

RULE 1612. CREDITS FOR CLEAN ON-ROAD VEHICLES

(a) Purpose

The purpose of this rule is to provide opportunities to generate NO_x, VOC, CO, PM, and SO_x mobile source emission reduction credits (MSERC) that could be used as an alternative means of compliance with District regulations. These credits would be generated based on voluntary emission reductions created by the operation of low- or zero-emission on-road vehicles within the boundaries of the District that result in emission reductions beyond those required by local, state and federal regulations.

(b) Applicability

This voluntary rule becomes effective January 1, 1996 and applies to passenger cars, light-duty trucks, medium-duty vehicles, and heavy-duty vehicles which are registered and operated in the District, and optional emission standards have been specified in ARB's Mobile Source Credit Guidelines. References to ARB's Mobile Source Credit Guidelines or Title 13, California Code of Regulations correspond to the versions of the applicable guidelines/regulations which are in effect at the time of initial application for MSERCs.

(c) Definitions

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

- (1) **BASELINE EMISSION STANDARDS** mean the applicable ceiling emission standards, baseline vehicle emissions, or certification emission standard of the original vehicle (if retrofitted) for light-, medium-, or heavy-duty vehicles or engines pursuant to ARB's Mobile Source Credit Guidelines.
- (2) **CERTIFIED CONVERSION KIT** means any alternative fuel or add-on hardware conversion (retrofit) kit which has been certified by the ARB to meet the heavy-duty vehicle optional emission standards specified in Title 13, California Code of Regulations. For light- and medium-duty vehicles, certified conversion kit means any alternative fuel or add-on hardware conversion (retrofit) kit which has been certified by the ARB to meet one

of the low-emission vehicle standards as specified in Title 13, California Code of Regulations.

- (3) CLEAN FUEL means any fuel for which the vehicle or engine was certified to an optional emission standard.
- (4) CLOSED FUELING SYSTEM means an onboard vehicular emission control system that completely eliminates evaporative emissions under any and all possible operational modes and conditions.
- (5) CONVERSION FACTOR means the multiplicative factor used to convert grams per brake horsepower-hour (g/bhp-hr) into grams per mile (g/mi).
- (6) DUAL-FUEL VEHICLE means a vehicle that is engineered and designed to be capable of operating on gasoline or diesel and on compressed natural gas or liquefied petroleum gas, with separate fuel tanks for each fuel onboard the vehicle.
- (7) ENGINE LIFE means the period of use (in miles) to which a given engine must comply with its certification emission standards, pursuant to ARB regulations specified in Title 13, California Code of Regulations. For new heavy-duty engines, the engine life shall be equal to the engine's useful life, pursuant to Title 13 California Code of Regulations. For retrofitted heavy-duty engines, the engine life shall be equal to miles remaining until the engine is next expected to be overhauled, or the expiration of the engine's original useful life, whichever occurs first.
- (8) EVAPORATIVE EMISSIONS means VOCs emitted into the atmosphere from a vehicle, other than exhaust and crankcase emissions.
- (9) EXTENDED ENGINE LIFE means the period of use (in miles) after a major engine overhaul during which a given engine must comply with its certification emission standards as specified by the vehicle operator. The extended engine life shall be not be greater than the engine's original useful life, pursuant to Title 13 California Code of Regulations.
- (10) FUEL-FLEXIBLE VEHICLE means any methanol-fueled or ethanol-fueled vehicle that is engineered and designed to be operated using any gasoline-methanol or gasoline-ethanol fuel mixture or blend.
- (11) LOW-EMISSION VEHICLE means a light- or medium- duty vehicle that is certified by the ARB to one of the low- emission standards as specified in Title 13, California Code of Regulations, or a heavy-duty vehicle that is equipped with an engine certified by ARB to one of the optional emission standards as specified in Title 13, California Code of Regulations.

- (12) MAJOR ENGINE OVERHAUL means a complete rebuilding of a low-emission vehicle engine such that the engine is returned to a condition that is equivalent in operation, durability, and emissions performance to the originally certified engine, by cleaning, adjustment, repair, and major component replacement of the engine which are considered to be beyond routine maintenance procedures.
- (13) MARKETING EMISSIONS means VOC emissions emitted into the atmosphere from the transport of gasoline or other fuels used to power on-road vehicles, from the fuel's point of origin to the vehicle refueling site, occurring within the South Coast Air Quality Management District.
- (14) MOBILE SOURCE EMISSION REDUCTION CREDIT (MSERC) means credits for real, quantified emission reductions in accordance with the Air Resources Board's Mobile Source Credit Guidelines, approved by the Executive Officer or designee, that can be used to comply with District Regulations pursuant to subdivision (g), and are surplus to emission reductions required by ARB, District, or U.S. EPA regulations.
- (15) NITROGEN OXIDES (NO_x) mean the sum of nitric oxides and nitrogen dioxides emitted, calculated as nitrogen dioxide.
- (16) OPTIONAL EMISSION STANDARDS mean the applicable vehicle or engine certification emission standards, as specified by ARB's Mobile Source Credit Guidelines, which are more stringent than the baseline emission standard.
- (17) REPOWER means to replace the existing on-road heavy-duty vehicle engine with an engine certified to meet one of the optional emission standards.
- (18) RETROFIT means a hardware modification to an existing heavy-duty engine, according to the most recent version of ARB's California Certification and Installation Procedures for Alternative Fuel Retrofit Systems for Motor Vehicles Certified for 1994 and Subsequent Model years and for All Model Year Motor Vehicle Retrofit Systems Certified For Emission Reduction Credit (ARB Retrofit Procedures), that results in compliance with one of the ARB's optional emission standards. For light- and medium-duty vehicles, retrofit means a hardware modification to an existing vehicle, according to ARB Retrofit Procedures, that results in compliance with one of the low-emission vehicle standards as specified in Title 13, California Code of Regulations.

- (19) **VEHICLE LIFE** means the period of use (in miles) during which a given vehicle must comply with its certification emission standards, pursuant to ARB regulations specified in Title 13, California Code of Regulations. For retrofitted passenger cars, light-duty trucks, and medium-duty vehicles, the vehicle life shall be equal to the useful life of the vehicle, according to Title 13 California Code of Regulations minus the actual vehicle odometer reading upon retrofit. The vehicle life for zero-emission vehicles shall be the period of time beginning when the vehicle is first placed in operation for the purpose of generating MSERCs and extending until the zero-emission vehicle is permanently retired.
- (20) **VEHICLE OPERATOR** means any entity who leases for at least one year or owns on-road vehicles, and controls the operation of on-road vehicles within the boundaries of the District.
- (21) **VOLATILE ORGANIC COMPOUND (VOC)** means 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.
- (22) **ZERO-EMISSION VEHICLE (ZEV)** means any vehicle which produces zero emissions of any criteria pollutants under any and all possible operational modes and conditions.

(d) **Vehicle Operator Requirements**

In order to generate MSERCs, a vehicle operator shall:

- (1) implement one or more of the following projects that result in exhaust, evaporative, or marketing loss emission reductions surplus to those required by ARB, District and U.S. EPA regulations:
 - (A) operation of new heavy-duty vehicles powered with engines certified to optional emission standards.
 - (B) operation of repowered heavy-duty vehicles with engines certified to optional emission standards.
 - (C) operation of passenger cars, light-duty trucks, medium-duty vehicles, and heavy-duty vehicles, retrofitted to comply with optional emission standards using certified conversion kits, and using manufacturer approved facilities for the installation of the certified conversion kits ("manufacturer" refers to the certified conversion kit manufacturer). (In such projects MSERCs shall be

issued only after ARB certification of the conversion kit to meet one of the optional emission standards. MSERC applications may be processed concurrently with pending ARB certification of the conversion kit.)

- (D) operation of zero-emission vehicles, where operation of the light-duty zero-emission vehicles will not be used by any vehicle manufacturer for current or future compliance with its fleet average non-methane organic gas emission standards as specified in Title 13, California Code of Regulations, or for compliance with any vehicle manufacturer's zero-emission vehicle production commitments contained in its Memorandum of Agreement with the California Resources Board.
 - (E) operation of new low- or zero-emission passenger cars, light-duty trucks, medium-duty vehicles, or heavy-duty vehicles that results in evaporative and marketing loss emission reductions. (MSERCs from exhaust emission reductions are excluded from this operation.)
- (2) for projects which begin operation after rule effective date, submit an On-Road MSERC Application, as specified in subdivision (e), within 90 days subsequent to initial operation of each low-emission vehicle.
 - (3) for projects which begin operation prior to rule adoption, submit an On-Road MSERC Application, as specified in subdivision (e) within one year of the rule effective date.
 - (4) following approval of the On-Road MSERC Application, demonstrate the operation of the low- or zero-emission vehicle to the satisfaction of the Executive Officer or designee by submitting the actual vehicle miles traveled (VMT) for the six-month period following the initial service date, and the projected VMT for the subsequent six-month period.
 - (5) annually renew the MSERCs by submitting the actual VMT for each preceding twelve-month period and the projected VMT for each subsequent six-month period.
 - (6) notify the Executive Officer or designee in writing within 90 days following retirement of the low- or zero-emission vehicle, or removal of the vehicle from service for an engine replacement or a major engine overhaul. For a major engine overhaul, such notification shall specify the extended engine life. The vehicle operator shall ensure that engine replacements and major engine overhauls are performed in accordance with specifications and

procedures required by the engine or retrofit system manufacturer(s). The operator shall also be responsible for maintaining the engine and any retrofit systems within manufacturer(s)' specifications throughout the engine life.

(e) On-Road MSERC Application

- (1) In order to obtain MSERCs, a vehicle operator shall submit an On-Road MSERC Application. The purpose of the Application is to document the purchase, retrofit, or repowering as well as the operation of the low- or zero-emission vehicle(s) following the initial service date. The On-Road MSERC Application shall contain specific information including, but not limited to:
 - (A) a description of the repowering, retrofitting, or purchasing project, including, at a minimum, the vehicle and engine model and model year, vehicle identification number, number of miles accumulated on the vehicle and engine (not applicable for new vehicle purchases), and applicable baseline and optional emission standards;
 - (B) proof of purchase or lease for the low- or zero-emission vehicle/engine or certified conversion kit purchase;
 - (C) the initial service date of each low- or zero-emission vehicle;
 - (D) identification of the legal owner of the MSERCs to be issued by the Executive Officer or designee; and
 - (E) intended use of MSERCs pursuant to subdivision (h), if known.
- (2) The Executive Officer or designee shall approve or disapprove the On-Road MSERC Application in writing.
- (3) For the purposes of assessing fees, the On-Road MSERC Application shall be deemed a plan, and the fees shall be assessed in accordance with the provisions of Rule 309.

(f) Issuance of MSERCs

- (1) MSERCs shall be issued after approval of the On-Road MSERC Application by the Executive Officer or designee and upon submittal and verification by the Executive Officer or designee of the actual and projected VMT for each low- or zero emission vehicle as specified in paragraphs (d)(4) and (d)(5) and in accordance with the MSERC calculation methodology specified in subdivision (g). For projects

involving purchasing prior to rule adoption, MSERCs shall be issued based only on the operation of the low- or zero-emission vehicles which occur following the submittal of the On-Road MSERC Application.

- (2) For projects involving the purchase of low- or zero emission vehicles after adoption of the rule, MSERCs shall be issued by the Executive Officer or designee based on continued demonstration of the actual operation of each low- or zero-emission vehicle. This demonstration shall start when the vehicle is first placed into service, and shall end at the end of the vehicle life, engine life, or extended engine life. The demonstration shall also end when the vehicle is retired or removed from service for an engine replacement.
- (3) For projects involving the purchase of low- or zero emission vehicles prior to the adoption of the rule, MSERCs shall be issued by the Executive Officer or designee based on continued demonstration of the actual operation of each low- or zero-emission vehicle. This demonstration shall start when the On-Road MSERC Application is submitted to the District, and shall end at the end of the vehicle life, engine life, or extended engine life. The demonstration shall also end when the vehicle is retired or removed from service for an engine replacement.
- (4) For all projects, MSERCs shall be issued by the Executive Officer or designee:
 - (A) for NO_x, VOC, CO, and PM in accordance with paragraph (g)(1), if optional emission standards have been specified in the ARB's Mobile Source Credit Guidelines, or if compliance with applicable optional emission standards can be demonstrated as approved by the Executive Officer or designee in consultation with the ARB according to ARB's certification test methods.
 - (B) for VOC, in accordance with paragraph (g)(2), for evaporative and marketing emission reductions resulting from the use of non-volatile fuels or closed fueling systems.
 - (C) for SO_x, in accordance with paragraph (g)(3), for emission reductions resulting from the use of low-sulfur fuels.
- (5) If a heavy-duty engine is overhauled, MSERCs shall be issued based on continued demonstration of the actual operation of each low- emission vehicle during the extended engine life.

(g) MSERC Calculation

(1) The total amount of NO_x, CO, VOC, and PM MSERCs generated for exhaust emission reductions when a strategy specified in subparagraphs (d)(1)(A) through (d)(1)(F) is implemented shall be calculated by the Executive Officer or designee for each year according to the following formulas.

(A) For chassis certified passenger cars, light-duty trucks, and medium-duty vehicles:

$$\text{MSERC} = [(S_{\text{base}} - S_{\text{opt}}) \times \text{ML}] / (454 \times \text{DF})$$

where

MSERC = Mobile source emission reduction credits (pounds per year)

S_{base} = Baseline emission standards (or certification emission standard of original vehicle if retrofitted) (grams per mile).

S_{opt} = The applicable optional emission standard for passenger cars, light- and medium-duty vehicles (grams per mile)

ML = Annual VMT in the South Coast Air Quality Management District while operating on clean fuel.

DF = Discount factor, for the purpose of generating credits, equal to 1.0.

(B) For engine certified medium- and heavy-duty vehicles:

$$\text{MSERC} = [((S_{\text{base}} \times \text{CF}_1) - (S_{\text{opt}} \times \text{CF}_2)) \times \text{ML}] / (454 \times \text{DF})$$

where

MSERC = Mobile source emission reduction credit (pounds per year)

S_{base} = Baseline emission standards (or certification emission standard of original vehicle if retrofitted) g/bhp-hr).

S_{opt} = The applicable optional emission standards for engines used in medium- and heavy-duty vehicles (g/bhp-hr)

CF₁ = Conversion factor associated with the fuel used to power an engine certified to the S_{base} emission standard (bhp-hr/mile)

- CF₂ = Conversion factor associated with the fuel used to power an engine that has certified to the S_{Opt} emission standard (bhp-hr/mile)
- ML = Annual VMT in the South Coast Air Quality Management District while operating on clean fuel.
- DF = Discount factor, for the purpose of generating credits, equal to 1.0.

(2) VOC MSERCs issued for evaporative and marketing emissions, when a strategy specified in paragraph (d)(1) is implemented, shall be calculated by the Executive Officer or designee according to the following formula:

$$\text{MSERC} = (\text{EVP} + \text{ME}) \times (\text{ML}/\text{VL}) \times (1/\text{DF})$$

where

- MSERC = Mobile source emission reduction credit (pounds per year)
- EVP = Lifetime evaporative emission reduction (pounds)
- ME = Lifetime marketing emission reductions (pounds)
- ML = Annual VMT (miles/year)
- VL = Vehicle life (miles)
- DF = Discount factor, for the purpose of generating credits, equal to 1.0.

Lifetime evaporative and marketing emissions needed to quantify MSERCs pursuant to this paragraph shall be obtained from the Executive Officer or designee.

(3) MSERCs issued for SO_x emission reductions when a strategy specified in paragraph (d)(1) is implemented shall be calculated by the Executive Officer or designee according to the following formula:

$$\text{MSERC} = 2 \times ((F_{\text{base}} \times S_{\text{base}}) - (F_{\text{opt}} \times S_{\text{opt}}))/\text{DF}$$

where

- MSERC = Mobile source emission reduction credits (pounds per year)
- F_{base} = Amount of fuel used to power (applicable) vehicle certified to baseline emission standard (gallons or standard cubic feet per year).

- S_{base} = Sulfur concentration in fuel used to power (applicable) vehicle certified to baseline emission standard (pounds per gallon or pounds per standard cubic foot).
- F_{opt} = Amount of fuel used to power vehicle certified to optional emission standard (gallons or standard cubic feet per year)
- S_{opt} = Sulfur concentration in fuel used to power vehicle certified to optional emission standard (pounds per gallon or pounds per standard cubic foot).
- DF = Discount factor, for the purpose of generating credits, equal to 1.0.

S_{base} and S_{opt} shall be obtained from the Executive Officer or designee and shall be representative of average sulfur concentrations for applicable fuels within the boundaries of the District. F_{base} and F_{opt} shall be submitted by the vehicle operator at the same time that annual VMTs are submitted to the Executive Officer or designee pursuant to paragraphs (d)(4) and (d)(5).

- (4) For all projects,
- (A) the MSERCs for the first year after the initial service date shall be calculated by the Executive Officer or designee based on the actual VMT for the six-month period following the initial service date and the projected VMT for the subsequent six-month period. For projects involving the purchase of low- or zero-emission vehicles prior to rule adoption, the initial service date shall be the submittal date of the On-Road MSERC Application.
- (B) The projected VMT shall not be 50% greater than the actual vehicle miles traveled for the previous six-month period unless the vehicle operator provides documentation to the District that the projected VMT shall occur, as approved by the Executive Officer or designee.
- (C) The MSERCs shall be adjusted to reflect the difference between the projected VMT reported in the previous year and the actual VMT for the same period.
- (5) MSERCs for dual-fueled vehicles or fuel-flexible vehicles shall be based on the VMT resulting from operation of the vehicle on the clean fuel.
- (6) MSERCs shall expire two years after the date of issuance.

- (h) Use of MSERCs
 - (1) MSERCs may be used for any of the following applications:
 - (A) As RECLAIM Trading Credits. The Executive Officer or designee shall convert MSERCs to RTCs upon submission of MSERCs by the user.
 - (B) As an alternative method of compliance with District Regulation XI rules that have future compliance dates. MSERCs shall not be used to offset emission increases caused by the removal of emission control equipment or replacement of compliant with noncompliant materials subject to Regulation XI. MSERCs must be in existence and designated as an alternative method of compliance in advance of the compliance date.
 - (C) As an alternative method of compliance with District Regulation XXII rules that allow the use of MSERCs in accordance with Regulation XXII.
 - (D) As New Source Review (NSR) offsets for emission increases at new or modified facilities that are subject to Rule 1303 (b)(2) in accordance with the provisions of Regulation XIII. Pursuant to Rule 504, no variance or series of variances, including emergency and interim variances, shall be granted for a period in excess of 90 days from the initial granting of a variance, from a permit condition implementing a Regulation XIII offset requirement if such permit condition is based upon the use of MSERCs.
 - (E) For voluntary retirement of MSERCs for air quality benefits.
 - (F) As an alternative method of compliance with any District regulations which specifically authorize the use of MSERCs.
 - (2) For the purpose of using MSERCs pursuant to subparagraphs (h)(1)(A) and (h)(1)(B), a discount factor equal to 1.2 shall be applied except for MSERCs generated by the (1) operation of post 1992 model-year vehicles that are certified at or below ultra-low-emission standards; (2) operation of compressed natural gas (CNG), liquefied petroleum gas (LPG), or methanol heavy-duty engines certified to optional emission standards or operation of CNG, LPG, or methanol heavy-duty vehicles certified to optional emission standards using ARB certified conversion kits; or (3) operation of zero-emission vehicles. For other uses pursuant to paragraph

- (h)(1), a discount factor equal to 1.0 shall be applied unless specified otherwise in District regulations.
- (3) MSERCs shall only be consumed in the air basin where the vehicle operator is based.
 - (4) In order to use MSERCs for the applications listed in subparagraph (1)(B) of this subdivision, the user shall submit a compliance plan to the Executive Officer or designee. The purpose of the compliance plan is to demonstrate compliance with rule requirements, and specify the use of the MSERCs.
 - (5) The compliance plan shall contain the following information:
 - (A) Total MSERCs (attach certificates)
 - (B) Identification of the specific rule for which the alternative method of compliance is sought;
 - (C) The period of time for the alternative method of compliance;
 - (D) Number of MSERCs used to substantiate the alternative method of compliance;
 - (E) A quantification of emissions that would result from noncompliance with the rule identified in subparagraph (h)(5)(B), and documentation supporting the emission quantification.
 - (6) Supporting documentation (applicable for MSERC usage for Regulation XI rules) shall include, but is not limited to:
 - (A) A listing of equipment or materials that are the source of noncompliant VOC, NO_x, CO, PM, or SO_x emissions associated with the rule identified in subparagraph (h)(5)(B).
 - (B) a description and operating conditions of equipment listed in subparagraph (h)(6)(A) or composition and rate of use of materials listed in subparagraph (h)(6)(A).
 - (C) emission rates associated with the use of equipment or materials listed in subparagraph (h)(6)(A).
 - (D) a listing of equipment or materials that would result in compliance with the rule identified in subparagraph (h)(5)(B).
 - (E) a description and operating conditions of equipment listed in subparagraph (h)(6)(D) or composition and rate of use of materials listed in subparagraph (h)(6)(D).
 - (F) emission rates associated with the use of equipment or materials listed in subparagraph (h)(6)(D).

- (7) The compliance plan shall be written on a form to be specified by the Executive Officer or designee.
 - (8) The Executive Officer or designee shall approve or disapprove the compliance plan. The plan shall be disapproved unless it demonstrates that an equivalent amount of emissions reductions are obtained through the alternative method of compliance.
 - (9) MSERCs may not be used as an alternative method of compliance with Regulation XI rules until the Executive Officer or designee has approved the compliance plan.
 - (10) The user must renew the compliance plan prior to the expiration of the MSERCs upon which the plan is based.
- (i) Recordkeeping Requirements
- (1) Low- or zero-emission vehicle operators shall be responsible for storing and maintaining data records for each low- or zero-emission vehicle which generates MSERCs. For each low- or zero-emission vehicle, the data records shall include vehicle miles traveled per calendar year in the South Coast Air Quality Management District (for dual-fuel or fuel-flexible vehicles, miles traveled per year on clean fuel), maintenance and repair records, and any other necessary data as specified by the Executive Officer or designee.
 - (2) Low- or zero-emission vehicle operators shall maintain a copy of the data records described in paragraph (i)(1) for the two most recent years of operation for each low- or zero-emission vehicle which generates MSERCs.
- (j) Compliance Auditing and Enforcement
- (1) The Executive Officer or designee shall be afforded access in the District to audit any files or records created to comply with recordkeeping requirements specified in subdivision (i) or require vehicle operators to submit such records to the Executive Officer or designee upon request.
 - (2) The Executive Officer or designee shall be afforded access to inspect low- or zero-emission vehicles at vehicle operators' facilities. The Executive Officer or designee may require emissions testing at a designated emission test facility, at the District's expense, to determine compliance with Rule 1612 requirements for the generation of MSERCs.

- (3) Violation of any provision of this rule, including falsification of information in the On-Road MSERC application or annual operating data, shall be grounds for the Executive Officer to disallow or void any MSERCs resulting from or associated with the violation, by disapproving or seeking revocation of the On-Road MSERC application, and shall be subject to the penalties specified in the Health and Safety Code for violation of District rules.

- (k) **Requirements for Public Notice**
Following a completeness determination of the On-Road MSERC Application for the use of MSERCs as NSR offsets only, as provided in subparagraph (h)(1)(D), the Executive Officer or designee shall:
 - (1) perform the evaluations required to determine compliance with this regulation and make a preliminary written decision, as appropriate, as to whether or not MSERCs, to be used as emission reduction credits (ERC), should be approved or disapproved. The decision shall be supported by a succinct written analysis; and
 - (2) publish a notice by prominent advertisement in at least one newspaper of general circulation in the District stating the preliminary decision of the Executive Officer or designee and where the public may inspect the information. The notice shall provide 30 days from the date of publication for the public to submit written comments on the preliminary decision; and
 - (3) at the time notice of the preliminary decision is published, make available for public inspection at the District office the information submitted by the applicant, the supporting analysis for the preliminary decision, and the preliminary decision to grant or deny MSERCs and the reasons therefore. The confidentiality of trade secrets shall be considered in accordance with Section 6254.7 of the Government Code.

- (l) **Appeal of Disapproval of MSERC Issuance**
An applicant may, within 30 days of receipt of notice of disapproval, request the hearing board to hold a hearing on whether the application was properly refused.