

**Forsyth County Office of Environmental Assistance and Protection
Calendar Year 2019 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, 2020**. However, EAP acknowledges the existence of extraordinary circumstances this year. If the deadline is a problem, please contact us **in advance** so that we can work something out. You must report actual calendar year 2019 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 options

There are two ways to report your facility's emissions - paper or database. For most facilities, submitting the emission inventory via a database developed by EAP is the easiest and quickest method. You must have MS Access™ 2003 or higher installed on your computer to take advantage of this method. EAP encourages you to submit your inventory via database and will provide help/training in the use of the database to anyone wanting assistance. Please contact EAP to obtain this year's version of the database. The database and instructions will be emailed to you. **Do not re-use a previous year's version of the database to report your emissions.**

Facilities that report emissions via database must also submit a "Facility Emissions Summary" report which includes a "Certification Statement" that has been signed by your facility's Responsible Official. This report is printed by the database.

If you choose to submit your facility's emission inventory via paper forms, please use the enclosed forms. The forms are available in Excel™ spreadsheet format on EAP's website but please print and submit your completed forms. Do not send an Excel file. If you have conducted an emission inventory before, this package includes a report showing the Emission Release Point, Emission Unit and Process information already in our database. This may help with the task of making sure equipment ID numbers listed in the current emission inventory are consistent with previous inventories.

Whether you are submitting your inventory by database or by paper forms, 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 Emission Inventory Forms

The following are abbreviated instructions for completion of Forsyth County Office of Environmental Assistance and Protection's (EAP) Emission Inventory forms. Detailed Instructions as well as the List of Pollutants and the Code List necessary for proper completion of this inventory are 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.

Facility Site Information form

Complete this form to provide facility location and contact information.

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 or designation. (e.g., "KTM 300EXC Division", "Husaberg Road Facility").

North American Industry Classification System (NAICS) Code: the NAICS code system is a means for classifying business activity in North America. The code may be determined online at <http://www.naics.com/search.htm> or by referring to the Code List spreadsheet.

Facility Address: the facility's physical location. Do not use a post office box number for your facility address.

Latitude and Longitude: Geographic coordinates of the facility's general entrance in decimal degrees, *not* in degrees, minutes and seconds. Coordinates may be obtained from Forsyth County Tax Office's Geo-Data Explorer website

(<http://www.forsyth.cc/tax/geodata.aspx>) or Google Earth (<http://earth.google.com>). Latitude coordinates in Forsyth County should be between 35.972730 and 36.261614. Longitude coordinates should be between -80.035433 and -80.516445. Please include the minus sign in front of the longitude coordinate, otherwise you will be banished to the edge of the Taklimakan Desert in China.

Horizontal Collection Method: code for the method used to determine the lat/long coordinates. If using Geo-Data Explorer or other aerial photo-based method, the proper code is “019”. If using Google Earth or another 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 methods – see the Code List.

Horizontal Reference Datum Code: Geo-Data Explorer utilizes the North American Datum of 1983, the code for which is “002”. Google Earth uses World Geodetic System of 1984, the code for which is “003”.

Geographic Reference Point Code: most common are “101” if lat/long is for the facility entrance, “102” for the center of the facility.

Responsible Official: name, title, telephone number, fax number and email address of facility owner or “responsible official” as defined in 40 CFR 70.2, which is summarized on the Certification Form.

Emission Release Point form

Complete as many forms as necessary to describe the facility’s Emission Release Points. 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 x L x 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.

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

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

Emission Unit form

Use this form to list each Emissions Unit for which emissions are to be reported. Up to twelve units may be listed on one page.

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.

Process, Emissions and Control System form

This form is to be used for identifying each Process and its associated control devices and emissions. A Process form must be completed for each operating scenario at each Emission Unit. If additional space is required to list pollutants, please use the “Process, Emission and Control System - (continued)” form.

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://ofmpub.epa.gov/scowebservices/scsearch/>. 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.

Control Approach: description of the control approach applied to a process. For each Control Approach there must also be at least one Control Measure and one controlled Pollutant. If there are no downstream control measures for the process, leave blank.

Control Approach Percent Capture: an estimate of the portion of an emissions stream that is collected and routed to the control measures when the system is operating as designed, reported as a percent.

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.

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. See code list spreadsheet.

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 Efficiency: mass of the emissions collected by the entire control system divided by the mass of emissions emitted by the process, expressed as a percentage. Enter the control efficiency for all pollutants for which emissions were calculated using the control approach.

Note regarding control device data: The entire Control Approach section and the Control Efficiency data element found under the pollutant emissions section should be left blank when there are no emission controls for the process. However, these sections must be completed if the control efficiency is applied to reduce emissions in your calculations. If controlled emission factors are used (i.e., the factor accounts for controls) please specify the control efficiency that is “built-in” to the factor. This is a change from previous years.

Facility Emissions Summary Form

Sum the emissions data from the individual “Process, Emission, and Control System” forms on this form. If the facility-wide total for a pollutant is below the reporting threshold listed in the pollutant list, the pollutant is not required to be reported on this form. Emissions of pollutants with no reporting threshold must be reported no matter how miniscule they are.

Shut Down Equipment Form

List Emission Release Points, Emission Units and Processes (equipment, oil combustion, etc.) that have been shut down since the facility's last emission inventory, along with the corresponding ID and the approximate date the equipment was shut down. Do not list as shut down stacks or units that operated during the year being inventoried. This should be done in the next inventory cycle.

Certification Form

The owner, operator or responsible official for your facility must certify the accuracy and completeness of the information reported by signing and dating the certification statement. This certification statement applies to all the information supplied on the inventory forms and should be signed only after the forms have been completed and reviewed. Forms submitted by Title V facilities must be certified by the “responsible official” as defined in 40 CFR 70.2.

What to do with the completed Forms

After you have completed the forms, retain copies for yourself and mail the forms, calculations, and supporting documentation to:

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

If you have questions about estimating your facility’s emissions, contact your EAP case manager at (336) 703-2440. If you have questions about completing the inventory forms or using the Access database contact Steve Lyda at (336) 703-2444 or via email at lydask@forsyth.cc.