



2008 Area Source Emissions Inventory Methodology

499 – OTHER (INDUSTRIAL PROCESSES)

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 other industrial process sources not accounted for in other source categories in the San Joaquin Valley Air Basin. An area source is a collection of similar emission units within a geographic area (ie., 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
47084	499-995-0000-0000	Industrial Process Losses (Unspecified Material)
66845	499-995-0010-0000	Industrial Evaporation Losses (Unspecified Material)

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 (CARB) between the area source REIC and the point sources' Standard Industry Classification (SIC) code and emissions process Source Category Code (SCC) combinations. Currently, these source categories do not reconcile to any processes within our point source inventory.

IV. Methodology Description

The purpose of this source category is to estimate emissions from industrial processes not accounted for in other source categories. At this time, the District has not identified any sources of industrial process emissions that are not accounted for in other source categories. 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. CARB 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 other industrial process sources is presented in the table below:

Table 2. CARB organic gas speciation profile for other industrial process sources.

Profile Description	CARB Organic Gas Profile#	Fractions	
		ROG	VOC
Industrial Process Losses (Unspecified material)	600	0.699	0.699
Industrial Evaporation Losses (Unspecified material)	600	0.699	0.699

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 other industrial process sources is presented in the table below:

Table 3. CARB particulate matter speciation profile for other industrial process sources.

Profile Description	CARB PM Profile#	Fractions	
		PM ₁₀	PM _{2.5}
Industrial Process Losses (Unspecified material)	900	0.7	0.42
Evaporation	200	0.96	0.925

XIII. Assessment Of Methodology

This source category is not currently used by the District.

XIV. Emissions

Following is the 2008 area source emissions inventory for REIC 499-995-0000-0000 and 499-995-0010-0000 estimated by this methodology. Emissions are reported for each county in the District.

Table 4. Area source emissions for Other Industrial Processes (2008).

County	Emissions (tons/year)					
	NO _x	CO	SO _x	VOC ⁽¹⁾	PM ₁₀	PM _{2.5} ⁽²⁾
INDUSTRIAL PROCESS LOSSES (UNSPECIFIED MATERIAL)						
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
INDUSTRIAL EVAPORATION LOSSES (UNSPECIFIED MATERIAL)						
Fresno	0.00	0.00	0.00	0.00	0.00	0.00
Kern	0.00	0.00	0.00	0.00	0.00	0.00
Kings	0.00	0.00	0.00	0.00	0.00	0.00
Madera	0.00	0.00	0.00	0.00	0.00	0.00
Merced	0.00	0.00	0.00	0.00	0.00	0.00
San Joaquin	0.00	0.00	0.00	0.00	0.00	0.00
Stanislaus	0.00	0.00	0.00	0.00	0.00	0.00
Tulare	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00

(1) The District only reports ROG to CARB. 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.

499 - Other (Industrial Processes)

Following is the 2008 point source emissions inventory for REIC 499-995-0000-0000 and 499-995-0010-0000 as reported to the District by our permit holders. Emissions are reported for each county in the District.

Table 5. Point source emissions for Other Industrial Processes (2008).

County	Emissions (tons/year)					
	NOx	CO	SOx	VOC ⁽¹⁾	PM ₁₀	PM _{2.5} ⁽²⁾
INDUSTRIAL PROCESS LOSSES (UNSPECIFIED MATERIAL)						
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
INDUSTRIAL EVAPORATION LOSSES (UNSPCEIFIED MATERIAL)						
Fresno	0.00	0.00	0.00	0.00	0.00	0.00
Kern	0.00	0.00	0.00	0.00	0.00	0.00
Kings	0.00	0.00	0.00	0.00	0.00	0.00
Madera	0.00	0.00	0.00	0.00	0.00	0.00
Merced	0.00	0.00	0.00	0.00	0.00	0.00
San Joaquin	0.00	0.00	0.00	0.00	0.00	0.00
Stanislaus	0.00	0.00	0.00	0.00	0.00	0.00
Tulare	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00

(1) The District only reports ROG to CARB. 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.

499 - Other (Industrial Processes)

Following is the 2008 total unreconciled (point source plus area source) emissions inventory for REIC 499-995-0000-0000 AND 499-995-0010-0000. Emissions are reported for each county in the District.

Table 6. Total emissions for Other Industrial Processes (2008).

County	Emissions (tons/year)					
	NOx	CO	SOx	VOC ⁽¹⁾	PM ₁₀	PM _{2.5} ⁽²⁾
INDUSTRIAL PROCESS LOSSES (UNSPECIFIED MATERIAL)						
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
INDUSTRIAL EVAPORATION LOSSES (UNSPECIFIED MATERIAL)						
Fresno	0.00	0.00	0.00	0.00	0.00	0.00
Kern	0.00	0.00	0.00	0.00	0.00	0.00
Kings	0.00	0.00	0.00	0.00	0.00	0.00
Madera	0.00	0.00	0.00	0.00	0.00	0.00
Merced	0.00	0.00	0.00	0.00	0.00	0.00
San Joaquin	0.00	0.00	0.00	0.00	0.00	0.00
Stanislaus	0.00	0.00	0.00	0.00	0.00	0.00
Tulare	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00

(1) The District only reports ROG to CARB. 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.

499 - Other (Industrial Processes)

Following is the net change in total unreconciled emissions between this update (2008 inventory year) and the previous emissions year (2007 CEIDARS Inventory) for REIC 499-995-0000-000 and 499-995-0010-0000. The change in emissions are reported for each county in the District.

Table 7. Net emissions change for Other Industrial Processes (2008-2007).

County	Emissions (tons/year)					
	NOx	CO	SOx	VOC ⁽¹⁾	PM ₁₀	PM _{2.5} ⁽²⁾
INDUSTRIAL PROCESS LOSSES (UNSPECIFIED MATERIAL)						
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	-3.03	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
INDUSTRIAL EVAPORATION LOSSES (UNSPECIFIED MATERIAL)						
Fresno	0.00	0.00	0.00	0.00	0.00	0.00
Kern	0.00	0.00	0.00	0.00	0.00	0.00
Kings	0.00	0.00	0.00	0.00	0.00	0.00
Madera	0.00	0.00	0.00	0.00	-3.03	0.00
Merced	0.00	0.00	0.00	0.00	0.00	0.00
San Joaquin	0.00	0.00	0.00	0.00	0.00	0.00
Stanislaus	0.00	0.00	0.00	0.00	0.00	0.00
Tulare	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00

(1) The District only reports ROG to CARB. 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.

XV. Revision History

2010. This is a new District methodology.

XVI. Update Schedule

In an effort to provide inventory information to CARB 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 8. 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 no emissions sources have been identified for *Industrial Process Losses (Unspecified Material)* or *Industrial Evaporation Losses (Unspecified Material)*, these source categories will be reviewed for activity every four years.

XVII. References

1. California Air Resources Board (2008). CEIDARS Emission Inventory Categorization database http://www.arb.ca.gov/app/emsmv/dist/rpts/sub_eic.php