

# 2020 Emission Inventory Reporting Guidelines for Air Districts

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## District Submittals

### Reporting Timeline

Table 1 lists the most important reporting milestones for the 2020 reporting year. Local air pollution control and air quality management district (district) deadlines are shown in bold. Districts are encouraged to submit before the deadline.

**Table 1: 2020 Reporting Year Milestones**

<b>Due Date</b>	<b>Task</b>	<b>Responsibility</b>
March 1, 2021	Create 2020 CEIDARS database.	CARB
<b>August 1, 2021</b>	<b>Submit 2020 point source updates and corrections to CARB.</b>	<b>District</b>
<b>August 1, 2021</b>	<b>Submit 2020 area source updates (grown and controlled) to CARB.</b>	<b>District</b>
<b>August 1, 2021</b>	<b>Submit any new District control profiles/rules.</b>	<b>District</b>
October 1, 2021	Complete the update of 2020 CEIDARS for submittals received as of August 1, 2021.	CARB
<b>October 1 – December 3, 2021</b>	<b>Conduct review and QA for the 2020 inventory.</b>	<b>CARB/District</b>
January 31, 2022	Publish the district's point source data on CARB's website.	CARB

### Importance of Reporting

State and federal laws require CARB to compile the statewide emission inventory. These mandates include:

- State Health and Safety Code
- California Clean Air Act (CCAA) of 1988
- State Air Toxics "Hot Spots" Information and Assessment Act (AB2588) of 1987
- Federal Clean Air Act Amendments (CAAA) of 1990
- Federal Air Emissions Reporting Requirements (AERR) Rule of 2008
- Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements of 2016
- California Assembly Bill 197 of 2016

- Implementation of the 2015 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements of 2018
- Criteria Pollutant and Toxics Emissions Reporting (CTR) of 2020

A more complete description of these mandates is available on the CARB District Resources website, <https://ww3.arb.ca.gov/ei/drei/maintain/legalrequirements.pdf>.

## Other Application of District Submittals

- Developing air quality management plans
- Determining reasonable further progress (RFP)
- Developing potential control measures
- Analyzing new source impacts
- Determining control program effectiveness
- Predicting future air quality through modeling analyses
- Determining compliance of emissions sources
- Supporting environmental justice and neighborhood level assessments
- Performing neighborhood-level health risk assessments
- Populating the Integrated Emission Visualization Tool (IEVT)
- U.S. EPA National Emission Inventory (NEI) submittal as required by the AERR Rule
- U.S. EPA National-Scale Air Toxics Assessment (NATA)
- Online public web tools

## Reporting Requirements

CARB is responsible for developing annual statewide emission inventories based in part on data submitted by districts. CARB estimates emissions from mobile and natural (non-anthropogenic) sources and works cooperatively with districts in developing emission estimates for aggregated point sources, area-wide sources, and some off-road mobile sources.

Districts are responsible for reporting emissions from all point sources and those area source categories designated as district categories. A list of area source categories, along with a designation of who is responsible for the data submittal, is available on the web at: <https://ssl.arb.ca.gov/sslapp/emsmv/dist/utltab/eic/eic.php>.

**Table 2: The most common pollutants reported to CEIDARS**

Pollutant Code	Pollutant Name	Abbreviated Name
42101	Carbon Monoxide	CO
42603	Oxides of Nitrogen	NOx

Pollutant Code	Pollutant Name	Abbreviated Name
42401	Oxides of Sulfur	SO <sub>x</sub>
11101	Particulate Matter	PM
85101	Particulate Matter 10 Microns or Less	PM <sub>10</sub>
88101	Particulate Matter 2.5 Microns or Less	PM <sub>2.5</sub>
16113	Reactive Organic Gases	ROG
43101	Total Organic Gases	TOG
43104	Volatile Organic Compounds	VOC
7664417	Ammonia	NH <sub>3</sub>
7439921	Lead	Pb
42604	Ammonia ( <b>Criteria</b> reporting in tons)	NH <sub>3</sub>
12128	Lead ( <b>Criteria</b> reporting in tons)	Pb

## Point Source Submittal

### Required Pollutants

CO, NO<sub>x</sub>, SO<sub>x</sub>, one form of PM (PM or PM<sub>10</sub>, or PM<sub>2.5</sub>), one form of organic gases (TOG or ROG or VOC), lead (Pb), and ammonia (NH<sub>3</sub>).

### Optional Pollutants

Districts can provide all three forms of PM (PM, PM<sub>10</sub> and PM<sub>2.5</sub>) and three forms of organic gases (TOG, ROG and VOC). If districts do not provide these set of emissions, CARB will estimate them based on your organic gases and PM data.

Please report either all three forms of PM (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>) or one of the three. The same applies to the organic gases, please report either all three forms of organic gases (TOG, ROG and VOC) or one of the three. DO NOT report two out of three forms for PM and organic gases.

### Particulate Matter (PM)

The federal Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements of 2016 requires states with sources of direct PM<sub>2.5</sub> to include emissions data for both filterable PM<sub>2.5</sub> and condensable PM<sub>2.5</sub> in the base year inventory for the nonattainment area.

Useful resources for the estimation tools and methodologies are available from EPA's websites at [https://19january2017snapshot.epa.gov/air-emissions-inventories/pm-augmentation\\_.html](https://19january2017snapshot.epa.gov/air-emissions-inventories/pm-augmentation_.html) and <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors> .

Direct PM<sub>2.5</sub> emissions include:

- Condensable emissions: Material that is in the vapor phase at stack conditions but condenses or reacts upon cooling and dilution in the ambient air to form a solid or a liquid particle immediately after discharge from the stack
- Non-condensable (filterable) emissions : Particles that are directly emitted as a solid or liquid at the stack or release point conditions and captured on the filter of a stack test train.

Important Note: Total particulate emissions (11101, 85101, and/or 88101) should still be reported regardless of whether the non-condensable component is also reported.

### **Ammonia and Lead**

CARB has assigned pollutant codes for ammonia (NH<sub>3</sub>) and lead (Pb) for the criteria reporting side. The criteria pollutant codes are 42604 for ammonia (NH<sub>3</sub>) and 12128 for lead (Pb), and the previously used pollutant codes (7664417 and 7439921) are only valid on the toxic reporting side.

CEIDARS Emission Inventory Liaisons will assist the districts with this transition to ensure that both ammonia (NH<sub>3</sub>) and lead (Pb) emissions get processed correctly.

### **Emission Reporting Units**

Emissions of criteria pollutants such as CO, NO<sub>x</sub>, SO<sub>x</sub>, PM, and TOG must be reported in tons per year.

Emissions of toxic pollutants listed in Appendix A of the AB2588 Air Toxics "Hot Spots" Program must be reported in pounds per year.

On the criteria reporting side, emissions of ammonia (NH<sub>3</sub>) and lead (Pb) with 42604 and 12128 pollutant codes should be reported in tons per year. Emissions of ammonia (NH<sub>3</sub>) and lead (Pb) with 7664417 and 7439921 pollutant codes should be reported in pounds per year on the toxic reporting side.

### **Point Source Information and Facility Risk Data Reminders**

- Facility Location  
Districts shall submit valid facility names, addresses, and latitude and longitude in decimal degrees to CARB.

CARB has compiled geographic coordinates of the existing facilities in CEIDARS by

geocoding, and they are used in quality assurance (QA) checks.

DO NOT report the headquarters location under facility address. The facility's risks are related to its location and surrounding population. Risks may be overestimated if a facility that is located in a sparsely populated area is incorrectly placed in a populated area by the headquarters coordinates.

- **Stack Information**  
If a facility covers a large area, provide all stack coordinates because risks are dependent on the location of the release points. Districts shall provide the stack height, stack diameter, gas temperature, and gas velocity (or gas flow rate). The calculated gas flow rate should be consistent with the submitted gas velocity.
- **Device Information**  
Please ensure that there are no devices without any process associated with them (widow devices). All widow devices will be deleted in CARB's submittal to EPA.
- **Process Information**  
Please ensure that submitted temporal parameters, such as Operating Hours per Day (HPDY), Operating Days per Week (DPWK), Operating Weeks per Year (WPYR), and monthly throughput, are appropriate.
- **SIC/SCC Information**  
Please provide correct and valid SIC/SCC combinations. Stationary aggregated point sources will be estimated based on the associated point sources using these combinations by reconciliation. Emissions from any invalid SIC/SCC combinations may be incorrectly categorized or reconciled against incorrect source categories. Valid SCCs can be found here, <https://ofmpub.epa.gov/sccwebservices/sccsearch/>. Please ensure that the SCC is under the data category "Point" for point sources.
- **North American Industry Classification System (NAICS) Information**  
NAICS code is found in the facility and process tables. FNAICS describes the activity of the entire facility, while the process NAICS describes the activity of a specific process. For the 2020 inventory, the 2017 vintage of NAICS is considered valid. Valid NAICS codes can be found here, [https://www.census.gov/eos/www/naics/2017NAICS/6-digit\\_2017\\_Codes.xlsx](https://www.census.gov/eos/www/naics/2017NAICS/6-digit_2017_Codes.xlsx).
- **Facility Risk Information**  
Districts shall submit facility risk data required for the Hot Spots fee program in Table 3.

### **Table 3: Required Data in Facility Risk Transaction File**

Table Name	Column Name	Description
Facility Risk	CO	County Number
Facility Risk	FACID	Facility ID
Facility Risk	AB	Air Basin
Facility Risk	DIS	Air District
Facility Risk	FEE_CAT	Toxic Program Fee Category
Facility Risk	EXEMPT	Exemption Status and Reason
Facility Risk	VINTAGE_RISK	Year of Risk Data
Facility Risk	VINTAGE_PS	Year of Prioritization Score
Facility Risk	SIC_FEEREG	SIC Code for Facility in Fee Regulation
Facility Risk	NUM_SCC	Number of SCC Used by Facility
Facility Risk	CANCEREPP	Cancer Priority Score, Emissions and Potency Procedure
Facility Risk	ACUTEPP	Acute Priority Score, Emissions and Potency Procedure
Facility Risk	CHRONICEPP	Chronic Priority Score, Emissions and Potency Procedure
Facility Risk	CANCERDAP	Cancer Priority Score, Dispersion Adjustment Procedure
Facility Risk	ACUTEDAP	Acute Priority Score, Dispersion Adjustment Procedure
Facility Risk	CHRONICDAP	Chronic Priority Score, Dispersion Adjustment Procedure
Facility Risk	HRA_CAN	Health Risk Assessment Cancer Risk
Facility Risk	CHRONIC_HI	Chronic Hazard Index
Facility Risk	ACUTE_HI	Acute Hazard Index

## Reporting Thresholds and Frequency

- Annually:
  - Districts shall report emissions for all point sources that emit 10 or more tons/year of criteria pollutants and ammonia (NH3).
  - Districts shall report emissions for all point sources that emit 0.5 tons/year or more of lead (Pb).
  - Districts shall report the high-risk facilities - facilities with a risk of 10 in a million or emitting 10 tons per year of any single hazardous air pollutant (HAP) or 25 tons per year of any combination of HAPs.
  - District shall report facilities required to report under the AB2588 Air Toxics "Hot Spots" Program.
- Every three years (including this 2020 inventory year):
  - Districts shall report criteria pollutant emissions for facilities that emit less than 10 tons per year.

## Table 4: Reporting Schedule of Criteria Pollutants

Source Type	Inventory Year				
	2019	2020	2021	2022	2023
Point Sources = or > 10	X	X	X	X	X
Lead (Pb) = or > 0.5	X	X	X	X	X
Point Sources < 10		X			X

## Reporting Format

For point sources, districts shall report emissions using the CEIDARS 2.5 transaction format and submit all tables included in it. Please download a copy of CEIDARS 2.5 transaction format at <https://www.arb.ca.gov/app/emsinv/dist/doc/transfmt.pdf>.

For facilities reporting both criteria and toxic pollutants, districts could provide the data in one transaction file or in two separate transaction files for criteria and toxic pollutants.

- For facilities reporting both criteria and toxic pollutants in one transaction file, districts shall provide emissions in one merged submittal. Please report ammonia (NH3) and lead (Pb) emissions with both criteria and toxic pollutant codes.
- If districts report criteria pollutants and toxics data separately, please include ammonia (NH3) and lead (Pb) with criteria and toxic pollutant codes in both reports.

If a facility is not in the toxic program, districts do not need to report toxic emissions. In this case, please report ammonia (NH3) and lead (Pb) emissions with criteria pollutants and use the criteria reporting pollutant codes.

Likewise, if a facility's only reason for reporting is to meet toxics reporting requirements, districts do not need to report emissions of criteria pollutants.

Important Note: Please DO NOT change any existing facility IDs from one year to the next. A consistent facility ID is important for tracking emissions data as well as avoiding duplicate facilities.

Every three years (this 2020 inventory year included) districts are required to report criteria pollutant emissions for facilities that emit less than 10 tons per year, and in the gap years CARB roll the data for these facilities from the previous year to the current year. To avoid rolling over closed/inactive facilities, districts should specify whether their submittal is a complete replacement of the total inventory or a partial replacement.

- A complete data replacement involves deleting all point source records, since all the records submitted in the transaction file are applicable for the year submitted. No other point source records will exist for the year submitted if not provided in the transaction file.
- A partial data replacement involved leaving some facilities that were rolled over from the previous year to the current year and deleting/updating only the submitted facilities. District should notify CARB's Liaisons every year that the data from the previous year is accurate and they would like to roll it over.



## Area Source Submittal

### Required Pollutants

CO, NO<sub>x</sub>, SO<sub>x</sub>, one form of PM (PM or PM<sub>10</sub>, or PM<sub>2.5</sub>), one form of organic gases (TOG or ROG or VOC), lead (Pb), and ammonia (NH<sub>3</sub>).

### Optional Pollutants

Districts can provide all three forms of PM (PM, PM<sub>10</sub> and PM<sub>2.5</sub>) and three forms of organic gases (TOG, ROG and VOC). If districts do not provide these set of emissions, CARB will estimate them based on your organic gases and PM data.

Please report either all three forms of PM (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>) or one of the three. The same applies to the organic gases, please report either all three forms of organic gases (TOG, ROG and VOC) or one of the three. DO NOT report two out of three forms for PM and organic gases.

### Ammonia and Lead

CARB has assigned pollutant codes for ammonia (NH<sub>3</sub>) and lead (Pb) for the criteria reporting side. The criteria pollutant codes are 42604 for ammonia (NH<sub>3</sub>) and 12128 for lead (Pb), and the previously used pollutant codes (7664417 and 7439921) are only valid on the toxic reporting side.

### Toxics

CARB will also estimate toxics emissions for your area source categories by speciating TOG and PM data.

### Emission Reporting Units

Emissions of CO, NO<sub>x</sub>, SO<sub>x</sub>, PM, and TOG must be reported in tons per year.

On the criteria reporting side, emissions of ammonia (NH<sub>3</sub>) and lead (Pb) with 42604 and 12128 pollutant codes should be reported in tons per year. Emissions of ammonia (NH<sub>3</sub>) and lead (Pb) with 7664417 and 7439921 pollutant codes should be reported in pounds per year on the toxic reporting side.

### Reporting Thresholds and Frequency

Districts shall report emissions of area sources at least once every three years (including this 2020 inventory year). Alternatively, districts may opt to update emissions of one third of area source categories annually.

### Reporting Format

For area sources, districts need to submit only the "Process" and "Emission" tables included in the CEIDARS 2.5 transaction format file.

## Submitting Transaction Files

CARB encourages districts to report emission inventory data to CARB electronically using the CEIDARS transaction format as it will facilitate updating the CEIDARS database.

If the district is using the Emission Inventory Module (EIM) of HARP, an output file in CEIDARS transaction format can be generated. If districts have questions about their data in EIM, please contact the district's CEIDARS Emission Inventory Liaison.

If the district is using an emission inventory database other than HARP or HARP2, the district should convert the data into the CEIDARS 2.5 transaction format and transmit the file to CARB. Please contact the district's CEIDARS Emission Inventory Liaison if assistance with this type of submittal or any other issues is needed.

## Control Data

### Control Factors

Districts shall develop and report control factors for each rule that has been adopted. This information is used by CARB in developing emission projections in the California Emission Projection Analysis Model (CEPAM) as well as on the CARB website. If districts have any questions regarding reporting control factors, please contact Stephanie Huber at [stephanie.huber@arb.ca.gov](mailto:stephanie.huber@arb.ca.gov).

### Reporting Frequency

To ensure that CARB emission projections properly reflect the benefits of the district's rules, CARB encourages the district to provide control factors as soon as a rule is adopted or at least once a year as part of the district's CEIDARS submittal. If CARB does not receive control factors from the district, CARB's projections assume no emission reductions for those categories.

### Reporting Format

To facilitate updating CEPAM, please use the Excel template for reporting control factor data to CARB. To obtain a copy of the reporting template, please contact Martin Johnson at [martin.johnson@arb.ca.gov](mailto:martin.johnson@arb.ca.gov).

## Growth Data

### Growth Factors

Districts have the option of developing and providing their own set of growth factors for source categories under district responsibility. CARB is continuously developing and updating a default set of growth factors for each source category in the emissions inventory. This information is used by the CARB CEPAM program to develop emission projections. At a minimum, districts shall review the projected emission estimates for the district's major source categories as found in the CEPAM as well as the growth assumptions described in CEPAM and the Area-Wide Source Methodologies. If districts have any questions regarding the default growth factors applied to the district's emissions or would like to provide the district's own growth data, please contact Stephanie Huber at [stephanie.huber@arb.ca.gov](mailto:stephanie.huber@arb.ca.gov).

### Reporting Frequency

CARB recommends that districts review their growth data whenever they update a source category and provide the growth assumption updates as part of their annual CEIDARS submittal.

### Reporting Format

To facilitate updating CEPAM, please use the Excel template for reporting growth data to CARB. To obtain a copy of the reporting template, please contact Martin Johnson at [martin.johnson@arb.ca.gov](mailto:martin.johnson@arb.ca.gov).

## Helpful Resources

CARB has developed a suite of web publications, software packages, and training programs available to assist districts in developing and submitting emissions inventory data. If login access is required and the district does not have a login, please contact your liaison. Below is a list of helpful online resources.

- EITAC Website Main Page at <https://www.arb.ca.gov/ei/drei/eitac/eitac.htm>
- CEIDARS 2.5 Data Dictionary at <https://ssl.arb.ca.gov/sslapp/emsinv/dist/doc/datadict.pdf>
- CEIDARS 2.5 Transaction Format at <https://ssl.arb.ca.gov/sslapp/emsinv/dist/doc/transfmt.pdf>
- CEIDARS Database Tools to view and update a yearly Emissions Inventory Database at <https://ssl.arb.ca.gov/sslapp/emsinv/dist/invtab/index.php#>

- CEIDARS Database Tools to generate CEIDARS 2.5 Format Batch Transactions at <https://ssl.arb.ca.gov/sslapp/emsinv/dist/trans/cei25trn.php>
- Emission Inventory Module (EIM) of the Hot Spots Analysis and Reporting Program (HARP2) at <http://www.arb.ca.gov/toxics/harp/harp.htm>

## CEIDARS Emission Inventory Liaisons

The CEIDARS Emission Inventory Liaisons for all air districts are listed in Table 5. Please contact them if districts have comments or questions about the guidelines or the emission inventory process.

**Table 5: CEIDARS Emission Inventory District Liaisons**

AGENCY	CARB CONTACT	E-MAIL
Amador	Todd Dooley	todd.dooley@arb.ca.gov
Antelope Valley	Jim Cao	jim.cao@arb.ca.gov
Bay Area	Randall Ortiz	randall.ortiz@arb.ca.gov
Butte	Randall Ortiz	randall.ortiz@arb.ca.gov
Calaveras	Randall Ortiz	randall.ortiz@arb.ca.gov
Colusa	Todd Dooley	todd.dooley@arb.ca.gov
El Dorado	Todd Dooley	todd.dooley@arb.ca.gov
Feather River	Randall Ortiz	randall.ortiz@arb.ca.gov
Glenn	Randall Ortiz	randall.ortiz@arb.ca.gov
Great Basin Unified	Randall Ortiz	randall.ortiz@arb.ca.gov
Imperial	Jim Cao	jim.cao@arb.ca.gov
Eastern Kern	Jim Cao	jim.cao@arb.ca.gov
Lake	Jim Dai	jim.dai@arb.ca.gov
Lassen	Jim Dai	jim.dai@arb.ca.gov
Mariposa	Randall Ortiz	randall.ortiz@arb.ca.gov
Mendocino	Jim Dai	jim.dai@arb.ca.gov
Modoc	Jim Dai	jim.dai@arb.ca.gov
Mojave	Jim Cao	jim.cao@arb.ca.gov
Monterey Bay Unified	Randall Ortiz	randall.ortiz@arb.ca.gov
North Coast Unified	Jim Dai	jim.dai@arb.ca.gov
Northern Sierra	Todd Dooley	todd.dooley@arb.ca.gov
Northern Sonoma	Jim Dai	jim.dai@arb.ca.gov
Placer	Todd Dooley	todd.dooley@arb.ca.gov
Sacramento Metro	Todd Dooley	todd.dooley@arb.ca.gov
San Diego	Jim Cao	jim.cao@arb.ca.gov
San Joaquin Valley	Tiffanie Be	tiffanie.be@arb.ca.gov

<b>AGENCY</b>	<b>CARB CONTACT</b>	<b>E-MAIL</b>
San Luis Obispo	Todd Dooley	todd.dooley@arb.ca.gov
Santa Barbara	Todd Dooley	todd.dooley@arb.ca.gov
Shasta	Todd Dooley	todd.dooley@arb.ca.gov
Siskiyou	Jim Dai	jim.dai@arb.ca.gov
South Coast	Jim Cao	jim.cao@arb.ca.gov
Tehama	Todd Dooley	todd.dooley@arb.ca.gov
Tuolumne	Randall Ortiz	randall.ortiz@arb.ca.gov
Ventura	Todd Dooley	todd.dooley@arb.ca.gov
Yolo-Solano	Randall Ortiz	randall.ortiz@arb.ca.gov
U.S. EPA	Jim Cao	jim.cao@arb.ca.gov