

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

**RULE 3.11 - ALTERNATIVE COMPLIANCE**

*(Adopted January 8, 1997)*

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## 100 GENERAL

**101 PURPOSE:** To provide an administrative procedure for the review of Authority to Construct and Permit to Operate applications for alternative compliance with applicable District Rules and Regulations by the use of emission reduction credits. Emission reduction credits may be obtained in accordance with Sacramento Metropolitan Air Quality Management District (hereinafter SMAQMD) Rule 205, COMMUNITY BANK AND PRIORITY RESERVE BANK or Yolo/Solano Air Quality Management District (hereinafter District) Rule 3.5, EMISSION REDUCTION CREDITS.

### 102 APPLICABILITY:

102.1 This Rule may be used by operations that are subject to any of the following District Rules:

- a. Rule 2.13, Organic Solvents; or
- b. Rule 2.24, Solvent Cleaning Operations (Degreasing); or
- c. Rule 2.26, Motor Vehicle and Mobile Equipment Coating Operations; or
- d. Rule 2.27, Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters; or
- e. Rule 2.30, Polyester Resin Operations; or
- f. Rule 2.33, Adhesives Operations.

102.2 This Rule shall not be used for the following:

- a. Compliance with Best Available Control Technology requirements;
- b. Compliance with Maximum Available Control Technology standards;
- c. Compliance with National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61);
- d. Compliance with New Source Performance Standards;
- e. To avoid penalties or enforcement actions by obtaining credits after the fact of noncompliance;
- f. For netting out of NSR or PSD requirements; or
- g. To meet requirements for motor vehicle emissions standards, reformulated gasoline, clean fueled fleets, employer trip reduction programs, or vehicle inspection and maintenance programs.

102.3 This Rule shall not be used by major sources for compliance with Rules approved into the State Implementation Plan (hereinafter SIP) until such time as this Rule receives final SIP approval<sup>(1)</sup>.

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<sup>1</sup>[Note: District Rules 2.24, 2.27, and 2.30 have not yet been approved by the United States Environmental Protection Agency into the State Implementation Plan

(SIP). Approval of this rule into the SIP does not constitute automatic SIP approval of these rules.]

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**103 SEVERABILITY:** If a court of competent jurisdiction issues an order that any provision of this Rule is invalid, it is the intent of the Board of Directors of the District that all other provisions of this Rule remain in full force and affect, to the extent allowed by law.

**104 VIOLATIONS:** If a violation is found at a stationary source using credits as an alternative compliance method as specified in this Rule to comply at any time during a compliance or reporting period, the stationary source may be cited with a violation for every day of the compliance or reporting period.

## **200 DEFINITIONS:**

**201 MATERIAL:** For purpose of this Rule, material shall mean coating, primer, adhesive, polyester resin and solvents including cleanup solvents.

**202 OVERALL CONTROL EFFICIENCY:** The ratio of the weight of the pollutant removed by the emission control system, to the total weight of pollutant emitted from the operation, both measured simultaneously, and can be calculated by the following equation:



*where:*

*CE = Overall control efficiency of the air pollution control system*

*Wc = weight of pollutant entering control device*

*Wa = weight of pollutant discharged from the control device*

*We = weight of pollutant emitted from coating operation*

**203 VOLATILE ORGANIC COMPOUND(VOC):** Any compound containing at least one atom of carbon excluding the following:

- 203.1 carbon monoxide;
- 203.2 carbon dioxide;
- 203.3 carbonic acid;
- 203.4 metallic carbides or carbonates;
- 203.5 ammonium carbonate;
- 203.6 methane;
- 203.7 methylene chloride (dichloromethane);
- 203.8 1,1,1-trichloroethane (methyl chloroform);
- 203.9 trichlorofluoromethane (CFC-11);
- 203.10 dichlorodifluoromethane (CFC-12);
- 203.11 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
- 203.12 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
- 203.13 chloropentafluoroethane (CFC-115);
- 203.14 chlorodifluoromethane (HCFC-22);
- 203.15 1,1,1-trifluoro-2,2-dichloroethane (HCFC-123);
- 203.16 1,1-dichloro-1-fluoroethane (HCFC-141b);
- 203.17 1-chloro-1,1-difluoroethane (HCFC-142b);
- 203.18 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
- 203.19 trifluoromethane (HFC-23);
- 203.20 1,1,2,2-tetrafluoroethane (HFC-134);
- 203.21 1,1,1,2-tetrafluoroethane (HFC-134a);
- 203.22 pentafluoroethane (HFC-125);
- 203.23 1,1,1-trifluoroethane (HFC-143a);
- 203.24 1,1-difluoroethane (HFC-152a);
- 203.25 cyclic, branched, or linear completely methylated siloxanes; and
- 203.26

The following four classes of perfluorocarbon compounds:

- a. Cyclic, branched, or linear, completely fluorinated alkanes;
- b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- c. Cyclic, branched or linear, completely fluorinated tertiary amines with no unsaturations; and
- d. Sulfur-containing perfluorocarbons with no unsaturations and with the sulfur bonds to carbon and fluorine;

- 203.27 acetone;
- 203.28 ethane;
- 203.29 parachlorobenzotrifluoride (1-chloro-4-trifluoromethyl benzene); and
- 203.30 perchloroethylene.

Volatile organic compounds may also be referred to as reactive organic compounds (ROC).

## 300 STANDARDS

**301 ALTERNATIVE COMPLIANCE, GENERAL:** Notwithstanding the overall control efficiency of the emissions control system specified in the applicable Rules, the owners or operators of a stationary source may comply with applicable Rules by using an approved air pollution control system and/or by providing emission reduction credits pursuant to this Rule. The emission reduction credits may be obtained in accordance with SMAQMD Rule 205, COMMUNITY BANK AND PRIORITY RESERVE BANK or District Rule 3.5, EMISSION REDUCTION CREDITS. The need for emission reduction credits will be determined by the calculations in Section 403. If the excess emissions, calculated pursuant to Section 403, are greater than zero pounds per calendar quarter, then the emissions credits needed shall be determined using the following equation:



*Where:*

*T = Total emissions per pollutant for which offsets are required (lbs/quarter)*

*E = Excess emissions as calculated in Section 403 of this Rule (lbs/quarter)*

*1.1 = Offset ratio for alternative compliance*

## 400 ADMINISTRATIVE REQUIREMENTS

**401 APPLICATION PROCESS:** The owner or operator of a stationary source requesting alternative compliance pursuant to this Rule shall apply for an Authority to Construct in accordance with District Rule 3.1, GENERAL PERMIT REQUIREMENTS, and District Rule 3.4, NEW SOURCE REVIEW, and shall pay an application processing fee specified in District Rule 4.1.

**402 ACTION ON APPLICATION:** The application will be processed in accordance with the procedures in District Rule 3.1, GENERAL PERMIT REQUIREMENTS, and District Rule 3.4, NEW SOURCE REVIEW.

**403 CALCULATION PROCEDURE FOR EMISSION REDUCTION CREDITS NEEDED FOR COMPLIANCE:** The owner or operator of the stationary source shall calculate the emission reduction credits needed by the stationary source for each calendar quarter in accordance with the following:

403.1 Calculation procedure for the excess emissions of the stationary sources subject to District Rule 2.27, Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters shall be calculated as follows:



Where:

$E$  = Excess  $NO_x$  emissions (lbs/quarter)

$EF1$  = Total  $NO_x$  emissions (lb- $NO_x$ /mmbtu input)

$EF2$  = Required  $NO_x$  emissions limits (lb- $NO_x$ /mmbtu input)

$U$  = Quarterly permitted fuel usage for the unit (mmbtu/quarter)

403.2 Calculation procedure for stationary sources subject to District Rule 2.26, Motor Vehicle and Mobile Equipment Coating Operations;

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**District Rule 2.33, Adhesives Operations;**

**District Rule 2.24, Solvent Cleaning Operations  
(Degreasing);**

**District Rule 2.13, Organic Solvents;**

**or District Rule 2.30, Polyester  
Resin Operations.**

*Use the following steps to calculate the total excess emissions for all non-compliant materials:*

a. Calculate the excess emissions for each non-compliant material as applied (Note all calculation values are less water and exempt compounds.):

1. Calculate the permitted potential quarterly VOC emissions using the following equation:

$$VOC1_i = G_i * NC_{VOCi}$$

where:

$VOC1_i$  = The volatile organic compound emissions of the non-compliant material i (lbs-VOC/quarter).

$G_i$  = Volume of non-compliant material i specified in the application or permitted quarter (gallons/quarter).  $G_i$  excludes water and exempt compounds.

$NC_{VOC_i}$  VOC content of the non-compliant material i (lbs-VOC/gal-material).

2. Calculate the permitted potential quarterly volume of solids applied using the following equation:

$$SOLID_i = G_i * NC_{SOLID_i}$$

where:

$SOLID_i$  = Volume of solids in non-compliant material i (gals-solid/quarter)

$NC_{SOLID_i}$  Solid content of the non-compliant material i (lbs-solid/gal-material). Mathematically,  $NC_{SOLID_i} = (1 - NC_{VOC_i} / S_{DENSITY_i})$ .

$S_{DENSITY_i}$  Density of the VOC solvent in the non-compliant material i (lbs-VOC/gal-VOC) or use EPA default of 7.36 lbs/gal.

3. Calculate the Rule compliant quarterly VOC emissions using the following equation:

$$VOC_{2_i} = Rule_{VOC/SOLID_i} * SOLID_i$$

where:

$VOC_{2_i}$  = The allowable volatile organic compound emissions for the non-compliant material i based on the limit specified in the applicable Rule, (lbs-VOC/quarter).

$Rule_{VOC/SOLID_i}$  = The allowable pounds of VOC per gallon of solid for the non-compliant material i based on the limit specified in the applicable Rule, (lbs-VOC/gal-solid).

Mathematically,  $Rule_{VOC/SOLID_i} = Rule_{VOC_i} / (1 - Rule_{VOC_i} / 7.36 \text{ lbs/gal})$ , where  $(1 - Rule_{VOC_i} / 7.36 \text{ lbs/gal}) = \text{pounds of solids per gallon of material less water and exempt compounds}$ .

$Rule_{VOC_i}$  = The allowable VOC content for the non-compliant material i category as specified in the applicable Rule (lbs-VOC/gal-material).

4. Calculate the excess emissions using the following equation:

$$E_i = \text{VOC1}_i * (1 - \text{CE}_i) - \text{VOC2}_i$$

where,

$E_i$  = The excess volatile organic compound emissions of non-compliant material i (lbs/quarter).

$\text{CE}_i$  = Overall control system efficiency of non-compliant material i. If no control then  $\text{CE}_i$  equals zero.

b. Calculate the total excess emissions for all non-compliant material as applied:

$$E_{\text{total}} = E_i$$

where:

$E_{\text{total}}$  = The sum of all excess volatile organic compound emissions from each material i (lbs/quarter).

## 500 MONITORING AND RECORDS

**501 RECORDKEEPING:** In addition to the record keeping requirements specified in each Rule listed in Section 102, the owner or operator of the stationary source shall maintain the following records:

501.1 For material application operations, the owner or operator of the stationary source shall maintain the following records:

- a. At least a quarterly record of all non-compliant material used in gallons;
- b. The volatile organic compound content for each non-compliant material as applied in grams per liter and pounds per gallon including any supporting information such as data sheet, material list, or invoice giving material name, manufacturer identification, material application and VOC content as applied; and

501.2 For boilers, the owner or operator of the stationary source shall maintain a record of the fuel usage in therms per quarter or gallons per quarter whichever is applicable.

**502 DURATION OF RECORDS:** These records shall be maintained for a period of five years for stationary sources subject to District Rule 3.8, Federal Operating Permits, and for three years for all other stationary sources, during which time they shall be made available to the Air Pollution Control

Officer upon request.