

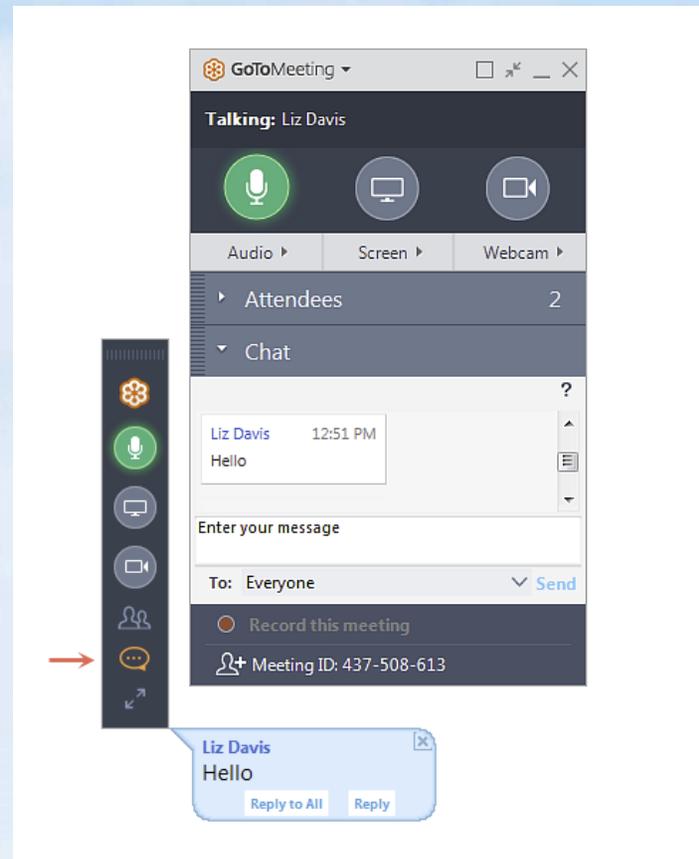


# Reporting 2019 Annual Emissions

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# Webinar Info

- All calls are muted to prevent background noise
- If you have questions for the presenter, type your questions in the chat box in the lower right-hand corner of the Go to Meeting control panel
- We will answer questions as we go through the presentation



# Mission

To improve the air of Maricopa County, so customers, residents and visitors can live, work and play in a healthy environment.



# Agenda

- General information
- What's new?
- What to report
- Calculation methods
- Confidential data
- What not to report
- How to report

# What is an emissions inventory (EI) ?

A submission by a permitted facility that:

- Lists all processes emitting reportable air pollutants, and
- Provides details about each of those processes.

Submitting the emissions inventory is required as a condition of your Maricopa County Air Quality Permit. A separate emissions inventory is required for each business location with its own air quality permit.



# How are emissions inventories used?

- Clean Air Act requirements for State Implementation Plans (SIPs)
- National Ambient Air Quality Standards (NAAQS) attainment
- Determining compliance with regulations and permit conditions
- Identifying sources and general emission levels, patterns, and trends to develop control strategies and new regulations
- Emission Reduction Credit (ERC) Program

# Emission Reduction Credits

- Credits are generated when a facility reduces emissions of VOC, NO<sub>x</sub>, PM, CO, or SO<sub>2</sub> beyond what is required by their permit and applicable rules.
- Credits can be generated by:
  - Installing emission control systems
  - Replacing equipment
  - Changing fuels
  - Closing a facility
- <https://www.maricopa.gov/4562>

# What's New for 2019?

- Annual Emission Fees
  - Title V sources: \$45.50 per ton
  - No fees for Non-Title V sources
- Online Reporting using the AQD Online Portal (IMPACT)
  - Emissions Inventories
  - Facility inventory and contact changes
  - Permit applications and forms
  - Compliance Reports

# AQD Online Portal Resources

[www.maricopa.gov/1820](http://www.maricopa.gov/1820)

Instructions  
Help Sheets  
Online Tutorial



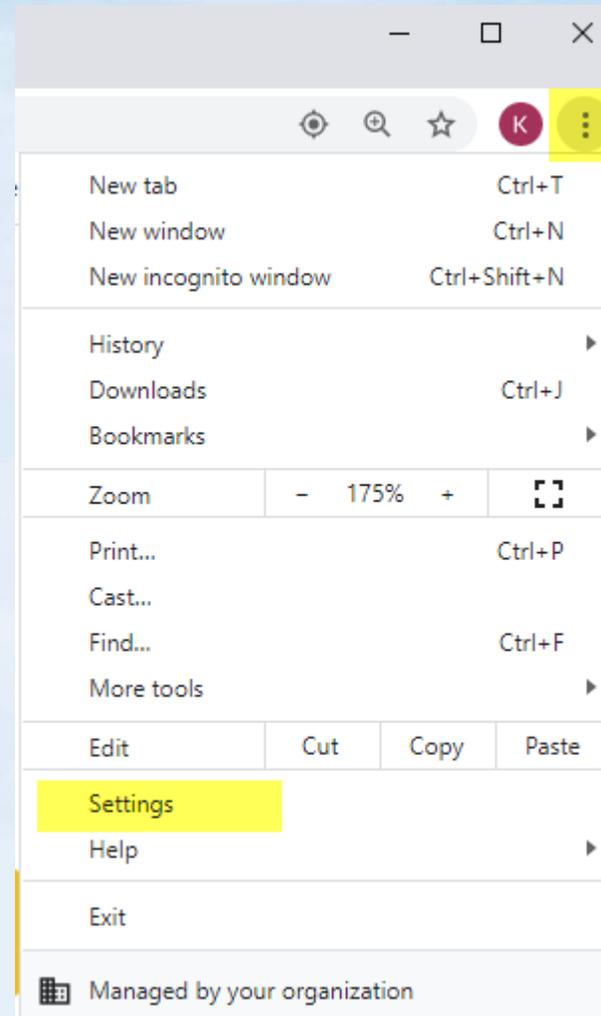
# Helpful Hints

- Chrome is the recommended browser
- Back button will not work
- Click Save on each screen



# Helpful Hints

- Enable Popups



Chrome | chrome://settings/content

### Settings

Search settings

- You and Google
- Autofill
- Privacy and security
- Appearance
- Search engine
- Default browser
- On startup
- Advanced**
- Languages
- Downloads
- Printing
- Accessibility
- System
- Reset and clean up

Extensions

About Chrome

### Site Settings

All sites

View permissions and data stored across sites

#### Permissions

- Cookies and site data**  
Allow sites to save and read cookie data
- Location  
Ask before accessing
- Camera  
Ask before accessing
- Microphone  
Ask before accessing
- Motion sensors  
Allow sites to use motion sensors
- Notifications  
Ask before sending
- JavaScript  
Allowed
- Flash  
Block sites from running Flash
- Images  
Show all
- Pop-ups and redirects**  
Blocked
- Ads

# AQD Online Portal Access

- Create an Shared CROMERR Services (SCS) Electronic Signature
  - Consultants must submit a registration form first
- No Sharing Allowed
  - Each person who will access the AQD Online Portal must have their own SCS Signature
  - This is required by federal law
  - Shared signatures will be deactivated by EPA

<https://encromerr.epa.gov/>



# SCS Account Types

- Preparers & Certifiers
  - Can create, prepare, and validate emissions inventories, applications, and compliance reports
  - *Preparers cannot sign or submit anything*
- Certifiers
  - Can sign and submit emissions inventories, applications, and compliance reports
  - Each facility must have at least one certifier

# Dashboard

## Program Services

[Services](#) | [Profile](#) | [Mail](#) | [Submission History](#) | [E-Enterprise Portal](#)

Partner	Program Service	Role	Org	Action
MARICOPA	IMPACT-MARICOPA-STAGING	Certifier	Maricopa County Air Quality Department	<a href="#">Visit</a>

Showing 1 to 1 of 1 rows

## Notifications

[\(More\)](#)

No notifications



# Facility Selection

## Account Information

**Name:** kristibeck      **Company Name:** Maricopa County Air Quality Department  
**CROMERR Company Id:** 144430      **Access:** Certifier

## ▼ Choose Facility

To manage a facility, select its Facility ID from the following list of authorized facilities. To return to the facility selector from another page, press the Facility Selector link in the top right corner.

Facility ID	Facility Name	Operating	Facility Class	Facility Type	County	Lat/Long
F000204	Tom's Bird Rescue	Operating	Minor	Plastics, Polymers, Fiberglass, Foam	Maricopa	<a href="#">33.44859/-112.15594</a>
F006625	AQD Title V Facility	Operating	Title V	Wood Furniture Manufacture	Maricopa	<a href="#">33.49204/-112.07419</a>
F006626	Tardis Engines Inc	Operating	Title V	Bakery	Maricopa	<a href="#">33.49204/-112.07419</a>

[Printable view](#)   [Export to excel](#)

## ▼ Facility Creation Requests

Request ID	Facility Name	Memo	Requester			Operating	Facility Type	County	Date Submitted	Request State
			Last Name	First Name	CROMERR Username					
<a href="#">Printable view</a> <a href="#">Export to excel</a>										

[Request creation of a new facility](#)

[Show Offset Tracking Information](#)

# Facility Information

## Facility Information

**Facility ID:** F000204      **Facility Name:** Tom's Bird Rescue      **County:** Maricopa  
**Facility Type:** Plastics, Polymers, Fiberglass, Foam      **Company Name:** Maricopa County Air Quality Department  
**Physical Address:** 77 N 45th Ave      **City:** Phoenix  
**Lat/Long:** [33.44859/-112.15594](#)      **PLSS:** S9-T1N-R2E

## ▼ In Progress Tasks

Select Task Type	Task Description	Dependent on Task	Created Date	User Name
<a href="#">Delete selected task(s)</a> <a href="#">Printable view</a> <a href="#">Export to excel</a>				

## New Tasks

Select from the lists below to create a new task

### Facility Management

- [Make a change to the Facility Inventory](#)
- [Make a change to the Facility Inventory - clone another facility](#)
- [Make a change to the Facility Contact\(s\)](#)

### Emissions Reporting

- [Create an Emissions Inventory](#)

### Permitting

- [Create a NTV / ATO Permit Application](#)
- [Create a Title V Permit Application](#)

### Compliance Reporting

- [Create a Compliance Report](#)

# Create an Emissions Inventory

Version 11.0 | Build ID: 24.8.0

Welcome HMilosevic

Facility Selector

IMPACT Home

Task - Facility Co

Tasks | Current Facility Inventory | Current Owner | Contacts | Applications | Emissions Inventories | Permits | Stack Tests | Compliance Reports | Inspection Reports | External References | Spatial

[IMPACT Home](#) >

IMPACT Home

## Facility Information

Facility ID: F006335      Facility Name: AQ Test      County: Maricopa  
Facility Type: Composite Materials Manufacturing      Company Name: Maricopa County Air Quality Department  
Physical Address: 3850 N Central Ave      City: Phoenix  
Lat/Long: [33.41190/-112.07345](#)      PLSS: S20-T1N-R3E

## ▼ In Progress Tasks

Select	Task Type	Task Description	Dependent on Task	Created Date	User Name
<input type="radio"/>	Facility Contact Change	<a href="#">Facility Contact Change</a>	N/A	10/2/2019	lucinda.swann

[Delete selected task\(s\)](#)   [Printable view](#)   [Export to excel](#)

## New Tasks

Select from the lists below to create a new task

### Facility Management

- [Make a change to the Facility Inventory](#)
- [Make a change to the Facility Inventory - clone another facility](#)
- [Make a change to the Facility Contact\(s\)](#)

### Permitting

- [Create a NTV / ATO Permit Application](#)
- [Create a Title V Permit Application](#)

### Compliance Reporting

- [Create a Compliance Report](#)

### Emissions Reporting

- [Create an Emissions Inventory](#)

# Create an Emissions Inventory

airimpact.stage.maricopa.gov/\_ADFv\_.jsf?\_afPfm=1&t=fred&\_vir=/reports/createReport.jsp&loc=en&\_minWidth=900&\_minHeight=...

For reporting year: 2019 ▼

For content type: Annual ▼

You are creating the first Annual emissions inventory for the year 2019. This emissions inventory will be associated with the current facility inventory.

**Important: To create an accurate emissions inventory with minimal errors, you must first update and reconcile all information within your facility inventory. All emissions inventories directly refer to information in your facility inventory. If you have not yet updated your facility inventory and ensured that the information contained within it is correct, do not proceed with creating an emissions inventory. Instead, review and correct your facility inventory information first.**

Create

Cancel

# Task 1

- Facility Contact Change
  - Review
  - Update as necessary
  - Validate changes
  - *Do not submit changes yet*

## Contacts

Task - Facility Contact Change &gt;

## Contacts

Facility ID: F006335

Facility Name: AQ Test

County: Maricopa

Version Start Date: 10/2/2019

Facility Type: Composite Materials Manufacturing Company Name: Maricopa County Air Quality Department

Version End Date: Current

## Contact Types

Contact Type	Contact ID	Contact Name	Phone Number	Email	Start Date	End Date
Billing Contact	CNT008899	Valenzuela, Hanna	(602)506-6867	Hanna.Valenzuela@maricopa.gov	1/1/2018	
Billing Contact	CNT008899	Valenzuela, Hanna	(602)506-6867	Hanna.Valenzuela@maricopa.gov	1/1/2019	
Asbestos Contact	CNT008881	Whitney, Stephanie	(602)506-6014	Stephanie.Whitney@maricopa.gov	10/2/2019	

Printable view    Export to excel

Assign Contact Type

## Contacts

Contact ID	Last Name	First Name	Preferred Name	Phone	Email	Company ID	Company Name
CNT008887	Barnes	Brenda		(602)527-5849	brenda.barnes@maricopa.gov	CMP004066	Maricopa County Air Quality Department
CNT008897	Kovacs	Courtney		(602)506-6016	Courtney.Kovacs@maricopa.gov	CMP004066	Maricopa County Air Quality Department
CNT008891	Raisanen	Eric		(602)506-6898	Eric.Raisanen@Maricopa.gov	CMP004066	Maricopa County Air Quality Department
CNT008896	Tallini	Scott		(602)372-2041	scott.tallini@maricopa.gov	CMP004066	Maricopa County Air Quality Department
CNT008900	Uebelherr	Joshua		(602)506-6627	Joshua.Uebelherr@maricopa.gov	CMP004066	Maricopa County Air Quality Department
CNT008899	Valenzuela	Hanna		(602)506-6867	Hanna.Valenzuela@maricopa.gov	CMP004066	Maricopa County Air Quality Department
CNT008881	Whitney	Stephanie		(602)506-6014	Stephanie.Whitney@maricopa.gov	CMP004066	Maricopa County Air Quality Department
CNT008888	barnes	Brenda		(602)527-5849	brenda.barnes@maricopa.gov	CMP004066	Maricopa County Air Quality Department

Printable view    Export to excel

Create Contact Person

( Submit )

# Task 2

- Facility Inventory Change
  - Review
  - Update as necessary
  - Validate changes
  - *Do not submit changes yet*

# Task 2 - Facility Inventory Change

- Emission Units (EU)
  - 49 Types
- Emission Processes
  - Description
  - Source Classification Code (SCC)
- Control Devices
  - Capture Efficiency
  - Control Efficiency
- Release Points
  - Stack Information

**Emission Unit Type Selection:**

Abbreviation	Select This	If you have one of these
ABS	Abrasive Blasting	Abrasive Blasting
ACB	Air Curtain Burner	Air Curtain Burner, Air Curtain Destructor
BAK	Bakery	Bakery
BGM	Bagging Machine	Bagging Machine
BOL	Boiler	Boilers (Not used for electrical generation)
CKD	Calciner/Kiln/Dryer/Smelter/Foundry Furnace	Calciner, Kiln, Dryer, Smelter/Foundry Furnace, Fluid Bed Dryer
CMX	Concrete Batch/Cement Mixer	Concrete Batch/Cement Mixers
COT	Spray Booth or Coating Line	Bay, Booth, Coating System, Spray Booth, Spray Enclosure, Spray Gun, Spray System, Spray/Bake Booth, Enclosure, Roll Coating Paint Station, Gel Coating, Resin Applications, Adhesives
CSH	Crushing/Screening/Handling	Crusher, Screener, Grinder, Material Handling Unit, Conveyor Transfer Point, Mill, Pulverizer
CTW	Cooling Tower	Cooling Tower
DIS	Distillation Unit	Distillation Unit
DRY	Dry Cleaning	Dry Cleaner Vapor Control Unit, Dry to Dry Cleaning Machine
EGU	Electric Generating Unit	Generators (Used for electrical generation sale), Engines (Used for electrical generation sale), Turbines (Used for electrical generation sale), Boilers (Used for electrical generation sale)
ENG	Engine	Generators (Not used for selling electrical generation), Engines (Not used for selling electrical generation), Turbines (Not used for selling electrical generation)

**Process Information**

**Process ID:** PRC008

**Process Name:**

**Company Process Description:**

**Source Classification Code (SCC):** 2-01-002-01

**SCC Level 1 Description:** 2:Internal Combustion Engines

**SCC Level 2 Description:** 01:Electric Generation

**SCC Level 3 Description:** 002:Natural Gas

**SCC Level 4 Description:** 01:Turbine

[SCC reference information](#)

# Task 2 - Facility Inventory Change

- Emission Units (EU)
  - 49 Types
- Emission Processes
  - Description
  - Source Classification Code (SCC)
- Control Devices
  - Capture Efficiency
  - Control Efficiency
- Release Points
  - Stack Information

Control Equipment Information

AQD ID:

\* Control Equipment Type:

\* AQD Description:

\* Company Control Equipment ID:

\* Company Control Equipment Description:

\* Operating Status:

Initial Installation Date:

Manufacturer Name:  Model Name and Number:

▼ Control Equipment Type Specific Information

▼ Pollutants Controlled

► Explanation

\*You must specify at least one pollutant in the Pollutants Controlled table

Select Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
<input type="button" value="Add Pollutant"/> <input type="button" value="Delete Selected Pollutants"/> <input type="button" value="Printable view"/> <input type="button" value="Export to excel"/>				

# Task 2 - Facility Inventory Change

- Emission Units (EU)
  - 49 Types
- Emission Processes
  - Description
  - Source Classification Code (SCC)
- Control Devices
  - Capture Efficiency
  - Control Efficiency
- Release Points
  - Stack Information

**Release Point Information**

AQD ID:

\* Release Point Type:

\* AQD Description:

\* Company Release Point ID:

\* Company Release Point Description:

\* Operating status:

\* Release Point Latitude:  Facility Latitude: 32.97292

\* Release Point Longitude:  Facility Longitude: -112.69505

**▼ Release Point Type Specific Information**

\* Base Elevation (ft):   
Feet above sea level

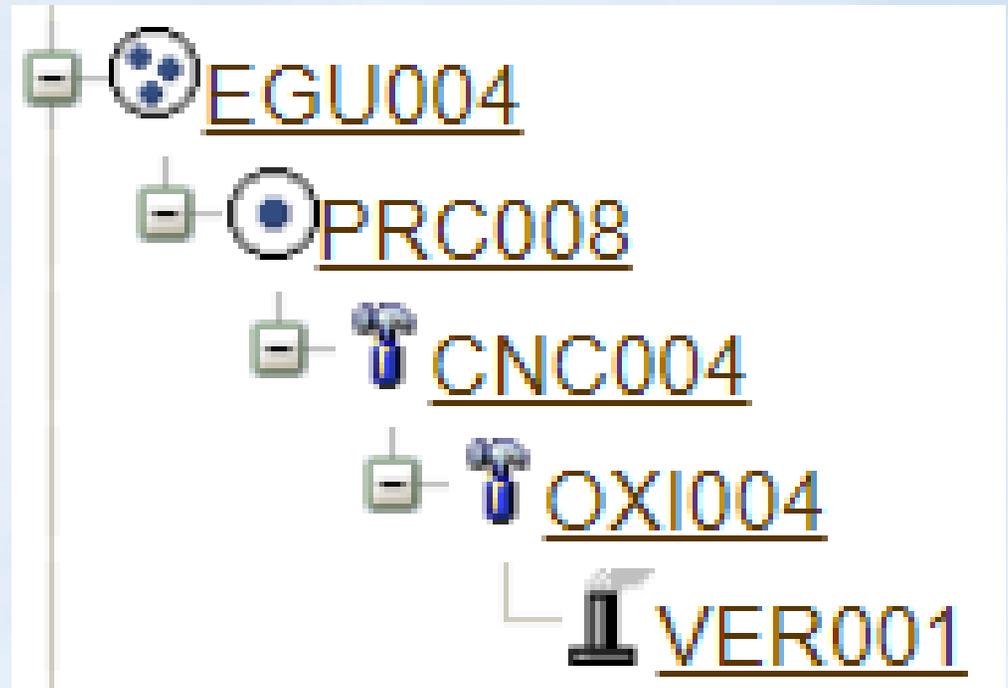
\* Stack Height (ft):  \* Stack Diameter (ft):   
Feet above base elevation

\* Exit Gas Velocity (ft/s):  \* Exit Gas Temp (F):

Exit Gas Flow Rate (acfm):   
Flow rate is calculated by IMPACT.  
3.1415927\*Velocity\*60\*  
(Diameter/2)^2

# Task 2 - Facility Inventory Change

- Emission Units (EU)
  - 49 Types
- Emission Processes
  - Description
  - Source Classification Code (SCC)
- Control Devices
  - Capture Efficiency
  - Control Efficiency
- Release Points
  - Stack Information



# Facility Migration

- Equipment lists were migrated from the legacy database
- Verify the facility inventory matches current operations
- Update facility inventory as necessary

# Facility Inventory Change

- Arrange the emission units and processes to reflect the operations at your facility
- Do not submit changes until you have completed and validated your emissions inventory

# Task 3

- Emissions inventory
  - Exclude emission units
    - Did not operate and/or
    - Less than reporting requirement
  - Report emissions for each process
    - Operating schedule
    - Throughput
    - Seasonal percentages
    - Emission factors
  - Validate emissions inventory

# 2019 Emissions Inventory

Version 11.0 | Build ID: 24.8.0

[Facility Selecto](#)

Welcome Uebelherr

[IMPACT Home](#)

[Task - Facility Contact Change](#)

[Task - Facility Inventory Change](#)

**Task - Emissions Inventory for 2019**

## Emissions Inventory Detail

[Task - Emissions Inventory for 2019 \(EI0000025\)](#) >

### Emissions Inventory Detail

Facility ID: F006335  
 Facility Name: AQ Test  
 Content Type: Annual

Emissions Inventory ID: EI0000025  
 Submitted: No  
 Reporting Year: 2019

Completed Date:  
 Reporting State: Not Filed  
 Generated From Imported File: No

- ⚠ EI0000025
- BOL001 - 0Ton
- ENG001 - 0Ton

### Emissions Inventory Summary

#### Explanation

- Use the Exclude/Include Emissions Units button to indicate which emissions units:
  - Did not operate at all during the year
  - Emitted less than the reporting requirement
  - Do require detailed emissions inventory reporting
- For each Emissions Process that requires detailed emissions inventory reporting, navigate to that Process and provide the necessary information
- Attach any files needed to support the reported emissions

Regulatory Requirement(s): Triennial Non-Title V Program

#### Facility Emissions

Pollutant	Criteria Air Pollutants/Other	Emissions Reported		Total	Units
		Fugitive Amount	Stack Amount		
<a href="#">Printable view</a> <a href="#">Export to excel</a>					

The following information was developed using {Arizona} DEQ-generated pollutant emission calculations. The values may be provided to USEPA by the {Arizona} DEQ. You may modify these {Arizona} DEQ-generated emission calculations if you have more accurate information.

Pollutant	Hazardous Air Pollutants/Greenhouse Gases/Other	Emissions Reported		Total	Units
		Fugitive Amount	Stack Amount		
<a href="#">Printable view</a> <a href="#">Export to excel</a>					

#### Attachments

Attachment ID	Attachment Type	Description	Trade Secret Document	Trade Secret Justification	Uploaded By	Upload Date
<a href="#">Add</a> <a href="#">Printable view</a> <a href="#">Export to excel</a>						

To Delete the attachment, or to Edit attachment description, click in the Attachment ID column.

[Data Entry Wizard](#)   [Exclude/Include Emissions Units](#)   [Validate](#)

[Associate with Different Facility Inventory](#)   [Download/Print](#)

# 2019 Emissions Inventory

- Exclude emission units
  - Less than reporting requirements
  - Did not operate

## Excluding & Including Emissions Units from Detailed Reporting

The **Detailed Emissions** column should be checked and process level emissions reporting is required unless the emission unit did not operate (had zero emissions) or emitted less than its reporting requirement. If either of these two conditions are true, click the appropriate reason in the last column to exclude the unit from the reporting requirements for this emissions inventory.

**Caution:** If the detailed emission reporting is specified for an emissions unit you are now choosing to exclude, any emissions information you have already entered for the unit will be lost.

Mark All 'Detailed Emissions Reporting'    Mark All 'Less Than Reporting Requirement'    Mark All 'Did Not Operate'			
Emission Unit	Company Equipment ID	Detailed Emissions	Exclude Detailed Emissions Reporting
BOL001	2	<input type="checkbox"/>	<input type="radio"/> Less Than Reporting Requirement <input checked="" type="radio"/> Did Not Operate
ENG001	1	<input type="checkbox"/>	<input type="radio"/> Less Than Reporting Requirement <input checked="" type="radio"/> Did Not Operate

Printable view    Export to excel

Save    Cancel

# What NOT to Report

- Welding
- Soil remediation
- Acetone use
- Motor vehicle emissions
- Emissions from storage of diesel fuel or Jet A fuel
  - In underground storage tanks (any size)
  - In above ground storage tanks (if throughput is less than 17,000,000 gallons/year)
- Routine pesticide usage, housekeeping cleaners, and routine maintenance painting at your facility

# What NOT to Report

- Materials with usage less than 15 gallons per year (or emissions less than 100 pounds per year)
  - Group all similar materials together before determining if material usage reporting is required

# What to Report

## Emissions from processes that emit:

PM Primary	Particulate matter
PM <sub>10</sub>	Particulate matter less than 10 microns in diameter
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in diameter
CO	Carbon monoxide
NO <sub>x</sub>	Nitrogen oxides
SO <sub>x</sub>	Sulfur oxides
VOC	Volatile organic compounds
NH <sub>x</sub>	Ammonia
HAPs	Hazardous air pollutants

# Criteria Pollutants and Precursors

Criteria Air Pollutants/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
					Fugitive Amount	Stack Amount	Total		
Pollutant									
PM Primary (includes filterables > 10 microns + condensibles)	<a href="#">Throughput-based factor</a>	0	pending					TONS	
PM10 Primary (includes filterables + condensibles)	<a href="#">Throughput-based factor</a>	0	pending					TONS	
PM2.5 Primary (includes filterables + condensibles)	<a href="#">Throughput-based factor</a>	0	pending					TONS	
CO - Carbon Monoxide	<a href="#">Throughput-based factor</a> Available factors: 1	0	130					TONS	
NOx - Nitrogen Oxides	<a href="#">Throughput-based factor</a> Available factors: 1	0	604					TONS	
SO2 - Sulfur Dioxide	<a href="#">Throughput-based factor</a> Available factors: 1	0	39.7					TONS	
VOC - Volatile Organic Compounds	<a href="#">Throughput-based factor</a> Available factors: 1	0	49.3					TONS	
Ammonia	<a href="#">Throughput-based factor</a>	0	pending					TONS	

[Printable view](#)

[Export to excel](#)

# Hazardous Air Pollutants

Hazardous Air Pollutants/Greenhouse Gases/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
					Fugitive Amount	Stack Amount	Total		
Pollutant	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Fugitive Amount	Stack Amount	Total	Units	Explanation
Carbon Dioxide	<a href="#">Throughput-based factor</a> Available factors: 1	0	22,600					TONS	
Acenaphthene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Acenaphthylene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Acetaldehyde	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Acrolein	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Anthracene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Benz[A]Anthracene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Benzene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Benzo[A]Pyrene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Benzo[B]Fluoranthene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Benzo[G,H,I,]Perylene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Benzo[K]Fluoranthene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Butadiene, 1,3-	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Chrysene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Dibenzo[A,H]Anthracene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Ethyl Benzene	<a href="#">Throughput-based factor</a> Available factors: 1	0	0.00307					TONS	
Fluoranthene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Fluorene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Formaldehyde	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Indeno[1,2,3-C,D]Pyrene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Mercury, as HG; Alkyl & Aryl CMPNDS; Elemental & Inorganic Forms	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Naphthalene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
PAH, 16-	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Phenanthrene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Pyrene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Toluene	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	
Xylenes (Isomers and Mixture)	<a href="#">Throughput-based factor</a> Available factors: 1	0	pending variable amount					TONS	

# Common HAPs

- Methylene chloride (dichloromethane)
- Perchloroethylene
- 111-Trichloroethane (111-TCA or methyl chloroform)
- Hydrochloric acid
- Hydrofluoric acid

# Reporting Emissions

**Process & Emissions Detail**

▶ PRC001: Source Classification Code (SCC) is 3-85-001-01

▼ **Material Information, Annual Average Operating Schedule & Throughput Percent**

Maximum Hours Per Day: 24  
Maximum Days Per Week: 7  
Maximum Weeks Per Year: 52  
Actual Hours: .....

Material	Action	Throughput	Confidential	Units
Cooling Water	Throughput	pending	<input type="checkbox"/>	MILLION GALLONS

Variable Amount  
The variables tab

▼ **Explanation**

To complete emissions reporting for this process, you have to provide values above for **Schedule**, **Season Percents** and **Material Throughput** in the units specified by **Units**. If there is a choice of more than one **Material**, you must select which is most appropriate, otherwise no action is needed on your part. The word pending appears each place a value is needed.

[Edit Material/Schedule/Seasons](#)

- Select process
- Click **Edit Material/Schedule/Seasons**

# Reporting Emissions

## Process & Emissions Detail

▶ PRC001: Source Classification Code (SCC) is 3-85-001-01

### ▼ Material Information, Annual Average Operating Schedule & Throughput Percent

Maximum Hours Per Day:   
Maximum Days Per Week:   
Maximum Weeks Per Year:   
\* Actual Hours:

\* Winter (Jan-Feb, Dec)%:   
\* Spring (Mar-May)%:   
\* Summer (Jun-Aug)%:   
\* Fall (Sep-Nov)%:

Material	Action	Throughput	Confidential	Units
Cooling Water	Throughput	<input type="text" value="521"/>	<input type="checkbox"/>	MILLION GALLONS

### Variable Amount in Cooling Water Units & Meaning

The variables table is empty because there are no variables in the formula as

#### ▼ Explanation

To complete emissions reporting for this process, you have to provide values above for **Schedule**, **Season Percents** and **Material Throughput** in the units specified by **Units**. If there is a choice of more than one **Material**, you must select which is most appropriate, otherwise no action is needed on your part. The word pending appears each place a value is needed.

#### ▶ Explanation

- Don't forget to click "Save"

# Reporting Emissions

- Click **Edit Emissions**
- Select calculation method for each pollutant

## Process Emissions

Criteria Air Pollutants/Other		Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time- based Factor (LBS/Hour)	Emissions Reported			Total	Units	Explanation
Pollutant	Method Used				Fugitive Amount	Stack Amount				
PM Primary (includes filterables > 10 microns + condensibles)	<a href="#">pending</a>								TONS	
PM10 Primary (includes filterables + condensibles)	<a href="#">pending</a>								TONS	
PM2.5 Primary (includes filterables + condensibles)	<a href="#">pending</a>								TONS	
CO - Carbon Monoxide	<a href="#">pending</a>								TONS	
NOx - Nitrogen Oxides	<a href="#">pending</a>								TONS	
SO2 - Sulfur Dioxide	<a href="#">pending</a>								TONS	
VOC - Volatile Organic Compounds	<a href="#">pending</a>								TONS	
Ammonia	<a href="#">pending</a>								TONS	

[Printable view](#) [Export to excel](#)

The following information was developed using (Arizona) DEQ-generated pollutant emission calculations. The values may be provided to USEPA by the (Arizona) DEQ. You may modify these (Arizona) DEQ-generated emission calculations if you have more accurate information.

Hazardous Air Pollutants/Greenhouse Gases/Other		Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time- based Factor (LBS/Hour)	Emissions Reported			Total	Units	Explanation
Pollutant	Method Used				Fugitive Amount	Stack Amount				

[Printable view](#) [Export to excel](#)

[Edit Emissions](#)

# Hierarchy of Preferred Emission Calculation Methods...

To develop your annual emissions inventory, the most accurate method for calculating actual emissions must be used. The "hierarchy of preferred methods" on the following slides describes, in order, the preferred methods for calculating emission estimates.

(Rule 280, Section 304.1)

# Hierarchy of Preferred Emission Calculation Methods...

1. Whenever available, emissions estimates should be calculated from Continuous Emissions Monitoring Systems (CEMS) certified under 40 CFR Part 75, Subpart C, or data that has been quality-assured pursuant to Appendix F of 40 CFR, Part 60.

# Reporting CEMS Emissions

- Calculate Time Based Emission Factor
- Example – EGU001
  - CEMS measured 50,839 pounds of NO<sub>x</sub> emissions during 2019
  - Total operating hours = 4,131
  - $50,839 / 4,131 = 12.31$  pounds/hour

# Reporting CEMS Emissions

Criteria Air Pollutants/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
					Fugitive Amount	Stack Amount	Total		
Pollutant									
PM Primary (includes filterables > 10 microns + condensibles)								TONS	add
PM10 Primary (includes filterables + condensibles)								TONS	add
PM2.5 Primary (includes filterables + condensibles)								TONS	add
CO - Carbon Monoxide								TONS	add
NOx - Nitrogen Oxides	Time-based factor - CEM	0	326.4	12.31				TONS	add
SO2 - Sulfur Dioxide								TONS	add
VOC - Volatile Organic Compounds								TONS	add
Ammonia								TONS	add

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Information was developed using [Arizona] DEQ-generated pollutant emission calculations. The values may be provided to USEPA by the [Arizona] DEQ. You may modify these [Arizona] DEQ-generated emission calculations if you have more accurate data.

Select Pollutant	Hazardous Air Pollutants/Greenhouse Gases/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
						Fugitive Amount	Stack Amount	Total		
Carbon Dioxide		Throughput-based factor	0						TONS	add
Methane		Throughput-based factor	0						TONS	add
Acetaldehyde		Throughput-based factor	0						TONS	add
Acrolein		Throughput-based factor	0						TONS	add
Benz[A]Anthracene		Throughput-based factor	0						TONS	add
Benzene		Throughput-based factor	0						TONS	add
Butadiene, 1,3-		Throughput-based factor	0						TONS	add
Cadmium		Throughput-based factor	0						TONS	add
Chromium		Throughput-based factor	0						TONS	add
Ethyl Benzene		Throughput-based factor	0						TONS	add
Fluoranthene		Throughput-based factor	0						TONS	add
Formaldehyde		Throughput-based factor	0						TONS	add
MN - Manganese		Throughput-based factor	0						TONS	add
Mercury, as HG; Alkyl & Aryl CMPNDS; Elemental & Inorganic Forms		Throughput-based factor	0						TONS	add
Naphthalene		Throughput-based factor	0						TONS	add
Nickel		Throughput-based factor	0						TONS	add
PAH, 16-		Throughput-based factor	0						TONS	add
Phenol		Throughput-based factor	0						TONS	add
Propylene Oxide		Throughput-based factor	0						TONS	add
Toluene		Throughput-based factor	0						TONS	add
Xylenes (Isomers and Mixture)		Throughput-based factor	0						TONS	add

Add Emission Delete Selected Emission(s) Printable view Export to excel

# Reporting CEMS Emissions

Criteria Air Pollutants/Other Pollutant	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time- based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
					Fugitive Amount	Stack Amount	Total		
PM Primary (includes filterables > 10 microns + condensibles)	pending							TONS	
PM10 Primary (includes filterables + condensibles)	pending							TONS	
PM2.5 Primary (includes filterables + condensibles)	pending							TONS	
CO - Carbon Monoxide	pending							TONS	
NOx - Nitrogen Oxides	Available factors: 1 Time-based factor - CEM Uncontrolled factor input by user. Available factors: 1	0	326.4	12.31	0	25.4263	25.4263	TONS	
SO2 - Sulfur Dioxide	pending Available factors: 1							TONS	
VOC - Volatile Organic Compounds	pending Available factors: 2							TONS	
Ammonia	pending							TONS	

Printable view

Export to excel

# Hierarchy of Preferred Emission Calculation Methods...

1. CEMS Data
2. When sufficient data obtained using the methods described in (1) is not available, emissions estimates should be calculated from source performance tests conducted in accordance with Maricopa County Rule 270 (Performance Tests).

# Stack Test Emission Factors

- Calculate Time Based Emission Factor
- Example – EGU001
  - Stack Test Results
    - $PM_{10} = 2.0349 \text{ lb/MMCF}$
  - Total operating hours = 4,131
  - Total fuel combustion = 6,781 MMCF
  - $(2.0349 \times 6,781) / 4,131 = 3.34 \text{ lb/hour}$

# Reporting Emissions

## Process Emissions

Criteria Air Pollutants/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
					Fugitive Amount	Stack Amount	Total		
PM Primary (includes filterables > 10 microns + condensibles)	<input type="text"/>							TONS	<a href="#">add</a>
PM10 Primary (includes filterables + condensibles)	Time-based factor - Stack Test	0	6.73	3.34				TONS	<a href="#">add</a>
PM2.5 Primary (includes filterables + condensibles)	<input type="text"/>							TONS	<a href="#">add</a>
CO - Carbon Monoxide	<input type="text"/>		83.64					TONS	<a href="#">add</a>
NOx - Nitrogen Oxides	Time-based factor - CEM	0	326.4	12.31	25.4263	0		TONS	<a href="#">add</a>
SO2 - Sulfur Dioxide	<input type="text"/>		0.09588					TONS	<a href="#">add</a>
VOC - Volatile Organic Compounds	<input type="text"/>							TONS	<a href="#">add</a>
Ammonia	<input type="text"/>							TONS	<a href="#">add</a>

Printable view

Export to excel

# Reporting Emissions

Criteria Air Pollutants/Other			Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported				
Pollutant	Method Used	Hours Uncontrolled			Fugitive Amount	Stack Amount	Total	Units	Explanation
PM Primary (includes filterables > 10 microns + condensibles)	pending							TONS	
PM10 Primary (includes filterables + condensibles)	Time-based factor - Stack Test Uncontrolled factor input by user.	0	6.73	3.34	6.89877	0	6.89877	TONS	
PM2.5 Primary (includes filterables + condensibles)	pending							TONS	
CO - Carbon Monoxide	pending Available factors: 1		83.64					TONS	
NOx - Nitrogen Oxides	Time-based factor - CEM Available factors: 1	0	326.4	12.31	25.4263	0	25.4263	TONS	
SO2 - Sulfur Dioxide	pending Available factors: 1		0.09588					TONS	
VOC - Volatile Organic Compounds	pending Available factors: 2							TONS	
Ammonia	pending							TONS	

Printable view

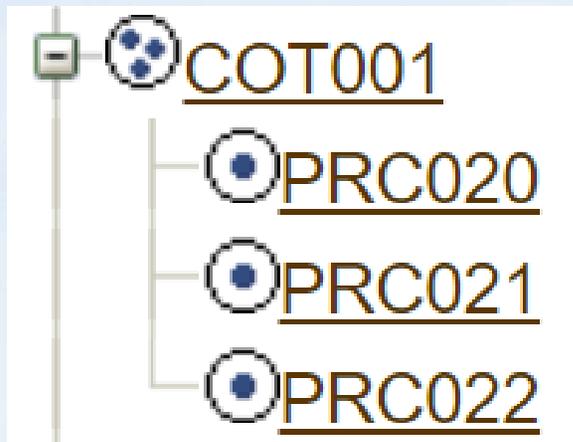
Export to excel

# Hierarchy of Preferred Emission Calculation Methods...

1. CEMS Data
2. Performance Tests
3. When sufficient data obtained using the methods described in (1) or (2) is not available, emissions estimates should be calculated by a material mass balance using engineering knowledge of the process.

# Material Mass Balance

- Frequently used for solvents, paints, and other evaporative processes
- Facility Tree
  - One process for each SCC



# Material Mass Balance

- Frequently used for solvents, paints, and other evaporative processes
- Facility Tree
  - One process for each SCC

## Process Information

**Process ID:** PRC020  
**Process Name:** Paints  
**Company Process Description:**  
**Source Classification Code (SCC):** 4-02-002-01  
**SCC Level 1 Description:** 4:Petroleum and Solvent Evaporation  
**SCC Level 2 Description:** 02:Surface Coating Operations  
**SCC Level 3 Description:** 002:Surface Coating Application - General  
**SCC Level 4 Description:** 01:Paint: Water-base

[SCC reference information](#)

## Process Information

**Process ID:** PRC021  
**Process Name:**  
**Company Process Description:**  
**Source Classification Code (SCC):** 4-02-007-10  
**SCC Level 1 Description:** 4:Petroleum and Solvent Evaporation  
**SCC Level 2 Description:** 02:Surface Coating Operations  
**SCC Level 3 Description:** 007:Surface Coating Application - General  
**SCC Level 4 Description:** 10:Adhesive: General

[SCC reference information](#)

## Process Information

**Process ID:** PRC022  
**Process Name:**  
**Company Process Description:**  
**Source Classification Code (SCC):** 4-02-025-99  
**SCC Level 1 Description:** 4:Petroleum and Solvent Evaporation  
**SCC Level 2 Description:** 02:Surface Coating Operations  
**SCC Level 3 Description:** 025:Miscellaneous Metal Parts  
**SCC Level 4 Description:** 99:Other Not Classified

[SCC reference information](#)



# Material Usage Calculation Tool

Year:	2018																
Process ID	Name/ Description	Material type	Units	Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec/Year	Annual Total
PRC020	Water based primer	Paint	gal	VOC				50.0					50.0				100.0
PRC020	Water based topcoat	Paint	gal	VOC					50.0								50.0
PRC021	Adhesive A225	Adhesive	gal	VOC		50.0											50.0
PRC021	Adhesive A226	Adhesive	gal	VOC		50.0											50.0
PRC022	Adhesive Primer	Adhesive Prim	gal	VOC		50.0											50.0
PRC022	Metal Primer	Primer	gal	VOC	100.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	600.0
PRC022	Metal topcoat	Paint	gal	VOC	100.0	100.0		50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	600.0

[README](#) | 
 [1\) Usage Records](#) | 
 [2\) Emission Calcs](#) | 
 [3\) Facility Info](#) | 
 [Reference sheet](#) | 
 [+](#)



# Material Usage Calculation Tool

	A	C	D	E	F	G	H	I	J	K	L
1	Process ID	Material type	Annual Amount of Material Used	Units	Pollutant	EF	Units	Capture Efficiency	Control Efficiency	Fugitive Amount (lb)	Stack Amount (lb)
2	PRC020	Paint	100.0	gal	VOC	1.2	lb/gal	0.0%	0.0%	120.0	0.0
3	PRC020	Paint	50.0	gal	VOC	2.1	lb/gal	0.0%	0.0%	105.0	0.0
4	PRC021	Adhesive	50.0	gal	VOC	1.6	lb/gal	0.0%	0.0%	80.0	0.0
5	PRC021	Adhesive	50.0	gal	VOC	1.1	lb/gal	0.0%	0.0%	55.0	0.0
6	PRC022	Adhesive Prim	50.0	gal	VOC	0.8	lb/gal	0.0%	0.0%	40.0	0.0
7	PRC022	Primer	600.0	gal	VOC	1.8	lb/gal	0.0%	0.0%	1080.0	0.0
8	PRC022	Paint	600.0	gal	VOC	1.5	lb/gal	0.0%	0.0%	900.0	0.0

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# Material Usage Calculation Tool

	A	B	C	D	E	F	G
1	INSTRUCTIONS: Right click within the table below and select <b>Refresh</b> from the menu to update data.						
2							
3	<b>Sum of Actual Emissions (lbs)</b>	<b>Pollutants (lbs)</b>	<input type="text"/>				
4	<b>Process ID</b>	<input type="text" value="VOC"/>					
5	PRC020	225					
6	PRC021	135					
7	PRC022	2020					

Navigation: < > | README | 1) Usage Records | 2) Emission Calcs | **3) Facility Info** | Reference sheet

# Reporting Emissions

- Enter Emissions

Criteria Air Pollutants/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
					Fugitive Amount	Stack Amount	Total		
PM Primary (includes filterables > 10 microns + condensibles)	Throughput-based factor	0	0					TONS	<a href="#">add</a>
PM10 Primary (includes filterables + condensibles)	Throughput-based factor	0	0					TONS	<a href="#">add</a>
PM2.5 Primary (includes filterables + condensibles)	Throughput-based factor	0	0					TONS	<a href="#">add</a>
CO - Carbon Monoxide	Throughput-based factor	0	0					TONS	<a href="#">add</a>
NOx - Nitrogen Oxides	Throughput-based factor	0	0					TONS	<a href="#">add</a>
SO2 - Sulfur Dioxide	Throughput-based factor	0	0					TONS	<a href="#">add</a>
VOC - Volatile Organic Compounds	Emissions				225	0		TONS	<a href="#">add</a>
Ammonia	Throughput-based factor	0	0					TONS	<a href="#">add</a>

Information was developed using {Arizona} DEQ-generated pollutant emission calculations. The values may be provided to USEPA by the {Arizona} DEQ. You may modify these {Arizona} DEQ-generated emission calculations if you have more accurate information.

Hazardous Air Pollutants/Greenhouse Gases/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
					Fugitive Amount	Stack Amount	Total		
Select Pollutant									

- Upload Material Usage Calculation Tool (later in submission process)



# Hierarchy of Preferred Emission Calculation Methods...

1. CEMS Data
2. Performance Tests
3. Material Mass Balance
4. Emissions estimates shall be calculated using emissions factors from EPA Publication No. AP-42 "Compilation of Air Pollutant Emission Factors", Volume I: Stationary Point and Area Sources.

# AP-42 Emission Factors

- Select throughput-based emission factor
- Use emission factors recommended by the AQD Online Portal
- Use emission factors from the help sheet

Industry Category	SCC Description	SCC Code	Emission Factor					Emission Factor Unit
			CO	NOx	PM10	SOx	VOC	
Industrial	Natural Gas Turbine	20200201	83.64	326.4	6.73	0.6	11.2	lb/MM cu ft
Industrial	Natural Gas Reciprocating Engine	20200202	399	2840	10	0.6	116	lb/MM cu ft
Industrial	Natural Gas Turbine: Cogeneration	20200203	83.64	326.4	6.73	0.6	2.14	lb/MM cu ft
Industrial	Natural Gas Reciprocating : Cogeneration	20200204	399	2840	10	0.6	116	lb/MM cu ft
Industrial	Natural Gas 4 Cycle Reciprocating Rich Burn	20200253	3794	2254	9.69	0.6	30.2	lb/MM cu ft
Industrial	Natural Gas 4 Cycle Reciprocating Lean Burn	20200254	323	4161	0.079	0.6	120	lb/MM cu ft
Industrial	Gasoline Reciprocating Engine	20201702	128.7	205	12.6	10.6	382	lb/1000 gal
Commercial/Institutional	Diesel Large Bore Engine	20200401	116	438	7.85	138(S)	11.2	lb/1000 gal
Commercial/Institutional	Diesel Reciprocating Engine	20300101	130	604	42.5	39.7	49.3	lb/1000 gal
Commercial/Institutional	Diesel Turbine	20300102	0.46	122.3	1.67	140(S)	0.057	lb/1000 gal
Commercial/Institutional	Natural Gas Reciprocating Engine	20300201	399	2840	10	0.6	116	lb/MM cu ft
Commercial/Institutional	Natural Gas Turbine	20300202	83.64	326.4	6.73	0.6	2.14	lb/MM cu ft
Commercial/Institutional	Natural Gas Reciprocating: Cogeneration	20300204	399	2840	10	0.6	116	lb/MM cu ft

# AP-42 Emission Factors

▶ PRC001: Source Classification Code (SCC) is 3-09-002-01

▼ Material Information, Annual Average Operating Schedule & Throughput Percent

Maximum Hours Per Day: 24  
 Maximum Days Per Week: 7  
 Maximum Weeks Per Year: 52  
 Actual Hours: 20.00

Winter (Jan-Feb, Dec)%: 25  
 Spring (Mar-May)%: 25  
 Summer (Jun-Aug)%: 25  
 Fall (Sep-Nov)%: 25

Select Only One Material Action		Throughput	Confidential	Units
<input checked="" type="checkbox"/>	Abrasive Consumed	1	<input type="checkbox"/>	TONS
<input type="checkbox"/>	Material Processed		<input type="checkbox"/>	FEET
<input type="checkbox"/>	Unit Processed		<input type="checkbox"/>	EACH

Variable Amount in Abrasive Units & Meaning

The variables table is empty because there are no variables in the formula associated with the FIRE rows for this process.

▶ Explanation

▶ Explanation

▼ Process Emissions

Criteria Air Pollutants/Other	Method Used	Hours		Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
		Uncontrolled	(Lbs/Throughput Units)			Fugitive Amount	Stack Amount	Total		
PM Primary (includes filterables > 10 microns + condensibles)	Throughput-based factor	20	54						TONS	add
PM10 Primary (includes filterables + condensibles)	Throughput-based factor	20	26						TONS	add
PM2.5 Primary (includes filterables + condensibles)	Throughput-based factor	20	2.6						TONS	add
CO - Carbon Monoxide									TONS	add
NOx - Nitrogen Oxides									TONS	add
SO2 - Sulfur Dioxide									TONS	add
VOC - Volatile Organic Compounds									TONS	add
Ammonia									TONS	add

Printable view    Export to excel

The following information was developed using (Arizona) DEQ-generated pollutant emission calculations. The values may be provided to USEPA by the (Arizona) DEQ. You may modify these (Arizona) DEQ-generated emission calculations if you have more accurate information.

Select Pollutant	Hazardous Air Pollutants/Greenhouse Gases/Other	Method Used	Hours		Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
			Uncontrolled	(Lbs/Throughput Units)			Fugitive Amount	Stack Amount	Total		
<p>Add Emission    Delete Selected Emission(s)    Printable view    Export to excel</p>											

Save    Cancel



# AP-42 Emission Factors

▶ PRC023: Source Classification Code (SCC) is 1-01-006-02

▼ Material Information, Annual Average Operating Schedule & Throughput Percent

Maximum Hours Per Day: 24  
 Maximum Days Per Week: 7  
 Maximum Weeks Per Year: 52  
 Actual Hours: 4,000.00

Winter (Jan-Feb, Dec)%: 25  
 Spring (Mar-May)%: 25  
 Summer (Jun-Aug)%: 25  
 Fall (Sep-Nov)%: 25

Material	Action	Throughput	Confidential	Units
Natural Gas Burned		117.65	<input type="checkbox"/>	MILLION CUBIC FEET

▶ Explanation

Variable Amount in Natural Gas Units & Meaning	
HCg	1020 Gas Heat Content (Btu/Cubic Feet)

▶ Explanation

[Edit Material/Schedule/Seasons](#)

▼ Process Emissions

Criteria Air Pollutants/Other	Method Used	Hours Uncontrolled	Uncontrolled Emission Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Units	Explanation
					Fugitive Amount	Stack Amount	Total		
Pollutant									
PM Primary (includes filterables > 10 microns + condensibles)	pending Available factors: 1		7.6					TONS	
PM10 Primary (includes filterables + condensibles)	pending Available factors: 1		7.6					TONS	
PM2.5 Primary (includes filterables + condensibles)	pending Available factors: 1		7.6					TONS	
CO - Carbon Monoxide	pending Available factors: 1		84					TONS	
NOx - Nitrogen Oxides	pending Available factors: 1		100					TONS	
SO2 - Sulfur Dioxide	pending Available factors: 1		0.6					TONS	
VOC - Volatile Organic Compounds	pending Available factors: 2							TONS	
Ammonia	pending Available factors: 1		3.2					TONS	

[Printable view](#) [Export to excel](#)

# AP-42 Emission Factors

## Material Information, Annual Average Operating Schedule & Throughput Percent

**Maximum Hours Per Day:** 24  
**Maximum Days Per Week:** 7  
**Maximum Weeks Per Year:** 52  
**Actual Hours:** 4,000.00

**Winter (Jan-Feb, Dec)%:** 25  
**Spring (Mar-May)%:** 25  
**Summer (Jun-Aug)%:** 25  
**Fall (Sep-Nov)%:** 25

Material	Action	Throughput Confidential Units
Natural Gas Burned	117.65	MILLION CUBIC FEET

Variable Amount in Natural Gas Units & Meaning	
HCg	1020 Gas Heat Content (Btu/Cubic Feet)

▶ Explanation

▶ Explanation

[Edit Material/Schedule/Seasons](#)

## Process Emissions

Criteria Air Pollutants/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Explanation
					Fugitive Amount	Stack Amount	Total Units	
<b>Pollutant</b>	<b>Method Used</b>							
PM Primary (includes filterables > 10 microns + condensibles)	Throughput-based factor Available factors: 1	4000	7.6		0	0.44707	0.44707 TONS	
PM10 Primary (includes filterables + condensibles)	Throughput-based factor Available factors: 1	4000	7.6		0	0.44707	0.44707 TONS	
PM2.5 Primary (includes filterables + condensibles)	Throughput-based factor Available factors: 1	4000	7.6		0	0.44707	0.44707 TONS	
CO - Carbon Monoxide	Throughput-based factor Available factors: 1	4000	84		0	4.9413	4.9413 TONS	
NOx - Nitrogen Oxides	Throughput-based factor Available factors: 1	4000	100		0	5.8825	5.8825 TONS	
SO2 - Sulfur Dioxide	Throughput-based factor Available factors: 1	4000	0.6		0	0.035295	0.035295 TONS	
VOC - Volatile Organic Compounds	Throughput-based factor Uncontrolled factor input by user. Available factors: 2	4000	5.5		0	0.323538	0.323538 TONS	
Ammonia	Throughput-based factor Available factors: 1	4000	3.2		0	0.18824	0.18824 TONS	

[Printable view](#)

[Export to excel](#)

# Hierarchy of Preferred Emission Calculation Methods...

1. CEMS Data
2. Performance Tests
3. Material Mass Balance
4. AP-42 Emission Factors
5. Emissions estimates should be calculated by equivalent methods supported by back-up documentation that will substantiate the chosen method.

# Aggregated Reporting

- Aggregate when specific throughput is not known for each EU
  - Boilers and water heaters
  - Silos storing the same material
  - Multiple gasoline storage tanks
    - Underground storage tanks
    - Aboveground storage tanks
- Aggregate when there are many identical EUs
  - Conveyors, crushers, screens, etc.

# Example 1 - Boilers

- Report emissions under the largest boiler
  - In this case, BOL001
- Enter total throughput (natural gas) used by all boilers in the group

The screenshot displays a software interface for managing air quality data. On the left is a tree view showing a hierarchy of entities: EI0015461, BOL001- (613.135Ton), PRC028, and a list of boilers from BOL002 to BOL011, each with a 0Ton throughput. The main window is titled 'Process & Emissions Detail' and shows the following information:

- Process & Emissions Detail**
  - PRC028: Source Classification Code (SCC) is 1-02-006-02
- Material Information, Annual Average Operating Schedule & Throughput Percent**
  - Maximum Hours Per Day: 24
  - Maximum Days Per Week: 7
  - Maximum Weeks Per Year: 52
  - Actual Hours: 8,760.00
  - Winter (Jan-Feb, Dec)%: 25
  - Spring (Mar-May)%: 25
  - Summer (Jun-Aug)%: 25
  - Fall (Sep-Nov)%: 25

At the bottom, there are two tables:

Material	Action	Throughput	Confidential	Units
Natural Gas Burned		10.2	<input type="checkbox"/>	MILLION CUBIC FEET

Variable	Amount in Natural Gas Units & Meaning
HCg	1036 Gas Heat Content (Btu/Cubic Feet)

# Example 1 - Boilers

- Enter emission factors – some may prepopulate
- Click Save to calculate emissions

## Process Emissions

Criteria Air Pollutants/Other Pollutant	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time- based Factor (LBS/Hour)	Emissions Reported			Explanation
					Fugitive Amount	Stack Amount	Total	
PM Primary (includes filterables > 10 microns + condensibles)	<a href="#">Throughput-based factor</a> Available factors: 1	0	7.6		0.03876	0	0.03876	TONS
PM10 Primary (includes filterables + condensibles)	<a href="#">Throughput-based factor</a> Available factors: 1	0	7.6		0.03876	0	0.03876	TONS
PM2.5 Primary (includes filterables + condensibles)	<a href="#">Throughput-based factor</a> Available factors: 1	0	7.6		0.03876	0	0.03876	TONS
CO - Carbon Monoxide	<a href="#">Throughput-based factor</a> Available factors: 1	0	84		0.4284	0	0.4284	TONS
NOx - Nitrogen Oxides	<a href="#">Throughput-based factor</a> Available factors: 1	0	100		0.51	0	0.51	TONS
SO2 - Sulfur Dioxide	<a href="#">Throughput-based factor</a> Available factors: 1	0	0.6		0.00306	0	0.00306	TONS
VOC - Volatile Organic Compounds	<a href="#">Throughput-based factor</a> Uncontrolled factor input by user. Available factors: 2	0	5.5		0.02805	0	0.02805	TONS
Ammonia	<a href="#">Throughput-based factor</a> Available factors: 1	0	3.2		0.01632	0	0.01632	TONS

Printable view

Export to excel



# Example 1 - Boilers

- Mark other boiler emission units as Reported Under BOL001

Emissions Unit BOL002 Summary	
Emissions Unit ID:	BOL002
AQD Description (read-only):	
EU Reporting Level:	<input type="radio"/> Detailed Emissions Reporting <input type="radio"/> Less Than Reporting Requirement <input type="radio"/> Did Not Operate <input checked="" type="radio"/> Reported Under another EU
Emission Unit Id:	<input type="text" value="BOL001"/>

# Example 2 - Crushers

- Choose 1 crusher to report emissions under
- Enter total throughput to all three crushers
  - If 144,000 tons went through each crusher report 432,000 tons

The screenshot displays a software interface for managing air quality data. On the left is a tree view of crushers, with PRC019 selected. The main panel shows the 'Process & Emissions Detail' for PRC019, including source classification, material information, and operating schedule.

**Process & Emissions Detail**

▶ PRC019: Source Classification Code (SCC) is 3-05-025-10

▼ Material Information, Annual Average Operating Schedule & Throughput Percent

Maximum Hours Per Day:	24	Winter (Jan-Feb, Dec)%:	25
Maximum Days Per Week:	7	Spring (Mar-May)%:	25
Maximum Weeks Per Year:	52	Summer (Jun-Aug)%:	25
Actual Hours:	2,880.00	Fall (Sep-Nov)%:	25

**Variable Amount in Product Units & Meaning**

The variables table is empty because there are no variable process.

Material	Action	Throughput	Confidential	Units
Product	Produced	432000	<input type="checkbox"/>	TONS

▶ Explanation

[Edit Material/Schedule/Seasons](#)

# Example 2 - Crushers

- Enter emissions
- Click Save to calculate emissions

## Process Emissions

Criteria Air Pollutants/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Explanation
					Fugitive Amount	Stack Amount	Total Units	
PM Primary (includes filterables > 10 microns + condensibles)	<u>Throughput-based factor</u> Uncontrolled factor input by user.	0	0.0054		1.1664	0	1.1664 TONS	
PM10 Primary (includes filterables + condensibles)	<u>Throughput-based factor</u> Uncontrolled factor input by user.	0	0.0024		0.5184	0	0.5184 TONS	
PM2.5 Primary (includes filterables + condensibles)	<u>Throughput-based factor</u> Uncontrolled factor input by user.	0	0.0024		0.5184	0	0.5184 TONS	
CO - Carbon Monoxide	<u>Throughput-based factor</u> Uncontrolled factor input by user.	0	0		0	0	0 TONS	
NOx - Nitrogen Oxides	<u>Throughput-based factor</u> Uncontrolled factor input by user.	0	0		0	0	0 TONS	
SO2 - Sulfur Dioxide	<u>Throughput-based factor</u> Uncontrolled factor input by user.	0	0		0	0	0 TONS	
VOC - Volatile Organic Compounds	<u>Throughput-based factor</u> Uncontrolled factor input by user.	0	0		0	0	0 TONS	
Ammonia	<u>Throughput-based factor</u> Uncontrolled factor input by user.	0	0		0	0	0 TONS	

Printable view

Export to excel



# Example 2 - Crushers

- Mark other crusher emission units as Reported Under

## Emissions Unit CSH020 Summary

Emissions Unit ID: CSH020

AQD Description (read-only): FEEDER CRUSHER

To edit AQD Description, go to Emissions Unit Information in the Facility Inventory.

EU Reporting Level:  Detailed Emissions Reporting  Less Than Reporting Requirement  Did Not Operate  Reported Under another EU

Emission Unit Id:



# Confidential Data

- Information submitted in annual emissions reports must be made available to the public ... unless a person
  - Precisely identifies the information which is considered confidential, and
  - Provides sufficient documentation allowing the Control Officer to determine if the information is a trade secret.
- Trade secret means
  - Reasonable measures have been taken to prevent disclosure
  - The information is not reasonable obtainable without consent
  - No statute requires disclosure of the information to the public
  - The person has shown that disclosure is likely to cause substantial harm to the business's competitive position.

# Confidential Data

- To identify data as confidential, select confidential (next to throughput) and add a justification

## Process & Emissions Detail

▶ PRC010: Source Classification Code (SCC) is 4-02-999-98

### ▼ Material Information, Annual Average Operating Schedule & Throughput Percent

Maximum Hours Per Day: 24

Maximum Days Per Week: 7

Maximum Weeks Per Year: 52

Actual Hours: 8,760.00

Winter (Jan-Feb, Dec)%: 25

Spring (Mar-May)%: 25

Summer (Jun-Aug)%: 25

Fall (Sep-Nov)%: 25

Select Only One	Material	Action	Throughput	Confidential	Units
	Coating	Processed		<input type="checkbox"/>	TONS
selected	Material	Processed	50000	<input checked="" type="checkbox"/> Justification	GALLONS
	Solvent	Used		<input type="checkbox"/>	TONS

▶ Explanation

#### Variable Amount in Material Units & Meaning

The variables table is empty because there are no variables in the formula associated with the FIRE rows for this process.

▶ Explanation

# Confidential Data

- Select “Emissions”
- Enter fugitive and stack emissions
- Add an explanation

Criteria Air Pollutants/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Explanation
					Fugitive Amount	Stack Amount	Total	
PM Primary (includes filterables > 10 microns + condensibles)	Emissions				0	0		TONS ▼ add
PM10 Primary (includes filterables + condensibles)	Emissions				0	0		TONS ▼ add
PM2.5 Primary (includes filterables + condensibles)	Emissions				0	0		TONS ▼ add
CO - Carbon Monoxide	Emissions				0	0		TONS ▼ add
NOx - Nitrogen Oxides	Emissions				0	0		TONS ▼ add
SO2 - Sulfur Dioxide	Emissions				0	0		TONS ▼ add
VOC - Volatile Organic Compounds	Emissions				0	67.5		TONS ▼ trade secret
Ammonia	Emissions				0	0		TONS ▼ add

The following information was developed using (Arizona) DEQ-generated pollutant emission calculations. The values may be provided to USEPA by the (Arizona) DEQ. You may modify these (Arizona) DEQ-generated emission calculations if you have more accurate information.

Select	Hazardous Air Pollutants/Greenhouse Gases/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Explanation
						Fugitive Amount	Stack Amount	Total	
<input type="checkbox"/>	Toluene	Emissions					67.5		TONS ▼ trade secret

# Confidential Data

- Upload two emission calculation documents
  - Trade Secret (contains confidential data)
  - Public Document (confidential data must be redacted)
- Upload a letter
  - Justify that confidential data is a trade secret (as defined in A.R.S.)

# Final Steps

- Review the emissions inventory summary

**Emissions Inventory Summary**

▼ Explanation

- Use the Exclude/Include Emissions Units button to indicate which emissions units:
  - Did not operate at all during the year
  - Emitted less than the reporting requirement
  - Do require detailed emissions inventory reporting
- For each Emissions Process that requires detailed emissions inventory reporting, navigate to that Process and provide the necessary information
- Attach any files needed to support the reported emissions

Regulatory Requirement(s): Non-Title V Program  
Date inventory received:

# Final Steps

- Add notes
- Attach calculation spreadsheets, trade secret documents, public documents, and supporting information

▼ Attachments

Attachment ID	Attachment Type	Description	Trade Secret Document	Trade Secret Justification	Uploaded By	Upload Date
4	Calculations	VOC	None Provided	N/A	Beck, Kristi	3/2/2020

To Delete the attachment, or to Edit attachment description, click in the Attachment ID column.

▼ Reason/Explanation for Emissions Inventory Revision

Showing how to validate

▼ Notes

Note ID	Note	User Name	Date
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[Add](#) [Printable view](#) [Export to excel](#)

[Data Entry Wizard](#) [Edit](#) [Exclude/Include Emissions Units](#) [Validate](#) [Delete Inventory](#) [Create Revised Emissions Inventory](#) [OnBase Documents](#)

[Show Associated Facility Inventory](#) [Associate with Different Facility Inventory](#) [Compare Emissions Inventories](#) [Download/Print](#) [Show Fee Details](#)

- Validate

# Correct Errors

- Click message to go to error location

Severity	EU ID	Message
ERROR	ABS001	<a href="#">P:PRC001:Emissions values missing for PM10 Primary (includes filterables + condensibles)</a>
ERROR	ABS001	<a href="#">P:PRC001:Emissions values missing for CO - Carbon Monoxide</a>
ERROR	ABS001	<a href="#">Attribute: P:PRC001:Schedule: Actual Hours is not set.</a>
ERROR	ABS001	<a href="#">P:PRC001:No Material Selected</a>
ERROR	ABS001	<a href="#">P:PRC001:Emissions values missing for SO2 - Sulfur Dioxide</a>
ERROR	ABS001	<a href="#">P:PRC001:Emissions values missing for PM2.5 Primary (includes filterables + condensibles)</a>
ERROR	ABS001	<a href="#">P:PRC001:Emissions values missing for NOx - Nitrogen Oxides</a>
ERROR	ABS001	<a href="#">P:PRC001:Emissions values missing for PM Primary (includes filterables &gt; 10 microns + condensibles)</a>
ERROR	ABS001	<a href="#">P:PRC001:Emissions values missing for VOC - Volatile Organic Compounds</a>
ERROR	ABS001	<a href="#">P:PRC001:Emissions values missing for Ammonia</a>

Process & Emissions Detail

▶ PRC001: Source Classification Code (SCC) is 3-09-002-01

▼ Material Information, Annual Average Operating Schedule & Throughput Percent

Maximum Hours Per Day: 24  
 Maximum Days Per Week: 7  
 Maximum Weeks Per Year: 52  
 Actual Hours:

Winter (Jan-Feb, Dec)%: 25  
 Spring (Mar-May)%: 25  
 Summer (Jun-Aug)%: 25  
 Fall (Sep-Nov)%: 25

Select Only One	Material Action	Throughput	Confidential	Units
pending	Abrasive Consumed		<input type="checkbox"/>	TONS
pending	Material Processed		<input type="checkbox"/>	FEET
pending	Unit Processed		<input type="checkbox"/>	EACH

Variable Amount in Material Units & Meaning

The variables table is empty because there are no variables in the formula associated with the FIRE rows for this process.

▼ Explanation

To complete emissions reporting for this process, you have to provide values above for **Schedule**, **Season Percents** and **Material Throughput** in the units specified by **Units**. If there is a choice of more than one **Material**, you must select which is most appropriate, otherwise no action is needed on your part. The word pending appears each place a value is needed.

▶ Explanation

[Edit Material/Schedule/Seasons](#)

▼ Process Emissions

Criteria Air Pollutants/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Total Units	Explanation
					Fugitive Amount	Stack Amount			
Pollutant									
PM Primary (includes filterables > 10 microns + condensibles)	<a href="#">Throughput-based factor</a>	0	pending					TONS	
PM10 Primary (includes filterables + condensibles)	<a href="#">Throughput-based factor</a>	0	pending					TONS	
PM2.5 Primary (includes filterables + condensibles)	<a href="#">Throughput-based factor</a>	0	pending					TONS	
CO - Carbon Monoxide	<a href="#">Throughput-based factor</a>	0	pending					TONS	
NOx - Nitrogen Oxides	<a href="#">Throughput-based factor</a>	0	pending					TONS	
SO2 - Sulfur Dioxide	<a href="#">Throughput-based factor</a>	0	pending					TONS	
VOC - Volatile Organic Compounds	<a href="#">Throughput-based factor</a>	0	pending					TONS	
Ammonia	<a href="#">Throughput-based factor</a>	0	pending					TONS	

[Printable view](#) [Export to excel](#)

The following information was developed using (Arizona) DEQ-generated pollutant emission calculations. The values may be provided to USEPA by the (Arizona) DEQ. You may modify these (Arizona) DEQ-generated emission calculations if you have more accurate information.

Hazardous Air Pollutants/Greenhouse Gases/Other	Method Used	Hours Uncontrolled	Uncontrolled Emissions Factor (Lbs/Throughput Units)	Time-based Factor (LBS/Hour)	Emissions Reported			Total Units	Explanation
					Fugitive Amount	Stack Amount			
Pollutant									

[Printable view](#) [Export to excel](#)

[Edit Emissions](#)

- Correct errors
- Validate again



# Validated

- Green ✓ - ready to submit

E100001

- ENG001
  - PRC001
- ENG002
  - PRC002
- SVC001
  - PRC003

### Emissions Inventory Summary

▼ Explanation

- Use the Exclude/Include Emissions Units button to indicate which emissions units:
  - Did not operate at all during the year
  - Emitted less than the reporting requirement
  - Do require detailed emissions inventory reporting
- For each Emissions Process that requires detailed emissions inventory reporting, navigate to that Process and provide the necessary information
- Attach any files needed to support the reported emissions

**Regulatory Requirement(s):** Non-Title V Program  
**Date inventory received:**

# Submit

- Green ✓ - ready to submit
  - Save a copy
    - preparer or certifier
  - Submit all three tasks (certifier only)
    - Contact changes
    - Inventory changes
    - Emissions inventory
  - Title V facilities only
    - Pay the emission fee
    - Online with a credit card
    - Print an invoice and submit with a check

# Questions



**Thank you.**

**[EmissionsInventory@Maricopa.gov](mailto:EmissionsInventory@Maricopa.gov)**

**602-506-6790**