retire all model year 1987 and earlier buses in its active fleet by October 1, 2002.

(2) A final report shall be submitted by January 31, 2003, detailing the active urban bus fleet NOx emission average as of October 1, 2002, and actions, if any were needed, taken to achieve that standard, including numbers and model years of bus purchases, retirements, retrofits, and/or repowerings, or documenting the retirement of all model year 1987 and earlier buses.

(d) Each transit agency shall submit t~~T~~he following reports on the total diesel PM ~~bus retrofit~~ emission reduction requirements~~ shall be submitted as described below~~:

(1) An i~~I~~nitial annual report~~s~~ shall be submitted by January 31, 2003, ~~the dates shown below~~ and shall contain, at a minimum, the following information:

(A) number, manufacturer, make, and model year of diesel-fueled, dual-fuel, bi-fuel (except for heavy-duty pilot ignition engines), and diesel hybrid-electric

engines in urban buses in the active fleet; the PM engine certification value of each of those bus engines; the diesel PM emission total for the diesel buses in the active fleet; and the diesel PM emission total for the baseline date of January 1, 2002. ~~projected number and model year of buses to be retrofitted annually, projected number and model year of exempt buses, if any, and basis for exemption~~.

(B) ~~for transit agencies on the alternative-fuel path, a report for Tier 1 and Tier 2 requirements shall be submitted by January 31, 2002; a report for Tier 3 requirements shall be submitted by January 31, 2005~~ For each urban bus~~,~~ for which a diesel emission control strategy has been applied, the device's product serial number; its Diesel Emission Control Strategy Family Name in accordance with the requirements of section 2705 (g)(2), title 13, CCR; and the date of installation.

(C) ~~for transit agencies on the diesel path, a report for Tier 1 and Tier 2 requirements shall be submitted by January 31, 2002; a report for Tier 3 requirements shall be submitted by January 31, 2003~~.

(2) ~~Transit agencies shall submit annual reports, in accordance with the schedules in paragraphs (A) and (B) below, containing records of number and model year of diesel-fueled, dual-fuel, bi-fuel, and diesel hybrid buses in the active fleet, number and model year of buses retrofitted per year, retrofit devices used, number and model year of exempt buses, if any, and basis for exemption, and number and model year of buses retired, if any.~~ Annual reports shall be submitted each year beginning January 31, 2004 and each January 31 thereafter, through 2009, and shall contain the information required in ~~sections~~paragraphs (d)(1)(A) and (B) above plus the total percentage reduction of PM achieved from the baseline diesel PM emission total as of January 1 of each applicable year.

~~(A) for transit agencies on the alternative-fuel path, a report on compliance with Tier 1 requirements shall be submitted by January 31, 2003. For Tier 2, annual compliance reports shall be submitted by January 31, beginning in 2003 and ending in 2005. For Tier 3,~~

~~annual compliance reports shall be submitted by January 31, beginning in 2007 and ending in 2009.~~

~~(B) for transit agencies on the diesel path, a report on compliance with Tier 1 requirements shall be submitted by January 31, 2003. For Tier 2, annual compliance reports shall be submitted by January 31, beginning in 2003 and ending in 2004. For Tier 3, annual compliance reports shall be submitted by January 31, beginning in 2005 and ending in 2007.~~

(e) The following reports on the zero-emission bus demonstration program shall be submitted by those transit agencies required to conduct such demonstrations, as described below:

(1) Initial documentation shall be submitted by January 31, 2003, and contain, at a minimum, the bus order and delivery schedule, fuel type, type of refueling station, any planned facility modifications, and a revenue service demonstration plan;

(2) A financial plan shall be submitted by January 31, 2003, and contain, at a minimum, projected expenditures for capital costs for purchasing and/or leasing buses, refueling stations, any facility modifications, and projected annual operating costs;

(3) A final report shall be submitted by January 31, 2005, and contain, at a minimum, the following information:

(A) a brief description of the zero-emission technology utilized, identification of bus manufacturer and product specifications,

(B) miles driven per bus in revenue service, safety incidents, driver and mechanic training conducted, and maintenance (both scheduled and unscheduled),

(C) qualitative transit personnel and passenger experience, and

(D) a financial summary of capital costs of demonstration program, including bus purchases and/or leases, fueling infrastructure, any new facilities or modifications, and annual operating costs.

(f) The following reports on new zero-emission bus purchases and/or leases shall be submitted by transit agencies required to purchase zero-emission buses as described below:

(1) Initial report shall be submitted by January 1, 2007 for transit agencies on the diesel path, and by January 1, 2009, for transit agencies on the alternative-fuel path. The initial report shall contain, at a minimum, the following information:

(A) a brief description of the zero-emission technology to be utilized and a plan for the implementation of the requirement,

(B) for an exemption from the purchase requirement, documentation that 15 percent or more of the transit agency's active urban bus fleet is composed of zero-emission buses.

(2) Any requests for deviation from the requirement that 15 percent of buses purchased per year must be zero-emission buses must be submitted in writing and approved by the Executive Officer of the Air Resources Board 90 days prior to a transit agency submitting a purchase order(s) reflecting the purchase deviation. The written request shall include the reason for requesting the deviation and the transit agency's future planned zero-emission bus purchases.

(3) Transit agencies on the diesel path shall include in the annual reports required in paragraph (b)(2): zero-emission bus purchases and/or leases beginning with model year 2008 and through model year 2015, and the annual average percentage of total bus purchases and/or leases that were zero-emission buses.

(4) Transit agencies on the alternative-fuel path shall include in the annual reports required in paragraph (a)(3): zero-emission bus purchases and/or leases beginning with model year 2010 and through model year 2015, and the annual average percentage of total bus purchases and/or leases that were zero-emission buses.

(g) Transit agencies exempted from the requirements of paragraphs (c)(5) and (d)(4), section 1956.2, ~~T~~title 13, CCR, shall submit annual reports demonstrating that they are achieving NOx emission benefits required in paragraphs (c)(8)(B) and (d)(7)(B), section 1956.2, ~~T~~title 13, CCR. The

first report shall be submitted by January 31, 2005. Subsequent reports shall be submitted annually by January 31 through the year 2016.

NOTE: Authority cited: Sections 39600, 39601, 39659, 39667, 39701, 43018, 41511 Health and Safety Code. Reference: Sections 39667, 39700, 39701, 41510, 41511, 43000, 43000.5, 43013, 43018, 43801, 43806 Health and Safety Code.

Amend title 13, California Code of Regulations, section 1956.8, to read as follows:

1956.8. Exhaust Emissions Standards and Test Procedures - 1985 and Subsequent Model Heavy-Duty Engines and Vehicles.

(a) (1) [No Change]

(2) [No Change]

(3) [No Change]

(4) [No Change]

(b) The test procedures for determining compliance with standards applicable to 1985 and subsequent heavy-duty diesel engines and vehicles and the requirements for participation in the averaging, banking and trading programs, are set forth in the "California Exhaust Emission Standards and Test Procedures for 1985 through 2003 ***~~and Subsequent~~*** Model Heavy-Duty Diesel Engines and Vehicles," adopted April 8, 1985, as last amended ***~~December 8, 2000~~*** [insert last amended date], "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines," adopted [insert date of adoption], and the "California Interim Certification Procedures for 2004 and Subsequent Model Hybrid-Electric Vehicles, in the Urban Bus and Heavy-Duty Vehicle Classes", adopted [insert adopted date], which ~~is~~ are incorporated by reference herein.

(c) [No Change]

(d) The test procedures for determining compliance with standards applicable to 1987 and subsequent heavy-duty Otto-cycle engines and vehicles are set forth in the "California Exhaust Emission Standards and Test Procedures for 1987 through 2003 Model Heavy-Duty Diesel Engines and Vehicles" adopted April 25, 1986, as last amended December 27, 2000, ~~and~~ the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy Duty Otto-Cycle Engines," adopted December 27, 2000, and the "California Interim Certification Procedures for 2004 and Subsequent Model Hybrid-Electric Vehicles, in the Urban Bus and Heavy-Duty Vehicle Classes" adopted [insert adopted date], which ~~is~~ are incorporated by reference herein.

(e) [No Change]

(f) [No Change]

(g) [No Change]

(h) [No Change]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43100, 43101, 43104, and 43806, Health and Safety Code; and Section 28114, Vehicle Code. Reference: Sections 39002, 39003, 39500, 43000, 43013, 43018, 43100, 43101, ~~43101.5,~~ 43102, 43104, 43106, 43202, 43204, 43206, 43210-43213, and 43806, Health and Safety Code; 43105 and Section 28114, Vehicle Code.

Amend title 13, California Code of Regulations, section 2112, to read as follows:

2112. Definitions.

(a) [No Change]

(b) [No Change]

(c) [No Change]

(d) [No Change]

(e) [No Change]

(f) [No Change]

(g) [No Change]

(h) [No Change]

(i) [No Change]

(j) [No Change]

(k) [No Change]

(l) [No Change]

(1) [No Change]
(2) [No Change]
(3) [No Change]
(4) [No Change]
(5) [No Change]
(6) [No Change]
(7) [No Change]
(8) [No Change]
(9) [No Change]
(10) [No Change]
(11) [No Change]
(12) [No Change]
(13) [No Change]
(14) [No Change]
(15) [No Change]

(16) [No Change]
(17) [No Change]
(18) [No Change]
(19) [No Change]
(20) For 2004 and subsequent model-year heavy heavy-duty diesel engines, 2004 and subsequent model-year heavy-duty diesel urban buses, 2004 and subsequent model-year heavy-duty diesel engines to be used in urban buses, and 2004 and subsequent model year hybrid-electric urban buses for carbon monoxide, particulate, and oxides of nitrogen plus non-methane hydrocarbon emissions standards, a period of use of 10 years or 435,000 miles, or 22,000 hours, whichever first occurs, or any alternative useful life period approved by the Executive Officer, except as provided in paragraphs (19)(i) and (19)(ii).

(i) [No Change]
(ii) [No Change]

(20) [No Change]
(21) [No Change]

(m) [No Change]
(n) [No Change]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104, 43105 and 43806, Health and Safety Code; and Section 28114, Vehicle Code. Reference: Sections 39002, 39003, 39500, 43000, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43106, 43202, 43204, 43206, 43210-43213, and 43806, Health and Safety Code; and Section 28114, Vehicle Code.

State of California
AIR RESOURCES BOARD

~~CALIFORNIA CERTIFICATION PROCEDURES FOR PM RETROFIT DEVICES FOR ON-ROAD HEAVY-DUTY DIESEL ENGINES~~

~~Adopted: November 22, 2000~~

~~Note: The entire text of this document, which is incorporated by reference in section 1956.2, Title 13, CCR, is new language.~~

(a) Applicability: These procedures apply to applicants for certification of retrofit devices to reduce particulate matter (PM) emissions from on-road heavy-duty diesel engines, when PM retrofit is required or permitted for an affected engine family. Certification compliance shall be demonstrated as set forth in subdivisions (b) through (h), below.

(b) Test procedure: The applicant shall use the heavy-duty engine Federal Test Procedures as set forth in "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-duty Diesel Engines and Vehicles" adopted April 8, 1985, as last amended November 22, 2000. Alternatively, the applicant, with written approval of the Executive Officer, may use a chassis test cycle for certification compliance. The Executive Officer shall approve the chassis test cycle if he determines that it represents normal driving conditions of the vehicle application(s) for which the device is warranted for use by the applicant. For each engine selected for testing, the applicant shall complete at least two emission tests using the same retrofit device.

(c) Emission results: In order for the retrofit device to be certified by the Executive Officer, the test results must demonstrate that the retrofit device reduces engine-out PM emissions by at least 85 percent, or, alternatively, reduces PM emissions to 0.01 g/bhp-hr or less. For retrofit devices tested with an Executive Officer-approved chassis test cycle, certification compliance shall be demonstrated by compliance with the 85 percent emission reduction requirement. The retrofit device shall not cause the engine to fail to meet any California emission standard or other requirement for the heavy-duty application for which the retrofit device is certified.

Pursuant to subdivision (h) of section 27156 of the Vehicle Code, an original equipment pollution control device may be removed from the test engine provided that the certification emission test results demonstrate an 85 percent conversion efficiency, or, alternatively, that PM emissions have been reduced to 0.01 g/bhp-hr or less, and that the engine does not fail to meet any California emission standard or other requirement applicable to that engine. No deterioration factors shall be applied to the measured results.

(d) Emissions test engine selection: The applicant shall select separate test engines to represent four-stroke engine families and two-stroke engine families. In each case, the test engine used must represent the "worst case" with respect to particulate emission control for each engine family for which the retrofit device is being certified. Engine families may be aggregated if the applicant can demonstrate to the Executive Officer that emissions and retrofit device performance do not vary significantly between aggregated engine families. For retrofit devices being certified to reduce PM emissions by 85 percent, the worst case test engine shall represent the engine family with the lowest PM emissions when originally certified by the ARB. For retrofit devices being certified to reduce PM emissions to a level of 0.01 g/bhp-hr or less, the

worst case test engine shall represent the engine family with the highest PM emissions when originally certified by the ARB.

(e) Diesel test fuels: The test fuel required for the baseline test and the test with the retrofit device in place shall meet the specifications contained in 40 CFR 86.1313-94(b)(2)(Federal Register, Vol.62, No. 172, September 5, 1997, page 47125), with the exception that the sulfur content must not exceed 15 parts per million by weight, and shall be representative of fuel used in-use.

(f) Emissions warranty: As a condition of certification, the applicant shall warrant that the certified retrofit device, when properly installed and maintained as stated in the applicant's written instructions for proper maintenance and use, will not cause the heavy-duty diesel engine for which the retrofit device is certified to exceed the applicable emission standards set forth in Title 13, CCR, for a period of at least 150,000 miles from the date when the retrofit device is installed. The applicant shall also warrant that the certified retrofit device will not cause damage to the engine, when properly installed and maintained, for this same mileage interval.

The applicant shall provide an emissions defect warranty stating that if the certified retrofit device is properly installed and maintained as stated in the applicant's written instructions for proper maintenance and use, the applicant will replace all defective parts, free of charge, for a period of at least 100,000 miles from the date when the retrofit device is installed.

The applicant shall provide a written statement to the purchaser that the certified retrofit device will not result in any unsafe condition endangering the motor vehicle or its occupants in any operational mode, including malfunction.

(g) Durability requirements: The applicant shall demonstrate device durability through field testing representing a mileage interval of at least 150,000 miles. Mileage accumulation shall be performed on a vehicle application representative of the vehicle application for which the applicant warrants the use of the retrofit device. The applicant may propose to shorten the durability testing requirements, with prior approval by the Executive Officer, if sufficient data, such as durability bench testing data, are available to determine durability to at least 150,000 miles. Any durability testing shall use diesel fuel meeting the specifications in subdivision (e), above.

(h) Labeling requirements: The applicant shall label each retrofit device with a permanent, non-destructible label or stamp identifying the manufacturer, the model number, the month and year of manufacture, and the Executive Order number issued by the ARB. The label or stamp shall be easily visible after installation of the retrofit device according to the applicant's written instructions for proper maintenance and use. Each applicant shall submit a sample of its

~~label or stamp to the ARB for review and approval, prior to selling the retrofit device.~~