

Air Emissions Reporting Online (AERO) User Manual

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Home Page

To begin reporting facility emissions online or to retrieve a copy of the forms online, the facility contact must have received a letter from the Division of Air Quality (DAQ), which includes the facility user id and PIN. To access the AERO system, the user must go to the following web address; <https://xapps.ncdenr.org/daq/aero/>, and enter the facility user id and PIN and click the Logon button. To change the assigned PIN, click the Reset Pin button. The following screen will be displayed.

NCDAQ Emissions Data - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://xapps.enr.state.nc.us/daq/aero/index.jsp?PIN_RESET=1

North Carolina Department of Environment and Natural Resources

Division of Air Quality

Logon to AERO

User ID

Personal Identification Number(PIN)

Enter New PIN

Confirm New PIN

[Enter User ID and PIN](#)

[System Requirements](#)

[Guidance for PIN #s](#)

AERO is a means for facilities to obtain their facility-specific emission inventory forms in pdf format. A copy of the free Acrobat Reader software must be installed on the computer used to print the pdf files.

AERO is also the portal through which those Title V facilities participating on the AERO on-line beta test (for CY 2002 inventories) may access their (CY 2001) data and revise them, or by which Small and Synthetic Minor permitted facilities may access for initial data entry.

Entry to the On-Line update option for familiarization or testing will not commit the user to use of that option for final filing. Facilities should have received a letter of notification containing the unique Personal Identification Number (PIN). Only representatives of the facility with this authorized identification are allowed access to these forms.

[Feedback](#)  [Top of Page](#)

To change the PIN, fill in the requested information and click the Logon button. If the data entered in the New PIN field and Confirm New PIN fields are an exact match, the new PIN is activated and the user will be taken to the Welcome Screen. If the user chooses not to change the PIN at this time, click the Cancel button, login to the AERO system using the assigned PIN. If entered correctly, the user will see AERO Welcome screen shown below.



Note: Once the user is logged into the AERO system, the Browser Back button is disabled and will not work. To move back one screen, the user must use the Back link located on the bottom left side of each screen.

The six links just below the DAQ header (Home, Emissions Flow, Facility Totals, ES-CD List, User Manual, and Logoff) are part of the header so these links will be visible on each screen. Links that appear in blue are currently active and links that appear in black are not active.

The **Home** link will take the user back to the page above.

Emissions Flow link gives the user a visual flow of each emission source through any control devices and the emission release points.

Facility Totals link provides a report with the total of emissions for the facility at the time it is activated and constitutes the “facility total” for each pollutant. This is a convenient summary and review tool and may be used prior to completion of all data entry. However, once the emission inventory has been submitted, data for the facility including the facility emission totals cannot be changed.

ES-CD List is a link to a table that contains all emission sources and their associated control device at the facility for the current emission inventory-reporting year.

User Manual – The **User’s Manual** is the “instruction book” on how to use this data system. It is composed primarily of individual Page Instruction screens that are viewed when clicking on a specific page for specific help. It may be useful to many to print this out and keep it as a desk reference while using the system or updating data. However, as with any new system, the manual is subject to updates and revisions/expansions as additional helpful materials, examples and instructions are developed. Many of the additions or revisions will come when users such as you provide us with feedback where you may find a feature confusing, vague, ambiguous or otherwise difficult to use.

The **Logoff** link logs the user out of the AERO system and goes back to the login page.

The next line on the screen is the Title line. On the above page, the title line shows Home Page. This title line may be used for tracking or when making comments to denote which page the comment references.

The Left-hand column on this page contains a list of links for definitions or explanations of the terms listed and other web pages that may be useful.

AERO

Security Features

This link is an explanation of the security of this site. All data submitted on-line through this system is public information once reviewed and approved by DAQ personnel. When you finish the work and **SUBMIT** it, the data will be housed on the Division of Air Quality's server and continue to be public information. It will not become official data until it is reviewed and approved by DAQ staff.

FAQ--Frequently Asked Questions

This link opens a page, which contains questions submitted by DAQ Regional Office staff that are often asked by facility contacts and consultants who have used the AERO system. The contents of this section will be updated as new questions are submitted.

Technical Support

Technical Support is available through your regional office contact. If you have questions regarding the operation of your computer, any assistance from DAQ will be very limited. You will need to contact your computer support or training courses.

Helpful Resources

Recent Changes

Document that lists the recent changes to the AERO system;

https://ncdenr.s3.amazonaws.com/s3fs-public/Air%20Quality/inventory/AERO_Recent_Changes.pdf .

Why Report

- General. This inventory is required under the authority of Title 15A, North Carolina Administrative Code, Subchapter 2Q, Regulation .0207 and Subchapter 2D, Regulation .0202, pursuant to N.C. General Statutes § 143-215.63-65, 114, & 107. Sources failing to comply with this requirement are subject to enforcement action, including a civil penalty of up to \$10,000 per day and/or injunctive relief, pursuant to N.C. General Statutes § 143-215.114 and § 143-215.63
- Statutory Authority: **NC § 143-215.63**

- **Short title.** This Part shall be known and may be cited as the Water and Air Quality Reporting Act of 1971. (1971, c. 1167, s. 9.)
- **§ 143-215.64. Purpose.**
The purpose of this Article is to require all persons who are subject to the provisions of G.S. 143-215.1, 143-215.108, or 143-215.109 to file reports with the Commission covering the discharge of waste and air contaminants to the waters and outdoor atmosphere of the State and to establish and maintain approved systems for monitoring the quantity and quality of such discharges and their effects upon the water and air resources of the State. (1971, c. 1167, s. 9; 1973, c. 1262, s. 23; 1987, c. 827, s. 154; 1989, c. 135, s. 3.)
- **§ 143-215.65. Reports required.**
- All persons subject to the provisions of G.S. 143-215.1, 143-215.108, or 143-215.109 who discharge wastes to the waters or emit air contaminants to the outdoor atmosphere of this State shall file at such frequencies as the Commission may specify and at least quarterly reports with the Commission setting forth the volume and characteristics of wastes discharged or air contaminants emitted daily or such other period of time as may be specified by the Commission in its rules. Such reports may be required less frequently than quarterly for any permit for a minor activity as defined in G.S. 143-215.1(b)(4)(d). and e. Such reports shall be filed on forms provided by the Department and approved by the Commission and shall include such pertinent data with reference to the total and average volume of wastes or air contaminants discharged, the strength and amount of each waste substance or air contaminant discharged, the type and degree of treatment such wastes or air contaminants received prior to discharge and such other information as may be specified by the Commission in its rules. The information shall be used by the Commission only for the purpose of air and water pollution control. The Department shall provide proper and adequate facilities and procedures and the Commission shall adopt rules to safeguard the confidentiality of proprietary manufacturing processes except that confidentiality shall not extend to wastes discharged or air contaminants emitted. (1971, c. 1167, s. 9; 1973, c. 1262, s. 23; 1975, c. 655, s. 4; 1987, c. 827, ss. 154, 186; 1989, c. 135, s. 4, c. 453, s. 3.)
- **143-215.107. Air quality standards and classifications.** (a) Duty to Adopt Plans, Standards, etc. - The Commission is hereby directed and empowered, as rapidly as possible within the limits of funds and facilities available to it, and subject to the procedural requirements of this Article and Article 21: (1) ---etc.- (4) To collect information or to require reporting from classes of sources which, in the judgment of the Environmental Management Commission, may cause or contribute to air pollution. Any person operating or responsible for the operation of air contaminant sources of any class for which the Commission requires reporting shall make reports containing such information as may be required by the Commission concerning location, size, and height of contaminant outlets, processes employed, fuels used, and the nature and time periods or duration of emissions, and such other information as is relevant to air pollution and available or reasonably capable of being assembled.
- **Regulatory Authority:**
- General - **Regulatory Authority:**
 - General – <https://ncdenr.s3.amazonaws.com/s3fs-public/Air%20Quality/rules/rules/secD0200.pdf> and <https://ncdenr.s3.amazonaws.com/s3fs-public/Air%20Quality/rules/rules/secD0600.pdf>
 - TV-specific - <https://ncdenr.s3.amazonaws.com/s3fs-public/Air%20Quality/rules/rules/Q0207.pdf>

When to Report

- **For Title V facilities**, the point source emission inventory submittal must be completed, signed, and postmarked (with original and copy) by June 30, of the year following the calendar year of the inventory specified (or first business day after, when on a non-business day). For on-line submittals the certification form with authorized signature (with original and copy), supporting calculations (in written or electronic format) and electronic submittal of emissions inventory must be completed/postmarked by June 30, of the year following the calendar year of the inventory specified (or first business day after, when on a non-business day). Incomplete and erroneous submittals will be returned, usually with no extension of the original due date. Any facility with an inventory not fully and correctly completed and postmarked by June 30 shall be considered in violation of their Air Permit and Title 15A, North Carolina Administrative Code, Subchapter 2D, Regulation .0202. Such situations are subject to legal enforcement actions. The Division of Air Quality (DAQ) highly recommends that you use “return receipt requested” (e.g. Certified) or similar means for your mailings so that you have a legal record.
- **For all other facilities**, the Annual Point Source Air Emissions Report is due with the application for permit renewal, 90 days prior to the expiration of the permit. This inventory shall be for the calendar year identified on the “Welcome page” of this web site. The point source emission inventory submittal must be completed, signed, and postmarked (with original and copy) by the date of required submittal of the permit renewal application. For on-line submittals the certification form with authorized signature (with original and copy), supporting calculations (in written or electronic format) and electronic submittal of emissions inventory must be completed/postmarked by that same due date. Incomplete and erroneous submittals will be returned, usually with no extension of the original due date. Any facility with an inventory not fully and correctly completed and postmarked by that date shall be considered in violation of their Air Permit and Title 15A, North Carolina Administrative Code, Subchapter 2D, Regulation .0202. Such situations are subject to legal enforcement actions. The Division of Air Quality (DAQ) highly recommends that you use “return receipt requested” (e.g. Certified) or similar means for mailings so that there is a legal record.

What to Report

This inventory requires best estimate of actual emissions of all required pollutants from all sources be reported. All emission estimates reported should reflect realistic estimates for actual production rates and control device efficiencies cumulative over the entire year, rather than those made using optimistic designs and assumptions.

Sources defined “insignificant” in the permit, or not in the permit at all (non-permitted), must be included when reporting actual emissions for the facility. There is no de minimus limit for emissions from such sources. However, if the facility emits any Hazardous or Toxic Air Pollutants below the de minimus limit specified in the [list of HAP/TAP pollutants](https://files.nc.gov/ncdeq/Air%20Quality/inventory/forms/2012/201203pollutantlistcombined.pdf) (<https://files.nc.gov/ncdeq/Air%20Quality/inventory/forms/2012/201203pollutantlistcombined.pdf>), **these emissions need not reported. If less than one half ton or 1,000 pounds of a criteria pollutant is emitted by the combination of emission sources identified as insignificant and/or non-permitted, these emissions need not be updated after the first entry into the database. In such cases, the Certification statement of the Responsible Official is inclusive of certifying that these emissions have not significantly changed in a way that would void the criteria for**

establishment of insignificant sources. See the emission inventory instructions for further guidance about completing individual forms.

Temporary “excess emissions” during start-up and malfunctions are excluded from **Title V** fee calculations. However, estimates must be reported for these periods, based upon what would have occurred under “normal” operating conditions. Reports of excess emissions during start-up and malfunctions are to be separately reported as part of the compliance reporting requirements identified in the facility’s permit. **This exclusion does not apply to Synthetic Minors or Smalls.** Refer to permit application instructions regarding “potential emissions” as may be used for permit classification purposes.

Supporting calculations are important and should be submitted to document estimates. Use good judgment to show calculations as simply and completely as possible, to enable accurate emission estimation so entries will be understood by a reviewer or an on-site inspector who may not be familiar with the site. See the new standards <http://deg.nc.gov/about/divisions/air-quality/air-quality-data/emissions-inventories/north-carolina-point-source-emissions-inventories>) included for uniform presentation and submittal of documentation of emission estimates. Retain copies of all calculations for possible discussions during inspections of your facility, or at other times.

Sources Not Required To Be Reported

Some emission sources are not required to be reported either as specifically identified or by “common sense” tests. NC Rules (15A NCAC 02Q .0102) define some such sources for purposes of permitting. The requirements for emission inventory registration/reporting though not strictly identical to these permit requirements are generally parallel.

1. The table below lists several of specific sources that are not generally required to be reported (any air emissions may be subject to reporting at the Director’s discretion):

<u>All Permit Categories</u>
Maintenance, upkeep and replacement: i) Housekeeping activities or building maintenance procedures, Janitorial services and consumer use of janitorial products, ii) use of office supplies; maintenance of copying equipment; iii) use of firefighting equipment or; iv) paving of parking;
Air conditioning or ventilation , including heating or ventilating units used for human comfort that do not provide heat or exhaust air pollutants into the ambient air from any manufacturing or other industrial process; residential wood heaters, <u>space heaters</u> burning distillate oil, kerosene, natural gas or liquefied petroleum gas <u>used solely for comfort heat</u> ; and heaters, fireplaces and hot water heaters used for domestic purposes only, and not used to heat process water.
Noncommercial food preparation
Storage tanks: i) Used solely to store fuel oils, kerosene, diesel, crude oil, used motor oil, natural gas, or liquefied petroleum gas (LPG), if such <u>facility-wide</u> emissions are ≤ 1000 pounds/year; ii) used solely to store inorganic liquids; or iii) vessels used for the temporary containment of materials resulting from an emergency response to an unanticipated release of hazardous materials.
Consumer use of office equipment and products
Internal combustion engines used for landscaping purposes
Gasoline service stations or similar <u>retail</u> dispensing facilities

Demolition and renovation activities	
<u>Non-Title V Facilities Only:</u>	<u>Title V Facilities Only:</u>
Industrial or municipal wastewater treatment (Except sludge incinerators and lime silos at such facilities must be reported by Non TV);	See item 2, below, for discussion of Title V fugitives.
Fugitive dust emissions generated from <u>haul roads, storage piles and the like</u> do not need be included in this routine inventory but may be asked for later;	
Research and development laboratory equipment (Production labs are required to report).	

2. Fugitive Emissions

Fugitive emissions are excluded from reporting for emission-based fees for Title V facilities only, as indicated below:

Fugitive processes outside a building	& Not listed in Table 1	Must Report
Source is listed in Table 1	& Facility is listed in Table 2	Must Report
Source is listed in Table 1	& Facility is not listed in Table 2	Do not Report

Table 1: Fugitive Emissions Source List (TV)

(Located outside of buildings, > 1 ton/year cumulative –Excluded from reporting for Title V facilities if not listed in Table 2)

Open coal and mineral or other similar product storage piles
Open waste storage piles and handling (i.e. mineral fines, agricultural trash)
Manual material handling (such as front end loaders) and coal handling operations
Particulate emissions from open-top product and aggregate storage bins/silos
Conveyors, conveyor drop points and material screens
All sources at concrete batching plants other than unloading to silos
Haul roads
Pumps, flanges and valves associated with volatile organic liquid processing or handling

Table 2: Major Stationary Source Categories (TV)

(Fugitive emissions must be included for Title V applicability and inventory (fees) purposes for these categories)	
Coal cleaning plants (with thermal dryers)	Sulfur recovery plants
Kraft pulp mills	Carbon black plants (furnace process)
Portland cement plants	Primary lead smelters
Primary zinc smelters	Fuel conversion plants
Iron and steel mills	Sintering plants
Primary aluminum ore reduction plants	Secondary metal production plants
Primary copper smelters	Chemical process plants
Municipal incinerators capable of charging	Fossil-fuel boilers (or combinations thereof) >

more than 250 tons of refuse per day	250 million British thermal units per hour heat input
Hydrofluoric, sulfuric, or nitric acid plants	Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
Petroleum refineries	Taconite ore processing plants
Lime plants	Glass fiber processing plants
Phosphate rock processing plants	Charcoal production plants
Coke oven batteries	Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input
and, all other stationary source categories regulated by a standard promulgated under section 111 or 112 of the Act, but only with respect to those air pollutants that have been regulated for that category. This includes Maximum Achievable Control Technology (MACT), New Source Performance Standards (NSPS) and New Source Performance Standards for Hazardous Pollutants (NESHAPS).	

Who Must Report

All facilities notified should complete and return the forms or file electronically. This applies, even if the facility did not have any air emissions in the specified calendar year of the inventory, has submitted modifications to an existing permit, has not begun operation or was closed part of the year. Normally facilities with Title V permits will be notified each year (for annual fee determinations). Most others (e.g. Synthetic Minors and Smalls) are required to update the inventory on a less frequent schedule, that is the same as their permit renewal application due date. The Division may, however, require inventories from any facilities at any time, regardless of current classification or other limitations. Such facilities will be notified through receipt of a letter and instructions from the North Carolina Division of Air Quality.

How to Report

A facility may choose to report their emissions on-line via AERO or by completing the required emission inventory forms available on this web site. The information on the web site was entered into this electronic format by the Division of Air Quality from previously submitted emission inventory forms. The basic information on emission sources and control devices as defined in the facility's permit cannot be changed on line, but comments can be made regarding the format and flow in the facility by using comment boxes. Such structural changes in the data may precipitate action off-line by the DAQ or may require an application for modification of the permit by the facility. Emissions, production, schedule and other data that varies from year to year can be updated on line, including some calculation support by the system. DAQ prefers that the facilities submit their data via on line but will continue to accept paper forms for the time being.

Confidential Information

North Carolina General Statute §143-215.3C(b) provides that emission data: as defined in 40 CFR 2.301 are not entitled to confidential treatment. North Carolina Statutes generally exclude most or all information requested on the Air Pollutant Point Source Emissions Inventory from being considered confidential. This definition of emissions data (that **may not** be held as confidential) includes days/week, weeks/year, hours/year, emission estimation method and other items related to the calculations and subsequent modeling analyses, "in so far as these data are necessary to calculate emission data." However, certain information, which if made public, would divulge methods or processes entitled to protection as trade secrets, may be

considered confidential following **N.C. Gen. Statute 1§32-1.2**. Persons wishing to claim information as confidential shall state, in writing, exactly how public disclosure of the information would divulge methods or processes entitled to protection as trade secrets and cause them harm. All such claims must be specific and unambiguous. Indicate clearly any information you claim to be confidential business information not subject to public disclosure. To expedite review, please submit two versions of the inventory (one including the information claimed as confidential, and two “sanitized” copies for the public files.). Each page on which there is material claimed to be confidential should be clearly stamped “confidential” (in red) with the specific information highlighted. The Director of DAQ, or a designee, will issue a determination of which, if any, information is entitled to confidential treatment under the rules. Persons dissatisfied with such determinations may request a declaratory ruling from the N.C. Environmental Management Commission, pursuant to N.C. Gen. Statute §143-215.3C(d), within ten (10) days of notice of the DAQ decision. The public may also challenge a ruling that the information is confidential. Until such time that rulings are made and all avenues of objection are exhausted, the DAQ will hold contested data as if they were confidential. Statutes relevant to confidential information and emission inventories are listed below:

NC Statute 143-215.3C.

“Confidential information protected. (a) Information obtained under this Article or Article 21A or 21B of this Chapter shall be available to the public except that, upon a showing satisfactory to the Commission by any person that information to which the Commission has access, if made public, would divulge methods or processes entitled to protection as trade secrets pursuant to G.S. 132-1.2, the Commission shall consider the information confidential. (b) Effluent data, as defined in 40 Code of Federal Regulations § 2.302 (1 July 1993 Edition) and emission data, as defined in 40 Code of Federal Regulations § 2.301 (1 July 1993 Edition) is not entitled to confidential treatment under this section.” (c) Confidential information may be disclosed to any officer, employee, or authorized representative of any federal or state agency if disclosure is necessary to carry out a proper function of the Department or other agency or when relevant in any proceeding under this Article or Article 21A or Article 21B of this Chapter. (d) The Commission shall provide for adequate notice to any person who submits information of any decision that the information is not entitled to confidential treatment and of any decision to release information that the person who submits the information contends is entitled to confidential treatment. Any person who requests information and any person who submits information who is dissatisfied with a decision of the Commission to withhold or release information may request a declaratory ruling from the Commission under G.S. 150B-4 within 10 days after the Commission notifies the person of its decision. The information may not be released by the Commission until the Commission issues a declaratory ruling or, if judicial review of the final agency decision is sought by any party, the information may not be released by the Commission until a final judicial determination has been made. (1993 (Reg. Sess., 1994), c. 694, s. 2.)

40 Code of Federal Regulations § 2.301 (1 July 1993 Edition) is available in electronic format at this location, http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl , some of the items identified therein and thus by the NC Statute above deemed “effluent data” not entitled to confidential protection are: “Information necessary to determine the identity, amount, frequency, concentration, or other characteristics (to the extent related to air quality) of the emissions which, under an applicable standard or limitation, the source was authorized to emit (including, to the extent necessary for such purposes,

CFR Volume 56, No. 35 (February 21, 1991) provides further insights as to what is not normally viewed as confidential. These items include identifying and location information such as names, addresses, contacts, etc., SIC and other “classification”

information, Emission Release Point (stack) parameters, Hourly maximum design rates, emission types, emission rates, emission estimation methods, and other emission parameters needed to establish the characteristics of the emissions as needed for the analysis of dispersion and potential control equipment.

Inventory Guidelines & Instructions

(https://ncdenr.s3.amazonaws.com/s3fs-public/Air%20Quality/inventory/forms/eminv_instruct.pdf)

This is the list of general instructions that apply to completion of an emission inventory. These instructions will be updated as changes in the emission inventory process evolve. To ensure that your emission inventory is completed correctly, please make sure that the set of instructions that you are using for a reference is the most current update.

Hazardous and Toxic Air Pollutants

This is a table of pollutants made up of federal Hazardous Air Pollutants (including groups of pollutants) and North Carolina Toxic Air Pollutants that must to be included in the emission inventory if emitted. Also, each pollutant will be identified as a HAP, TAP, volatile organic compound (VOC) or particulate material (PM) so that the pollutant is counted in the pollutant group totals. You may find it useful to print this document in a PDF format. However, please note that minor corrections, additions and deletions may be made occasionally so please review the date on the list to ensure that you have the latest version. The list is in Acrobat Reader format (PDF) or EXCEL format. If you do not have the Acrobat software, it is available to download for free from Acrobat ("Click the 'Get Acrobat' button). Acrobat Reader 5.0 and higher can be used to search for a specific CAS # if desired.

(<https://ncdenr.s3.amazonaws.com/s3fs-public/Air%20Quality/inventory/forms/2012/201203pollutantlistcombined.pdf>)

Archived

Copy of Record of previously reported emission inventories that are available will be listed and can be downloaded and/or printed from the link provided. Click on link, COR Documents to get a list of documents that are available.

Links

DAQ Home

This is a link to the North Carolina Division of Air Quality Home Page.
<http://deq.nc.gov/about/divisions/air-quality> or www.ncair.org .

DEQ Home

This is a link to the North Carolina **Department of Environmental Quality** Web Page.
<http://deq.nc.gov/>

NCGOV Home

Link to North Carolina's state home page. <http://www.nc.gov/>

EPA AP-42 TOC

This is a link to the "**Compilation of Air Pollutant Emission Factors**" (AP-42) Table of Contents, which then links to each chapter/source category. <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors>

NAICS SIC

This is a link to the NAICS/SIC searchable code tables and cross-references.

<http://www.census.gov/eos/www/naics/>
<https://www.osha.gov/pls/imis/sicsearch.html>

General Information Form

This form is to be used, whenever needed, for making any changes in contact names, addresses, etc. which have occurred at your facility. You may access this form and submit it at any time when such changes need to be made. <http://deq.nc.gov/about/divisions/air-quality/air-quality-data/emissions-inventories/north-carolina-point-source-emissions-inventories>

PDF Format - Get Acrobat – To download and print forms, users will need to have the (free) Acrobat Reader software loaded on their machine. To download the latest version, click this icon and go to the Adobe (<http://www.adobe.com>) web page and follow the instructions there to download and install this software.

At this time, the user must choose whether to print emission inventory forms which have basic facility data already entered or to enter emission data online during this session. If the user wishes to print the forms, the link that reads, '[View & Print "Prefilled" CY20XX Point Source Emission Inventory Forms with your Facility's data in PDF format](#)' must be clicked. The user will be taken to an additional screen to get PDF version of the forms to print or download. The user can enter emission inventory data online, which is the subject of this users manual from this point forward. After clicking on the [Update & Submit CY 20XX Emission Inventory](#) link, the user will be taken to the Introduction Page, which lists each tab and its function.

Introduction Page

The Introduction Page lists guidance and explanation of terms and navigation while the user is in AERO system. This page contains only general information on each subject.

Emission Source – any stationary article, machine, process equipment or other contrivance, or combination thereof, from which air pollutants emanate, or are emitted, either directly or indirectly. This term generally replaces the term "process" that was previously used by the emission inventory activities. This may include fugitive emissions. For further discussion of fugitives see [Inventory Guidelines and Definitions](#).

Emission Group – Grouping of identical or like sources or operating scenarios is allowed under certain conditions, especially when it simplifies emission reporting and is consistent with the permit for the facility. An example would be grouping ten identical paint spray booths together where the emissions are estimated as a group and no distinct regulations apply to any one that is different from the others. Grouping should be limited to:

- a. Sources/operating scenarios where there are similar hours of operation,
- b. Same or similar stacks,
- c. Same or similar-pollutants,
- d. Similar regulations and
- e. No single operating scenario emits greater than 10 tons of VOC or NOx.

Control Device – equipment (fume incinerator, adsorber, absorber, scrubber, filter media, cyclone, electrostatic precipitator, or the like) used to destroy or remove air pollutant(s) before it is discharged into the ambient air. A control device is normally used to destroy or remove a specific pollutant, but in some cases may also remove or destroy multiple pollutants (likely at different removal efficiencies). In some cases, devices used remove pollutants are an integral part of the process. An integral part is one without which the unit cannot be manufactured, purchased, or operated and are usually necessary for proper production of product. Such situations occur with several emission sources, such as asphalt batch plants, where the cyclone to collect fines is integral to the process (returns needed fines to the product) and may not be appropriate to be separately identified as a control device for emission inventory estimations. Similarly, a secondary combustion chamber that is an integral part of a combustion device used for energy production, or for cleaning or waste disposal purposes, is not considered a control device under 15A NCAC 2D .0101(9) or for emission inventory purposes. Add-on thermal or catalytic controls, such as fume incinerators or flares, are considered control devices. (For pyrolysis ovens, the oven and afterburner must essentially be inseparable to consider the afterburner as part of the unit and to exclude it as a control device. For other examples, such as furniture spray booths, the filter is considered integral in that it is built in, even though it may need replacement or maintenance from time to time to keep it functioning as a control device.

Control System – A "group" of control devices that work together on a specific exhaust gas stream or combination thereof. Though it may be best to visualize a control system as consisting of a single device or two or more control devices in series, there are many practical applications where multiple control devices are functioning in parallel and compose a (complex) control system.

Emission Release Point (e.g. Fugitives, Stacks) – Generally refers to any physical structure, vent or chimney designed to exhaust gases from a facility into the ambient air. Emissions that

escape capture by such devices are normally termed process fugitive emissions. A representative emissions release point may be used in some situations where multiple emission release points are nearly identical.

Operating Scenario - the actual use or application of the equipment that defines an emission source. They define the way(s) that permitted and non-permitted equipment operate on an actual and day-to-day basis. For example, a tangential boiler may be the permitted equipment or emission source. However, if it burns coal, oil, natural gas or other fuels under different situations, each of these situations is defined as an operating scenario. There is at least one operating scenario for each emission source. Conversely, each operating scenario can only be a component of one emission source.

Closeout – Final review of all data entered into AERO. Quality Assurance checks must be performed and errors corrected prior to submitting the data for review.

Submit – Submission of Data to DAQ after all Quality Assurance checks have been satisfied. An email will be sent informing the facility of the successful completion of this process. For a complete submittal of the facility emission inventory, two copies of the certification form signed by the responsible official in blue ink and all supporting calculations and documentation must be received or postmarked (for Title V facilities only) by the due date.

After clicking on the Continue link, Emission Sources Page will be visible. If the facility has reported emissions since calendar year 2001 and entered emission source, emission source group, control device, control system, emission release point and operating scenario information, the user can skip to the OS Summary tab and enter the current emission inventory reporting year's operating and emissions data. Otherwise, clicking on the Continue link at the bottom of each page will take the user through each page of the system in an established order.

The Emission Sources screen displays all permitted and non-permitted emission sources currently entered into the AERO system.

Emission Source Tab

Emission Source means any stationary article, machine, process equipment or other contrivance, or combination thereof, from which air pollutants emanate, or are emitted, either directly or indirectly. This term generally replaces the term “process” that was previously used by the emission inventory activities. This may include fugitive emissions.

The Emission Source screen has three main functions:

1. View the preloaded emission source data.
2. Access Add new non-permitted emission source page.
3. Mark emission source as not operating.

Mark emission source as not required to report.

Instructions

- **Step 1.** Access the Emission Source page by pressing the Continue button on the Introduction page or clicking the Emission Source Tab.
- **Step 2.** Select an emission source ID from the list of preloaded emission sources. To search for a specific emission source, click the Find Emission Source button. After clicking the button, a finder box will open. In the left-hand box, enter the search data. Use the drop down menu to choose whether to search by ES id or ES description, then click the Search button. All matching data will appear in a finder box. If the correct source is in the box, highlight it and click OK.
- **Step 3.** View the associated information for each displayed emission source: Emission Source ID, Emission Source Description, Emission Source Type and Start Date.
- **Step 4.** If Start Date is wrong, enter the correct date. If other information is incorrect make comments by selecting the **Comments** button. Newly created emission sources can be edited and deleted.
- **Step 5.** To add an emission source that is not listed, press **Create a New Non-Permitted Emission Source** button to go to the non-permitted emission source new page.
- **Step 6.** Mark the emission source as not operating by selecting an emission source from the list and then pressing the **Source Did Not Operate** button, if the source did not operate during the year of inventory. To mark an emission source as Operating click the **Source Operated** button.
- **Step 7.** Mark an emission source as not required to report by selecting an emission source from the list and then pressing the **Not Required to Report** button. To mark a source as required to report click the **Required to Report** button.
- **Step 8.** Click the **Save** button to save any changes.
- **Step 9.** Click the Continue button to go to the next section or any tab at the top of the page.

Definitions or Explanation of terms

Emission Source ID# - Number that a facility assigns to a specific source/process that uniquely identifies it (consult your air permit for previously assigned identifications). If the emission source is not in the permit, use “U” as a prefix for Non-permitted and use “I” as a prefix for inventoried “Insignificant sources.” The numbers from your permit should be pre-filled on a supplemental sheet provided with the inventory mailing.

Emission Source Description — Describe the source (formerly called “process”) in words – consistent with terms used in the applicable permit (also on supplemental sheet provided).

Examples: “Coal storage pile, Emergency Generator, #2 fuel oil, 10 gallons per hour, etc.” This example would have at least two operating scenarios, one for oil and one for natural gas).

Emission Source Type –Industrial Source Category Description that is selected from the following table:

Emission Source Type	Examples
External Combustion	Boilers, utility, industrial or commercial, process heaters
Solid Waste Disposal	Municipal and medical waste incinerators, landfills
Stationary Internal Combustion	Stationary diesel engines/generators, turbines for power generation, gas line compressor engines
Evaporative Loss Processes	Surface coating, tender frames, wastewater treatment/storage, solvent degreasing, graphic arts, printing, textile printing, spray booths
Petroleum Processing and Marketing	Transport and Marketing of petroleum, gasoline bulk terminals, natural gas processing
Organic Chemical Manufacturing and Processing	Manufacturing of paint and varnish, plastics, synthetic fibers, pharmaceuticals or various chemicals
Liquid Storage Tanks	Organic liquid storage tanks
Inorganic Chemical Manufacturing and Processing	Urea, ammonium nitrate, hydrochloric acid, sulfuric acid, triple super phosphate
Food and Agricultural	Tilling, cotton harvesting, animal and meat products, cotton ginning, fats and oils, beverages, tobacco processing
Wood Products Manufacturing and Processing	Lumber, paper making, plywood, fiberboard, wood preserving, wood working
Mineral Products Manufacturing and Processing	Hot mix asphalt, brick manufacturing, glass fiber manufacturing, crushed stone, concrete
Metallurgical Products Manufacturing and Processing	Primary aluminum, secondary aluminum, secondary copper, gray iron foundries, storage battery production
Other Miscellaneous Emission Units and Operations	Wild fires and prescribed burning, fugitive dust, textiles, industrial flares, laboratories

Start Date –The date the emission source was originally constructed and put into service.

[New Non-Permitted Emission Source Page](#)

Non-Permitted Emission Source means any emission source which is not included in the air quality permit but which has emissions. This may include such things as paved or unpaved roads on the facility’s property, small generators, etc. Sources defined “insignificant” in the permit, or not in the permit at all (non-permitted), must be included when estimating actual emissions for the facility the emits any Hap/Tap or at least one ton of a criteria pollutant when

insignificant and non-permitted sources are combined. There is no legal lower cut-off for emissions.

Instructions

- **Step 1.** Access is by pressing the **Create a New Non-Permitted Emission Source** button on the Emission Source page.
- **Step 2.** Enter an Emission Source ID with up to 13 characters. ID will automatically have the U- prefix when it appears.
- **Step 3.** Enter an Emission Source Description.
- **Step 4.** Select an Emission Source Type; select the most appropriate type from the drop-down menu.
- **Step 5.** Click on the **Save and Continue** button. The system will automatically save and return to the Emission Source page.

Definitions and Explanation of Terms:

Non-Permitted Emission Source ID - Number that a facility assigns to a specific source/process that uniquely identifies it. U- prefix will automatically be generated by the system and added to the facility assigned number.

U – ID prefix identifying “Non-Permitted Emission Source”.

Non-Permitted Emission Source Description – Describe the source (formerly called “process”) in words – consistent with terms used in the applicable permit (also on supplemental sheet provided). **Examples:** “Coal storage pile, Emergency Generator, #2 fuel oil, 10 gallons per hour, etc.” This example would have at least two operating scenarios, one for oil and one for natural gas.

Emission Source Type – Industrial Source Category Description that is selected from the following table. Please find the most appropriate type.

Emission Source Type	Examples
External Combustion	Boilers, utility, industrial or commercial, process heaters
Solid Waste Disposal	Municipal and medical waste incinerators, landfills
Stationary Internal Combustion	Stationary diesel engines/generators, turbines for power generation, gas line compressor engines
Evaporative Loss Processes	Surface coating, tenter frames, wastewater treatment/storage, solvent degreasing, graphic arts, printing, textile printing, spray booths
Petroleum Processing and Marketing	Transport and Marketing of petroleum, gasoline bulk terminals, natural gas processing
Organic Chemical Manufacturing and Processing	Manufacturing of paint and varnish, plastics, synthetic fibers, pharmaceuticals or various chemicals
Liquid Storage Tanks	Organic liquid storage tanks
Inorganic Chemical Manufacturing and Processing	Urea, ammonium nitrate, hydrochloric acid, sulfuric acid, triple super phosphate
Food and Agricultural	Tilling, cotton harvesting, animal and meat products, cotton ginning, fats and oils, beverages, tobacco processing
Wood Products Manufacturing and Processing	Lumber, paper making, plywood, fiberboard, wood preserving, wood working
Mineral Products Manufacturing and Processing	Hot mix asphalt, brick manufacturing, glass fiber manufacturing, crushed stone, concrete
Metallurgical Products Manufacturing and Processing	Primary aluminum, secondary aluminum, secondary copper, gray iron foundaries, storage battery production
Other Miscellaneous Emission Units and Operations	Wild fires and prescribed burning, fugitive dust, textiles, industrial flares, laboratories

Start Date –The date the emission source was originally constructed and put into service. Date must be prior to 12/31 of current inventory year.

Emission Source Group Tab

Guidance for Grouping

Grouping of identical or like sources or operating scenarios is allowed under certain conditions, especially when it simplifies emission reporting and is consistent with the permit for the facility. An example would be grouping ten identical paint spray booths together where the emissions are estimated as a group and no distinct regulations apply to any one that is different from the others. Grouping should be limited to:

- A. Sources/operating scenarios where there are similar hours of operation,
- B. Same or very similar stacks,
- C. Same or similar-pollutants,
- D. Similar regulatory applicability, and
- E. No single operating scenario emits greater than 10 tons of VOC or NOx.

NOTE: In order to add a group, the emission source type must be the **same for all** sources in the group.

Instructions

- **Step 1:** Either use the Continue link on the Emission Source page or select **Emission Groups** tab to access this page.
- **Step 2:** Highlight, in the search box, the emission source group and the pre-filled information will automatically be displayed at the bottom of the page.
- **Step 3:** Only multiple-source groups will appear on this page. Verify that all applicable emission sources are in the **Emission Sources of this Group** box.
- **Step 4:** If a group does not contain the correct sources, sources may be added or removed from the group by clicking the 'Add/Remove Sources' button on the left side of the screen. A warning box will be displayed that asks, 'Are you sure you want to add sources to or remove sources from the group?' Click OK to continue with adding and/or removing sources or click Cancel to discontinue this action. To add sources to the group, highlight the sources in the finder box on the right side of the screen which is titled, 'Other Emission Sources to add to the Group', then click the Add button. The highlighted sources should now appear in the finder box on the left side of the screen labeled 'Emission Sources of the Group'. To remove sources from the group, highlight the sources in the finder box on the left side of the screen which is titled, 'Emission Sources of the Group', then click the Remove button. The highlighted sources should appear in the finder box on the right side of the screen labeled 'Other Emission Sources to add to the Group'.
- **Step 5:** To create a new group, click on the **Create New Emission Group** button to go to the Emission Group New page. Instructions for data entry for this page are contained on the Emission Group New page instructions below.
- **Step 6:** Comments may be made regarding the information on this page by clicking on the **Comments** button. Comments are stored with the emissions inventory and will be viewed by DAQ upon submittal. If comments must be addressed immediately, please contact the appropriate Regional Office directly by phone, fax, or email.
- **Step 7:** To continue with the emission inventory, either click the Continue button or click on any tab.

Definitions and Explanation of Terms

Emission Group ID –This indicates which group is currently selected for review. This field is not editable.

Emission Group Description –This is a general description of the sources that have been grouped. This field is not editable.

Emission Source Type – Industrial source category description for sources contained within this group. All sources within a group must be the same type. This field is not editable.

Emission Sources of this Group – This lists all sources within the selected group. This field is not editable.

[Emission Source Group New Page](#)

- **Step 1:** Highlight the emission sources to be grouped together in the emission source list using the control or shift keys to select more than one emission source at a time if desired.
- **Step 2:** Enter the new emission source group description and click on the **Save & Continue** button to go back to the Emission Source Group page.

Definitions and Explanation of Terms

Emission Group ID is automatically generated by ED-Web and cannot be edited. The new group will appear at the bottom of the scroll down list on the Emission Group page.

Emission Group Description is a brief description of the group of emission sources should be entered here. For example, if three natural gas fired boilers are to be grouped the description might read “natural gas-fired boilers” or just “boilers”. Twenty spray-booths and two dip tanks might be described as “finishing operations”.

Control Devices Tab

Instructions

- **Step 1:** Either use the Continue link on the Emission Source Group page or select the **Control Device** tab.
- **Step 2:** Highlight, in the finder box, the Control Device and the previously filled information will automatically fill the information boxes on the page.
- **Step 3:** If the Control Device does not appear in the finder box, then click the **Create New Control Device** button. This button links to the Control Device New page.
- **Step 4:** Verify the data. If the Control Device category or type is blank, this information must be selected from the drop down menu and saved. AERO contains a quality assurance check for the completion of these fields and the facility cannot be submitted until the category and type information for every control device has been entered. If the control device category or type information is incorrect, please correct the data.
- **Step 5:** This information should agree with the information in the permit. If not, click on the **Comment button** and define the changes needed within the comment box provided. If comments must be addressed immediately, please contact the appropriate Regional Office directly by phone, fax, or email.
- **Step 6:** Click **Delete Control Device** button to delete a Control Device. The Control Device must not be linked with any other data (i.e., Emission Release Points or Operating Scenarios) in order to be deleted.
- **Step 7:** Click the Continue button to proceed to the next section or click on the tab at the top of the page.

Note--If changes have been made in the permit descriptions of these devices, those changes will be reflected in this system whenever those updates become effective. Likewise, make note of such descriptions that need revision when renewing or applying to modify the permit, such that the changes are reflected more appropriately in the entire DAQ database, including this one for emission inventory.

Definitions and Explanations of Terms

Control Device ID – ID that a facility assigns to a specific control device that uniquely identifies it (consult your air permit for previously assigned identifications). The ID from your permit should be pre-filled on a supplemental sheet provided with the inventory forms.

Control Device Description – A brief description of the pollution control equipment. Typically the description includes control device type and a size description (e.g. bag filter, 940 square feet of filter area). Make comments in the Comment field if the description should be changed to make the device more readily identified by inspector.

Control Device Category – Control Device Category indicates the removal mechanism (i.e. centrifugal, filtration, etc.) and should have been pre-selected by DAQ to match information provided in permit. If the category is not correct, comments should be recorded in the comment field. If the category has not been specified, select the appropriate category from the drop down list. AERO contains a quality assurance check for the completion of this field and the facility cannot be submitted until the category information for every control device has been entered.

Control Device Type – Control device type is a subgroup of control device category (i.e. bag filter is a sub-type of filtration) and should have been pre-selected by DAQ to match information provided in permit. If the category is not correct, comments should be recorded in the comment field. If the type has not been specified, select the appropriate type from the drop down list. AERO contains a quality assurance check for the completion of this field and the facility cannot be submitted until the type information for every control device has been entered.

Control Device New Page

The purpose of the control device new page is to add a new non-permitted control device. Control devices that are not permitted may be associated with an emission source where the control device is an integral part of emission source (i.e. paint spray booth, etc.). If the control device is not in the permit, use “U” as a prefix for Non-permitted.

Instructions

- **Step 1:** Enter a Control Device ID including the prefix U-. The ID entered must be unique (cannot be an ID already assigned).
- **Step 2:** Enter a control device description. The description should explain any unique attributes including type, size and capacity. (Example: one multi-cyclone containing 128 ten-inch diameter tubes)
- **Step 3:** Select a Control Device Category from the drop down menu. AERO contains a quality assurance check for the completion of this field and the facility cannot be submitted until the category information for every control device has been entered.
- **Step 4:** Select a Control Device Type from the drop down menu. . AERO contains a quality assurance check for the completion of this field and the facility cannot be submitted until the type information for every control device has been entered.

Definitions and Explanations of Terms

Control Device ID – ID that a facility assigns to a specific control device that uniquely identifies it (consult your air permit for previously assigned identifications). If the control device is not in the permit, use “U” as a prefix for Non-permitted. The IDs from your permit should be pre-filled on a supplemental sheet provided with the inventory forms.

Control Device Description – A brief description of the pollution control equipment. Typically the description includes control device type and a size description (e.g. bag filter, 940 square feet of filter area). If description will make the device more readily identified by inspector, this would be the place to put define such (in comment field).

Control Device Category – Control Device Category indicates the removal mechanism (i.e. centrifugal, filtration, etc.) and should match information provided in permit. Select the appropriate category from the pull down list.

Control Device Type – Control device type is a subgroup of control device category (i.e. bag filter is a sub-type of filtration) and should match information provided in permit. Select the appropriate type from the pull down list.

Control System Page

The purpose of Control System page is to view all control devices that make up the control system, edit the control devices in a control system or create new control systems.

Instructions

- **Step 1:** Highlight, in the finder box, the Control System and the pre-filled information will automatically populate the page.
- **Step 2:** If the Control System is not listed in the finder box then click the **New Control System** button. This button will go to the Control System New Screen.
- **Step 3:** A Control Device can be deleted from a newly created Control System by clicking on the radio button beside the Control Device and then clicking the **Remove Control Device from System** button. Pay special attention to which Control Device the Control System will contain after deleting a Control Device. Deleting Control Devices may inadvertently create a duplicate Control System.
- **Step 4:** A new Control Device can be added to a newly created Control System using **Add Control Device to System** button. Pay special attention to which Control Devices the Control System will contain after adding a Control Device. Adding Control Devices may inadvertently create a duplicate Control System.
- **Step 5:** A newly created Control System may be deleted by click the **Delete Control System** button. Only use this button if the Control System was created in error. This deletes the system but not individual Control Device.
- **Step 6:** Click the **Save** button.
- **Step 7:** The system will take the user back to the Control Device Page. To continue entering emission inventory data, click the Continue button or the appropriate tab at the top of the page.

Definitions and Explanations of Terms

Control Devices – Equipment (fume incinerator, adsorber, absorber, scrubber, filter media, cyclone, electrostatic precipitator, or the like) used to destroy or remove air pollutant(s) before discharge to the ambient air. A control device is normally used to destroy or remove a specific pollutant, but in some cases may also remove or destroy multiple pollutants (likely at different removal efficiencies).

In some cases, devices used remove pollutants are an integral part of the process. An integral part is one without which the unit cannot be manufactured, purchased, or operated and are usually necessary for proper production of product. Such situations occur with several emission sources, such as asphalt batch plants, where the cyclone to collect fines is integral to the process (returns needed fines to the product) and may not be appropriate to be separately identified as a control device for emission inventory estimations. Similarly, a secondary combustion chamber that is an integral part of a combustion device used for energy production, or for cleaning or waste disposal purposes, is not considered a control device under 15A NCAC 2D .0101(9) or for emission inventory purposes. Add-on thermal or catalytic controls, such as fume incinerators or flares, are considered control devices. (For pyrolysis ovens, the oven and afterburner must essentially be inseparable to consider the afterburner as part of the unit and to exclude it as a control device. For other examples, such as furniture spray booths, the filter is considered integral in that it is built in, even though it may need replacement or maintenance from time to time to keep it functioning as a control device.

Control System – A “group” of control devices that operate together on the exhaust gas stream of an Operating Scenario for an emission source or emission group. These devices may be in series or in parallel. Control Devices may be used in more than one Control System.

Closest to the Emission Source – It is important to order the control devices within a system in the correct manner. List the first control device as the one closest to the Emission Source or Emission Source Group.

Next Control Device – All control devices that are between the first and the last in a system will be marked as the “next” control device. If a control system has devices in parallel, enter the control devices as if they were in series. If the control system ends with devices in parallel, then choose the device with the highest control efficiency to represent the last control device in this system. For example, if a system ends with a cyclone and a bagfilter in parallel then one would choose to list the bagfilter as the last device.

Last Control Device – It is important to order the control devices within a system in the correct manner. List the last control device as the one closest to the atmosphere, or the one that the emissions will pass through last before reaching the atmosphere. It is very important that the last device be entered, as it ultimately determines the control efficiency.

Emission Release Point Tab

Generally refers to any physical structure, vent or chimney designed to exhaust gases from a facility into the ambient air. Emissions that escape capture by such devices are normally termed process fugitive emissions. A representative emissions release point may be used in some situations where multiple emission release points are nearly identical.

The purpose of the Emission Release Point page is to allow the user to view current emission release points in the AERO system, on a limited basis, edit emission release point data, and create new emission release points.

Instructions

- **Step 1:** Either use the Continue link on the Control Device Summary page or select the **Emission Release Point (ERP)** tab.
- **Step 2:** Highlight, in the finder box, the Emission Release Point and the previously filled information will automatically fill the information boxes on the page.
- **Step 3:** If the Emission Release Point does not appear in the finder box, then click the **Create New Release Point** button. This button links to the Emission Release Point New page.
- **Step 4:** Verify the data for previously approved release points. If ERP data has been entered incorrectly, click the ERP Data Corrections button. A warning box will appear with the text; If any of the data parameters currently on the page are incorrect then select OK and proceed with data corrections. However, if you actually physically altered the ERP from previous year's data, then please press Cancel and then press the button 'ERP Physical Changes'. Click OK to correct erroneous data, make corrections and save data. If the ERP has been physically changed, i.e. the height of the stack has been raised, click the button 'ERP Physical Changes', correct and save the data.
- **Step 5:** Comments may be made regarding the information on this page by clicking on the **Comments** button. If comments must be addressed immediately, please contact the appropriate Regional Office directly by phone, fax, or email.
- **Step 6:** Click **Delete Release Point** button to delete an Emission Release Point. The Emission Release Point must not be linked with any other data (i.e., Control Devices or Operating Scenarios) in order to be deleted.
- **Step 7:** To continue entering emission inventory data, click the Continue button or the appropriate tab at the top of the page.

New Emission Release Point Page

Instructions

- **Step 1:** Fill in the Release Point ID. The emission release point id is limited to 15 characters. The suggested format for the release point ID is ERP-XXXXXX where X equals unique characters.
- **Step 2:** Enter the Emission Release Point description. This description should identify the physical characteristics of the Emission Release Point, for example, the red brick chimney on the furnace or natural gas-fired boiler ERP.

- **Step 3:** Choose circular or rectangular for the shape of the Emission Release Point. If the emission release point does not fit either of these shapes, then choose the closest shape.
- **Step 4:** Continue entering the height, diameter (if circular), length and width (if rectangular), temperature and velocity for the Emission Release Point.

Note: Area is automatically calculated from the diameter for a circular Emission Release Point or length and width for a rectangular Emission Release Point. The area may also be manually entered for those Emission Release Point's with non-standard shapes. When entering a value in the Velocity (ft/sec) field and tabbing over, the system will automatically calculate the value in the Volumetric Flow Rate field in ACFM. The reverse is also true. When entering the Volumetric Flow Rate, the system will calculate the Velocity in ft/sec.

Note: If the Emission Release Point is "Fugitive" there are default data for Temperature, Inside Diameter, and Area. These are EPA defaults and should only be changed only when actual data are available.

Step 5: Click the **Save & Continue** button.

- **Step 6:** The system will take the user back to the Emission Release Point Page. To continue entering emission inventory data, click the Continue button or the appropriate tab at the top of the page.

Definitions and Explanation of Terms

Emission Release Point Id is the assigned unique identifier for the emission release point (ERP). This identifier is limited to 15 characters, for example, EP-01.

Emission Release Point Description is a brief unique description of the emission release point, for example, large brick chimney or natural gas-fired boiler ERP.

Emission Release Point Type is the physical configuration of the release point and must be one of the following (a drop-down menu of options is provided for the user's convenience):

- 01 FUGITIVE
- 02 VERTICAL
- 03 HORIZONTAL
- 04 GOOSE NECK
- 05 VERTICAL WITH RAIN CAP
- 06 DOWNWARD-FACING VENT

Emission Release Point Shape is the cross-sectional shape of the stack, circular or rectangular. If the emission release point is neither circular nor rectangular, choose the closest approximate shape.

Height (ft.) is the physical distance from the ground surface to the top of the Emission Release Point, measured in feet.

Diameter (ft) is internal diameter, measured in feet, of a circular Emission Release Point at the point the velocity is measured, leave blank if the Emission Release Point is rectangular.

Temperature (F) is the temperature of the gases at the exit of or within the Emission Release Point.

Area is the interior area of the Emission Release Point. If the Emission Release Point is circular, area equals $\Pi(\text{diameter})^2/4$. If the Emission Release Point is rectangular, the area equals length * width.

Velocity (feet/sec) is the velocity of the exit gas stream.

Width (ft.) is the shorter interior dimension of a rectangular Emission Release Point.

Volumetric Flow Rate is the Emission Release Point gas flow rate in actual cubic feet per minute. [Velocity, in feet/second, multiplied by 60 multiplied by cross-sectional area (in square feet), should equal volume or flow rate in cubic feet/minute].

Emission Release Point Latitude defaults to the latitude of the facility. If the exact latitude value is known, this value should be entered.

Emission Release Point Longitude defaults to the longitude of the facility. If the exact latitude value is known, this value should be entered.

Length (feet) is the longer interior dimension of a rectangular Emission Release Point, leave blank if the Emission Release Point is circular.

Operating Scenario (OS) Summary Tab

The purpose of the Operating Scenario Summary page is to allow the user to see all emission sources or groups and the operating scenarios entered for each and to keep track of completed data entered for the facility.

Click on the link for the operating scenario to be edited or click the Add Operating Scenario link to create a new operating scenario for the emission source or group. To aid facilities with numerous operating scenarios, a Find Operating Scenario button has been added to the top of this page. The user may search by operating scenario id, operating scenario description, emission source id or group id. The system will take the user to the Operating Scenario Update Page. The instructions for data entry on this page are listed below.

Operating Scenario Update Page

Operating Scenario means the actual use or application of the equipment that defines an emission source or emission source group. They define the way(s) that permitted and non-permitted equipment operate on an actual day-to-day basis. For example, a tangential boiler may be the permitted equipment or emission source. However, if it burns coal, oil, natural gas or other fuels under different situations, each of these situations is defined as an operating scenario. There is at least one operating scenario for each emissions source or emission source group.

The Operating Scenario page is used to provide schedule and emissions data for emission source or emission source groups. Operating Scenarios link control devices and emission release points to emission sources or groups.

Instructions

- **Step 1.** Access the Operating Scenario Update Page from the Operating Scenario Summary Page by clicking on the link associated with the operating scenario to be edited. Click the **Add** button to create additional operating scenarios for this emission source or group. To search for a specific operating scenario, click on the Find Operating Scenario button. After clicking the button, a finder box will open. In the left-hand box, enter the search data. Use the drop down menu to choose whether to search by OS id, OS description, ES id or Group id, then click the Search button. All matching data will appear in a finder box. If the correct OS is in the box, highlight it and click OK. The system will open the appropriate OS Update page.
- **Step 2.** Verify the emission source and operating scenario, ID and description. If the ID and descriptions are incorrect you may make comments by pressing the comments button.
- **Step 3.** Checking the confidential information button will allow fields to be left blank that may contain information, which the facility may wish to claim as proprietary. A letter of request for consideration of confidentiality must be submitted which includes substantiation of any such claims. If the claims are determined to be valid by DAQ, the information will not be stored in the database. All information claimed as confidential must be submitted by mail along with the letter of request for consideration of confidentiality, Certification Form, and calculations for ALL operating scenarios. The operating scenario forms must be printed during the

closeout stage. Emissions data cannot be held confidential and must be reported in AERO.

- **Step 4.** Enter annual throughput information.
- **Step 5.** Enter operating schedule information.
NOTE: The save button may be used at any time.
- **Step 6.** Verify the Control System and Control Device information. Press the **Control System** button to go to the Control System Linking page at which time changes may be made to the affiliation information if it is incorrect.
- **Step 7.** If no control device or system is affiliated with this emission source or group, verify the Emission Release Point information by pressing the **Emission Release Point** button to go to the Emission Release Point Linking page at which time changes may be made to the affiliation if the information is incorrect.
- **Step 8.** Save the information by pressing the Save and continue button. This will automatically go back to the Operating Scenario Update page where emissions data are entered.
- **Step 9:** If this operating scenario was created in error, the user may delete it by pressing the Delete Operating Scenario button. This button only appears on the page of newly created Operating Scenarios. Existing Operating Scenarios CANNOT be deleted. If an existing Operating Scenario is no longer operated, the user may mark it as such on the Operating Scenario Summary Page.
- **Step 10:** To add pollutants press the Add Pollutants button. A drop down list of available pollutants will be displayed at the bottom of the page. Multiple pollutants may be added at once by using the Ctrl + mouse left click to select multiple pollutants from the Pollutant list. To add the pollutants press the Add Pollutants button again. The selected pollutants will be displayed in the operating scenario pollutant list.
- **Step 11:** To delete pollutants highlight the pollutants you want to delete and press the delete Pollutants button. Note: Criteria Pollutants cannot be deleted.
- **Step 12:** To begin entering emissions data for each pollutant, select Emission estimation code from the pull down menu if the pre-filled choice is incorrect.
- **Step 13:** To enter emission values without using the auto-calculation feature, enter Emissions in the *Current* Emissions for this OS column for each pollutant emitted by this Operating Scenario.
- **Step 14:** To enter emission values using the auto-calculation feature, tab through the page. Enter the appropriate values in the Emission Factor column, EF is before/after control column and the Control Efficiency column (if applicable). **The Emission Factor column has units entered at the top of the column and the emission factor entered for any pollutant must have the same units for the emissions calculation to be correct.** The EF is before/after column has a drop down menu and before or after must be selected for the auto-calculation feature to operate. The efficiency should be entered in percent format (i.e. 75% control efficiency should be entered as 75, not 0.75). Emission factors that are before controls are multiplied with annual throughput and $[1 - (\text{Control Efficiency}/100)]$ by using the Tab key to advance through the table and the emissions column for that pollutant will automatically be populated. Emission factors that are after controls are multiplied with annual throughput and the Emissions column will be automatically populated also by using the Tab key to advance through the table. Pollutant specific emission factors will be held in a table on-line for use in subsequent year's inventory.
- **Step 15:** Once all emissions data and operating scenario data has been entered, click the Save Operating scenario and Revised Pollutants button.

- **Step 16:** When data entry is complete press the Data Entry Complete button. This will automatically return the user to the Operating Scenario Summary Page and mark the operating scenario as complete with a green check on the right side of the page under the column Status.
- **Step 17:** Once all emission data has been completed, click the continue button to go to the Closeout page or click on the Closeout tab.

Definitions and Explanation of Terms

Annual Throughput is the actual operating scenario activity level, production throughput, or the quantity of fuel used during the specified calendar year. Each fuel requires a separate operating scenario. EPA acceptable units are listed in the pull down menu table

Btu Content is the nominal heat content of the fuel in British Thermal Units and only applies where fuel usage is reported as the annual throughput.

Btu Units are listed in the pull down menu table and only applies where fuel usage is reported as the annual throughput.

Ash Content is the percent by weight of ash in a fuel (for example, coal) and only applies where fuel usage is reported as the annual throughput. For example, 5% would be entered as 5 versus 0.05.

Sulfur Content is the percent by weight of sulfur in a fuel (for example, diesel or No. 2 fuel oil) and only applies where fuel usage is reported as the annual throughput. For example, 2.1% would be entered as 2.1 versus 0.021.

Units are the unit of measure used to quantify the annual throughput and EPA acceptable units are listed in the pull down menu table

Operating Schedule is the actual number, or representative estimate, of Hours/Day, Days/Week and Weeks/Year normally operated in the specified calendar year.

Hours per year are the calculated time that the equipment was in operation during the year, using this operating scenario. This is automatically calculated by multiplying the components of the operating schedule.

Start & End Times is the usual or predominant start and end times in Eastern Standard Time using a 24-hour clock (0000 to 2359) for the operating scenario. If the time varies substantially during the year, report the start time for the summer season.

Seasonal Periods Percentage Annual Throughput: Production and emissions will likely vary over time. Percent throughput for each quarter is the percent production/emissions as a portion of the whole year. The total of the four quarters must equal 100% and must be reported in whole numbers (decimals are not allowed). Note that Dec-Feb is December, January and February of the same calendar year, which are not consecutive months.

Control System is a "group" of control devices that work together on a specific exhaust gas stream or combination of gas streams for a single operating scenario. Though it may be best to visualize a control system as consisting of a single device or two or more control devices in

series, there are many practical applications where multiple control devices are functioning in parallel and compose a (complex) control system.

Control Devices IDs for a specific operating scenario are as listed in the facility's air permit.

Control Device Description is the informative descriptor such as "bagfilter" that applies, and likely appears in the permit. The control device nearest the stack is displayed at the top (i.), and other devices in series below as (ii.), etc. Control devices collectively constitute a control system. Net Control Device Efficiency of this system is pollutant-specific.

Capture Efficiency identifies the percentage of the emissions generated by an emission source that actually enters the stack or vent system. Especially in hooding situations, not all emissions are captured by the air removal systems prior to entering the stack or vent. For many sources such as combustion devices/boilers where the exhaust system is directly connected to the process, the capture efficiency is 100%.

% Through Emission Release Point is the actual emissions that pass through a specific emission release point. All emission release point percentages for a single operating scenario must add up to 100 %.

Emission Release Points is a display of all emission release points venting emission from this operating scenario to the atmosphere.

[Operating Scenario New Page](#)

Operating Scenario means the actual use or application of the equipment that defines an emission source or emission source group. They define the way(s) that permitted and non-permitted equipment operate on an actual day-to-day basis. For example, a tangential boiler may be the permitted equipment or emission source. However, if it burns coal, oil, natural gas or other fuels under different situations, each of these situations is defined as an operating scenario. There is at least one operating scenario for each emissions source or emission source group.

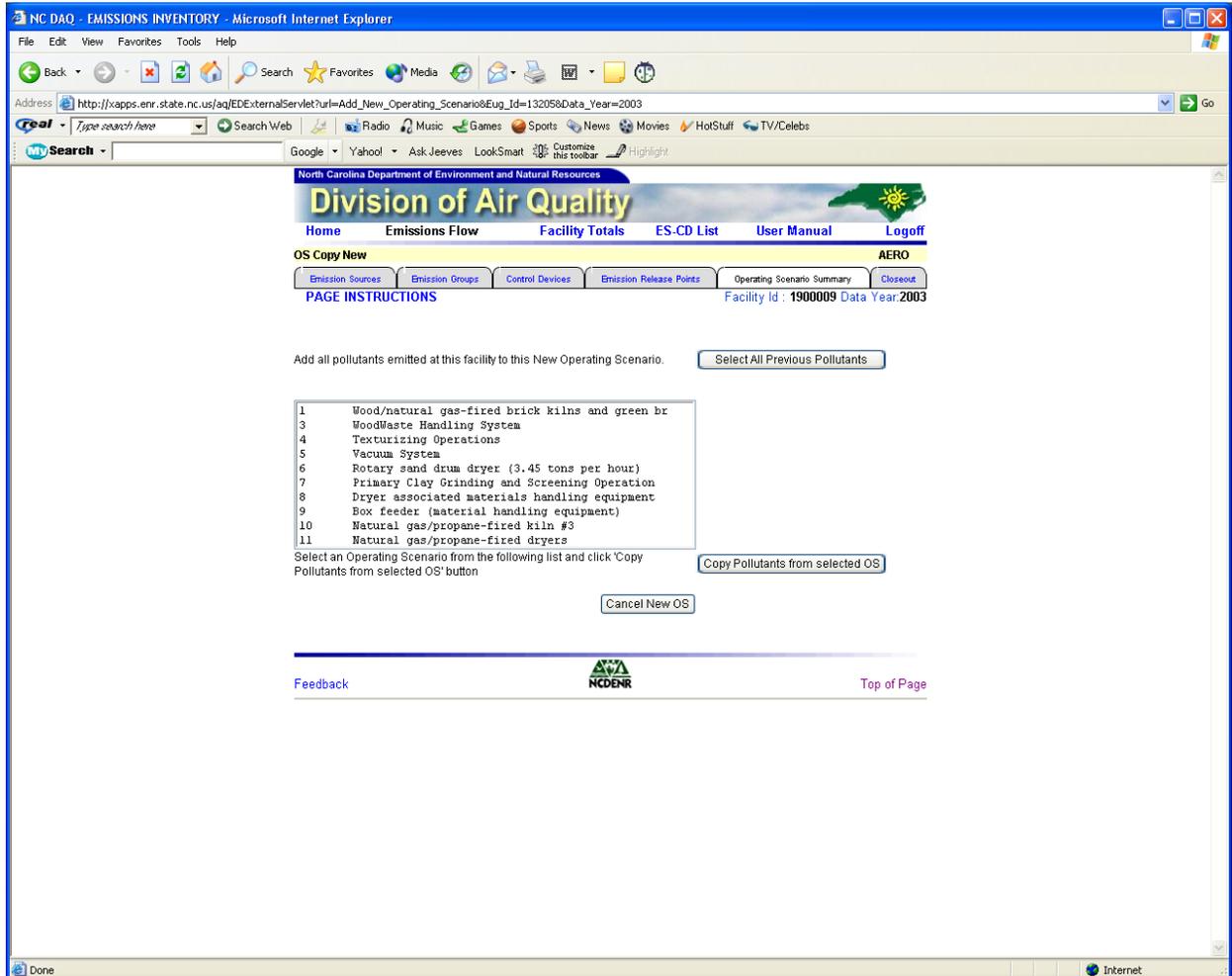
The Operating Scenario page is used to provide schedule and emissions data for emission source or emission source groups. Operating Scenarios link control devices and emission release points to emission sources or groups.

Instructions

NOTE: If changes are needed, make comments to DAQ by clicking on the **Comment** button and entering a message.

- **Step 1.** Access the Operating Scenario New Page from the Operating Scenario Summary Page by clicking on the **Add Operating Scenario** link below an emission source or group.
- **Step 2.** The following page will open to allow the user to copy a list of pollutants from another similar operating scenario or a comprehensive pollutant list for the facility into this operating scenario instead of adding the pollutants individually. To add the comprehensive pollutant list, click the Select All Previous Pollutants button and proceed to Step 3. To select the pollutant list from a similar operating scenario, highlight that operating scenario in the finder box and click the Copy Pollutants from Selected OS

button and proceed to Step 3. If the Add Operating Scenario link was clicked in error, then click the Cancel New OS button to go back to the OS Summary page.



- **Step 3.** Verify the emission source ID and description.
- **Step 4.** Enter an operating scenario description. The description should describe a unique characteristic, such as “Number 2 fuel oil”.
- **Step 5.** Checking the confidential information button will allow annual throughput, hours of operation and seasonal schedule fields to be left blank, which the facility may wish to claim as proprietary. A letter of request for consideration of confidentiality must be submitted which includes substantiation of any such claims. If the claims are determined to be valid by DAQ, the information will not be stored in the database. All information claimed as confidential must be submitted by mail along with the letter of request for consideration of confidentiality, Certification Form, and calculations for ALL operating scenarios. The operating scenario forms must be printed during the closeout stage. Emissions data cannot be held confidential and must be reported in AERO.
- **Step 6.** Enter annual throughput information for this operating scenario.
- **Step 7.** Enter operating schedule information for this operating scenario.
- **Step 8.** Press the Save button before proceeding.
- **Step 9.** If the new operating scenario has control device(s) that control emissions press the **Control Device** Link. This will take you to the Control System – Operating Scenario

Linking page at which time the user may select an existing Control System or create a new control system.

- **Step 10.** If the new operating scenario does not have a control device, press the **Emission Release Point** Link. This will take the user to the emissions release point (stack) page at which time the user may either select an existing emission release point(s) or create new emission release point(s).
- **Step 11.** If this operating scenario was created in error, the user may delete it by pressing the Delete Operating Scenario button. This button only appears on the page of newly created Operating Scenarios. Existing Operating Scenarios CANNOT be deleted. If an existing Operating Scenario is no longer operated, the user may mark it as such on the Operating Scenario Summary Page.
- **Step 12.** To add pollutants press the Add Pollutants button. A drop down list of available pollutants will be displayed at the bottom of the page. Multiple pollutants may be added at once by using the Ctrl + mouse left click to select multiple pollutants from the Pollutant list. To add the pollutants press the Add Pollutants button again. The selected pollutants will be displayed in the operating scenario pollutant list.
- **Step 13.** To delete pollutants highlight the pollutants you want to delete and press the Delete Pollutants button. Note: Criteria Pollutants cannot be deleted.
- **Step 14.** To begin entering emissions data for each pollutant, select Emission estimation code from the pull down menu if the pre-filled choice is incorrect
- **Step 15.** To enter emission values without using the auto-calculation feature, enter Emissions in the *Current* Emissions for this OS column for each pollutant emitted by this Operating Scenario.
- **Step 16.** To enter emission values using the auto-calculation feature, tab through the page. Enter the appropriate values in the Emission Factor column and the Control Efficiency column (if applicable). The efficiency should be entered in percent format (i.e. 75% control efficiency should be entered as 75, not 0.75). Emission factors are multiplied with annual throughput and $[1 - (\text{Control Efficiency}/100)]$ by using the Tab key to advance through the table. Pollutant specific emission factors will be held in a table on-line for use in subsequent year's inventory.
- **Step 17.** When data entry is complete press the Data Entry Complete button. This will automatically return the user to the Operating Scenario Summary Page and mark the operating scenario as complete with a green check mark on the right side of the page under the heading, Status.

Definitions and Explanation of Terms:

Criteria Pollutants (resulting from health-based National Ambient Air Quality Standards) are those pollutants listed at the top of the pollutant list which cannot be deleted and are to be reported in tons as shown on the forms.

- **Carbon Monoxide (CO)** - Compound of one atom of oxygen and one atom of carbon, usually resulting from the incomplete combustion of a carbon based fuel. It is a criteria pollutant and must be reported, but is not billed under the Title V program.
- **NO_x** - Any oxides of Nitrogen that are reported as the chemically equivalent mass of NO₂.
- **Particulate Matter, PM/TSP/PM-10/PM-2.5-** Particulate matter (**PM**) is all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air, inclusive of all particle sizes capable of being air borne. Total Suspended Particulate (**TSP**) is the portion of PM that has become airborne and has an aerodynamic diameter

less than or equal to about 100 micrometers. **PM-10** is the portion of PM with an aerodynamic diameter less than, or equal to, 10 micrometers and is the particulate pollutant form used in calculation of Title V fees. **PM-2.5**, is the portion of PM that has an aerodynamic diameter less than, or equal to 2.5 micrometers and is most health offensive. All forms of particulate matter include the condensable (d) particles and all estimates should be made accordingly.

- **SO 2** – (Sulfur Dioxide) - This is a compound with one sulfur atom and two oxygen atoms that usually results from the combustion of sulfur in fossil fuels. It is a criteria pollutant and there are National Ambient Air Quality Standards that apply. Federal or state emission standards may also apply, including those for Acid Rain.
- **VOC or Volatile organic compounds means** (for purposes of State Implementation Plans and this inventory) “any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions.

This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity:

Compounds Excluded from VOC Definition (and reporting)	
Acetone	Methyl chloroform (1,1,1-trichloroethane)
Ethane	Methylene chloride (dichloro- methane)
2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-hepta fluoropropane	1,1,1,2,2,3,3,4,4 nonafluoro-4-methoxybutane
1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane	Parachlorobenzotrifluoride (PCBTF)
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane	Perchloroethylene (tetrachloroethylene)
Methane	Siloxanes, cyclic, branched, or linear completely methylated
Methyl acetate	

CFCs	
CFC-11 (trichlorofluoromethane)	CFC-114 (1,2-dichloro 1,1,2,2-tetra fluoroethane)
CFC-12 (dichlorodifluoromethane)	CFC-115 (chloro-pentafluoroethane)
CFC-113 (1,1,2-trichloro -1,2,2- trifluoroethane)	

HFCs	
HFC-23 (trifluoromethane)	HFC-161 (ethylfluoride)
HFC-32 (difluoro-methane)	HFC-236ea (1,1,1,2,3,3-hexafluoropropane)
HFC 43-10mee (1,1,1,2,3,4,4,5,5,5-decafluoropentane)	HFC-236fa (1,1,1,3,3,3-hexafluoropropane)
HFC-125 (pentafluoroethane)	HFC- 245ca (1,1,2,2,3-pentafluoro propane)
HFC-134 1,1,2,2-tetra fluoroethane	HFC-245ea (1,1,2,3,3-pentafluoropropane)
HFC-134a (1,1,1,2-tetra-fluoroethane)	HFC-245eb (1,1,1,2,3- pentafluoropropane)
HFC-143a (1,1,1-trifluoroethane)	HFC-245fa (1,1,1,3,3- pentafluoropropane)
HFC-152a (1,1-difluoroethane)	HFC-365mfc (1,1,1,3,3-pentafluorobutane)

HCFCs	
HCFC-22 (chloro- difluoromethane)	HCFC-141b (1,1-dichloro-1-fluoroethane)
HCFC-31 (chlorofluoromethane);	HCFC-142b (1-chloro 1,1-difluoroethane)
HCFC-123 (1,1,1-trifluoro 2,2-dichloroethane)	HCFC-151a (1 chloro 1-fluoroethane)
HCFC-123a (1,2-dichloro-1,1,2-trifluoro-ethane)	HCFC-225ca (perchloroethylene (tetrachloroethylene))
HCFC-124 (2-chloro-1,1,1,2-tetra-fluoroethane)	HCFC-225cb (1,3-dichloro -1,1,2,2,3-pentafluoro propane)

and **perfluorocarbon compounds** which fall into these classes:

- i. Cyclic, branched, or linear, completely fluorinated alkanes,
- ii. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations,
- iii. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations, and
- iv. Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.”

(Fed. Register- §51.100, August 25, 1998 – *emphasis added for groups and classes; and order edited and annotated to facilitate easier look-up*).

Emissions of VOC's must be reported based on actual mass of compound(s) emitted, as opposed to “as carbon, as propane,” etc. If available data do not provide for a firm determination of this mass, estimates should be made both with the information available and with the best insights available as to the mass of actual emissions. If differing estimates result, the best data set should then be provided to DAQ with clear documentation.

Being on the above list of exclusions does not mean that a compound should not be reported as a HAP or TAP. If a HAP or TAP is excluded as a VOC, it still must be separately reported as a HAP/TAP.

Pollutant Code - CAS Number is a number assigned to each chemical compounds by Chemical Abstracts Service (CAS) to register the compounds and to avoid duplication by use of different names for the same chemical substance. CAS numbers may be obtained from Chemical Abstracts Service publications, from the supplier, on the containers and other commonly available reference documents. Names of mixtures and “families of compounds” may not have a CAS Number but may have a substitute code. A list of the compounds with CAS numbers that are to be reported in North Carolina are included on the DAQ web page at <http://daq.state.nc.us/inventory/forms/>. Handy (free) tools on the Internet may assist in determining synonyms, etc. An example is at URL <http://chemfinder.cambridgesoft.com/>

Emission Estimation Method Code is chosen from the table below:

NC Accepted Emission Estimation Methods/Codes

- 1 - CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)
- 2 - ENGINEERING JUDGEMENT WITH DOCUMENTATION & SEAL
- 3 - MATERIAL BALANCE
- 4 - NC APPROVED & REPRESENTATIVE STACK TESTS
- 7 - MANUFACTURER SPECIFICATION WITH WARRANTY
- 8 - USEPA/AP-42 EMISSION FACTOR NOT IN NC SPREADSHEETS
- 9 - NC/LOCAL APPROVED STATEWIDE EMISSION FACTOR (INC. SPREADSHEETS)
- 10 - NC Approved SITE-SPECIFIC EMISSION FACTOR

Emission Factor is the numeric value of factor used in calculating emissions of pollutant. The most common means of estimating emissions, as mentioned above, is by using emission factors. These may be simple or complex relationships between an activity level (e.g., # of widgets produced) and the emissions from such an activity. The general equation for using emission factors (assuming 100% capture efficiency by the exhaust system) follows: (Annual Throughput) * (Emission Factor) * (1 - control device efficiency, as a decimal fraction) = Emissions to the Atmosphere. There are many considerations to be satisfied when using this simple equation. These may include control device efficiency, determination of the portion of emissions not vented through stacks (i.e., "fugitives") etc. However, the basic equation provides a viable mechanism for emission estimation. Those not already familiar with these methods and concepts may find it beneficial to read the Introduction to Compilation of Air Pollutant Emission Factors (AP-42), 5th Edition, cited below. It is on the web at <http://www.epa.gov/ttn/chief/ap42/index.html>. Other useful documents are listed at <http://www.epa.gov/ttn/chief/publications.html>.

- **Unit Numerator** is the acceptable unit of measure for a pollutant. The acceptable reporting unit for AERO auto calculation of emissions is pounds for Criteria Pollutants and all HAP/TAPs.
- **Unit Denominator** is auto-generated by the program and is the same units used to report Annual Throughput.

Control Efficiency is the (net) control efficiency of the Control System (collection of control devices) that control and reduce the emissions of each specified pollutant(s), from this operating scenario, before release to the stack or other emission release point. You must include documentation or justification for control device efficiencies used in estimating actual emissions. These efficiencies should be indicative of the actual operation of the device throughout the calendar year of the inventory, not unrealistic or idealized design efficiency.

Emissions for this Operating Scenario is the actual amount of emissions for this operating scenario for the calendar year specified reported to DAQ on paper or electronically.

Hazardous Air Pollutants (HAPs) are those on a list (as may be modified by U. S. Environmental Protection Agency [US EPA] regulation) of 187 specific compounds, or families of compounds listed in the (US) Clean Air Act of 1990 as harmful to health. Maximum Achievable Control Technology (MACT) standards are to be established by the US EPA for these pollutants. Be reminded that some are families of compounds such as for metals and other pollutants: For certain groupings of pollutants such as "Compounds of < >." (Mercury for example), where it is important to report the mass of the individual compounds AND the sum of the mass of those compounds under the appropriate pollutant code(s). The total should be for

all the elemental or substance compounds listed and must be at least as large as the mass of the sum of the individual compounds or substances reported. Any unknown compounds of that element may be lumped into the total for that element or substance and then listed as "other compounds of _xxx___ (the family for which the compound is a part)."

Toxic Air Pollutants (TAPs)- A specific list of pollutants established by North Carolina Rules, subject to state regulation and control. A combined list of HAPs and TAPs is available on the DAQ Internet web page <http://daq.state.nc.us/inventory/forms/>.

Operating Scenario ID is an identifier that is a combination of letters and numbers that is automatically generated by the system. This number is not editable.

Operating Scenario Description is a description of the operating scenario for the emission source or group for which emissions are being reported. Examples of an operating scenario description are "Combustion of natural gas", "Number 2 fuel oil" or "Log debarking operation."

Annual Throughput is the actual operating scenario activity level, production throughput, or the quantity of fuel used during the specified calendar year. Each fuel requires a separate operating scenario. EPA acceptable units are listed in the pull down menu table

Btu Content is the nominal heat content of the fuel in British Thermal Units and only applies where fuel usage is reported as the annual throughput.

Btu Units are listed in the pull down menu table and only applies where fuel usage is reported as the annual throughput.

Ash Content is the percent by weight of ash in a fuel (for example, coal) and only applies where fuel usage is reported as the annual throughput. For example, 5% would be entered as 5 versus 0.05.

Sulfur Content is the percent by weight of sulfur in a fuel (for example, diesel or No. 2 fuel oil) and only applies where fuel usage is reported as the annual throughput. For example, 2.1% would be entered as 2.1 versus 0.021.

Units are the unit of measure used to quantify the annual throughput and EPA acceptable units are listed in the pull down menu table

Operating Schedule is the actual number, or representative estimate, of Hours/Day, Days/Week and Weeks/Year normally operated in the specified calendar year.

Hours per year are the calculated time that the equipment was in operation during the year, using this operating scenario. This is automatically calculated by multiplying the components of the operating schedule.

Start & End Times is the usual or predominant start and end times in Eastern Standard Time using a 24-hour clock (0000 to 2359) for the operating scenario. If the time varies substantially during the year, report the start time for the summer season.

Seasonal Periods Percentage Annual Throughput: Production and emissions will likely vary over time. Percent throughput for each quarter is the percent production/emissions as a portion of the whole year. The total of the four quarters must equal 100% and must be reported in

whole numbers (decimals are not allowed). Note that Dec-Feb is December, January and February of the same calendar year, which are not consecutive months.

Control System is a "group" of control devices that work together on a specific exhaust gas stream or combination of gas streams for a single operating scenario. Though it may be best to visualize a control system as consisting of a single device or two or more control devices in series, there are many practical applications where multiple control devices are functioning in parallel and compose a (complex) control system.

Control Devices IDs for a specific operating scenario are as listed in the facility's air permit.

Control Device Description is the informative descriptor such as "bagfilter" that applies, and likely appears in the permit. The control device nearest the stack is displayed at the top (i.), and other devices in series below as (ii.), etc. Control devices collectively constitute a control system. Net Control Device Efficiency of this system is pollutant-specific.

Capture Efficiency identifies the percentage of the emissions generated by an emission source that actually enters the stack or vent system. Especially in hooding situations, not all emissions are captured by the air removal systems prior to entering the stack or vent. For many sources such as combustion devices/boilers where the exhaust system is directly connected to the process, the capture efficiency is 100%.

% Through Emission Release Point is the actual emissions that pass through a specific emission release point. All emission release point percentages for a single operating scenario must add up to 100 %.

Emission Release Points is a display of all emission release points venting emission from this operating scenario to the atmosphere.

[Control System Linking Page](#)

A Control System (CS) is group of Control Devices (Control Device) that operate on an Emission Source (ES) or Emission Group (EG). Each emission source or group can have only one associated Control System. For example, a wood fired boiler (ES-1) is controlled by a multicyclone (Control Device-1) that vents to a bagfilter (Control Device-2). The Control System will consist of Control Device-1 and Control Device-2; where Control Device-2 is the last device the emissions pass through before being released to the atmosphere.

Instructions

- **Step 1** Verify the Emission Source or Group and its description, and the Operating Scenario and its description are the ones that are to be edited.
- **Step 2** To remove the current link, click the **Delete CS Link to Operating Scenario** button. An existing link must be removed before a new link can be established.
- **Step 3** To create a new link find and select, in the finder box, the correct Control System (CS) to link to the current operating scenario. If the correct CS does not appear in the list create a new CS that accurately represents the group of Control Devices working on this operating scenario. Click on the **Create New Control System** button to set up the new CS.

NOTE: Only one CS may be linked to each Operating Scenario per year of inventory. In the event that more than one CS operated on an OS in one inventory period, enter the most accurately representative CS.

- **Step 4** Selected CS data will fill in the fields below the finder box. Verify the information is correct and complete the Control System % Capture Efficiency field.

NOTE: The % Capture Efficiency is not the same as % Control Efficiency. % Capture Efficiency pertains to how much of the air stream from the source passes through the control device. For example, if a wood fired boiler vents 100 % of its air stream to the cyclone controlling it then the % Capture Efficiency is 100. The control efficiency may only be 70%, but this is not the same field.

- **Step 5** Make any comments to DAQ by clicking the Comments button on this page.
- **Step 6** Click **Save & Continue** to save the selected data and go to the Emission Release Point (ERP) Linking page. Directions for the Emission Release Point Linking page can be found on that page.
- **Step 7:** Click **Cancel** to leave this screen without saving any data and return to the Operating Scenario page.

Definitions and Explanation of Terms

Control Systems for this facility are the control systems currently entered for the facility and are listed in the finder box. The Control Devices in each CS are displayed along with their descriptions.

% Capture Efficiency This field is editable and required. Not all emissions are captured by the air removal system to enter the emission release point (ERP), especially in hooding situations. This term is to identify the percentage of the emissions generated by a source that actually enter the Emission Release Point described. For many sources such as combustion devices/boilers where the exhaust system is integral to the process, the capture efficiency is 100%. The % capture efficiency is not the same as % control efficiency.

Add New Control System button will take you to the New Control System page where you will add a new Control System to the current list.

[Emission Release Point Linking Page](#)

Instructions

- **Step 1:** If the link from the Control System Linking page or the Emission Release Point link from the Operating Scenario page was used to get to this page, then highlight, in the **Emission Release Points for this Facility** box, the emission release points (ERP) to be linked with the CS associated with this Operating Scenario.
- **Step 2:** If the Emission Release Point is not listed, click on the **New Emission Release Point** button. This button will go to the Emission Release Point New page.
- **Step 3:** Click the **Add ERP Link to List** button. Then, fill in the **% Thru Release Point from this Control System** field, or **% Thru Release Point from this Operating Scenario** field, only one will show up depending on whether or not the Emission Release Point is tied to a CS.

NOTE: More than one Emission Release Point may be linked to each Operating Scenario, so long as the % Thru ERP totals 100%.

- **Step 4:** To unlink an Emission Release Point from an Operating Scenario highlight the Emission Release Point in the **Linked ERP's for this Operating Scenario** box and click the **Remove** button.
- **Step 5:** Make any comments to DAQ by clicking the Comments button on this page.
- **Step 6:** Click **Save & Continue** to **save the selected data and go back to the Operating Scenario Page.**
- **Step 7:** Click **Cancel** to leave this screen without saving any data and return to the Operating Scenario Update page.

Definitions and Explanation of Terms

Emission Release Points for this Facility are the emission release points currently entered and are listed in the finder box with their descriptions. Generally, Emission Release Point refers to any physical structure, vent or chimney designed to exhaust gases from a facility into the ambient air. Emissions that escape capture by such devices are normally termed process fugitive emissions. A representative Emission Release Point may be used in some situations where multiple emission release points are nearly identical.

% Thru ERP is the % of emissions that pass through this Emission Release Point for this Operating Scenario. This field is editable and required. The total for all Emission Release Points must be 100%.

Closeout Tab

The Closeout and Submit page allows the user to finalize and submit its emission inventory. There are a series of automated Quality Assurance/Quality Control (QA/QC) reports that will identify, if any, the following:

- 1 – Emission Sources without emissions, and not marked “Not Required to Report” or “Not Operated”.
- 2 – Operating Scenarios without Emission Release Point (ERP).
- 3 – Operating Scenarios not marked “Not Operated” or “Complete”.
- 4 – Control Devices without Control Device Category and Type complete.

The user will be able to submit the emission inventory ONLY after correcting all, if any, QA/QC reported items.

Instructions

- **Step 1:** Access this page by clicking on the **Submit** Tab or by pressing Continue on the **Operating Scenario Summary** page.
- **Step 2:** Look over the Quality Assurance report in this page. Correct all, if any, items listed on all QA/QC reports. Follow the instructions under each QA item in red to correct the problem before proceeding.
- **Step 3:** If you have operating scenarios marked as confidential, please be sure to print the required forms for all confidential operating scenarios and submit them to the appropriate Regional Office by the deadline.
- **Step 4:** Click on the Facility Totals link to run a report to verify the correct entry of facility-wide emissions.
- **Step 5:** Click on the Certification Form link to print the Certification form. This form must be signed by the Responsible Official and submitted by mail to the Regional Office by the deadline along with all supporting documentation and calculations used to complete the emission inventory.
- **Step 6:** Click on the Complete Emission Inventory as entered in AERO link to print the completed emissions inventory as entered through the AERO system.
- **Step 7:** If you need to send in changes to facility contact information, click on the General Information Change Form link to print the form. This form must be completed and mailed to the appropriate Regional DAQ office.
- **Step 8:** **Only after you are sure that all data entered in AERO system is correct and complete**, Click on the **Submit Inventory To NCDAQ** link at the bottom of the page to submit your inventory to the NCDAQ. No changes can be made to the data once this link has been clicked.
- **Step 9.** Supporting documentation and calculations may be submitted via hard copy or email the file(s) (in any MS Office format) to the appropriate Regional Office email address found at the link on the Home page under Technical Support. The Certification form must be signed by the Responsible Official in blue ink and mailed to the appropriate Regional office of DAQ prior to the submittal deadline.

Definitions and Explanation of Terms

Closeout and Quality Assurance/Quality Control

To ensure that all data submitted via AERO are complete and meet DAQ system requirements Quality Assurance checks are performed prior to inventory submittal. When problems with facility data are found Quality Assurance reports showing data that need to be corrected will be listed below. All items required for electronic submittal are marked with an asterisk and must be addressed prior to electronic submittal of your emissions inventory. The links on this page will lead you through all the necessary steps to finalize the emissions inventory for this facility.

After electronic submission of your facility's emissions data and **prior to the due date**, the [Certification form with the date and time stamp of the submittal signed in blue ink by the Responsible Official](#), [all supporting documentation of emission factors \(stack test data, etc.\)](#), and [emission data calculations](#) must be submitted to the regional emission inventory contact listed in your emission inventory notification letter. The supporting documentation may be submitted via email, in MS office format. It is suggested that any information submitted through the US Postal Service be sent certified. If any of your facility's contacts have changed since your last emission inventory submission or permit application, please complete the General Information form and submit this form along with the other information.

General Comments is the link to make general comments to DAQ and/or review all comments made while entering your emission inventory.