

ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

**RULE 1605 -- CREDITS FOR THE VOLUNTARY REPAIR OF ON-ROAD MOTOR
VEHICLES IDENTIFIED THROUGH REMOTE SENSING
DEVICES**

(Adopted: 10/11/96)

(a) Purpose

The purpose of this rule is to provide opportunities to generate VOC, NO_x, and CO mobile source emission reduction credits (MSERCs) 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 reducing the emissions of high-emitting vehicles through the repair of emissions related components. High-emitting vehicles would be identified through the use of remote sensing devices (RSDs). MSERCs would be based on emission reductions that are surplus to local, state, and federal emission reduction requirements, including the State's Motor Vehicle Inspection Program and Accelerated Vehicle Retirement Program.

(b) Applicability

This voluntary rule is inoperative 60 days subsequent to a declaration by the Bureau of Automotive Repair (BAR) that the enhanced Inspection and Maintenance Program is operational in the District, and applies to 1966 and newer model-year gasoline-powered passenger cars and light-duty trucks that are registered as operable vehicles in the District by the California Department of Motor Vehicles (DMV).

(c) Definitions

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

- (1) BAR90 means the test equipment/procedure implemented since July 1990 by the BAR that is utilized to emission test vehicles as part of the Motor Vehicle Inspection Program.
- (2) CARBON MONOXIDE (CO) means a colorless, odorless gas, having a chemical formula of CO, produced by the incomplete combustion of carbonaceous material.
- (3) CREDIT LIFE means the period of time in years that an MSERC can be used as an alternative means of compliance with a District rule, as permitted by Rule 1605.

- (4) CUT POINT means the minimum HC, CO, or NO_x (if available) exhaust emission concentration level measured by RSD(s) that is used to initially identify potential high-emitting vehicles.
- (5) HIGH-EMITTING VEHICLE means a gasoline powered passenger car or light-duty truck that does not comply with State Motor Vehicle Inspection Program requirements according to the BAR 2500 rpm testing using BAR90 test equipment either for HC or for CO.
- (6) HYDROCARBON (HC) means methane and any other volatile compound of carbon, reported as an equivalent concentration of hexane, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates; ammonium carbonate, and exempt compounds as defined in District Rule 102.
- (7) MOTOR VEHICLE INSPECTION PROGRAM means the statewide requirements for the periodic inspection, emission testing, and repair of motor vehicles pursuant to Chapter 5, Sections 44000 to 44095, of the California Health and Safety Code.
- (8) NITROGEN OXIDES (NO_x) mean the sum of nitric oxides and nitrogen dioxides emitted, calculated as nitrogen dioxide.
- (9) POTENTIAL HIGH-EMITTING VEHICLE means a vehicle that has been measured by RSD(s) to have exhaust concentration levels above the HC, CO, or NO_x (if available) cut points.
- (10) PROGRAM OPERATOR means the person that has submitted and obtained Project Plan approval pursuant to subdivision (e) to conduct a remote sensing/vehicle repair program for mobile source emission reduction credits under Rule 1605.
- (11) REMOTE SENSING DEVICE (RSD) means an electronic instrument or device that is used to remotely measure vehicle exhaust hydrocarbon, carbon monoxide, and nitrogen oxides (if available) emissions using a light beam directed perpendicularly to the path of passing vehicles.
- (12) SMOG CHECK means the emission, functional, and visual tests specified for the Motor Vehicle Inspection Program pursuant to Health and Safety Code Sections 44012 and 44013.
- (13) SMOG TEST STATION means a facility that is authorized or licensed by BAR to inspect and emission test vehicles to determine compliance with the Motor Vehicle Inspection Program requirements.
- (14) TAMPER means to modify, remove, or disconnect vehicle emissions control components.

- (15) VEHICLE AGE means the difference between the calendar year of the vehicle repair and the vehicle model year.
- (16) 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.

(d) Rule 1605 MSERC Program Requirements

- (1) In order to generate MSERCs, a program operator shall identify and repair high-emitting vehicles as follows:
 - (A) The program operator shall use RSDs to initially identify potential high-emitting vehicles using cut points of 4 percent and 0.1 percent for exhaust CO and HC, respectively. The Executive Officer may approve alternative CO and HC cut points provided that data is submitted by the program operator to the District demonstrating that these alternative cut points are at least as effective in identifying high-emitting vehicles compared to cut points of 4 percent and 0.1 percent for exhaust CO and HC, respectively.
 - (B) The program operator shall emission test vehicles identified as potential high-emitting vehicles at a Smog Test Station to determine compliance with Motor Vehicle Inspection Program requirements according to BAR90 emission test results. The program operator shall be responsible for obtaining permission to include a vehicle in the program from the vehicle owner. The program operator shall ensure that:
 - (i) the vehicle engine is at its normal operating temperature (i.e., warmed-up) at the beginning of the emission test.
 - (ii) the vehicle does not use accessory equipment which would result in an additional load on the vehicle's engine during the BAR90 emission test, such as the use of air conditioning.
 - (iii) the BAR90 emission test is conducted by a person authorized by BAR to conduct such tests.
 - (iv) the emission test procedure includes BAR90 exhaust emission testing and all other procedures specified by BAR to determine compliance with Motor Vehicle Inspection Program requirements.
 - (v) the initial pre-repair BAR90 emission test is conducted on the vehicle as received, without any adjustments or modifications to the vehicle that could affect its emissions prior to performing the smog check. The initial pre-repair emission test shall be conducted with the BAR90 test equipment in manual mode (i.e., without electronic notification of test results to BAR).

- (C) The program operator shall only identify vehicles failing BAR90 2500 rpm emission testing as high-emitting vehicles, and such vehicles shall be eligible for MSERC generation.
 - (D) The program operator shall ensure the vehicle repairs performed under a Rule 1605 MSERC Program are conducted only by person(s) permitted by BAR to conduct vehicle repairs under the Motor Vehicle Inspection Program. Repairs shall include all procedures necessary to bring the vehicle into compliance with Motor Vehicle Inspection Program requirements.
 - (E) The program operator shall have the vehicle retested subsequent to repairs for compliance with Motor Vehicle Inspection Program requirements. The post-repair emission test shall be conducted with the BAR90 test equipment in certification mode (i.e., with electronic notification of test results to BAR).
- (2) The program operator shall not include any gasoline-powered passenger cars and light-duty trucks in the program for MSERC generation if one or more of the following occur:
- (A) A smog check has yet to be conducted as required by law or the owner has been notified that a smog check is required as part of the DMV registration renewal process.
 - (B) The vehicle is scheduled to be smog checked due to DMV registration renewal requirements, within a three month period subsequent to its identification as a potential high-emitting vehicle.
 - (C) The vehicle will be scrapped or retired as part of a local or statewide vehicle scrapping program.
- (3) For Rule 1605 MSERC programs that utilize more than 10 smog test stations, program operators shall submit notice to the Executive Officer at least one week prior to emission testing and repairing vehicles at smog test stations, pursuant to paragraph (d)(1), indicating specific locations, dates, and times for emission testing and repair activities. The notice may be submitted either in writing or electronically. For Rule 1605 MSERC programs that utilize 10 or fewer smog test stations, the smog test facility or the program operator shall provide the Executive Officer with the projected number of vehicles to be emission tested or repaired for a specific day upon request at any time during that specific day.
- (4) Program operators shall comply with all applicable regulations and obtain all necessary permits from applicable agencies with regard to conducting RSD measurements on public roads, and identifying and contacting vehicle owners.

(e) Issuance of MSERCs

(1) Rule 1605 Project Plan

At least one month prior to initial implementation of a Rule 1605 remote sensing/vehicle repair project, the Program Operator shall submit a Rule 1605 Project Plan. The Rule 1605 Project Plan shall contain the following specific information:

- (A) description of RSD equipment, including HC, CO and NOx (if available) cut points to be used to identify potential high-emitting vehicles pursuant to subparagraph (d)(1)(A);
 - (B) proposed RSD test locations and site configurations; and
 - (C) identification of Smog Test Station(s) to be used to test and repair high-emitting vehicles and proof of BAR certification.
- (2) To be eligible for MSERC generation, the Rule 1605 Project Plan must be approved by the Executive Officer prior to implementation of the project.
- (3) Rule 1605 MSERC Application

In order to generate MSERCs, the Program Operator shall submit a Rule 1605 MSERC Application for MSERCs for a vehicle not later than 6 months after a vehicle has been identified for inclusion in the program. The purpose of the Application is to document the identification and repair (if applicable) of all vehicles identified as high-emitting vehicles. The Application shall include at a minimum:

- (A) Information Required For Repaired High-Emitting Vehicles
 - (i) make, model, model-year, and license plate number
 - (ii) name and address of each vehicle owner
 - (iii) a statement from the Program Operator verifying vehicle registration address with DMV for each vehicle
 - (iv) location of RSD site
 - (v) location of Smog Test Station corresponding to pre- and post-BAR90 emission testing and vehicle repair for each high emitting vehicle
 - (vi) a listing of pre- and post-BAR90 2500 rpm HC, CO and NOx (if applicable) concentration levels in parts per million (ppm)
 - (vii) a listing of RSD concentration levels for HC, CO, and NOx (if applicable)
 - (viii) a list of repairs required to bring vehicle into compliance with the Motor Vehicle Inspection Program

- (ix) date of next required smog check
 - (x) mileage accumulation rate and calculated MSERCs for VOC, CO, and Nox
- (4) All MSERCs shall be issued after approval and verification as needed of the Rule 1605 MSERC Application by the Executive Officer in accordance with the MSERC calculation methodology specified in subdivision (f).
- (5) MSERCs shall expire two years after date of issuance.

(f) MSERC Calculation

- (1) The total amount of VOC, CO and NOx MSERCs generated for exhaust emission reductions when a high-emitting vehicle is repaired shall be calculated by the Executive Officer according to the following formulas:

VOC MSERCs

$$\text{MSERC} = \frac{[(63.3 \times (\text{HC}_{\text{pre}} - \text{HC}_{\text{post}})) \times (\text{Days}/365) \times \text{CF} \times \text{Mileage}]}{(454 \times \text{TAF})}$$

where

- MSERC = Mobile Source Emission Reduction Credits (pounds)
- HC_{post} = BAR90 2500 rpm HC concentration percent in exhaust after repair.
- HC_{pre} = BAR90 2500 rpm HC concentration percent in exhaust before repair.
- Days = Number of days between high-emitting vehicle repair date and next required smog check.
- Mileage = Annual mileage accumulation rate according to Table 1, based on vehicle age.
- TAF = Technical Uncertainty Adjustment Factor, for the purpose of generating credits.
- CF = Correction factor to convert HC emissions to VOC emissions, equal to 0.9019 for catalyst equipped vehicles, and 0.9794 for non-catalyst equipped vehicles.

CO MSERCs

$$\text{MSERC} = \frac{[(11.1 \times (\text{CO}_{\text{pre}} - \text{CO}_{\text{post}})) \times (\text{Days}/365) \times \text{Mileage}]}{(454 \times \text{TAF})}$$

where

- MSERC = Mobile Source Emission Reduction Credits (pounds)
- CO_{post} = BAR90 2500 rpm CO concentration percent in exhaust after repair.
- CO_{pre} = BAR90 2500 rpm CO concentration percent in exhaust before repair.

Days = Number of days between high-emitting vehicle repair date and next required smog check.

Mileage = Annual mileage accumulation rate according to Table 1, based on vehicle age

TAF = Technical Uncertainty Adjustment Factor, for the purpose of generating credits.

NO_x MSERCs

MSERC = $[0.426 \times (\text{Days}/365) \times \text{Mileage}] / (454 \times \text{TAF})$

where

MSERC = Mobile Source Emission Reduction Credits (pounds).

Days = Number of days between high-emitting vehicle repair date and next required smog check.

Mileage = Annual mileage accumulation rate according to Table 1, based on vehicle age.

TAF = Technical Uncertainty Adjustment Factor, for the purpose of generating credits.

- (2) The Executive Officer shall modify the MSERC calculation procedure specified in paragraph (f)(1) to provide for a improved methodology for relating BAR90 concentration measurements and actual gram per mile emissions rates, compared to the methodology contained in paragraph (f)(1), if one or both of the following occur:
 - (A) the ARB develops a methodology using its existing emissions data base for relating BAR90 concentration measurements and actual gram per mile emission rates.
 - (B) the BAR90 test procedure is replaced with another test procedure by BAR as part of the Motor Vehicle Inspection Program.

- (3) The Executive Officer may update the values in Table 1 to reflect revised mileage accumulation rates used in ARB’s Motor Vehicle Emission Inventory Model. In addition, the Executive Officer may approve different mileage accumulation rates other than those specified in Table 1 if the program operator provides sufficient documentation (at least three most recent years of mileage accumulation data) to the Executive Officer to justify these different rates for the specific vehicles being repaired for MSERC credit generation.

Table 1
Mileage Accumulation Rate (miles per year)

Vehicle Age	Mileage	
	Passenger Car	Light-Duty Truck
0	14,169	15,640
1	13,563	14,590
2	12,956	13,610
3	12,349	12,696
4	11,742	11,843
5	11,135	11,048
6	10,528	10,306
7	9,921	9,614
8	9,314	8,968
9	8,707	8,366
10	8,101	7,804
11	7,597	7,280
12	7,164	6,791
13	6,788	6,335
14	6,457	5,909
15	6,214	5,512
16	6,071	5,142
17	5,940	4,797
18	5,819	4,475
19	5,707	4,174
20	5,603	4,174
21	5,505	4,174
22	5,414	4,174
23	5,328	4,174
24	5,247	4,174
25	5,170	4,174
26	5,098	4,174
27	5,029	4,174
28	4,963	4,174
29	4,901	4,174
30	4,842	4,174
31	4,785	4,174
32	4,730	4,174
33	4,678	4,174
34 or more	4,628	4,174

- (4) For the purpose of calculating MSERCs pursuant to paragraph (f)(1), a Technical Uncertainty Adjustment Factor (TAF) equal to 1.2 shall be applied. The Executive Officer shall perform a semiannual analysis to determine the appropriateness of the TAF to ensure that the MSERCs issued pursuant to paragraph (e)(4) do not exceed the actual emissions reductions generated from Rule 1605 remote sensing/vehicle repair programs, and may recommend revisions to the TAF based on information obtained from BAR and the California Air Resources Board regarding vehicle repair durability, and the effectiveness of the Motor Vehicle Inspection Program and Accelerated Vehicle Retirement Program.

(g) Use of MSERCs

- (1) MSERCs may be used for any of the following applications:
 - (A) As RECLAIM Trading Credits. The Executive Officer shall convert MSERCs to RTCs upon submission of MSERCs by the user.
 - (B) As an alternative method of compliance with any District regulations which specifically authorize the use of MSERCs.
 - (C) 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.
 - (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.
- (2) MSERCs shall only be consumed in the air basin where the vehicle is based.

- (3) In order to use MSERCs for the applications listed in subparagraph (g)(1)(C) of this subdivision, the user shall submit a compliance plan to the Executive Officer . The user of MSERCs for applications listed under subparagraph (g)(1)(B) shall also submit a compliance plan to the Executive Officer if the District regulation specifically authorizing the use of the MSERCs does not already require a compliance plan. The purpose of the compliance plan is to demonstrate compliance with rule requirements, and specify the use of the MSERCs.
- (4) The compliance plan required in paragraph (g)(3) above shall contain the following information:
 - (A) Total MSERCs in possession;
 - (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 (g)(4)(B), and documentation supporting the emission quantification; and
 - (F) A demonstration that the use of MSERCs shall result in full compliance with the specific rule requirements for which the alternative method of compliance is sought.
- (5) Supporting documentation (applicable for MSERC usage for Regulation XI rules) shall include:
 - (A) A listing of equipment or materials that are the source of noncompliant VOC, NO_x, or CO emissions associated with the rule identified in subparagraph (g)(4)(B).
 - (B) a description and operating conditions of equipment listed in subparagraph (g)(5)(A) or composition and rate of use of materials listed in subparagraph (g)(5)(A).
 - (C) emission rates associated with the use of equipment or materials listed in subparagraph (g)(5)(A).
 - (D) a listing of equipment or materials that would result in compliance with the rule identified in subparagraph (g)(4)(B).

- (E) a description and operating conditions of equipment listed in subparagraph (g)(5)(D) or composition and rate of use of materials listed in subparagraph (g)(5)(D).
 - (F) emission rates associated with the use of equipment or materials listed in subparagraph (g)(5)(D).
- (6) The compliance plan shall be written on a form to be specified by the Executive Officer.
 - (7) The Executive Officer 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.
 - (8) MSERCs may not be used as an alternative method of compliance with Regulation XI rules until the Executive Officer has approved the compliance plan.
 - (9) The compliance plan shall be valid only for the period for which MSERCs have been submitted.

(h) Recordkeeping Requirements

Program Operators shall be required to maintain a copy of information submitted pursuant to paragraph (e)(3), and the original BAR90 vehicle inspection reports generated before and after high-emitting vehicle repair, for three years after corresponding MSERC application submittal.

(i) Compliance Auditing and Enforcement

- (1) The program operator shall afford the Executive Officer access in the District to audit any files or records created to comply with recordkeeping requirements specified in subdivision (h); or the Executive Officer shall require persons receiving MSERCs under this rule to submit such records to the Executive Officer upon request.
- (2) The program operator shall afford the Executive Officer access to inspect RSD measurement activities, as well as emission testing and vehicle repairs performed for compliance with Motor Vehicle Inspection Program requirements pursuant to subdivision (d).

- (3) Violation of any provision of this rule, including falsification of information in the Rule 1605 Project Plan or MSERC Application, or the acceptance of vehicles for MSERC generation that have been tampered with prior to vehicle repair 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 Rule 1605 MSERC Application, and shall be subject to the penalties specified in the Health and Safety Code for violation of District rules.

(j) Requirements for Public Notice

Following a completeness determination of the Rule 1605 MSERC Application for the use of MSERCs as NSR offsets only, as provided in subparagraph (g)(1)(D), the Executive Officer 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 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.

(k) 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 Rule 1605 MSERC Application was properly refused.

(1) Relationship to Intercredit Trading

- (1) MSERCs generated pursuant to this rule may be converted to other denominations, as authorized by other District rules and regulations.
- (2) MSERC credit life may be adjusted, as authorized by other District rules and regulations.

[SIP: Submitted as adopted 10/11/96 on 11/26/96]

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