

US EPA ARCHIVE DOCUMENT

RECEIVED

NOV 02 1995

Air & TOXICS DIVISION
U.S. EPA, Region 9

PROPOSED RULE 2202 - ON-ROAD MOTOR VEHICLE MITIGATION OPTIONS

(a) Purpose

The purpose of this Rule is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes and to comply with federal and state Clean Air Act requirements, including Section 182(d)(1)(B) of the federal Clean Air Act.

(b) Applicability

Effective January 1, 1996, this rule applies to any employer who employs 100 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average.

(c) Sunset Provision

This rule shall be rescinded on December 31, 1998, or earlier, provided that a replacement measure is implemented which produces an equivalent level of emission reductions and such emission reductions are real, quantifiable, and surplus relative to the most recently adopted state implementation plan.

(d) Definitions

For the purpose of this Rule, the following definitions shall apply:

- (1) AIR QUALITY INVESTMENT PROGRAM (AQIP) is an emission reduction option, in which monies collected by the District from employers are used to fund mobile source emission reduction programs that have been approved by the District's Governing Board.
- (2) ALTERNATIVE FUEL VEHICLE is any vehicle powered by compressed natural gas (CNG), methanol, propane or electricity that has been certified and/or approved by the California Air Resources Board (CARB) to have met the transitional low-emission vehicle (TLEV), low-emission vehicle (LEV), ultra-low-emission vehicle (ULEV), or zero-emission vehicle (ZEV) emissions standards.

- (3) PERFORMANCE TARGET ZONE is a geographic area that determines the employee emission reduction factor for a particular worksite pursuant to the map in Attachment I of this rule.
- (4) EMISSION REDUCTION TARGET (ERT) is the annual VOC, NO_x, and CO emissions required to be reduced based on the number of employees per worksite and the employee emission reduction factor, determined in accordance with the provisions of subdivision (e) of this rule.
- (5) EMPLOYEE is any person employed by a person(s), firm, business, educational institution, non-profit agency or corporation, government or other entity. The term exempts the following in accordance with the Rule 2202 Implementation Guidelines (adopted December 8, 1995): seasonal employees; temporary employees; volunteers; field personnel; field construction workers; and independent contractors.
- (6) EMPLOYER is any person(s), firm, business, educational institution, non-profit agency or corporation, government agency, or other entity that employs 100 or more employees. Several subsidiaries or units that occupy the same work site and report to one common governing board or governing entity or that function as one corporate unit are considered to be one employer.
- (7) MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) are real, quantifiable, emission reductions, in accordance with the California Air Resources Board's Mobile Source Credit Guidelines, approved by the Executive Officer or designee, that can be used to comply with District Regulations, as authorized by Regulation XVI, Mobile Source Offset Programs.
- (8) NITROGEN OXIDES (NO_x) are nitric oxides and nitrogen dioxides, collectively expressed as nitrogen dioxide.
- (9) PEAK WINDOW is the period of time, Monday through Friday between the hours of 6:00 AM and 10:00 AM, and used in calculating the vehicle trip emission credit.
- (10) REMOTE SENSING is an emissions reduction strategy in which gross-polluting vehicles are identified by exhaust gas analyzers. Remote sensors measure absorption changes in the infrared or ultraviolet light spectrum and correlates that change to exhaust emissions levels. Emissions reductions resulting from the subsequent repair of the identified vehicles can be used to

meet commute emission reduction target according to the provisions of paragraph (f)(4).

- (11) VEHICLE TRIP EMISSION CREDIT (VTEC) is the emission reductions that result from the reduction of peak commute trips; other work related trips; alternative fuel vehicles; or other District approved method; expressed in pounds per year per pollutant, and determined according to the provisions of subdivision (g) of this rule.
- (12) VOLATILE ORGANIC COMPOUND (VOC) is any volatile compound of carbon, excluding: methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds as defined in District Rule 102.
- (13) PEAK COMMUTE TRIP is any employee trip from home to work occurring during the peak window.
- (14) WORKSITE means a structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located, in part or whole, within a 2 mile radius and are in the same Performance Target Zone.

(e) Requirements

An employer subject to this Rule shall annually register with the District beginning within 90 days of receipt of notification to implement an emission reduction program to reduce emissions related to employee commutes and to meet a worksite specific emission reduction target (ERT) specified for the subsequent year. The annual ERT shall be determined according to the following equation, for VOC, NOx, and CO, based on employee emission reduction factors specified in paragraph (j)(1) of this rule.

$$\left[\begin{array}{c} \text{Emission} \\ \text{Reduction Target} \\ \text{(lbs / year)} \end{array} \right] = \left[\begin{array}{c} \text{Employees} \times \left[\begin{array}{c} \text{Employee Emission} \\ \text{Reduction Factor} \end{array} \right] \right] - \left[\begin{array}{c} \text{Vehicle Trip} \\ \text{Emission Credit} \end{array} \right]$$

Where

Employees = Average daily number of employees reporting to work in the Peak Window.

Employee Emission

Reduction Factor = Determined by year of the registration submittal and the worksite Performance Target Zone in paragraph (j)(1) of this rule.

Vehicle Trip

Emission Credits = Determined according to subdivision (g).

(f) On-Road Vehicle Mitigation Options

Employers shall implement or use credits generated pursuant to one or more of the following emission reduction options to meet their Emission Reduction Target (ERT):

(1) Old-Vehicle Scrapping Credits

Any person may implement an old-vehicle scrapping program in accordance with Rule 1610 - Old Vehicle Scrapping.

(2) Clean On-Road Vehicle Credits

Any person may implement a clean on-road vehicle strategy in accordance with District Rule 1620 - Credits for Clean On-Road Vehicles.

(3) Clean Off-Road Mobile Equipment Credits

Any person may implement a clean off-road vehicle strategy in accordance with District Rule 1612 - Credits for Clean Off-Road Vehicles.

(4) Remote Sensing

Any person may implement a remote sensing program in accordance with the Rule 2202 Implementation Guidelines (adopted December 8, 1995) or an alternative methodology approved by the Executive Officer or designee. The Executive Officer shall not approve an alternative methodology unless it includes baseline emission estimates, estimated pollutant reductions after repair, and demonstrates to the satisfaction of the Executive Officer that it will produce real, quantifiable, and surplus emission reductions. Emission reductions obtained from the implementation of remote sensing shall be determined according to the following equation:

$$\left[\begin{array}{c} \text{Emissions} \\ \text{Reductions} \\ \text{(lbs / year)} \end{array} \right] = \left[\left[\begin{array}{c} \text{Pre - Repair} \\ \text{Emission} \\ \text{Rate} \\ \text{(lbs / miles)} \end{array} \right] - \left[\begin{array}{c} \text{Post - Repair} \\ \text{Emission} \\ \text{Rate} \\ \text{(lbs / mile)} \end{array} \right] \right] \times \left[\begin{array}{c} \text{Miles} \\ \text{Travelled} \\ \text{(miles)} \end{array} \right]$$

Where

Pre-Repair = Measured emission rate prior to repair work.

Post-Repair = Measured emission rate immediately following repair work

Miles Traveled = Number of miles traveled following repair work until the next regularly scheduled California Inspection and Maintenance Smog Check.

(5) Other Mobile Source Emission Reduction Credits

Any person may implement a mobile source offset program in accordance with the provisions of Regulations XVI other than paragraphs (f)(1), (2), and (3) above.

(6) Emission Reduction Credits (ERC) from Stationary Sources

Any person may elect to use Emission Reduction Credits (ERC) generated from stationary sources after January 1, 1996, in accordance with the provisions of Regulation XIII.

(7) Air Quality Investment Program (AQIP)

Employers that have between 100 and 500 employees, inclusive, per worksite, notwithstanding other provisions of this rule, may participate in the air quality investment program by submitting an air quality investment, to be placed in a restricted fund, as follows:

(A) Annually submit \$60 for each employee reporting to work in the peak window; or

(B) Triennially submit \$125 for each employee reporting to work in the peak window.

The District shall use these funds to obtain an emission reduction or air quality benefit that is equivalent to the sum of the ERTs for all participating employers in the AQIP.

(g) Vehicle Trip Emission Credits (VTEC)

Employers may elect to implement any of the following strategies and obtain vehicle trip emission credits that can be applied towards their ERT. Such actions are at the sole discretion of the employer.

(1) Peak Commute Trip Reductions

Employers may receive VTEC from employee commute reductions that occur during the peak window in accordance with the Rule 2202 Implementation Guidelines (adopted December 8, 1995). VTEC obtained from peak commute trip reductions shall be determined according to the following equation:

$$\text{VTEC} = \left[\frac{\text{Creditable Trip Reductions (CTR)}}{\text{Conversion Factor (CF)}} \right] \times \left[\text{Emission Factor (EF)} \right]$$

Where

CTR = The total of all one-way trip reductions that are real, surplus, and quantifiable. A round trip is considered to be two one-way trips.

CF = 2.0 for Peak Window trips; 2.3 for other trips.

EF = Emission Factor in paragraph (j)(2) of this rule.

(2) Other Work-Related Trip Reductions

Employers may receive additional VTEC from employee commute reductions that occur outside of the peak window or from non-commute vehicle usage calculated as creditable trip reductions and approved by the Executive Officer or designee. VTEC obtained from other peak commute trip reductions shall be determined according to the equation in paragraph (g)(1).

(3) Alternative Fuel Vehicles

Employers may receive VTEC from employer owned and operated original equipment manufacturer (OEM) or converted compressed natural gas-, methanol-, propane-, or electric-fueled vehicles that have been certified and/or approved by the California Air Resources Board to have met the transitional low-emission vehicle (TLEV), low-emission vehicle (LEV), ultra-low-emission vehicle (ULEV), or zero-emission vehicle (ZEV) emissions standards, in accordance with the Rule 2202 Implementation Guidelines (adopted December 8, 1995) and according to the following formula:

$$\begin{aligned}
 \text{VTEC} &= [\text{VT}(\text{CNGs})] \times [0.83] \times [\text{EF}] \\
 &+ [\text{VT}(\text{Ms})] \times [0.80] \times [\text{EF}] \\
 &+ [\text{VT}(\text{Ps})] \times [0.80] \times [\text{EF}] \\
 &+ [\text{VT}(\text{ZEVs})] \times [\text{EF}] \\
 &\hline
 &\text{Conversion Factor (CF)}
 \end{aligned}$$

Where

VT(CNGs) = Number of Vehicle Trips from compressed natural gas vehicles

VT(Ms) = Number of Vehicle Trips from flexible fuel vehicles operated on Methanol

VT(Ps) = Number of Vehicle Trips from Propane vehicles

VT(ZEVs) = Number of Vehicle Trips from Zero-Emission Vehicles

VT = The total of all one-way Vehicle Trip reductions that are real, surplus, and quantifiable. A round trip is considered to be two one-way trips.

EF = Emission Factor from paragraph (j)(2) of this rule.

CF = 2.0 for Peak Window trips; 2.3 for other trips.

(4) Vehicle Miles Traveled (VMT) Reduction Programs

Employers may elect to implement VMT reduction programs and receive VTEC towards their ERT. Reduction of annual employee commute VMT may result from employment center relocation, video-conference centers, telecommuting centers or other alternative programs approved by the Executive Officer or designee. The Executive Officer shall not offer any VTEC for VMT reduction program unless it includes baseline VMT estimates and demonstrates that VMT reductions result in real, quantifiable, and surplus emission reductions.

(h) Program Administration

Rule 2202 shall be administered according to the following:

- (1) Employers shall register with the District to implement an annual Emission Reduction Program for each worksite. The Emission Reduction Program shall commence within 60 days of approval by the Executive Officer. Existing Regulation XV plans shall remain in effect until a Emission Reduction Program

is implemented. The registration shall include, but is not limited to the following information:

- (A) The name of the highest ranking company official, the name of the contact person, company address, telephone numbers for all participating worksites;
 - (B) The on-road vehicle mitigation option(s) that will be used;
 - (C) The total number of employees that report to work in the peak window;
 - (D) The total number of employee at that worksite; and,
 - (E) Calculations for VOC, NO_x, and CO emission reductions for any of the on-road vehicle mitigation options in subdivision (f).
- (2) Employers shall renew their registration annually to report changes in employment base and any other changes that would necessitate adjustment in emission reduction targets or program implementation.
 - (3) Employers may request to amend their Emission Reduction Program at any time and implement the amendments with written approval of the Executive Officer
 - (4) Emission reduction credits obtained pursuant to subdivision (f) or (g) shall be surrendered to the Executive Officer within the first six months of the approval of the registration forms. The Executive Officer may grant extensions not to exceed six months on a case by case basis upon a finding that earlier compliance would present an unreasonable hardship.
 - (5) Records which document the accuracy and validity of all information submitted to the District as required by this rule shall be kept by the employer for a minimum of three years and made available upon request during normal business hours.
 - (6) On a quarterly basis the Executive Officer shall recommend to the District's Governing Board the release of monies from the AQIP restricted fund. The program shall be administered and consideration of proposals made shall be subject to the following:
 - (A) Proposals shall be accepted on an ongoing basis;
 - (B) Equal consideration shall be given to cost-effective proposals and those that achieve long-term advancement of mobile source technology

- (C) The amount of emission reductions required to demonstrate equivalent emission reductions shall be determined on a quarterly basis;
 - (D) The allocation of funding shall be recommended for proposals that reduce equivalent emissions within each county proportional to the contribution level of employers within each county to the greatest extent feasible; and,
 - (E) The emissions reductions are demonstrated to be real, quantifiable, enforceable, and surplus, in accordance with the Rule 2202 Implementation Guidelines (adopted December 8, 1995).
- (7) Employers shall be subject to the fee schedule set forth in subdivisions (c) and (d) of Rule 306. Except that, employers choosing to implement the Employee Commute Reduction Program under (i) (3) shall be subject to the fee schedule set forth in Rule 308.
- (i) Exemptions
- (1) Employee Threshold
Any employer who has implemented an employee commute option pursuant to this Rule and whose employee population at the worksite decreases to fewer than 100 employees for the prior consecutive six month period, calculated as a monthly average; or fewer than 33 employees scheduled to report to work Monday through Friday between 6-10 AM for the prior consecutive 90 days, may submit a written request to the Executive Officer or designee to be exempted from this rule. Employers must submit a registration form not later than 90 days after they know or should have known that they no longer qualify for this exemption.
 - (2) Declared Bankruptcy
An employer who has declared bankruptcy, for the official business or governmental operations of its organization or company, through a judicial court filing and confirmation process, may request the Executive Officer to grant a temporary waiver from complying with the requirements of this rule. Upon demonstration of the filing and confirmation of bankruptcy, the Executive Officer will grant an exemption for the duration of bankruptcy, not to exceed two (2) years, from the date of the waiver.

(3) **Employee Commute Reduction Program**

Rather than comply with the provisions of subdivision (e) of this rule, employers may elect to implement an employee commute reduction program that demonstrates conformance with the Employee Commute Reduction Program Guidelines (adopted December 8, 1995). Employers must provide a program that will be reasonably likely to result in achieving their goal within three years. Notwithstanding the above, an employer may elect to supplement its Employee Commute Reduction Program with any strategy listed in subdivisions (f) or (g). At the discretion of the employer, the currently approved Rule 1501 Employee Trip Reduction Plan may remain in effect until the annual renewal date.

(j) **Emission Factors**

The following emission factors are based on California Air Resources Board's EMFAC 7F emission factor model and BURDEN 7F vehicle activity model. These emission factors shall be revised upon publication by the California Air Resources Board of final revised emission factors.

(1) **Employee Emission Reduction Factors**

(A) The following employee emission reduction factors (pounds per year per employee) shall be used in determining the Commute Emissions Reductions Target with respect to the worksite Performance Target Zone. The Performance Target Zone is determined by the worksite location within the geographic boundaries as described in Attachment I and the Rule 2202 Implementation Guidelines (adopted December 8, 1995).

**Commute Emission Reduction Factors
for Performance Target Zone 1**

Emission Year	VOC	NOx	CO
1995	9.4	5.0	40.4
1996	8.6	4.7	37.2
1997	8.1	4.7	33.7
1998	7.3	4.3	30.5
1999	6.4	4.0	27.0
2000	5.6	3.7	23.8
2001	5.1	3.3	22.2
2002	4.7	3.0	20.5
2003	4.3	3.0	18.9
2004	3.9	2.7	17.3
2005	3.4	2.7	15.7
2006	3.4	2.3	14.8
2007	3.0	2.3	14.1
2008	2.6	2.3	13.4
2009	2.6	2.0	12.5
2010	2.1	2.0	11.8

**Commute Emission Reduction Factors
for Performance Target Zone 2**

Emission Year	VOC	NOx	CO
1995	7.3	5.0	58.3
1996	6.7	4.7	53.7
1997	6.3	4.7	48.7
1998	5.7	4.3	44.0
1999	5.0	4.0	39.0
2000	4.3	3.7	34.3
2001	4.0	3.3	32.0
2002	3.7	3.0	29.7
2003	3.3	3.0	27.3
2004	3.0	2.7	25.0
2005	2.7	2.7	22.7
2006	2.7	2.3	21.3
2007	2.3	2.3	20.3
2008	2.0	2.3	19.3
2009	2.0	2.0	18.0
2010	1.7	2.0	17.0

**Commute Emission Reduction Factors
for Performance Target Zone 3**

Emission Year	VOC	NO_x	CO
1995	5.1	3.5	40.4
1996	4.6	3.2	37.2
1997	4.4	3.2	33.7
1998	3.9	3.0	30.5
1999	3.5	2.8	27.0
2000	3.0	2.5	23.8
2001	2.8	2.3	22.2
2002	2.5	2.1	20.5
2003	2.3	2.1	18.9
2004	2.1	1.8	17.3
2005	1.8	1.8	15.7
2006	1.8	1.6	14.8
2007	1.6	1.6	14.1
2008	1.4	1.6	13.4
2009	1.4	1.4	12.5
2010	1.2	1.4	11.8

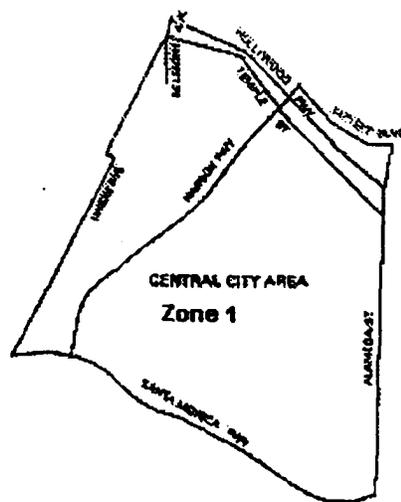
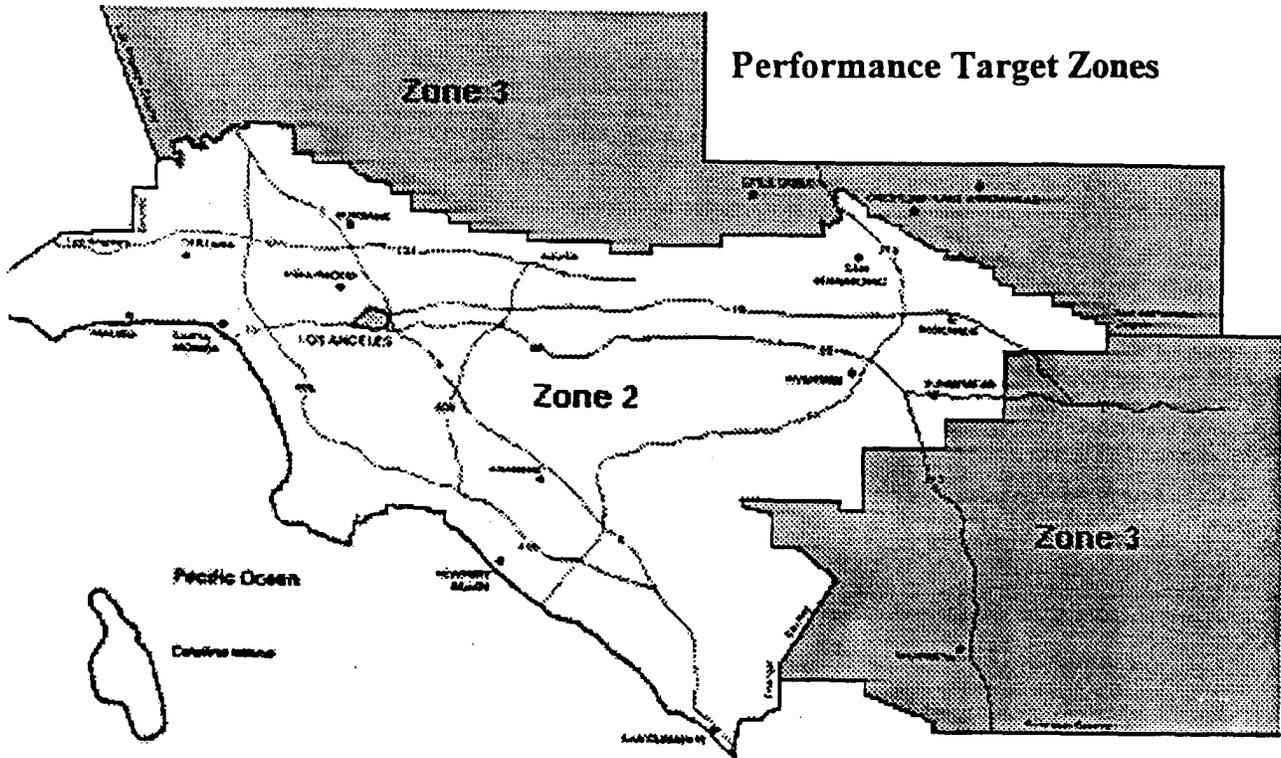
- (2) The following default emission factors (pounds per year per daily commute vehicle) may be used in determining vehicle trip emission credits.

**Emission Factors
for Vehicle Trip Emission Credit (VTEC)**

Emission Year	VOC	NO _x	CO
1995	22	15	175
1996	20	14	161
1997	19	14	146
1998	17	13	132
1999	15	12	117
2000	13	11	103
2001	12	10	96
2002	11	9	89
2003	10	9	82
2004	9	8	75
2005	8	8	68
2006	8	7	64
2007	7	7	61
2008	6	7	58
2009	6	6	54
2010	5	6	51

- (A) The emission factors in paragraph (l)(1) may be modified to site specific emission factors reflecting vehicle age and trip length characteristics of the employee vehicle fleet.

ATTACHMENT I



"Supplemental rule language on delegating implementation of Rule 2202 to local governments under consideration and for public review and comments."

Rule 2202

(k) Previously Delegated Programs

Any employer that is in compliance with a local government that has a trip reduction ordinance that was approved by the District prior to the effective date of this rule, and that has an existing memorandum of agreement with the District, shall be deemed in compliance with this rule.

(l) Delegation to Local Governments

The District may delegate authority to implement all or part of Rule 2202, except for the provisions of paragraph (f)(7) to any local government that satisfies the following criteria:

(1) The local government adopts an ordinance that is at least as stringent as Rule 2202 in the following areas:

- (A) Applicability
- (B) Emission reductions target
- (C) Vehicle trip emission credit calculations
- (D) Annual registration
- (E) Recordkeeping

(2) The local government demonstrates to the satisfaction of the Executive Officer that:

- (A) It has an implementation plan providing adequate resources to adopt and enforce the ordinance; and
- (B) Multiple site employers with more than one regulated worksite in the District have the option of complying with the District rule instead of the local ordinance.

(3) The local government has executed a Memorandum of Understanding with the Executive Officer specifying the procedures to monitor and review performance of the local government in implementing the program, and procedures for revocation of delegation if the Executive Officer determines that performance of the local government is inadequate.