



2007 Area Source Emissions Inventory Methodology

099 - UNSPECIFIED COMBUSTION SOURCES

I. Purpose

This document describes the Area Source Methodology used to estimate emissions of carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x), fine particulate matter less than 10 microns (PM₁₀), volatile organic compounds (VOC), and sulfur oxides (SO_x) from unspecified fuel combustion at sources not accounted for in other source categories.

An area source is a collection of similar emission units within a geographic area (i.e., a County). Area sources collectively represent individual sources that are small and numerous, and that may not have inventoried as specific point, mobile, or biogenic sources. The California Air Resources Board (CARB) has grouped these individual sources with other like sources into area source categories. These source categories are grouped in such a way that they can be estimated collectively using one methodology.

II. Applicability

This Area Source Methodology applies to facilities that are identified by the following Category of Emission Source (CES) code and Reconciliation Emission Inventory Code (REIC):

Table 1. Emission inventory code

CES	REIC	Description
66837	99-995-0012-0000	Unspecified combustion sources

III. Point Source Reconciliation

Emissions from the area source inventory and point source inventory are reconciled against each other to prevent double counting. This is done using relationships created by the California Air Resources Board (ARB) between the area source REIC and the point sources' Standard Industry Classification (SIC) code and emissions process Source Category Code (SCC) combinations. Currently, this source category does not reconcile to any processes within our point source inventory.

IV. Methodology Description

The purpose of this source category is to estimate emissions from unspecified combustion sources not accounted for in other source categories. At this time, the District has not identified any sources of combustion emissions that are not accounted for elsewhere. Therefore, the area source emissions for this category will be set to zero.

V. Activity Data

Not applicable.

VI. Emission Factors

Not applicable.

VII. Emissions Calculations

A. Assumptions

Not applicable.

B. Sample Calculations

Not applicable.

VIII. Temporal Variation

Not applicable.

IX. Spatial Variation

Not applicable.

X. Growth Factor

Not applicable.

XI. Control Level

Not applicable.

XII. ARB Chemical Speciation

CARB has developed organic gas profiles in order to calculate reactive organic gasses (ROG), volatile organic compounds (VOC) or total organic gas (TOG) given any one of the three values. For each speciation profile, the fraction of TOG that is ROG and VOC is given. The organic gas profile codes can also be used to lookup associated toxics. CARB's organic gas speciation profile for unspecified combustion sources is presented in Table 2.

Table 2. CARB organic gas speciation profile for unspecified combustion sources.

Profile Description	ARB Organic Gas Profile#	Fractions	
		ROG	VOC
Unspecified combustion sources	600	0.6986	0.6986

CARB has developed particulate matter speciation profiles in order to calculate particulate matter (PM), particulate matter with a diameter less than or equal to 10 microns (PM₁₀) or particulate matter with a diameter less than or equal to 2.5 microns (PM_{2.5}) given any one of the three values. For each speciation profile, the fraction of PM that is PM₁₀ and PM_{2.5} is given. The particulate matter profile codes can also be used to lookup associated toxics. CARB's particulate matter speciation profile for unspecified combustion sources is presented in Table 3.

Table 3. CARB particulate matter speciation profile for unspecified combustion sources.

Profile Description	ARB PM Profile#	Fractions	
		PM ₁₀	PM _{2.5}
Unspecified combustion sources	900	0.7	0.42

XIII. Assessment Of Methodology

This source category is not currently used by the District.

XIV. Emissions

Following is the 2007 area source emissions inventory for REIC 099-995-0012-0000 estimated by this methodology. Emissions are reported for each county in the District.

Table 10. Area source emissions for REIC 099-995-0012-0000 (2007).

County	Emissions (tons/year)					
	NO _x	CO	SO _x	VOC ⁽¹⁾	PM ₁₀	PM _{2.5} ⁽²⁾
Fresno	0.00	0.00	0.00	0.00	0.00	N/A
Kern	0.00	0.00	0.00	0.00	0.00	N/A
Kings	0.00	0.00	0.00	0.00	0.00	N/A
Madera	0.00	0.00	0.00	0.00	0.00	N/A
Merced	0.00	0.00	0.00	0.00	0.00	N/A
San Joaquin	0.00	0.00	0.00	0.00	0.00	N/A
Stanislaus	0.00	0.00	0.00	0.00	0.00	N/A
Tulare	0.00	0.00	0.00	0.00	0.00	N/A
TOTAL	0.00	0.00	0.00	0.00	0.00	N/A

(1) The District only reports ROG to ARB. As noted in Section XII, ROG is the same as VOC.

(2) At this time, the District does not calculate PM_{2.5} emissions. PM_{2.5} emissions can be estimated using the speciation profiles found in Section XII.

Following is the 2007 point source emissions inventory for REIC 099-995-0012-0000 as reported to the District by our permit holders. Emissions are reported for each county in the District.

Table 11. Point source emissions for REIC 099-995-0012-0000 (2007).

County	Emissions (tons/year)					
	NO _x	CO	SO _x	VOC ⁽¹⁾	PM ₁₀	PM _{2.5} ⁽²⁾
Fresno	0.00	0.00	0.00	0.00	0.00	N/A
Kern	0.00	0.00	0.00	0.00	0.00	N/A
Kings	0.00	0.00	0.00	0.00	0.00	N/A
Madera	0.00	0.00	0.00	0.00	0.00	N/A
Merced	0.00	0.00	0.00	0.00	0.00	N/A
San Joaquin	0.00	0.00	0.00	0.00	0.00	N/A
Stanislaus	0.00	0.00	0.00	0.00	0.00	N/A
Tulare	0.00	0.00	0.00	0.00	0.00	N/A
TOTAL	0.00	0.00	0.00	0.00	0.00	N/A

(1) The District only reports ROG to ARB. As noted in Section XII, ROG is the same as VOC.

(2) At this time, the District does not calculate PM_{2.5} emissions. PM_{2.5} emissions can be estimated using the speciation profiles found in Section XII.

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Following is the 2007 total unreconciled (point source plus area source) emissions inventory for REIC 099-995-0012-0000. Emissions are reported for each county in the District.

Table 12. Total emissions for REIC 099-995-0012-0000 (20XX).

County	Emissions (tons/year)					
	NOx	CO	SOx	VOC ⁽¹⁾	PM ₁₀	PM _{2.5} ⁽²⁾
Fresno	0.00	0.00	0.00	0.00	0.00	N/A
Kern	0.00	0.00	0.00	0.00	0.00	N/A
Kings	0.00	0.00	0.00	0.00	0.00	N/A
Madera	0.00	0.00	0.00	0.00	0.00	N/A
Merced	0.00	0.00	0.00	0.00	0.00	N/A
San Joaquin	0.00	0.00	0.00	0.00	0.00	N/A
Stanislaus	0.00	0.00	0.00	0.00	0.00	N/A
Tulare	0.00	0.00	0.00	0.00	0.00	N/A
TOTAL	0.00	0.00	0.00	0.00	0.00	N/A

(1) The District only reports ROG to ARB. As noted in Section XII, ROG is the same as VOC.

(2) At this time, the District does not calculate PM2.5 emissions. PM2.5 emissions can be estimated using the speciation profiles found in Section XII.

Following is the net change in total unreconciled emissions between this update (2007 inventory year) and the previous emissions year (2006 inventory year) for REIC 099-995-0012-0000. The change in emissions are reported for each county in the District.

Table 13. Net emissions change for REIC 099-995-0012-0000 (2006-2007).

County	Emissions (tons/year)					
	NOx	CO	SOx	VOC ⁽¹⁾	PM ₁₀	PM _{2.5} ⁽²⁾
Fresno	0.00	0.00	0.00	0.00	0.00	N/A
Kern	0.00	0.00	0.00	0.00	0.00	N/A
Kings	0.00	0.00	0.00	0.00	0.00	N/A
Madera	0.00	0.00	0.00	0.00	0.00	N/A
Merced	0.00	0.00	0.00	0.00	0.00	N/A
San Joaquin	0.00	0.00	0.00	0.00	0.00	N/A
Stanislaus	0.00	0.00	0.00	0.00	0.00	N/A
Tulare	0.00	0.00	0.00	0.00	0.00	N/A
TOTAL	0.00	0.00	0.00	0.00	0.00	N/A

(1) The District only reports ROG to ARB. As noted in Section XII, ROG is the same as VOC.

(2) At this time, the District does not calculate PM2.5 emissions. PM2.5 emissions can be estimated using the speciation profiles found in Section XII.

XV. Revision History

2007. This is a new District methodology.

XVI. Update Schedule

In an effort to provide inventory information to ARB and other District programs and maximize limited resources, the District has developed an update cycle based on emissions within the source category as shown in Table 4.

Table 4. Area source update frequency criteria.

Total Emissions (tons/day)	Update Cycle (years)
<=1	4
>1 and <= 2.5	3
>2.5 and <=5	2
>5	1

Since there are currently no emissions in this source category, it will be reviewed every four years.

Table 5. Industrial natural gas combustion methodology update frequency.

EIC	Frequency (years)	Source of Emissions (Point Source Inventory / Data Gathering)
099-995-0012-0000	4	Point Source Inventory / Data Gathering

XVII. References

Not applicable.

XVIII. Appendix

Not applicable.