

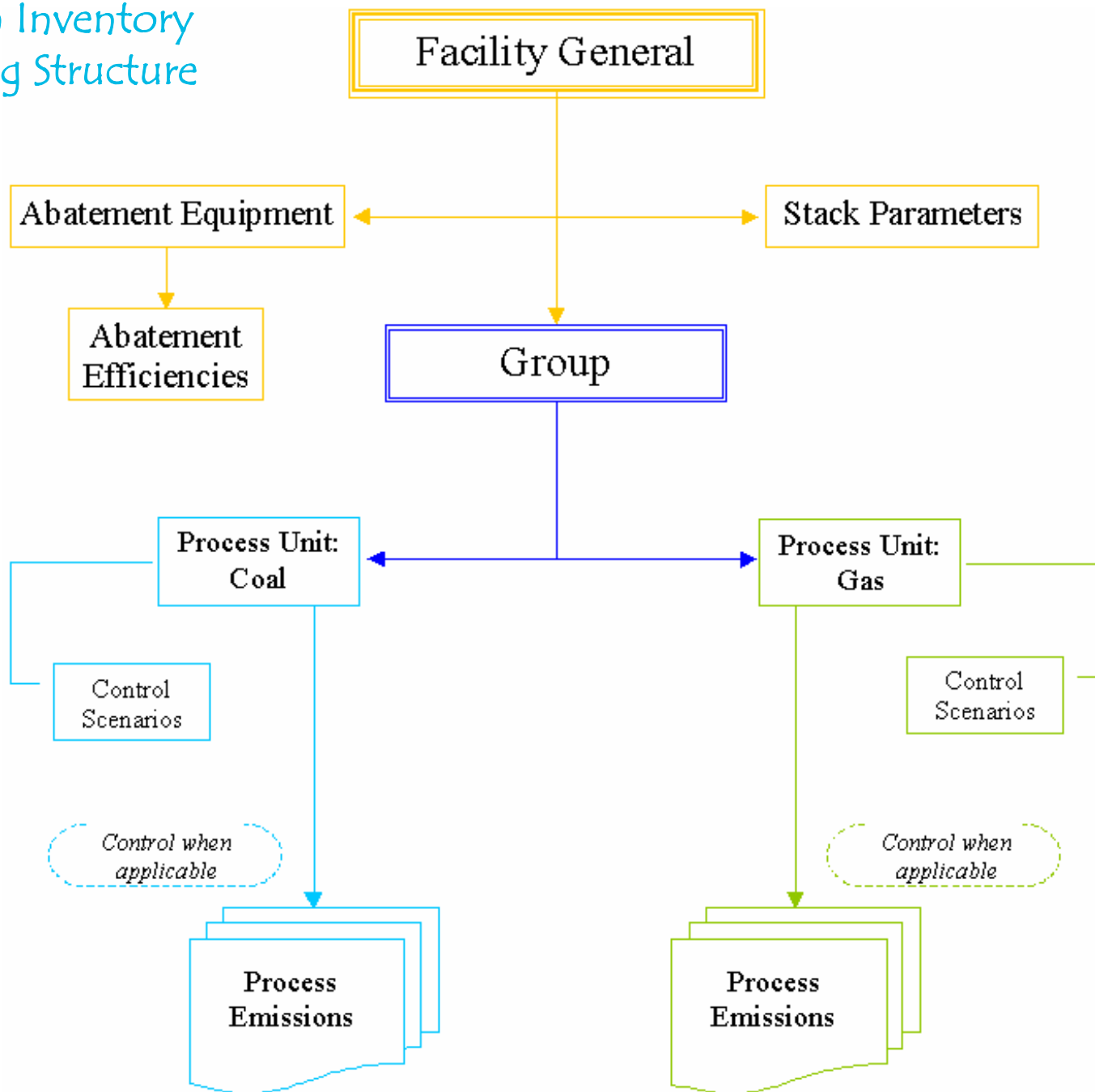
Point Source Emission Inventory in Detail Definitions and Structure

Revised 3/7/06

Delaware Air Quality Management's Annual Air Emission Report

- ▶ Emission Inventory Definitions with
Emphasis on Web **i-STEPS**[®] Internet
reporting tool

Emission Inventory Reporting Structure



Sample Facility and Emission Inventory Structure

Facility General

John Doe, Inc

Group

Group 001
Boiler #1

Group 002
Printing Press

Group 003 Coating Oper.
Painting Widgets

Process

#6 oil
#2 oil
Nat. Gas

Printing

Drying Oven
Heater

Equip. Clean Up

Cleaning Pre-Treatment

Coating Booth

Elect. Equip. Oven

Equip. Clean Up

Process Emissions

VOC
NO₂
CO
SO₂
PM_x
NH₃
HAPs

“ “

VOC
HAPs

Drying Oven
VOC
HAPs

VOC
NO₂
CO
SO₂
PM_x
NH₃
HAPs

VOC
HAPs

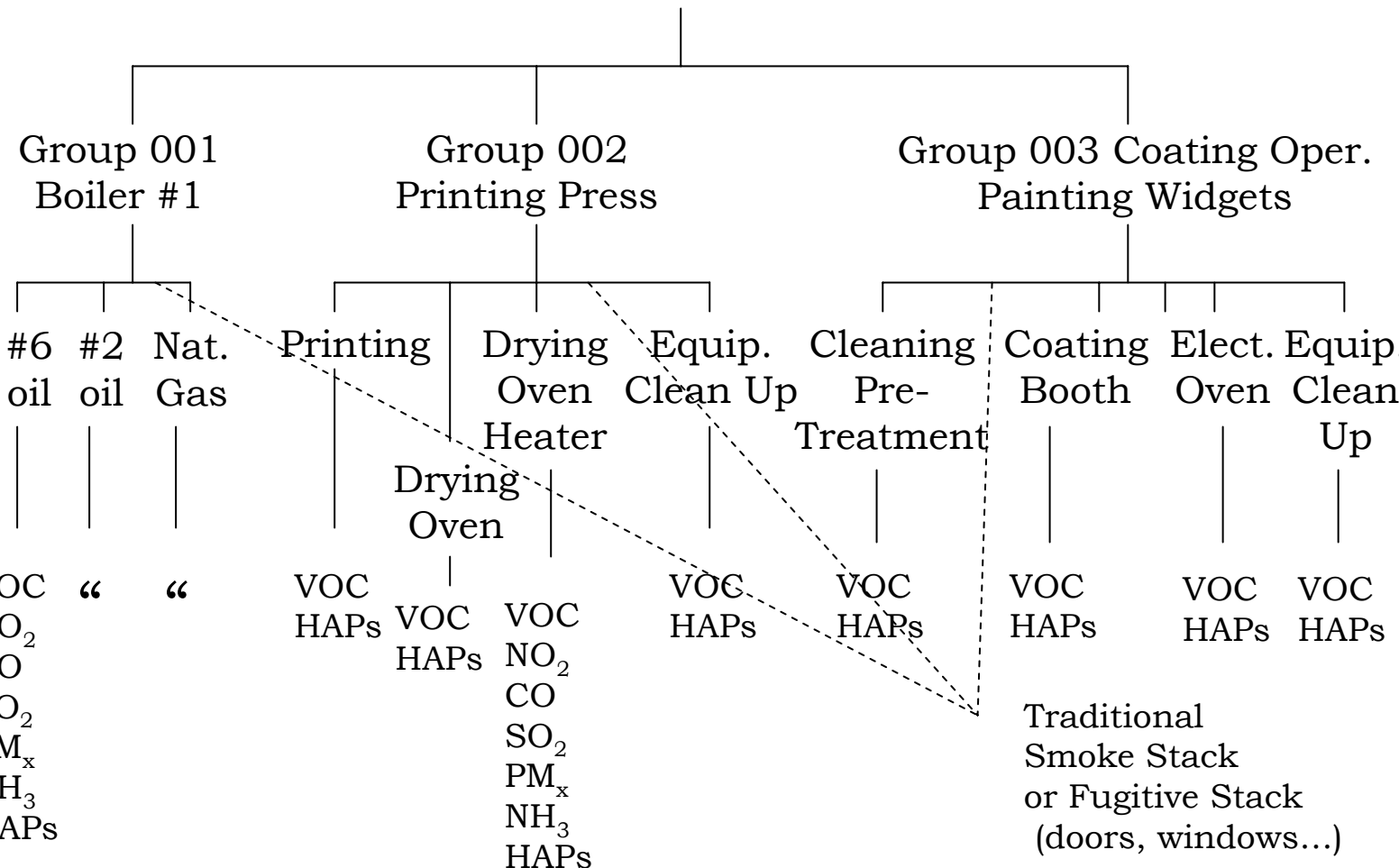
VOC
HAPs

VOC
HAPs

VOC
HAPs

VOC
HAPs

Traditional
Smoke Stack
or Fugitive Stack
(doors, windows...)



Facility General

This screen is for reporting general information about the facility. Information for this sections is carried over from previous years and should be corrected or updated as necessary.

Facility General

- ▶ State ID “10” Is Delaware’s State Id , (assigned by AQM).
- ▶ County ID “001” Kent County, “003” New Castle County and “005” for Sussex County, (assigned by AQM).
- ▶ Facility ID This is a five-digit number assigned by AQM for your facility. The number is useful in communications with AQM. This and other ID #'s, explained later, are necessary for the organization and retrieval of data from both the State and Federal Air Emissions databases.

Facility General

- ▶ Year of Emission Inventory The calendar year for the Annual Air Emission Inventory and Emission Statement Report.
- ▶ Facility Location This is the physical location (street address) of the facility, e.g., 8th and New Street, Newark. A **P. O. Box** is not a location.
- ▶ Description of the Facility A brief description of the physical plant: e.g., "Hot Mix Asphalt Plant"

Facility General

- ▶ Facility Zip Code The Zip Code for the physical location of the facility. This may not be the same code as the mailing zip.
- ▶ Parent Company This is the highest level company that directly owns at least 50% of the voting stock. Corporate names should be treated as the parent company name for companies with multiple facility sites.

Facility General

- ▶ Primary NAICS (determined by AQM) If you do not believe this to be accurate please contact Emissions Inventory Staff.
- ▶ Standard Industrial Classification Code (SIC) (determined by AQM) If you do not believe this to be accurate, please contact Emission Inventory staff.

Facility General

- ▶ Owner Code The owner of the facility. Choose the appropriate number code listed in the Look Up table.
- ▶ Number of full-time employees Provide the number of full-time employees at your facility. This is determined by summing the hours worked by all employees, including contract employees, sales, and support staff during the calendar year. Divide the sum by 2,000 hours (full-time employee is defined as 2,000 work hours per year).

Facility General

- ▶ Size of Facility This is the amount of acreage occupied by the facility. This includes all buildings, equipment, structures, and other stationary items contiguous or adjacent sites, owned or operated by the same person or company.
- ▶ Product, activity, or nature of business Provide the major activity or product produced at the Facility: e.g., manufacturing and painting of metal office furniture. Or, provide information on the nature of the business: e.g., Automotive Assembly plant, Hot Mix Asphalt Plant, Poultry Processing Plant, etc.

Facility General

- ▶ Contact person's name and address Provide the name, of the person responsible for inventory completion. This person is usually an employee at the facility, e.g., plant manager, but it may also be an employee at corporate headquarters or at another company location. This person will be contacted should questions arise, and the person to whom future reports will be mailed.
- ▶ Business phone and fax numbers Provide the business phone and FAX numbers of the emissions contact person.

Facility General

- ▶ Contact's e-mail address Provide the contact's e-mail address.
- ▶ Comments made by the Facility Enter any comments pertinent to a change in the Facility General Information that needs further clarification (near the bottom of the screen)

Group Information

- ▶ Group This section is for reporting Group information. A Group is an activity or piece of equipment, with its own operating schedule, that produces emissions. Boilers, process heaters and other combustion equipment are generally considered Groups. A facility will have at least one Group. Complete a Group Section for each Group at your facility.

Group Information

► Group ID This is a three-digit number given to a Group of Process Units. The purpose of the id is to organize processes within a facility. A boiler, a process heater, or other combustion equipment can be considered a Group. A Group covers processes that have a logical association and similar operating schedule. There are certain instances in which a building can be considered a Group. For example, an R&D facility where there are numerous small and varied activities with multiple lab hoods, stacks, vents and exhaust systems can be one Group with several processes. When there are numerous small sources it is not important to identify or provide detailed information on each individual source. They can be summarized in a Group containing several process units. It is best to consult with AQM before using this approach.

Group Information

- ▶ The Group Id is a key identifier that links the Group over time. Contact AQM staff before changing a Group's Id. **New Groups**, not reported in previous years, **must be added** to the inventory and assigned an appropriate Group Id.
- ▶ Group Description Use the space available to identify the Group. (Examples: Boiler # 1, Painting Widgets, MEK Storage Tank #4, 500 Gal. Reactor Bldg. #6, Bldg. #2 Lab Hoods, etc.)

Group Information

- ▶ Site Identifier May be used by the facility for internal tracking. May be useful for tracking Title V Emission Units. Enter a site-specific identifier for the Group.
- ▶ Actual Operating Schedule Report the Group's operating schedule in hours/day, days/week and weeks/year. This is the actual operating schedule for the year 2005. It is not the maximum or permitted operating schedule, unless the Group actually operated at the maximum or permitted operating schedule.

Group Information

- ▶ Hours per day Provide the hours the process units(s) are operating during a normal workday. This is the actual hourly operating schedule for the Group for the reporting year. This is not the maximum operating schedule in an associated permit, unless the Group actually operated at the maximum permitted schedule. Enter the number of hours per day the process unit(s) operated.

Group Information

- ▶ Days per week Provide the days in operation during a normal workweek. In most cases this is five or seven days for larger manufacturing operation that may operate two or three shifts. This is the actual operating schedule for the Group for the reporting year. This is not the maximum operating schedule in an associated permit, unless the Group actually operated at the maximum permitted schedule. Enter the number of days per week the process unit(s) operated.

Group Information

- ▶ Weeks per year Enter the weeks in operation during the reporting year. This is the actual operating schedule for the Group for the reporting year. This is not the maximum operating schedule in an associated permit, unless the Group actually operated at the maximum permitted schedule.
- ▶ Hours per year The hours per year are automatically calculated by the system using hours/day, days per week and weeks per year provided.
- ▶ Days operated during June, July, and August Report the total actual number of days of operation during the months of June, July and August, the peak ozone season. The **maximum number** of days to be reported is **92**.

Group Information

- ▶ Start Time and End Time Using a 24-hour clock (i.e., military time), provide the normal time when the Group activities begin for the normal workday over the reporting year. For continuous operations enter a start time of **0000 (12:00 AM)** and an end time of **2400 (to the next midnight)**.

Group Information

▶ Percent Seasonal Throughput The percent seasonal throughputs are for **Calendar Year 2005**. This is an estimate of the percentage of throughput for the Group. The sum of the four percentages seasonal throughputs must equal 100%. For boilers, process heaters, or other combustion equipment , quarterly throughputs should be based on the fuel burned in each quarter. The percent throughput for each quarter for a non-combustion activity would reflect the production, consumption, or other throughput units of measure for each quarter. The first quarter includes **January and February 2005, plus December 2005**; the second quarter is March, April and May 2005; the third quarter is June, July and August 2005; and the fourth quarter is September, October and November 2005.

Group Information

- ▶ Percent Seasonal (Quarterly) Throughput
 - ▶ December-January-February (same calendar year)
 - ▶ March-April-May
 - ▶ June-July-August (Ozone Season)
 - ▶ September-October-November

Group Information

- ▶ Design Capacity Provide the total input or maximum production capacity of the Group expressed in one of the units listed in the Design Capacity Units Look Up Table.
- ▶ Design Capacity Units Identify the one character code defining the units of measurement for the design capacity using the drop down menu. For external combustion equipment, please provide design capacity in units of million BTU/hour heat input.

Group Information

- ▶ Group comments made by the facility A more complete description of the Group or other information than can be provided in the Group description field. This will give AQM and future staff at the facility a better understanding of the activity(s), process(s), or equipment and how the Group was organized. Information from documents can be cut and pasted here.

Stack Parameters

This section is for reporting stack information. A stack is a vent, chimney, duct, etc. serving a Process Unit. All process units **must** be associated with a stack. If the process unit has no identifiable stack, provide a stack id and select the Release Point Type “01” (Fugitive). This would be appropriate for equipment with low emissions (e.g., lab hoods) grouped (aggregated) under one process.

Stack Parameters

- ▶ Stack ID The number assigned to a stack must be associated with at least one process unit. Usually the stack is the emissions point associated with a boiler, a process heater, other combustion equipment, non-combustion process equipment, or a pollution control device(s) which emit emissions to the atmosphere. Associating a stack to a process will link the Process Unit, and Process Unit Emission information to the stack. Groups will be linked to stacks indirectly through the association between Group and Process Unit.

Stack Parameters

- ▶ Stack Id (continued) A stack must already exist in the database to be linked to a Process Unit. Use the Look Up Table to find the appropriate stack.
- ▶ Description of the Stack Description for the equipment or process served by the stack.

Stack Parameters

- ▶ Release Point Type Choose from the following stack types from the look up table.
 - Fugitive (no identifiable stack)
 - Vertical
 - Horizontal
 - Goose neck
 - Vertical with rain cap
 - Downward-facing vent

Stack Parameters

- ▶ Fugitive Stack Height (in feet) When there is no identifiable stack “a Fugitive Stack”, Release Point Type 01 is used. Provide in this field the height in feet above ground at which the emissions enter the atmosphere. Use 10 feet as a default. This may be appropriate for numerous stacks with low emissions (e.g. lab hoods, lagoons”ei”)” For a Release Point Type of "01“ For a fugitive stack only a Fugitive Stack Height, Stack Id and Stack Description are needed. One of the two fields (Stack Height or Fugitive Stack Height) requires a value other than zero.

Stack Parameters

- ▶ Stack Height (in feet) The stack height is the distance above ground to the discharge point **in feet**. If a stack is on the roof of a building, the stack height equals the sum of the height of the building plus the length of the stack above the roof. Enter the vertical distance between the point of discharge and the ground, when it can be identified. If no definable stack height exists, provide a height in feet above ground at which the emissions enter the atmosphere. One of the two fields (Stack Height or Fugitive Stack Height) requires a value other than zero. See Fugitive Stack Height.

Stack Parameters

- ▶ Stack Diameter (in feet at point of exit) If the stack is not circular, enter the equivalent circular area which can be calculated by multiplying the square root of the cross-sectional area in (square feet) by 1.128. = equivalent diameter.

Stack Parameters

- ▶ Stack Gas Exit Temperature (°F) Enter the gas temperature at the discharge point in units of degrees Fahrenheit, under normal operating conditions.
- ▶ Stack Flow Rate Enter the flow rate in actual cubic feet/minute (ACFM). The flow rate is calculated for the actual exhaust gas temperature at normal atmospheric pressure. Design values may be used in lieu of actual test data. Data expressed in Standard Cubic Feet per minute (SCFM) must be adjusted to ACFM using the following formula on the next slide.

Stack Parameters

► Stack Flow Rate continued

$$ACFM = SCFM \times (T_a + 460)/(T_s + 460)$$

Where;

T_a = actual exhaust gas temperature (degrees F)

T_s = temperature at standard conditions (normally 70 degrees F)

Stack Parameters

- ▶ Stack Gas Exit Velocity (in feet/second) This is the velocity of the stack gases at the discharge point in feet/second - it is automatically calculated by the system using the diameter and flow rate.

Abatement Equipment

&

Control Scenario

Abatement Equipment

Abatement/Control Equipment section is where abatement equipment (control devices) for the facility is identified.

► Abatement Equipment Code Use the Look Up Table to find and identify the three-digit EPA control device code.

Abatement Equipment Description A generic description of the control equipment is automatically provided. The description may be edited to better identify the equipment at the facility. But care must be taken not to lose the type of equipment being used; e.g. the generic description may be "Fabric Filter - Low Temperature". It could be modified to read "Widget Line #1 Fabric Filter".

Abatement Efficiency

This section is where abatement (control) efficiency is provided for each pollutant acted upon by the abatement equipment.

- ▶ Pollutant Update or add an abatement efficiency record for each pollutant impacted by the controls. When adding a new record the pollutant code can be entered directly or from the Look Up table.
- ▶ Abatement Efficiency (control efficiency) This is the operating efficiency of the equipment in removing the specified pollutant from the emission stream. The percentage represents the actual average removal percentage achieved of the pollutant from the emission stream over the course of the reporting year.

Abatement Efficiency

▶ Abatement Efficiency (control efficiency)

continued The control efficiency should include in the average any control equipment downtime (i.e. when the control efficiency was zero). It may be necessary to modify the control device efficiency estimate based on considerations such as down time. If the control devices are shut down periodically for maintenance, equipment failure, upset, etc., then the emissions released may far exceed those released in the controlled mode. Depending on the conditions and time involved a large error could result in emissions estimates. Therefore, total down time is to be figured into the control efficiency estimates.

Abatement Efficiency

- ▶ Continued Abatement Efficiency (control efficiency) continued When a control device is down for significant periods of time, it may be more appropriate to report these emissions as an accidental release. Please contact AQM to provide assistance in reporting accidental releases.

Control Scenario

The Control Scenario contains the capture efficiency for a process unit's abatement equipment, the abatement efficiencies for a given pollutant, and provides the link to a process unit and its emissions

- ▶ Control/Abatement Code Use the Look Up Table to choose an existing control device.
- ▶ Capture Efficiency Provide the effective percent collection efficiency for the control device in containing the emission stream as a percentage. For example, how much of the generated emission stream actually flows into the abatement/control equipment as opposed to the amount that doesn't make it into the abatement/control) device due to leaks in piping, lack of piping, enclosures, etc.

Process Unit

This screen is for identifying and reporting specific process information. Processes can be viewed as those sequences of steps, activities or subdivisions within a Group that may be expected to have emissions. For example, a surface coating operation may involve numerous processes. These could include a drying oven, a drying oven heater (combustion emissions), pretreatment (degreasing) and equipment cleanup, coating application (paint booth) and coating mixing. A Group will have at least one process. Provide process information for each process within the Group.

► This screen is to provide information for specific process(s) associated with each Group. For example a boiler (external combustion equipment would have three process, if the boiler burned both #2 and #6 fuel oil, and natural gas during the year.

Process Unit

- ▶ Process Unit continued A surface coating Group may include pretreatment, coating mixing, coating application (booth) drying oven, drying oven (combustion) and equipment clean up processes. Add and update process information as necessary.
- ▶ Each process unit requires a stack. When in the process unit screen the stack can be found and linked to the process unit using the Look Up Table in the Stack Id field. If this process unit has abatement equipment devices associated with it, they are linked to the process unit through the Control Scenario and indirectly the process unit emissions.

Process Unit

- ▶ Process ID - The two-digit number identifies each process in the Group. To add a new process, select “Add” and the system will automatically assign an id to the new process.
- ▶ Process Unit Description Provide a description of the process e.g., #6 Fuel Oil; Equipment Clean Up Solvents; Diesel Oil; Printing Press; Paint Booth...
- ▶ Site Identifier This field may be used by the facility for internal tracking. It may be useful for tracking Title V Emissions Units. Enter a site-specific identifier for the process equipment.

Process Unit

- ▶ Stack ID Stack Id # is used to link the process unit to its' stack. A stack must already exist in the system to be linked a Process Unit. Use the Look Up Table to find the appropriate stack. Usually a stack is associated with a boiler, a process heater, other combustion equipment, non-combustion process equipment, or a pollution abatement/control device(s) which emit to the atmosphere. Associating a stack to a process unit will link the Process Unit and Process Unit Emissions information to the stack.

Process Unit

- ▶ SCC (Source Classification Code) The SCCs are used as the nationally consistent system for identifying process level emissions. They are building blocks upon which the national depository of emissions data is structured. Each SCC represents a unique process or function within a Group logically associated with a process for which air emissions would be expected. Any operation causing air pollution can be represented by one or more of these SCC (s). Emissions data can not be transferred to EPA's national Emissions Inventory database without an SCC. Another important purpose of SCCs is to link an AP-42 emission factor to the appropriate process.

Process Unit

► SCC continued The Look Up Table will provide the full SCC description. If a new process unit is being added, the SCC can be added using the Look Up Table. Do not use SCCs that start with 21 through 28 or other ten digit SCCs. These SCCs are used for On and Off Road Mobile, Area and Biogenic Sources; generally not appropriate for a process at a facility. The Look Up Table can be used to add SCCs to new process unit records.

Process Unit

▶ SCC Units The SCC Units are defined by the SCC and are provided next to the appropriate fields, e.g., "Fuel Heat Content", "Actual Annual Fuel Usage or Process Throughput", and "Maximum Hourly Design Rate". If emission factors are used to estimate emission, then the SCC units **MUST** be consistent with the emissions factor units. For example, if using an emission factor with units of lbs/1000 gallons burned then the actual annual fuel usage value must be expressed in units of 1000 gallons burned.

Process Unit

- ▶ Source Type Choose the appropriate Source Type from the Look Up Table. Area (A) and Mobile (M) are generally not used for a process at a facility.
- ▶ Fuel Quality Percent Sulfur and Ash Provide percent sulfur by weight and percent ash by weight for each fuel burned. It is not necessary to provide this information for natural gas and propane because the sulfur and ash content of these fuels are negligible. (Combustion Equipment Only)

Process Unit

- ▶ Fuel Heat Content Provide the heat content for each fuel burned in Million British Thermal Units (MMBTUs). Each type of fuel has a specific heat content that is measured in MMBTUs. The AP-42 heat content values for residual oil, distillate oil, propane and natural gas are given below. Facility specific heat contents should be reported, when available.
(Combustion Equipment Only)

Residual Oil	150 MMBTUs/1000 gallons
Distillate Oil	140 MMBTUs/1000 gallons
Natural Gas	1,050 MMBTUs/Million Cubic Feet (MMCF)
Propane	94 MMBTUs/1000 gallon

Specific heat contents must be provided for all fuels, e.g., coal, refinery gas, solid waste, process gas, etc.

Process Unit

▶ Annual and Monthly Process Throughputs

Process throughput means the amount of material used, fuel burned, or amount of product produced by the process. The throughput is to be reported on a monthly basis in the units that are associated with the SCC. The annual throughput field is automatically calculated from the sum of the monthly values. If annual emissions of all criteria pollutants (VOC, NO₂, CO, SO₂, NH₃, and PM-PRI) for a process unit are less than 0.1 tons the facility need not provide monthly throughputs.

Process Unit

► Facility Calculations and Documentation

Comments, calculations and documentation are to be provided in the text window near the bottom of the screen. Provide any additional information and documentation that will be useful to AQM and future staff at the facility. You can cut and paste from other documents to the screen.

Process Unit Emissions

In this section emissions can be automatically calculated by the system or entered directly. Percent overall control/abatement efficiency is listed here, but can not be edited in this section. The View Button can provide Process Unit, Abatement and Control Scenario information.

It is important that all control/abatement information be updated or added into i-STEPS[®] accurately and completely, since this information is used by i-STEPS[®] to calculate controlled emissions or used by AQM staff to verify reported emissions.

Note: Data, such as emission estimates, annual fuel usage and process throughputs are not carried forward from the previous year as are some data that are not expected to change from year to year.

Process Unit Emissions

In this screen emissions of all pollutants for each process are reported.

► Pollutant Codes The pollutants codes VOC, NO₂, CO, SO₂, NH₃, PM-CON, PM₁₀-FIL, PM₁₀-PRI, PM₂₅-FIL and PM₂₅-PRI can be entered directly or from the Look Up table. Per EPA guidance the pollutant codes for PM_{2.5}-FIL, PM_{2.5}-PRI are PM₂₅-FIL and PM₂₅-PRI. Lead is reported as elemental Lead with CAS number for the metal Lead, CAS # 7439921. Dashes are not used, i.e. 7439-92-1 as are 124389 (Carbon dioxide), 74828 (Methane) and 10024972 (Nitrous oxide).

► Individual Chemicals Other chemicals are reported using their CAS#s.

Process Unit Emissions

- ▶ Pollutant Form Pollutants are emitted either as a particulate, a volatile or both. Use the Look Up Table to select the appropriate form.
- ▶ Overall Control Efficiency (view only) This control efficiency is calculated based on the product of the pollutant specific control efficiency in the Abatement Efficiency record and the Control Scenario capture efficiency for the specific process unit for each pollutant.

Process Unit Emissions

▶ Estimated Emission Method Code

- 1 Source Test (CEMs, PEMs Stack Tests)
- 2 Material Balance
- 3 Manually Calculated using AP-42/FIRE
- 4 Best Engineering Judgment (provide assumptions and explanation)
- 5 Manually Calculated using Local/Facility-Specific Emission Factor
- 6 New Construction (no emissions)
- 7 Source Closed
- 8 *i*-STEPS Calculated using AP-42/FIRE Uncontrolled Emission Factor
- 9 *i*-STEPS Calculated, Local/Facility- Specific Emission Factor

Process Unit Emissions

There are three basic acceptable methodologies used to estimate emissions.

1. The method that should provide the most accurate emission estimate would use source test information. Emission estimation method code 1 is used when emissions are estimated using stack test, Continuous Emissions Monitoring (CEMs), or Predictive Emissions Monitoring (PEMs).
2. If source test data are not available, the facility can in many cases use the material balance method to estimate emissions. For some sources material balance is the only practical method to estimate VOC emissions accurately.
3. An emissions factor is an average emission rate in pounds/unit at which the pollutant is released to the atmosphere as a result of some activity. Emission factors are not available for all processes and would generally provide the least accurate emission estimate.

Process Unit Emissions

Method Coe #1 - Source Testing emission estimation method code 1 is used when emissions are estimated using stack test, Continuous Emissions Monitoring (CEMs), or Predictive Emissions Monitoring (PEMs). Stack test data can only be used if the following procedures were followed:

- DNREC reviewed the protocol before testing to determine if the test method that is being used is a valid method given the pollutant, and if the test method will ensure valid data;
 - DNREC observed the test conducted to ensure that the approved protocol was followed; and
 - DNREC reviewed the final report to determine if the calibrations, reported data, and calculations were done properly.
- The Department must also approve CEMs and PEMs. Provide the date(s) of the stack tests and documentation for CEMs/PEMs, such as the dates ratas (compliance testing) were conducted.

Process Unit Emissions

Method Code 2 - The use of material balance method code 2 involves the examination of a process to determine if emissions can be estimated based solely on knowledge of specific operating parameters and material composition. Material balance is generally used for solvent evaporation sources to estimate VOC emissions. The simplest method of material balance is to assume that all solvent consumed by a source's process(es) will evaporate during the process(es). Operations/processes where material balance would be appropriate include: cleaning and coating using a solvent; polystyrene blowing and extruding; adhesive coating; or any other operation where the eventual evaporation of solvent to the atmosphere is part of the process. Use usage not purchases of raw materials. And remember to account for materials sent off site as waste.

Process Unit Emissions

An emissions factor is an average emissions rate developed for the type of process being reported on a pounds/unit bases. Emission factors are not available for all processes and generally emission factors provide the least accurate emission estimate.

Process Unit Emissions

- ▶ Emission Factors Emission factors associated with the SCC # are provided in the look up table. Generally the source of these emission factors are AP-42/FIRE and should only be used as a last resort when other methods of estimating emissions are not available. The AP-42 Internet address is: <http://www.epa.gov/ttn/chief/ap42/>
 - ▶ The FIRE database includes EPA's recommended emission factors for criteria and hazardous air pollutants. <http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main>
- Be aware that both FIRE and AP-42 contain controlled and uncontrolled emission factors.**

Process Unit Emissions

- ▶ Emission Factors continued Emission factors have not been developed for all processes. In this case an alternative method, accompanied by the appropriate documentation should be used to estimate emissions. Note: Multiple emission factors may be available for some process(s). Best engineering judgment should be used to determine which factor to use.
 - AP-42
 - Local/Facility Specific

Process Unit Emissions

- ▶ Estimated Emissions Tons/Year using method codes 8 or 9 When processes are controlled and using method codes 8 or 9 to calculate emissions the assumption is made that the emission factor i-STEPS® uses for its automated calculation is an **uncontrolled** emission factor. Emissions factors associated with a method code 8 are uncontrolled AP-42/FIRE emission factors. i-STEPS® will then use any abatement/control information associated with the process unit and pollutant in the emissions calculation. The controlled emissions are then displayed in the **Est. Emis. TPY Reported** field on the Process Unit Emissions screen. Below this field in the Process Unit Emissions screen i-STEPS® will display the **Uncontrolled Emissions**.

Volatile Organic Storage Tank Emissions

Air Quality Management highly recommends the use of the most recent version of EPA's TANKS software to estimate emissions from storage tanks. It is available at the following EPA web page.

<http://www.epa.gov/ttn/chief/software/tanks/index.html>

Facilities must run the Tanks Full Detailed Report and keep the report for their records. The facility should provide this report to AQM **upon request**. In addition, AQM may request the facility to provide all data files associated with the emissions estimated using the TANKS software.

Note: A facility need not provide information for storage tanks used for gasoline, kerosene, fuel oils, or propane. The exceptions are Bulk Terminals, Bulk Plants, and Petroleum Refineries. An estimation method code of 3 should be used to indicate the TANKS software was used.

Process Unit Emissions

- ▶ Estimated Emissions in Tons/Year manual calculated method codes 1, 2, 3, 4 or 5

All manually-calculated emission values, that is emissions using method codes 1,2,3,4, or 5, should be entered into the **Est. Emis. TPY Reported** field on the Process Unit Emission screen. The user must then select the proper **Estimated Emission Type** from the drop-down menu just below the **Est. Emis. TPY Reported** field.

(continued on next slide).

Process Unit Emissions

▶ Estimated Emissions in Tons/Year Manual
calculated method codes 1, 2, 3, 4 or 5 If the value entered into the **Est. Emis. TPY Reported** field represents emissions **after** the application of any control equipment, such as the case of a source test, then the **Estimated Emission Type** should be set to controlled. In this case , using any applicable abatement/control information is in i-STEPS[®], the system will calculate uncontrolled emissions. The emission value will be displayed in the **Uncontrolled Emission** field. (continued on next slide)

Process Unit Emissions

- ▶ Estimated Emissions in Tons/Year Manual
calculated method codes 1, 2, 3, 4 or 5 If the value entered into the Est. Emiss. TPY Reported field represents emissions before the application of any control equipment then the Estimated Emission Type should be set to Uncontrolled. On Save and Refresh if there is any applicable abatement/control information in i-STEPS®, the system will move the entered value into the Uncontrolled Emissions field, calculate controlled emissions, and display the controlled emission value in the Est. Emis. TPY Reported field.

Process Unit Emissions

- ▶ Estimated Emissions Tons/Year Manual calculated method codes 1, 2, 3, 4 or 5 In the case where no abatement/control information is available then the values in the **Est. Emiss. TPY Reported** and uncontrolled Emissions fields will be the same. When the screen is refreshed the **Estimated Emission Type** field will always default to Controlled to show that the value in the **Est. Emiss. TPY Reported** represents emissions after any applicable abatement/control equipment (even if there is none.)

Process Unit Emissions

In a limited number of cases a facility may not want to provide abatement/control information for i-STEPS to use in its calculations. Examples of this may be where emission estimates are based on Stack Tests or Continuous Emission Monitors (CEMs) identified as an emissions method code 1. The facility must still provide the abatement/control information (control device and overall control efficiency) within the Calculations and Documentation field near the bottom of the Process Unit Emissions screen along with the calculations and documentation. The Facility Calculations and Documentation field is available below the Uncontrolled Emissions field on the Process Unit Emissions screen. This information will allow AQM staff to validate and correctly calculate uncontrolled emissions.

Process Unit Emissions

- ▶ Estimated Emissions Type A controlled/uncontrolled switch is used in calculating emissions of either the controlled or uncontrolled emissions depending on the emission estimated enter into the system for estimated emission method codes 1,2,3,4 and 5. Review the previous slides on Estimated Emissions in Ton/Year for more information.
- ▶ O3 Season Daily Emissions in lbs/day This value is automatically calculated by the system for VOC, NO₂ or CO were applicable using information supplied to the system.

Process Unit Emissions

- ▶ Facility Calculations and Documentation Please provide emissions calculations when the emissions are not automatically calculated by the system or provide the abatement/control information (control device and overall control efficiency) if not already provided. Provide any additional information and documentation that will be useful to AQM and future staff at the facility to understand how the emissions were derived. You can cut and paste from other documents into this field.

Process Unit Emissions

- ▶ Date of Stack Test If stack test data are used in calculating the emission estimate, please provide the date the stack test was conducted.

Accidental Releases

- ▶ Reporting Accidental Release Information

Contact AQM on best way to report these emissions.