



Air Pollution Control Board
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Air Pollution Control Officer
R. J. Sommerville

NOTICE OF WORKSHOP

TO DISCUSS PROPOSED RULE 27 - MOBILE SOURCE EMISSION REDUCTION CREDITS & RELATED PROPOSED AMENDMENTS TO RULE 21

The San Diego County Air Pollution Control District will hold a public workshop to consider proposed Rule 27 - Mobile Source Emission Reduction Credits (MERC's). Rule 27 would establish procedures for generating, banking, and trading MERC's resulting from voluntary actions which create real, surplus, enforceable, and quantifiable emission reductions (actual emission reductions). The District will also discuss related proposed amendments to Rule 21 - Permit Conditions, establishing District authority to issue Certificates of MERC. Comments regarding proposed Rule 27 or proposed amendments to Rule 21 may be submitted in writing before, or made at the workshop, which is scheduled as follows:

DATE: Wednesday, September 28, 1994
TIME: 9:00 a.m. to 12:00 p.m.
PLACE: San Diego County Mental Health Services
3851 Rosecrans Street, Coronado Room
San Diego, CA

Proposed Rule 27 was developed in accordance with federal Environmental Protection Agency (EPA), California Air Resources Board (ARB), and District policies and guidelines. It includes several strategies for generating mobile source emissions reductions, each derived from ARB's Mobile Source Emission Reduction Credits guidance (February 1994). These strategies include: (1) accelerated vehicle retirement; (2) new low-emission urban buses; (3) zero-emission vehicles; (4) retrofit of passenger cars, light-duty trucks, and medium-duty vehicles to low-emission standards; and (5) retrofit of heavy-duty vehicles to low-emission standards.

In addition to these five strategies, proposed Rule 27 also includes provisions for any other program which generates actual mobile source emission reductions. However, ARB staff recommends deleting this section from the rule as its guidance does not yet address any programs other than the five identified above. The District seeks public comments regarding inclusion of provisions in Rule 27 addressing other programs which generate actual mobile source emission reductions.

If you would like copies of proposed Rule 27 and proposed amendments to Rule 21, please call Juanita Ogata at (619) 694-8851. If you have any questions concerning these proposals, please call Robert Reider at (619) 694-8852.

MORRIS DYE
Deputy Director (Acting)

MD:RCR:jl
08/23/94

**AIR POLLUTION CONTROL DISTRICT
PROPOSED AMENDMENTS TO RULE 21**

Proposed amendments to Rule 21 are to read as follows:

RULE 21 PERMIT CONDITIONS

The Air Pollution Control Officer may issue an Authority to Construct, Permit to Operate, Certificate of Emission Reduction Credit, Certificate of Mobile Source Emission Reduction Credit, or a Permit to Rent subject to temporary or permanent conditions which will ensure compliance with the provisions of these Rules and Regulations and applicable State laws and regulations. Such conditions shall be in writing, shall become part of the Authority to Construct, Permit to Operate, Certificate of Emission Reduction Credit, Certificate of Mobile Source Emission Reduction Credit, or Permit to Rent and shall be complied with at all times. Commencing work under such an Authority to Construct or commencing operation under such a Permit to Operate or renting under such a Permit to Rent shall be deemed acceptance of all the conditions specified. The Air Pollution Control Officer shall issue an Authority to Construct or Permit to Operate or Permit to Rent with revised conditions upon receipt of a new application, if the applicant demonstrates that an article, machine, equipment or other contrivance can operate in compliance with the provisions of these rules and regulations and applicable State laws and regulations under the revised conditions. Where the proposed revision of Permit to Operate or Permit to Rent conditions is for an article, machine, equipment or other contrivance for which an Authority to Construct was issued after March 27, 1974, and where the proposed revision of Permit to Operate or Permit to Rent conditions, including proposed revision of conditions relating to the method of operations, will result in increased emissions, the Air Pollution Control Officer shall evaluate the proposed revision in accordance with the provisions of Rule 20.1(b) and shall determine compliance with Rules 20.1, 20.2, 20.3, 20.4 and 20.7 as if an application for an Authority to Construct had been received containing the proposed revised conditions. In said situations, the Permit to Operate or Permit to Rent with revised conditions shall not be granted in cases where such an Authority to Construct would not have been granted in accordance with said Rules 20.1, 20.2, 20.3, 20.4 and 20.7. The Air Pollution Control Officer may revise a Certificate of Emission Reduction Credit or Certificate of Mobile Source Emission Reduction Credit upon receipt of a new application from the certificate owner that demonstrates the emission reductions under the revised conditions will remain real, permanent, and enforceable within provisions of these rules and regulations and applicable State and Federal laws and regulations. (Any person who fails to comply with any condition imposed shall be liable to penalty pursuant to Division 26, Part 4,

Chapter 4, Article 3, of the State of California Health and Safety Code). This rule does not authorize the Air Pollution Control Officer to change conditions to a Permit to Operate, a Certificate of Emission Reduction Credit, Certificate of Mobile Source Emission Reduction Credit, or a Permit to Rent in effect without prior notice to the permittee.

AIR POLLUTION CONTROL DISTRICT

PROPOSED NEW RULE 27

Proposed new Rule 27 is to read as follows:

RULE 27 MOBILE SOURCE EMISSION REDUCTION CREDITS

(a) APPLICABILITY

This rule applies to any person creating or transferring a Mobile Source Emission Reduction Credits (MERC's).

(b) DEFINITIONS

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

(1) **"Accelerated Vehicle Retirement Program"** means a program creating actual emission reductions by the accelerated retirement of onroad motor vehicles for purposes of establishing MERC's pursuant to this rule.

(2) **"Actual Emission Reductions"** means emission reductions occurring within San Diego County which are real, surplus, enforceable, and quantifiable, and may be permanent or temporary in duration.

(3) **"Alternative Fuel"** means any fuel used for certifying a low-emission vehicle, other than gasoline or diesel fuel.

(4) **"Banking"** means a regulatory system that recognizes and reserves actual emission reductions achieved by any person for later use.

(5) **"Baseline Emissions"** means annual emissions generated within the District from a mobile source prior to its use in a MERC Program.

(6) **"Certificate"** means a District-issued document specifying information regarding a MERC including, at a minimum, the legal owner(s) of the MERC, the MERC certificate identification number, date of issuance, pollutant(s) reduced, quantity of actual emission reduction, the time period for which the MERC is valid, and any other records as may be required as a condition of MERC issuance.

(7) **"Electric Trolley Bus"** means a bus or a rail car which is propelled by electric power supplied through any external power system and which is driven along a fixed route to provide regularly scheduled public transportation.

(8) **"Electrically-Powered Urban Bus"** means any urban bus powered, including accessories, solely by electricity, provided the electricity is not generated onboard the urban bus by the combustion of any fuel.

(9) **"Enforceable"** means can be enforced by the District through conditions of a MERC certificate established pursuant to Subsection (c)(4)(i).

(10) **"Fleet Vehicle"** means one of a group of ten (10) or more motor vehicles under common ownership or control and dispatched from a location within San Diego County.

(11) **"Heavy-Duty Engine"** means an engine which is used to propel a heavy-duty vehicle.

(12) **"Heavy-Duty Vehicle"** means "any motor vehicle having a manufacturer's gross vehicle weight rating greater than 6,000 pounds, except passenger cars" (Title 13, California Code of Regulations, Section 1900 [13 C.C.R. §1900]).

(13) **"Light-Duty Truck"** means "any motor vehicle, rated at 6,000 pounds gross vehicle weight or less, which is designed primarily for purposes of transportation of property or is a derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use" (13 C.C.R. §1900).

(14) **"Low-Emission Urban Bus"** means:

(i) any 1994-1995 model year urban bus certified for sale in California to an exhaust oxides of nitrogen (NO_x) emission standard from 0.5 to 3.5 grams per brake horsepower-hour, inclusive, in 0.5 grams per brake horsepower-hour increments; or

(ii) a 1996 and subsequent model year urban bus certified as above to an exhaust NO_x emission standard of 0.5 to 2.5 grams per brake horsepower-hour, inclusive, in 0.5 grams per brake horsepower-hour increments.

(15) **"Low-Emission Vehicle"** means any vehicle certified by the ARB to the transitional-, low-, ultra-low-, or zero-emission vehicle standards established in 13 C.C.R. §1960.1.

(16) **"Medium-Duty Vehicle"** means "any pre-1995 model year heavy-duty vehicle having a manufacturer's gross vehicle weight rating of 8,500 pounds or less, any 1992 and subsequent model year heavy-duty low-emission vehicle or ultra-low-emission vehicle having a manufacturer's gross vehicle weight rating of 14,000 pounds or less, or any 1995 and subsequent-model year heavy-duty vehicle having a manufacturer's gross vehicle weight rating of 14,000 pounds or less" (13 C.C.R. §1900).

(17) **"Mobile Source Control Measure"** means any strategy proposed or adopted by the District, pursuant to Subsection (b)(26), to reduce existing or future motor vehicle emissions.

(18) **"Mobile Source Emission Reduction Credit" or "MERC"** means an actual emission reduction which is banked, registered with the District, and a MERC certificate is issued pursuant to this rule.

(19) **"MERC Program" or "Program"** means any activity undertaken by a person which produces actual mobile source emission reductions within San Diego County for purposes of establishing MERC's pursuant to this rule. A program can be a one-time action, a series of one-time actions, or a continuous set of actions.

(20) **"MERC Registry"** means a tracking system maintained by the District which lists each MERC and related information including, at a minimum, the MERC certificate identification number, date of issuance, name and address of registered owner(s), type and quantity of pollutant(s) reduced, source of the emission reduction(s), MERC expiration date, conditions established for MERC issuance, and the status of the MERC (e.g., being used, held, transferred, or sold).

(21) **"Passenger Car"** means "any motor vehicle designed primarily for transportation of persons and having a design capacity of twelve persons or less" (13 C.C.R. §1900).

(22) **"Permanent"** means enduring and enforceable for the duration of a MERC Program.

(23) **"Projected Emissions"** means annual emissions generated within the District from a mobile source during its use in an existing or proposed MERC Program.

(24) **"Quantifiable"** means that a reliable and accurate basis for calculating the amount, rate, nature, and characteristics of an emission reduction can be established, consistent with EPA, ARB, and District policies and procedures.

(25) **"Real"** means actually occurring and which will not be replaced, displaced, or transferred to another location within San Diego County.

(26) **"Surplus "** means in excess of any emission reduction which is:

(i) required or encumbered by any adopted federal, state, or District law, regulation, rule, agreement, or order; and

(ii) attributed to a Mobile Source Control Measure proposed by the District at a public workshop, or included in the San Diego Regional Air Quality Strategy (RAQS) or State Implementation Plan (SIP) in effect at the time of application; and

(iii) attributed to a Mobile Source Control Measure noticed for workshop in the District. However, emission reductions attributed to a Mobile Source Control Measure noticed for workshop in the District may be surplus provided:

(A) the Mobile Source Control Measure has been identified in the RAQS or SIP in effect at the time of application, yet no rule or other measure, if necessary for Mobile Source Control Measure implementation, has been adopted within two years after the scheduled adoption date specified in the RAQS or SIP, provided the Air Pollution Control Officer has not extended the scheduled adoption date; or

(B) the Mobile Source Control Measure has not been identified in the RAQS or SIP, no rule has been adopted, and two years have elapsed beyond the date of the latest public workshop; or

(C) a Mobile Source Control Measure proposed in a "Draft" RAQS or a "Draft" SIP has not been included in the RAQS or SIP adopted by the Air Pollution Control Board and in effect at the time of application.

(iv) funded by vehicle registration fees, pursuant to California Health & Safety Code, Division 26, Part 5, Chapter 7.

(27) **"Urban Bus"** means a passenger-carrying vehicle powered by a heavy-duty engine with a load capacity of fifteen or more passengers and intended primarily for operation within San Diego County.

(28) **"Volatile Fuel"** means any fuel having a Reid vapor pressure of greater than 3.0 pounds per square inch when tested pursuant to the American Society of Testing and Materials (ASTM) Reid Vapor Pressure test method, or having a true vapor pressure of greater than 3.0 pounds per square inch absolute at 100° F if the ASTM Reid Vapor Pressure test is not applicable.

(29) **"Volatile Organic Compounds (VOC's)"** means volatile organic compounds as defined in Rule 20.1.

(c) STANDARDS

(1) ELIGIBLE EMISSION REDUCTION STRATEGIES

(i) Accelerated Vehicle Retirement Program

This Subsection (c)(1)(i) contains the provisions for creating actual emission reductions by the accelerated retirement of onroad motor vehicles.

(A) The only pollutants for which MERC's may be granted from an accelerated vehicle retirement program are volatile organic compounds (VOC's), oxides of nitrogen (NOx), and carbon monoxide (CO).

(B) For each vehicle for which a MERC is requested, the operator of an accelerated vehicle retirement program must, at the time of vehicle acquisition, verify and compile records demonstrating:

(1) The vehicle was registered with the California Department of Motor Vehicles (DMV) at a San Diego County address as an operable vehicle for a period of at least two consecutive years immediately prior to vehicle acquisition for the accelerated vehicle retirement program;

(2) The person surrendering the vehicle possesses a valid Certificate of Title;

(3) The vehicle was driven under its own power to the dismantling site and was not previously damaged to make continued operation unlikely;

(4) Operability of the starter motor, ignition switch, and vehicle transmission in reverse and any forward gear; and

(5) The vehicle contains functional lighting, brakes, exhaust system, bumpers, doors, fenders, side and quarter panels, hood, trunk lid, windows, mirrors, windshields, seats, instrumentation, and gauges. Any such component that is missing or nonfunctional may be exempt from the requirements of this Subsection (c)(1)(i)(B)(5) only by approval of the Air Pollution Control Officer, whose determination shall be based on the judgment that the absence or nonfunction of such parts does not make continued operation of the vehicle unlikely.

(C) The operator of an accelerated vehicle retirement program or its agents shall, within 14 days subsequent to possession of the vehicle:

(1) Permanently render unusable the cylinder block of all vehicles except, as determined by the Air Pollution Control Officer in collaboration with antique or collector car interests, engines that have value for the purposes of restoring antique or collector cars; and

(2) Permanently destroy the Vehicle Identification Number (VIN) and license plates pursuant to DMV procedures for permanently dismantling vehicles.

(D) The operator of an accelerated vehicle retirement program or its agents shall, within 90 days subsequent to possession of the vehicle:

(1) Permanently render unusable the catalytic convertor of any acquired vehicle of model year 1981 or earlier;

(2) Except as provided in Subsection (c)(1)(i)(E), permanently render unusable the rest of the vehicle, including the body/frame structure.

Notwithstanding the requirements of Subsection (c)(1)(i)(C) and this Subsection (c)(1)(i)(D), any vehicle acquired by the operator of an accelerated vehicle retirement program and identified by antique or collector car interests as having value for restorative purposes may be sold to antique or collector car interests or their agents in conformance with applicable DMV requirements, provided no emission reduction credits are claimed for the acquisition of the vehicle.

(E) Removal of reusable components exclusive of cylinder block, frame, and catalytic convertor (e.g., doors, fenders, bumpers, and disassembled engine components) is allowed prior to permanent destruction of the vehicle.

(F) The operator of an accelerated vehicle retirement program shall verify that any automobile dismantler used to satisfy the requirements of Subsections (c)(1)(i)(C) and (c)(1)(i)(D) has been granted all necessary Federal, State, and local permits for the handling or disposal of hazardous materials associated with permanently dismantling motor vehicles.

(G) The maximum lifetime of a MERC resulting from the accelerated retirement of a vehicle is three (3) years.

(H) Quantification of Actual Emission Reductions

(1) Actual emission reductions shall be calculated separately for each vehicle and each pollutant.

(2) The following equation shall be used to calculate actual emission reductions:

Actual Emission Reductions per vehicle (pounds/year)

$$= \{[(EX_{ret} + EVAP_{ret}) - (EX_{rep} + EVAP_{rep})] \times Mile_{ret}\} / 453.6 \text{ g/lb}$$

Where:

"EX_{ret}" is the exhaust emission rate of an applicable pollutant generated by the retired vehicle, assumed to be the average exhaust emission rate of all registered vehicles in California of the same class and model year as the retired vehicle (grams/mile).

"EVAP_{ret}" is the evaporative emission rate of an applicable pollutant generated by the retired vehicle, assumed to be the average evaporative emission rate of all registered vehicles in California of the same class and model year as the retired vehicle (grams/mile).

"EX_{rep}" is the exhaust emission rate of an applicable pollutant generated by the replacement vehicle, assumed to be the average exhaust emission rate of all registered vehicles in California (grams/mile).

"EVAP_{rep}" is the evaporative emission rate from the replacement vehicle, assumed to be the average evaporative emission rate of all registered vehicles in California (grams/mile), adjusted for lower average annual mileage of retired vehicle (i.e., multiplied by Mile_{rep}/Mile_{ret}).

"Mile_{ret}" is the average annual mileage among all registered vehicles in California of the same class and model year as the retired vehicle (miles/year).

(3) Emission rates and annual mileages specified in the equation in Subsection (c)(1)(i)(H)(2) shall be determined by the Air Pollution Control Officer and shall be consistent with any applicable assumptions used in the SIP in effect at the time of the application.

(I) Recordkeeping

An applicant for a MERC pursuant to Subsection (c)(1)(i) shall compile and retain for a period of three (3) years beyond the credit life, and make available for District inspection upon request, the following records of each permanently destroyed vehicle for which a MERC has been granted under this Subsection:

- (1) Vehicle make, model, and model year;
- (2) Vehicle identification and license plate numbers;
- (3) Copy of California Certificate of Title;
- (4) Name, address, telephone number, and driver license number of the person from whom the vehicle was acquired;
- (5) Proof of compliance with Subsection (c)(1)(i)(B)(1);
- (6) Vehicle mileage at time of destruction;
- (7) Date of destruction;
- (8) A duplicate copy of Report of Vehicle to be Dismantled and Notice of Acquisition (DMV Registration 42 Form) validated by the DMV with line date stamping on the front of the form;

(9) Name of person(s) conducting vehicle visual and functional inspections as required by Subsection (c)(1)(i)(B), with employer's name, address, and telephone number;

(10) Quantity of the actual emission reduction as determined pursuant to Subsection (c)(1)(i)(H); and

(11) Other records as may be required as a condition of MERC issuance.

(ii) New Low-Emission Urban Buses

This Subsection (c)(1)(ii) contains the provisions for creating actual emission reductions by the purchase and operation of new low-emission urban buses in lieu of standard diesel urban buses.

(A) The only pollutant for which a MERC may be granted from the purchase and operation of new low-emission urban buses in lieu of standard diesel urban buses is oxides of nitrogen (NOx).

(B) To ensure that actual emission reductions are created, the applicant shall verify and maintain records demonstrating that each low-emission urban bus for which a MERC is requested is surplus to the low-emission bus provisions of the Transit Improvements and Expansion measure of the RAQS.

(C) The maximum lifetime of a MERC resulting from the purchase and operation of a new low-emission urban bus shall be equal to the urban bus lifetime, pursuant to Subsection (c)(1)(ii)(D)(5).

(D) Quantification of Actual Emission Reductions

(1) The following equation shall be used to calculate actual emission reductions for each vehicle:

$$\begin{aligned} & \text{Actual Emission Reductions per vehicle (pounds/year)} \\ & = [(E_{\text{std}} \times CF_{\text{std}} \times M) - (E_{\text{low}} \times CF_{\text{low}} \times M)] / [(Y) \times (453.6 \text{ g/lb})] \end{aligned}$$

Where:

"E_{std}" is the urban bus NOx emission standard for the model year of the bus being purchased (grams/bhp-hr).

"E_{low}" is the ARB-certified NOx emission standard for the low-emission bus being purchased (grams/bhp-hr).

"CF_{std}" is the conversion factor for converting the urban bus emission standard in grams of NOx per brake horsepower-hour to grams of NOx per mile (bhp-hr/mile).

"CF_{low}" is the conversion factor for converting the certified emission standard for the low-emission bus in grams of NOx per brake horsepower-hour to grams of NOx per mile (bhp-hr/mile).

"M" is the urban bus lifetime mileage (miles).

"Y" is the urban bus lifetime (years).

(2) The urban bus NO_x emission standard shall be the emission standard with which urban buses are required to comply for certification for sale in California.

(3) The certified NO_x emission standard for the low-emission urban bus shall be as shown on the applicable certification Executive Order issued by the ARB. For urban buses propelled exclusively by electricity, including electric trolley buses, the certified emission rate shall be presumed to equal zero (0).

(4) The conversion factors for converting grams per brake horsepower-hour to grams per mile shall be consistent with any applicable assumptions used in the SIP in effect at the time of application. Alternative conversion factors may be used by the Air Pollution Control Officer or requested by the applicant if substantial evidence demonstrates the alternatives are more appropriate. Any alternative that increases actual emission reductions requires concurrence from the ARB.

(5) The urban bus lifetime mileage shall be 500,000 miles over a 12-year urban bus lifetime, except for urban buses propelled exclusively by electricity. For urban buses propelled exclusively by electricity, including electric trolley buses, the urban bus lifetime mileage shall be 750,000 miles over an 18-year bus lifetime. An alternative urban bus lifetime or lifetime mileage may be used by the Air Pollution Control Officer or requested by the applicant if substantial evidence demonstrates an alternative is more appropriate. Any alternative that increases total or annual actual emission reductions requires concurrence from the ARB.

(E) In-Use Testing

The operator of a low-emission urban bus for which a MERC has been granted shall implement or participate in an in-use testing program approved by the Air Pollution Control Officer with concurrence from the ARB, to ensure that the actual emission reductions are maintained for the life of the vehicle or MERC. This subsection shall not apply to electrically-powered urban buses.

(F) Extended Life MERC Plans

An extended life MERC plan may be implemented to create MERC's with a credit lifetime longer than the expected life of an individual low-emission urban bus pursuant to Subsection (c)(1)(ii)(D)(5) by purchasing a number of low-emission urban buses, in lieu of standard diesel urban buses, at periodic intervals. An extended life MERC plan shall contain the following:

(1) A schedule for purchasing low-emission urban buses over a specified time period;

(2) The actual emission reductions for each bus purchased shall be calculated using the equation in Subsection (c)(1)(ii)(D)(1). The actual emission reduction calculation shall consider future emission standards

projected by ARB at the time of application for those model years corresponding with the years for purchase specified in the extended life MERC plan.

(G) Recordkeeping

An applicant for a MERC pursuant to Subsection (c)(1)(ii) shall compile and retain for a period of three (3) years beyond the credit life, and make available for District inspection upon request, the following records of each low-emission urban bus for which a MERC has been granted under this Subsection:

- (1) Vehicle make, model, model year, and engine type;
- (2) Vehicle identification, engine identification, and license plate numbers;
- (3) Copies of certificates of registration;
- (4) Proof of compliance with Subsection (c)(1)(ii)(B);
- (5) The dates, mileage, and description of maintenance and repairs; and
- (6) Other records as may be required as a condition of MERC issuance.

(iii) Purchase of Zero-Emission Vehicles

This Subsection (c)(1)(iii) contains the provisions for creating actual emission reductions by the purchase of zero-emission vehicles that are surplus to the ARB's low-emission vehicle regulation requirements.

(A) The only pollutants for which MERC's may be granted from the purchase of zero-emission vehicles are volatile organic compounds (VOC's), oxides of nitrogen (NO_x), and carbon monoxide (CO).

(B) To ensure that actual emission reductions are created, the applicant shall demonstrate to the Air Pollution Control Officer that each zero-emission vehicle for which a MERC is requested was not included by the manufacturer in calculating its fleet average emission rate to satisfy the ARB's low-emission vehicle regulation requirements.

(C) The maximum lifetime of a MERC resulting from the purchase of a zero-emission vehicle shall be equal to the zero-emission vehicle lifetime, pursuant to Subsection (c)(1)(iii)(D)(6).

(D) Quantification of Actual Emission Reductions

(1) Actual emission reductions shall be calculated separately for each vehicle and each pollutant.

(2) The quantity of actual emission reductions per vehicle shall be the sum of the actual exhaust, fuel evaporative, running loss, and gasoline marketing emission reductions per vehicle.

(3) Gasoline marketing VOC emission reductions resulting from the purchase of a zero-emission vehicle shall be determined by the Air Pollution Control Officer and shall be consistent with any applicable assumptions used in the SIP in effect at the time of the application.

(4) The following equation shall be used to calculate actual exhaust, evaporative, and running loss emission reductions:

Actual Exhaust, Evaporative, and Running Loss Emission Reductions per vehicle (pounds/year)

$$= [(E_{base} \times M)] / [(Y) \times (453.6 \text{ g/lb})]$$

Where:

"E_{base}" is the average emission rate of an applicable pollutant generated by a new emitting vehicle which was not purchased because a zero-emission vehicle was purchased instead (grams/mile).

"M" is the zero-emission vehicle lifetime mileage (miles).

"Y" is the zero-emission vehicle lifetime (years).

(5) The average emission rate of a new emitting vehicle shall be determined by the Air Pollution Control Officer and shall be consistent with any applicable assumptions used in the SIP in effect at the time of the application.

(6) The lifetime mileage of the zero-emission vehicle shall be 100,000 miles over a ten year zero-emission vehicle lifetime. An alternative zero-emission vehicle lifetime or lifetime mileage may be used by the Air Pollution Control Officer or requested by the applicant if substantial evidence demonstrates an alternative is more appropriate. Any alternative that increases total or annual actual emission reductions requires concurrence from the ARB.

(E) Recordkeeping

An applicant for a MERC pursuant to Subsection (c)(1)(iii) shall compile and retain for a period of three (3) years beyond the credit life, and make available for District inspection upon request, the following records of each zero-emission vehicle for which a MERC has been granted under this subsection:

- (1) Vehicle make, model, and model year;
- (2) Vehicle identification and license plate numbers;
- (3) Copies of certificates of registration;
- (4) Proof of compliance with Subsection (c)(1)(iii)(B);

(5) The dates, mileage, and description of maintenance and repairs; and

(6) Other records as may be required as a condition of MERC issuance.

(iv) Retrofitting Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles to Reduce Emissions

This Subsection (c)(1)(iv) contains the provisions for creating actual emission reductions by retrofitting passenger cars, light-duty trucks, or medium-duty vehicles to an emission standard which is certified by the ARB as below the applicable pre-retrofit emission standard.

(A) The only pollutants for which MERC's may be granted from retrofitting a passenger car, light-duty truck, or medium-duty vehicle are volatile organic compounds (VOC's), oxides of nitrogen (NO_x), and carbon monoxide (CO).

(B) The maximum lifetime of a MERC resulting from retrofitting a passenger car, light-duty truck, or medium-duty vehicle shall be equal to the life remaining until the retrofitted vehicle is expected to retire, pursuant to Subsection (c)(1)(iv)(C)(5).

(C) Quantification of Actual Emission Reductions

(1) Actual emission reductions shall be calculated separately for each vehicle and each pollutant.

(2) The quantity of actual emission reductions per vehicle shall be the sum of the actual exhaust and, where applicable, fuel evaporative, running loss, and gasoline marketing emission reductions per vehicle.

(3) The following equation shall be used to calculate actual exhaust emissions reductions:

$$\begin{aligned} &\text{Actual Exhaust Emissions Reductions per vehicle (pounds/year)} \\ &= [(E_{\text{orig}} - E_{\text{rtro}}) \times M_{\text{yr}}] / (453.6 \text{ g/lb}) \end{aligned}$$

Where:

"E_{orig}" is the original ARB-certified exhaust emission standard of an applicable pollutant for the vehicle (grams/mile).

"E_{rtro}" is the ARB-certified exhaust emission standard of an applicable pollutant for the retrofitted vehicle (grams/mile).

"M_{yr}" is the yearly mileage of the vehicle (miles/year).

(4) The yearly mileage of passenger cars and light-duty trucks shall be 10,000 miles, and the yearly mileage of medium-duty vehicles shall be 12,000 miles. For fleet vehicles, the yearly mileage shall be adjusted to exclude the projected mileage to be traveled outside San Diego County.

(5) The lifetime mileage of passenger cars and light-duty trucks shall be 100,000 miles over a ten year vehicle lifetime, and the lifetime mileage of medium-duty vehicles shall be 120,000 miles over a ten year vehicle lifetime. The lifetime mileage shall be adjusted to exclude the projected mileage to be traveled outside San Diego County, consistent with the annual mileage adjustment in Subsection (c)(1)(iv)(C)(4).

(6) Where a retrofitted vehicle uses more than one fuel and the ARB-certified emission standard for the retrofit is not applicable to all fuels, the annual mileage and lifetime mileage shall be adjusted to consider the projected mileage to be traveled using only those fuels to which the lower certified emission standard or standards apply.

(7) The following equation shall be used to calculate actual fuel evaporative, running loss, and gasoline marketing VOC emission reductions resulting from retrofitting a passenger car, light-duty truck, or medium-duty vehicle to use a non-volatile fuel:

Actual Evaporative, Running Loss, and Gasoline Marketing Emissions Reductions per vehicle (pounds/year)

$$= (E_{\text{evap}} + E_{\text{rl}} + E_{\text{mrkt}}) \times (M_{\text{yr}}/M_{\text{life}})$$

Where:

" E_{evap} " is the evaporative VOC emissions over the lifetime of the vehicle being retrofitted (pounds).

" E_{rl} " is the running loss VOC emissions over the lifetime of the vehicle being retrofitted (pounds).

" E_{mrkt} " is the gasoline marketing VOC emissions over the lifetime of the vehicle being retrofitted (pounds).

" M_{yr} " is the yearly mileage of the vehicle (miles/year).

" M_{life} " is the lifetime mileage of the vehicle (miles).

(8) The gasoline marketing VOC emission reductions pursuant to Subsection (c)(1)(iv)(C)(7) shall be determined by the Air Pollution Control Officer and shall be consistent with any applicable assumptions used in the SIP in effect at the time of the application.

(9) The calculations of running loss and evaporative VOC emission reductions pursuant to Subsection (c)(1)(iv)(C)(7) shall be determined by the Air Pollution Control Officer and shall be consistent with any applicable assumptions used in the SIP in effect at the time of the application.

(10) Where a retrofitted vehicle uses more than one fuel and any of those fuels is a volatile fuel, the annual mileage and lifetime mileage shall be adjusted to consider the projected mileage to be traveled using only the non-volatile fuel.

(D) Recordkeeping

An applicant for a MERC pursuant to Subsection (c)(1)(iv) shall compile and retain for a period of three (3) years beyond the credit life, and make available for District inspection upon request, the following records of each retrofitted vehicle for which a MERC has been granted under this Subsection:

(1) Vehicle make, model, and model year;

(2) Vehicle identification and license plate numbers;

(3) Copies of certificates of registration;

(4) Retrofit hardware model and serial numbers;

(5) Proof of compliance with the ARB's retrofit certification standards;

(6) Certificate of Compliance required by the smog check program established pursuant to Part 5 of Division 26 of the California Health and Safety Code, or other documentation of compliance as provided by the smog check program;

(7) The dates, mileage, and description of maintenance and repairs;

(8) For fleet vehicles, a log of odometer readings sufficient to demonstrate mileage traveled inside and outside San Diego County, to identify the number of miles traveled using fuels for which the certified emission standard does and does not apply, and to identify the number of miles traveled using non-volatile and volatile fuels. As an alternative to a log of odometer readings for number of miles traveled by fuel type, a log of fuel use by fuel type may be substituted; and

(9) Other records as may be required as a condition of MERC issuance.

(v) Retrofitting Onroad Heavy-Duty Vehicles and Engines to Low-Emission Configurations

This Subsection (c)(1)(v) contains the provisions for creating actual emission reductions by retrofitting onroad heavy-duty vehicles or engines to low-emission standards.

(A) The only pollutants for which MERC's may be granted from retrofitting an onroad heavy-duty vehicle or engine to a low-emission standard are oxides of nitrogen (NO_x), particulate matter (PM), carbon monoxide (CO), and volatile organic compounds (VOC's).

(B) The maximum lifetime of a MERC resulting from retrofitting a heavy-duty vehicle shall be equal to the life remaining until the retrofitted vehicle is expected to retire, pursuant to Subsections (c)(1)(v)(C)(8) and (c)(1)(iv)(C)(9).

(C) Quantification of Actual Emission Reductions

(1) Actual emission reductions shall be calculated separately for each vehicle and each pollutant.

(2) The following equation shall be used to calculate actual emission reductions:

$$\begin{aligned} &\text{Actual Emission Reductions per vehicle (pounds/year)} \\ &= \{[(E_{\text{orig}} \times C_{\text{Forig}}) - (E_{\text{low}} \times C_{\text{Flow}})] \times (M_{\text{life}} - \text{OD})\} / Y / (453.6 \text{ g/lb}) \end{aligned}$$

Where:

"E_{orig}" is the original ARB-certified exhaust emission standard of an applicable pollutant for the heavy-duty engine.

"E_{low}" is the ARB-certified low-emission standard of an applicable pollutant for the retrofitted heavy-duty engine (grams/bhp-hr).

"C_{Forig}" is the conversion factor for converting the original emission standard in grams per brake horsepower-hour to grams per mile.

"C_{Flow}" is the conversion factor for converting the low-emission standard in grams per brake horsepower-hour to grams per mile.

"M_{life}" is the lifetime mileage of the heavy-duty vehicle (miles).

"OD" is the odometer reading of the heavy-duty vehicle immediately after the retrofit equipment is installed (miles).

"Y" is the expected life remaining until the vehicle is retired (years).

(3) The original exhaust emission rate for CO and hydrocarbons (HC) shall be the original certification value for that engine, as shown on the applicable certification Executive Order issued by the ARB, rather than the original certification standard.

(4) Original exhaust emission rates for diesel engines certified to a combined HC + NO_x standard shall be based on the combined certification standard as pro-rated for each pollutant by the original emission certification value of each pollutant, as shown on the certification Executive Order issued by the ARB.

(5) The ARB-certified exhaust HC emission rate shall be converted to an exhaust VOC emission rate for calculating actual VOC emission reductions pursuant to this Subsection (c)(1)(v)(C). The conversion factor shall be determined by the Air Pollution Control Officer and shall be consistent with any applicable assumptions used in the SIP in effect at the time of the application.

(6) For diesel engines of model years 1987 and earlier, the original exhaust emission rate for PM shall be 0.6 grams/bhp-hr.

(7) The conversion factors for converting grams per brake horsepower-hour to grams per mile shall be consistent with any applicable assumptions used in the SIP in effect at the time of application. Alternative conversion factors may be used by the Air Pollution Control Officer or requested by the applicant if substantial evidence demonstrates the alternatives are more appropriate. Any alternative that increases actual emission reductions requires concurrence from the ARB.

(8) The lifetime mileage of the heavy-duty vehicle shall be the number of miles the vehicle is expected to travel in San Diego County during its lifetime. The lifetime mileage of the heavy-duty vehicle shall be determined by the Air Pollution Control Officer.

(9) The expected life remaining until the vehicle retires shall be the number of years the vehicle has been in service subtracted from the vehicle's expected life.

(10) Where a retrofitted vehicle uses more than one fuel and the ARB-certified emission rate for the retrofit is not applicable to all fuels, the lifetime mileage and annual mileage shall be adjusted to consider the projected mileage to be traveled using only those fuels to which the lower certified emission standard or standards apply.

(D) In-Use Testing

The applicant shall implement or participate in an in-use testing program approved by the Air Pollution Control Officer with concurrence from the ARB, to ensure that the actual emission reductions are maintained for the life of the vehicle or MERC.

(E) Recordkeeping

An applicant for a MERC pursuant to Subsection (c)(1)(v) shall compile and retain for a period of three (3) years beyond the credit life, and make available for District inspection upon request, the following records of each retrofitted vehicle for which a MERC has been granted under this Subsection:

- (1) Vehicle make, model, model year, and engine type;
- (2) Vehicle identification, engine identification, and license plate numbers;
- (3) Copies of certificates of registration;
- (4) Retrofit hardware model and serial numbers;

(5) Proof of compliance with the ARB's retrofit certification standards;

(6) The dates, mileage, and description of maintenance and repairs;

(7) A log of odometer readings sufficient to demonstrate mileage traveled inside and outside San Diego County, to identify the number of miles traveled using fuels for which the certified emission rate of the retrofitted vehicle does and does not apply. As an alternative to a log of odometer readings for number of miles traveled by fuel type, a log of fuel use by fuel type may be substituted; and

(8) Other records as may be required as a condition of MERC issuance.

(vi) Other Emission Reduction Strategies

(A) In addition to the mobile source emission reduction programs identified in Subsections (c)(1)(i) through (c)(1)(v), any other mobile source emission reduction program which creates actual emission reductions consistent with federal, state, and District laws, regulations, and policies is eligible to receive MERC pursuant to this rule, subject to the approval of the Air Pollution Control Officer and concurrence from ARB. The life of such credit shall be dependent on the duration of the actual emission reductions activity.

(B) Quantification of Actual Emission Reductions

(1) The applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer a reliable and accurate basis for calculating the amount, rate, nature, and characteristics of an actual emission reduction. Quantification of actual emission reductions shall be consistent with any applicable assumptions used in the SIP in effect at the time of the application.

(2) The actual emission reductions shall be calculated as the difference between the baseline emissions and the projected emissions.

(3) Where possible, the applicant shall use the same method of emissions quantification to calculate both the baseline emissions and projected emissions.

(4) Where differing methods of emissions quantification are used by the applicant to calculate the baseline emissions and projected emissions, the applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer that the use of the same method is not possible, and the actual emission reduction calculated using the differing methods is not inconsistent with any applicable federal, state, and District laws, regulations, or policies.

(2) MERC APPLICATION PROCEDURES

(i) Any person proposing to create actual emission reductions and requesting the issuance, amendment, transfer, or use of a MERC pursuant to this rule shall submit to the District the following:

(A) An application, on forms supplied by the District, specifying the manner in which actual emission reductions are to be achieved, amended, transferred, or used; and

(B) The appropriate fee determined using the labor rates specified in Rule 40.

(ii) A separate application shall be filed for the actual emission reductions for each MERC Program, amendment, transfer, or use.

(iii) One application may be submitted for reductions of one or more affected pollutants, provided the reductions of multiple pollutants occur from a single MERC Program.

(iv) The application shall demonstrate to the satisfaction of the Air Pollution Control Officer that the emission reductions proposed are actual emission reductions.

(v) Applicants may claim confidentiality of information contained in the application as provided by Rule 176.

(3) FILING SCHEDULE

Applications for a MERC shall be submitted no later than 180 days after the emission reduction occurs, except for reductions prior to (*date of adoption*). For reductions which occurred prior to (*date of adoption*), applications must be submitted by (*180 days after date of adoption*).

(4) ISSUANCE OF MERC CERTIFICATE

(i) If an applicant for MERC demonstrates to the satisfaction of the Air Pollution Control Officer that the emission reductions meet all applicable criteria set forth in this rule, the Air Pollution Control Officer shall issue a MERC certificate containing, as a minimum, all of the following:

(A) Name of the person to whom the MERC is issued;

(B) MERC certificate identification number;

(C) Date of issuance;

(D) Pollutant or pollutants reduced;

(E) Quantity of the actual emission reduction (in pounds per year);

(F) Time period for which the MERC is valid;

(G) Any conditions necessary to ensure compliance with the provisions of these rules and regulations and applicable federal and state laws and regulations; and

(H) A statement regarding the potential invalidation of the MERC certificate if it is determined by the Air Pollution Control Officer that the conditions are not being complied with or the MERC was fraudulently acquired, and absolving the District from any liability from any transaction involving the MERC certificate.

(ii) If the Air Pollution Control Officer determines that the emission reductions do not meet all applicable criteria set forth in this rule, the request for MERC shall be denied.

(5) TRANSFER OF MERC OR VEHICLES FOR WHICH MERC IS GRANTED

(i) MERC's may be transferred in whole or in part by any means of written conveyance permitted by state law provided the MERC's, under new ownership, meet all applicable criteria set forth in this rule. A copy of the written conveyance describing the transaction must be filed with the District and must contain all of the following:

(A) Identification of the transferor(s) and transferee(s);

(B) Agreement of transferor(s) and transferee(s) to comply with all conditions of the MERC certificate established pursuant to Subsection (c)(4)(i).

(C) Agreement of transferor(s) and transferee(s) to comply with all auditing and recordkeeping requirements established pursuant to Section (d);

(D) The quantity of MERC's transferred;

(E) The cost, in dollars per ton, of MERC's transferred; and

(F) Signatures of the transferor(s) and transferee(s).

(ii) If the Air Pollution Control Officer determines that all provisions of Subsection (c)(5)(i) are complied with, the Air Pollution Control Officer shall issue a new MERC certificate in the name of the new owner(s) for the quantity of MERC being transferred. If fewer than all of a MERC's actual emission reductions are transferred, a new MERC certificate shall also be issued to the original owner(s) for the remaining actual emission reductions.

(iii) If ownership of a motor vehicle for which a MERC was previously granted is transferred, a copy of the written conveyance describing the transaction must be filed with the District. Any MERC associated with the vehicle shall remain valid upon transference of vehicle ownership if the transferor(s) and transferee(s) agree, as stated in the written conveyance, to comply with all applicable conditions of the MERC certificate established pursuant to Subsection (c)(4)(i) and all auditing and recordkeeping requirements established pursuant to Section (d).

(6) MERC REGISTRY

(i) Each outstanding MERC shall be listed in the MERC Registry.

(ii) The MERC Registry shall be maintained by the District which shall record, as a minimum:

- (A) MERC certificate identification number;
- (B) Date of issuance;
- (C) Name and address of the registered owner(s);
- (D) Type of pollutant(s) reduced;
- (E) Quantity of pollutant(s) reduced;
- (F) Source of the emissions reduction(s);
- (G) MERC expiration date;
- (H) Conditions established for MERC issuance;
- (I) Status of the MERC (e.g., being used, held, transferred, or sold).

(d) AUDITING AND RECORDKEEPING

(1) Any person creating, owning, or using a MERC pursuant to this rule shall compile and retain for a period of three (3) years beyond the credit life all records reasonably necessary to verify compliance with this rule.

(2) Copies of all applicable records shall be made available to the Air Pollution Control Officer upon request.

(3) Any person creating, owning, or using a MERC pursuant to this rule is subject to random audits by the Air Pollution Control Officer to verify compliance with this rule.

(4) The Air Pollution Control Officer shall, upon request, have access to the premises of any person creating, owning, or using a MERC for purposes of conducting an audit to verify compliance with this rule.

(5) Audits may include inspections, review of records, testing, or any other action necessary to verify compliance with this rule.

(e) INVALIDATION

Noncompliance with any provision of this rule, including any condition of any MERC, shall be grounds for the Air Pollution Control Officer to invalidate or void any MERC associated with the noncompliance.