

Forsyth County Office of Environmental Assistance and Protection
Calendar Year 2023 Air Pollutant Emission Inventory
Instructions

According to the Forsyth County Air Quality Technical Code, each facility receiving this emission inventory package is required to complete and submit an emission inventory to EAP **no later than June 30, 2024**. You must report actual calendar year 2023 emissions to atmosphere of all listed pollutants from all emission sources at your facility including sources exempt from permitting because of size or production rate. The only emissions not required to be reported are certain fugitive emissions, excess emissions from Title V facilities during startup/shutdown or malfunction/breakdown and certain sources/processes from which emissions are considered negligible. See the Detailed Instructions available on our website if any of these scenarios are applicable to your facility. Although they are on the List of Pollutants, inclusion of greenhouse gases in this emission inventory is voluntary.

Reporting method

Your air emission inventory data must be reported via an Access database, which will be emailed to your facility's designated emission inventory preparer. Please contact EAP to obtain this year's version of the database. **Do not re-use a previous year's version of the database to report your emissions.** You will need to have MS Access™ 2003 or higher installed on your computer to utilize the database. This office will provide assistance for anyone who desires training in the use of the database.

If your facility has previously submitted an emission inventory, the database sent to you will be pre-filled with your facility's Release Point, Emission Unit, Control Device and Process information. Please use the existing Emission Release Point IDs, Emission Unit IDs and Process IDs when preparing the inventory. If you wish to modify and/or change the Control Device IDs, Control Path IDs, or Control Step IDs, and it is the first year your facility is reporting these items, please consult with your case manager before doing so.

The supporting calculations and information used to determine your emissions must accompany your completed inventory. This can be accomplished via emailed spreadsheets/documents or via hard copy. Consult with your EAP case manager regarding this matter since he/she will be the one reviewing your submittal for accuracy.

Instructions for completion of the Emission Inventory

The following are abbreviated instructions for completion of Forsyth County Office of Environmental Assistance and Protection's (EAP) Emission Inventory via a Microsoft Access database. Detailed Instructions as well as the List of Pollutants and the Code List can be found on EAP's website at <http://www.forsyth.cc/EAP/forms.aspx>. These abbreviated instructions assume you already know how to estimate your facility's emissions and how to complete the more "basic" data elements. The steps toward completion coincide with the Main Menu items in the database.

Step 1: Status Review

If any emissions-related equipment has been shut down since the facility's last emissions inventory, specify whether the equipment was permanently or temporarily shut down as well as the year the equipment was shut down. Do not mark as shut down any stacks, emission units, processes or control devices that operated during the year for which emissions are being inventoried. These should be listed as shut down in the next inventory cycle

Step 2: Add/Edit Data

Make any changes or additions to your facility's information using the data entry forms. When adding equipment, please start with the left-most tab that is applicable to the new equipment and progress to the right, in order. For example, when adding a process, the stack, emission unit and control device associated with the new process must exist in the database before the new process can be added.

Facility Site Information

Facility Name: the name of your facility.

Facility ID #: the first five digits of your facility's permit number (e.g., If the permit number is 00883R6, then the Facility ID is 00883).

Additional Info: If applicable, specify a plant site name, location, etc. (e.g., "North Quarry", "KTM-300EXC Plant", "Husaberg

Road Site”).

North American Industry Classification System (NAICS) Code: the NAICS code system is a means for classifying business activity in North America. The codes can be found online at <https://www.naics.com/search/> or in the Code List spreadsheet. Please verify that the NAICS code entered is a valid code listed in the Code List spreadsheet.

Facility Address: the street address, city, and zip code of the facility, i.e., the facility’s physical location. Do not use a post office box number for the facility address.

Latitude and Longitude: Geographic coordinates of the facility’s general entrance. Common ways for determining lat/longs are by using Google Earth (<http://earth.google.com>) or Forsyth County’s Geo-Data Explorer website (<http://www.forsyth.cc/tax/geodata.aspx>), or similar GIS websites. Please report latitude and longitude in decimal degrees, *not* in degrees, minutes and seconds. Latitude coordinates in Forsyth County should be between 35.972730 and 36.261614. Longitude coordinates should be between -80.035433 and -80.516445.

Horizontal Collection Method: code for the method used to determine the lat/long coordinates. If you use the County’s Geo-Data Explorer or other aerial photo-based method to determine lat/longs, the proper code is “019”. If you use Google Earth or some other satellite photo-based online mapping site, the code is “020”. If you use a standard hand held GPS to locate your facility, the code would be “016”. For other options, see “Horizontal Collection Method” in the Code List spreadsheet.

Horizontal Reference Datum Code: code that represents the reference datum used in determining the lat/long coordinates. The county’s Geo-Data Explorer utilizes the North American Datum of 1983, the code for which is “002”. The code for World Geodetic System 1984, which is used by Google Earth, is 003.

Geographic Reference Point Code: code that represents the place for which geographic coordinates were established. The EAP prefers that the coordinates for the general plant entrance or the center of the facility are specified, the codes for which are “101” and “102” respectively. For other options, choose from the dropdown list.

Facility Status Code: Code that identifies the operating status of the facility site. In most cases, an emission inventory is conducted for a facility that is operating, so the status code will normally be “OP”. In the rare case a facility is required to complete an inventory for a shutdown or temporarily shutdown facility, choose the appropriate code from the dropdown list.

Facility Status Code Year: The year in which the operating status became applicable. Required if facility site status is other than “OP”.

Year of Inventory: The 4-digit year during which the submitted emissions were emitted.

Emission Release Point

If you have determined Emission Release Point parameters via a stack test, use this actual data. For fugitive emissions, most parameters (diameter, velocity, flow) do not apply so leave these fields blank.

ER Point ID#: unique alphanumeric ID assigned by the facility to an Emission Release Point - can be up to 10 characters in length. If you have already established an ID for a stack, vent or fugitive source in a previous emission inventory, do not change it. For facilities that have submitted an inventory before, this information is included in a report provided in the inventory package. If you have not established an ID for a release point in a previous emission inventory, use the designations included in your permit when possible.

ERP Type: code for physical configuration of the release point.

Code	Emission Release Point Type
01	FUGITIVE EMISSIONS
02	VERTICAL DISCHARGE
03	HORIZONTAL DISCHARGE
04	GOOSE NECK
05	VERTICAL WITH RAIN CAP
06	DOWNWARD-FACING VENT

Height: in feet from the ground to the top of the ERP.

Diameter: the inside diameter in feet of the ERP at its exit point. If the emission point is not round, specify the actual dimensions in the description and enter the equivalent diameter using the following equation:

Diameter = $2 \times L \times W / (L+W)$ where L is the length and W is the width

Temperature: gas temperature as it exits the emission point. In degrees Fahrenheit. Must be between 30 and 3500. No commas.

Flow: volume of gas exhausted by stack in Actual Cubic Feet per MINUTE (ACFM). This parameter should be reported to the nearest tenth (e.g., 14500.0) and should be between 0.1 and 12000000 for non-fugitive release points. No commas.

Velocity: average velocity of gas in Feet Per SECOND (FPS) as it exits the vent or stack. This parameter should be reported to the nearest tenth (e.g., 145.7) and must be between 0.1 and 600, inclusive for non-fugitive release points. Please ensure that stack parameters produce flow and velocity that are reasonable according to good engineering practice and the physical laws of the universe. Hint: stack diameter and flow combinations that produce supersonic exhaust gas velocity indicate an error. You may use the formulas below to check the validity of your reported parameters. Reported flow/velocity should not vary from calculated flow/velocity by more than 5 percent.

$$F = V \times 188.5 \times r^2 \text{ and } V = \frac{F}{188.5 \times r^2} \text{ Where: } F = \text{flow in ACFM, } V = \text{velocity in ft/sec, and } r = \text{radius in feet}$$

Processes Exhausted Through This Release Point: ID#'s of all Emission Processes exhausted through the stack or vent.

Emission Unit

Emission Unit ID: unique alphanumeric identifier assigned by the facility - may be up to ten alphanumeric characters in length. If you have already established an ID for an Emission Unit in a previous emission inventory, do not change it. If you are assigning an ID for the first time, use the IDs that are used in your permit where possible.

Unit Type Code: code that identifies the type of emissions unit activity. See Code List.

Unit Design Capacity: if the Emissions Unit has Unit Type Code 100, 120, 140, 150, 160, 180, or 200, report its maximum continuous throughput capacity. For all other unit types, you may leave this blank.

Design Capacity Units: code that specifies the unit of measure for the Design Capacity, if reported. See Code List.

Processes and Emissions

Process ID: a unique alphanumeric identifier associated with a process. The Process ID may be up to ten alphanumeric characters in length. If you have already established an ID for a Process in a previous emission inventory, please do not change it. For facilities that have submitted an inventory before, this information is included in a report provided with the inventory package. If you have not established an ID for a process in a previous emission inventory, use the IDs designated in your permit if possible.

Emission Unit, Emission Release Points: list IDs of the Emission Unit and the Emission Release Point(s) that are associated with this process. These IDs must match the IDs as entered on the respective Emission Unit and Emission Release Point forms.

Source Classification Code: report the most appropriate SCC that describes the process. You may choose a new code (or verify the validity of an existing code) by using the SCC Code List spreadsheet or via EPA's online searchable SCC database at <https://sor-scc-api.epa.gov/sccwebservices/sccsearch/> Be careful not to choose Retired and/or Non-Point SCCs. The easiest way to avoid this is to set Filter Options to Status = "Active" and Data Category = "Point".

Operating Hours: the actual number of hours that the process equipment operated during the calendar year being inventoried.

Material Code: code for the material or fuel processed. See Code List spreadsheet.

Material I/O Code: a descriptor indicating whether material is used, produced or simply passes through the process.

Code	Material I/O Description
I	PROCESS MATERIAL USED (INPUT)
O	PROCESS MATERIAL PRODUCED (OUTUT)
E	EXISTING MATERIAL PASSES THRU IN STATIC MANNER

Throughput: numeric value quantifying the amount of material that went through this process during the inventory year.

Units Code: code expressing unit of measure for material throughput. See “Throughput Units” in the Code List.

Calculation Data Source: report the source of throughput/activity data e.g., “fuel purchased”, “widget production records”, “hour meter on #4 Dryer”, etc. Maximum length is 50 characters.

First Emissions Inventory Year Controls Active: the first emission inventory year for which the control approach was implemented.

Emissions Year Controls Permanently Shutdown: leave blank if control measures are in place and active. If the control measure(s) are no longer in place, report last emission inventory year for which the control approach was active.

Pollutant Code: code or Chemical Abstracts Service (CAS) number associated with the Pollutant. See the “List of Pollutants” to verify that the pollutant code entered is a valid pollutant code.

Yearly Emissions: actual quantity of each air pollutant emitted by the process during the year being inventoried.

Units: specify whether emissions were reported in tons or pounds. Criteria and “billable” pollutant emissions must be reported in tons. For all other pollutants, emissions must be reported in pounds.

Calculation Method: code for the method used to estimate emissions. See code list.

Control Devices, Control Paths, and Control Steps

This section is divided into two tabs, one for control devices and one for control paths and control steps. This section is used to identify control devices and/or control paths as well as their configuration. Controlled pollutants and the control percent for the individual control devices and the control paths are also entered here.

Control Device ID: a unique alphanumeric identifier associated with a Control Device. Each control device in a facility has only one unique ID, even if it is included in multiple Control Paths.

Control Path ID: a unique alphanumeric identifier associated with a Control Path. A Control Path ID uniquely identifies a single configuration of Control Devices used for a given Process.

Control Step ID: a unique alphanumeric identifier associated with a Control Step. This field is intended for use with highly complex control configurations only. We recommend consulting with our Office if you believe the configuration at your facility requires this field.

Process ID: a unique alphanumeric identifier associated with a process (see Process and Emissions section for details). In this section, the Process ID attaches a Control Path to a specific Process.

Describe: A simple description of the control device. Brand, model, and/or functionality are recommended.

Control Measure Code(s): code used to identify the device(s) or practice(s) used to reduce one or more pollutants. If a Control Approach is listed, at least one Control Measure and controlled pollutant must be entered. Control Measure codes can be found in the code list spreadsheet.

Control Status: Indicates the status of a Control Device. This field should be set to “OP” if the control device was used for any period of the inventor year.

Status Year: The year that the control device was temporarily or permanently shutdown.

Pollutant Name: the name of the Pollutant. Emissions of all pollutants on the “List of Pollutants” found in the Code List spreadsheet must be reported, as well as any other Regulated Air Pollutants.

Pollutant Code: code or Chemical Abstracts Service (CAS) number associated with the Pollutant. See the “List of Pollutants”. You must report all listed pollutants. Additionally, if the process emits a compound that is not listed, you must include its mass in the inventory as VOC or Particulate Matter whichever is applicable. If a Control Approach is listed, at least one pollutant must be entered as being controlled (see Control Efficiency). Verify that the Pollutant code entered is a valid code included in the Code List spreadsheet.

Control Percent: The percent that the Control Device or the Control Path controls the listed pollutant. Note that the Control Percent for Control Devices is for each individual Control Device while the Control Percent for Control Paths is the aggregate of all Control Devices or Control Steps configured on a Control Path.

Sequence No.: The order of Control Devices or Control Steps on a Control Path.

Step 3: Certification Statement

The owner, operator or responsible official for your facility must certify the accuracy and completeness of the emissions information reported. The Facility Emissions Summary w/ Certification Statement may be found in the Report Menu in the database. This Emissions Summary w/ Certification Statement must be printed, signed by your facility’s Responsible Official and mailed to the attention of your case manager at EAP. The address is:

Forsyth County Office of Environmental Assistance and Protection
Forsyth County Government Center
201 North Chestnut Street
Winston-Salem, NC 27101-4120

Certification Forms submitted by Title V facilities need to be certified by a “Responsible Official” as defined in [40 CFR 70.2](#).

What to Do with the Completed Database

Due to Forsyth County’s email security measures, emailing the database as an mdb file may fail without any notification to the sender. To avoid this potential problem:

1. Change the extension of your file name from “mdb” to “aok”.
2. Send the database and supporting documentation* to the following email address: lydask@forsyth.cc
3. If you do not receive an acknowledgment, please email or call Steve Lyda (lydaskb@forsyth.cc/336-703-2444) to make sure your information was properly received before June 30th. Be sure to include your phone number in case there is a problem.

*NOTE: If your supporting documentation contains Confidential Business Information, please **do not** send it via email. Contact your EAP case manager to coordinate the transfer of confidential information.

If you have any questions about completing your facility’s emissions inventory using the inventory database, contact Steve Lyda. If you have questions regarding estimating and reporting emissions from specific processes at your facility, please contact your case manager at the Office of Environmental Assistance and Protection at (336) 703-2440.