# Georgia Department of Natural Resources
## Environmental Protection Division
## Air Protection Branch

# Procedure to Calculate a Facility's "Potential to Emit" and to determine its Classification

**Revised**
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**PURPOSE AND INTENDED USE OF THIS DOCUMENT**

The primary purpose and intended use of this document is to provide guidance for owners and operators of stationary sources of air pollution in determining if the source is a major source subject to the Title V Operating Permits Program [Georgia Rule 391-3-1-.03(10)].

In addition to the stated primary purpose and intended use stated above, this document may also be used to determine Potential to Emit under other regulatory programs such as Nonattainment New Source Review (NSR) [Georgia Rule 391-3-1-.03(8)(c)], Prevention of Significant Deterioration (PSD) [Georgia Rule 391-3-1-.02(7)], Compliance Assurance Monitoring (CAM) [Georgia Rule 391-3-1-.02(11)], and Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Paragraph 112(g) [Georgia Rule 391-3-1-.02(9)(b)16.]. However, when using this document for these other programs, the user must note any minor and/or subtle differences and/or exceptions in the other programs that may not be described in this document. For example, the NSR and PSD programs have slightly different requirements for the inclusion of fugitive emissions. And the CAM program uses the term potential pre-control device emissions, which is not used in this document.

**POTENTIAL TO EMIT AND SOURCE CLASSIFICATION**

A. Potential to Emit

"Potential to Emit" - means the maximum capacity of a stationary source to emit any regulated air pollutant under its physical and operational design. Any physical and operational limitation on the capacity of the source to emit a regulated air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is legally and practically enforceable[1].

The "potential to emit" of a facility is therefore a calculation of the maximum potential of the facility to emit listed air pollutants. This potential is expressed in tons of pollutant per year for each listed air pollutant emitted by the facility. The potential must be calculated for continuous 24 hours per day, 365 days per year operation (8760 hours/year), unless the facility has specific physical or operational design constraints or bottlenecks in the operation of its equipment where the equipment cannot operate continuously. If no such constraints exist, the facility must calculate emissions as if it was operating 8760 hours/year, regardless of the actual operation schedule of the facility. In addition, the potential to emit must be calculated under worst-case conditions for each pollutant emitted by the facility. This means that for each listed air pollutant emitted by the facility, the highest polluting product, raw material, fuel, or operation method must be considered.

A facility's "potential to emit" or "PTE" is used to determine the classification of a facility as discussed below.

B. Source Classification

All industry can be divided into 3 source classifications, Title V Major (A), Synthetic Minor (S), True Minor (B).

i) Title V Major Sources (Major Source) - facilities that have or will have the potential to emit one or more of the following:

a. 100 tons per year or more of at least one regulated air pollutant.

b. 25 tons per year of VOC's or 25 tons per year of NOx in the following counties: Cherokee, Clayton, Cobb, Coweta, Dekalb, Douglas, Forsyth, Fayette, Fulton, Gwinnett, Henry, Paulding, and Rockdale. These counties are generally referred to as counties that were formerly part of the 1-hour ozone nonattainment area[2].

c. 10 tons per year or more of at least one hazardous air pollutant.

d. 25 tons per year or more of any combination of hazardous air pollutants.

ii) Synthetic Minor Sources - facilities that would be Title V Major Sources except that their potential to emit is reduced below major source thresholds by enforceable permit conditions. These enforceable conditions are included in the facility's Air Quality Permit.

[1] Georgia Rule 391-3-1-.01(ddd). See also Georgia Rule 391-3-1-.02(7)(a)2.(v).
[2] Georgia Rule 391-3-1-.03(8)(c)13.

iii) True Minor Sources - facilities whose potential to emit is below the thresholds listed above without the use of enforceable physical or operational limitations in their Air Quality Permit.

Since these classifications are based on a facility's "potential to emit", it is important for all industrial facilities to accurately calculate their potential to emit and correctly determine their source classification. The classification the facility falls under determines what type of permitting requirements are applicable.

C. Potential to Emit Calculation. Before undertaking the "potential to emit" calculation, it is important to understand several related concepts:

i) Regulated Air Pollutants - a facility's potential to emit must be calculated for all regulated air pollutants. A pollutant may sometimes be classified as both a VOC and a HAP (112(b)). The facility must calculate the potential to emit this pollutant both as a VOC and as a HAP. A facility will have a different potential to emit for each pollutant.

ii) Fugitive Emissions – Non-HAP fugitive emissions are considered in the calculation of potential to emit only if the facility is one of the source categories or contains a source listed in Appendix A.

iii) Allowable versus Maximum Hourly Uncontrolled Emission Rate - a facility calculates its potential to emit by calculating the potential to emit from each emissions unit at the facility for each regulated air pollutant emitted, and then adding together all the potential emissions of the same pollutant from different emissions units. When calculating each emissions unit's potential to emit, the facility shall use the lower of the emissions unit's allowable emission rate (from state or federal regulations or permit conditions) and its maximum hourly uncontrolled emission rate (MHUER). The way to use allowable emission rates is explained in Appendix B. The way to use the MHUER to calculate potential to emit is explained in Appendix E.

iv) Continuous Operation - Potential to emit is calculated assuming the facility operates continuously 8,760 hours per year. This requirement applies to all facilities regardless of the actual hours of operation of the facility. There are, however, two exceptions to this requirement:

a. if the facility has operational constraints or bottlenecks in its operation, where it cannot operate one or more emissions units continuously because of physical constraints on the equipment, the affected equipment may be treated as operating less than 8,760 hours per year. Bottlenecks are described in Appendix D.

b. if the facility has practically enforceable limitations in its Air Quality permit that limit the PTE from the facility. These limitations may be taken into account when calculating the facility's PTE. Practical enforceability is described in Appendix F (Note: Practically enforceable permit limitations can limit emissions directly, hours of operation, amount and type of product manufactured, amount and type of raw material processed, amount and type of fuel combusted, etc.).

v) Practically enforceable limits on PTE - practically enforceable limits can be included in the facility's Air Quality Permit to reduce the facility's PTE. These limits can involve emission, production or operational limits. If practically enforceable conditions exist in a facility's Air Quality Permit, these conditions can be used to limit the facility's potential to emit. The way to determine whether these limits exist is described in Appendix F.

vi) Practically enforceable permit limits form the basis of Georgia's Synthetic Minor Source Permitting program. If a source calculates its potential emissions at over Major Source Threshold levels, it can request that practically enforceable permit limits be incorporated into its Air Quality Permit to reduce its potential emissions and be exempt from Major Source permitting requirements. This source would then become a Synthetic Minor Source.

**GLOSSARY OF TERMS**

**Air Pollution Control Equipment**[3]: Equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere. The types of equipment that may commonly be used as control devices include, but are not limited to, fabric filters, mechanical collectors, electrostatic precipitators, inertial separators, afterburners, thermal or catalytic incinerators, adsorption devices (such as carbon beds), condensers, scrubbers (such as wet collection and gas absorption devices), selective catalytic or non-catalytic reduction systems, flue gas recirculation systems, spray dryers, spray towers, mist eliminators, acid plants, sulfur recovery plants, injection systems (such as water, steam, ammonia, sorbent or limestone injection), and combustion devices independent of the particular process being conducted at an emissions unit (e.g., the destruction of emissions achieved by venting process emission streams to flares, boilers or process heaters). For purposes of this guidance document, a control device does not include passive control measures that act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics. If an applicable requirement establishes that particular equipment which otherwise meets this definition of a control device does not constitute a control device as applied to a particular pollutant-specific emissions unit, then that definition shall apply for the purposes of this guidance document.

**Allowable Emission Limit**: Any federal or state regulatory emission limit determined from the Georgia Rules for Air Quality Control Chapter 391-3-1-.02 or from Title 40 CFR Part 60, Part 61 and Part 63.

**Applicable Requirement**: Any federal or state emission limitation, emission standard, standard of performance, or other requirement established pursuant to the 1990 CAAA.

**Emissions Unit**: Any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term "unit" for purposes of Title IV of the Act.

**Fugitive Emissions**: Those emissions which could not reasonably pass through a stack, chimney, vent or other functionally-equivalent opening.

**Inherent Process Equipment**[4]**:** Equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment. For the purposes of this guidance document, inherent process equipment is not considered a control device.

**Maximum Capacity to Emit**: The operating condition that results in the highest hourly emission rate.

**Area Formerly Designated as 1-hour Ozone Nonattainment Area**: Area made up of the following ozone nonattainment counties: Cherokee, Clayton, Cobb, Coweta, Dekalb, Douglas, Forsyth, Fayette, Fulton, Gwinnett, Henry, Paulding, and Rockdale.

**Physical and Operational Limitation**: Limitation on the type and amount of product produced, raw material processed, or fuel combusted, including limitations in hours of operation, and limits on emissions due to the enforceable operation of control equipment. Physical and Operational Limitations may be treated as part of a stationary source's design if the limitation is practically enforceable.

**Synthetic Minor Source Applicant**: A Title V Major Source (based on potential emissions) that elects to take physical, operational, production, or emission limitation to reduce its potential to emit below Title V Major Source Thresholds.

**Title V Major Source Threshold**:

1. 100 tpy of a regulated air pollutant;
2. 25 tpy of VOC or NOx in the following counties: Cherokee, Clayton, Cobb, Coweta, Dekalb, Douglas, Forsyth, Fayette, Fulton, Gwinnett, Henry, Paulding, and Rockdale. These counties are generally referred to as counties that were formerly part of the 1-hour ozone non-attainment area;
3. 10 tpy of a single Hazardous Air Pollutant;
4. 25 tpy of any combination of Hazardous Air Pollutants

[3] See 40 CFR 64.1 adopted by reference at Georgia Rule 391-3-1-.02(11).
[4] Ibid.

## APPENDIX A

**Source Categories for Fugitive Emissions of Regulated Pollutants [40 CFR 70.2]**

When determining PTE for hazardous air pollutant (HAP) emissions, all HAP fugitive emissions are required to be included in the PTE calculation for the site.

For non-HAP emissions, fugitive emissions are not required to be included in the PTE calculation for the site unless facility falls under one of the source categories listed below. If the facility does fall under one of the source categories listed below, fugitive emissions must be included in the PTE calculation for the site.

1. Coal cleaning plants (with thermal dryers)
2. Kraft Pulp Mills
3. Portland cement plants
4. Primary zinc smelters
5. Iron and steel mills
6. Primary aluminum ore reduction plants
7. Primary copper smelters
8. Municipal incinerators capable of charging more than 250 tons of refuse per day
9. Hydrofluoric, sulfuric, or nitric acid plants
10. Petroleum refineries
11. Lime plants
12. Phosphate rock processing plants
13. Coke oven batteries
14. Sulfur recovery plants
15. Carbon black plants (furnace process)
16. Primary lead smelters
17. Fuel conversion plants
18. Sintering plants
19. Secondary metal production plants
20. Chemical process plants
21. Fossil-fuel boilers totaling more than 250 MMBtu/hr heat input
22. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
23. Taconite ore processing plants
24. Glass fiber processing plants
25. Charcoal production plants
26. Fossil-fuel-fired steam electric plants of more than 250 MMBtu/hr heat input
27. All other stationary source categories regulated by a standard promulgated as of August 7, 1980, under 111 (NSPS) or 112 (Part 61 or Part 63 NESHAPS) of the Act respectively, but only with respect to those air pollutants that have been regulated for that category.

**APPENDIX B**

**Methods of Calculating Potential to Emit (PTE) using Allowable Emission Rates**

Methods 1 through 9 have equal priority. If more than one is applicable, use the method which results in the lowest "Potential to Emit." Method 9 may only be used if the emission unit meets the criteria described within the method.

1. If an emission unit, process, or fuel burning equipment has a specific annual or 12 month rolling total emission limit for an air pollutant set by a Federal or State rule or regulation or a practically enforceable permit condition, that emission unit (in tons per year) shall be used as the potential emission rate for the specific pollutant.

2. If an emission unit, process, or fuel burning equipment has a specific monthly, weekly, or daily (or any other period of time greater than an hour but less than a year) emission limit for an air pollutant set by a Federal or State rule or regulation or a practically enforceable permit condition, that limit shall be multiplied by the maximum number of months, weeks or days the unit, process or fuel burning equipment can operate per year at its maximum capacity to emit air pollution.

3. If an emission unit, process, or fuel burning equipment has a specific hourly (or less) emission limit for a criteria pollutant set by a Federal or State rule or regulation or a practically enforceable permit condition that limit shall be multiplied by 8760 hours per year (U.S. EPA default value) or by the maximum number of hours per year the unit, process or fuel burning equipment can operate at its maximum capacity to emit air pollution (See Appendix D).

4. If an emission unit, process, or fuel burning equipment has a specific concentration emission limit (grain/dscf, ppm, etc.) for an air pollutant set by a Federal or State rule or regulation or a practically enforceable permit condition, the concentration limit shall be converted to a mass per unit time basis (lb/hr, etc.) using the maximum gas flow rate under normal operation. If the limit is corrected to a specific diluent concentration and/or moisture concentration, the gas flow rate should be corrected to the same basis as the limit. That mass per unit time limit shall then be multiplied by the maximum potential time of operation for the emissions unit, fuel burning, or process equipment (See Appendix D).

   The following formula should be used to calculate a conversion factor for converting ppm emission limits or rates to units of lb/dscf which can then be used to convert to a lb/hr basis:

   $(2.59 \times 10^{-9} \times M)\ lb/dscf = 1\ ppm$ (equation 4)

   M = pollutant molecular weight
   = 64.07 for SO2
   = 46.01 for NOx

5. If an emission unit, process, or fuel burning equipment has a Federal or State rule or regulation or a practically enforceable permit condition which imposes a fixed emission limit in units other than mass per unit time, or an emission limit which is defined by formula and is dependent upon the operating level (lb/MMBtu, lb/unit of production, lb VOC/gallon of coating solids, etc.) the owner or operator shall use the following formula for calculating the potential emission rate:

$$PE = EL \times OL \times H \frac{hrs}{year}$$ (equation 5-1)

where:
- PE = potential emission rate (tons/year).
- EL = allowable Emissions Limit for the pollutant (lb/MMBtu, lb/unit of production, lb VOC/gallon of coating solids delivered to applicator, etc.) When the allowable emission limit is defined by a formula, the maximum hourly operating level should be used to calculate EL.
- OL = maximum hourly Operating Level during the calendar year (MMBtu/hr, units of production/hr, gallons/hr of coating solids delivered to applicator, etc.)
- H = 8760 hours per year (U.S. EPA default value) or the maximum number of hours per year the unit, process or fuel burning equipment can operate at its maximum capacity (See Appendix D).

If a stationary source uses any non-compliant coatings, emission limits in terms of lb VOC/gallon of coating must be converted to lb VOC/gallon of coating solids using methods specified in section 1.8(b)(2) of the Division's Procedures for Testing and Monitoring Sources of Air Pollution (See Appendix C). If only compliance coatings were used, emissions may be calculated using the lb VOC/gallon of coating limit times the maximum gallons of coating used or applied (as applicable) during the year.

In the case when the calculated emission limit is in pounds per hour, the potential emission rate (PE) is calculated by multiplying the emission limit (EL) times 8760 hours per year (U.S. EPA default value) or the maximum number of hours per year the unit, process or fuel burning equipment can operate at its maximum capacity (See Appendix D).

$$PE = EL \times H \frac{hours}{year} \qquad \text{(equation 5-2)}$$

6. If an emission unit, process, or fuel burning equipment has a specific sulfur-in-fuel emission limit set by a Federal or State rule or regulation or a practically enforceable permit condition, the owner or operator shall use the following formulas for calculating the potential to emit sulfur dioxide.

Coal

$$PE = \frac{39S \times \text{maximum coal firing rate} \frac{tons}{hour} \times H}{2000} \qquad \text{(equation 6-1)}$$

Residual Oil

$$PE = \frac{157S \times \text{maximum residual oil firing rate} \frac{gal}{hour} \times H}{2x10^6} \qquad \text{(equation 6-2)}$$

Distillate Oil

$$PE\ (\text{tons } SO_2/yr) = \frac{142S \times \text{maximum distillate oil firing rate} \frac{gal}{hour} \times H}{2x10^6} \qquad \text{(equation 6-3)}$$

Note: the regulatory sulfur-in-fuel limit for & distillate oil (no. 2 fuel oil or lighter) may be assumed to be 0.5%.

Other Fuels

$$PE\ (\text{tons } SO_2/yr) = \frac{2S \times \text{maximum lb/yr of fuel firing rate}}{200{,}000} \qquad \text{(equation 6-4)}$$

where: PE = Potential Emission Rate of sulfur dioxide in tons per year.
S = sulfur-in-fuel limit expressed as a decimal (i.e. for 2.5% sulfur limit, S = 2.5).
H = 8760 hours per year (U.S. EPA default value) or the maximum number of hours per year the unit, process or fuel burning equipment can operate at its maximum capacity (See Appendix D).

If a combination of fuels is combusted, the combination which results in the largest PE shall be used.

7. If an emission unit, process, or fuel burning equipment has an emission reduction requirement (i.e. control efficiency or required capture and control efficiency) set by a Federal or State rule or regulation or a practically enforceable permit condition, the emission rate is the sum of the required emissions reduction applied to the captured emissions plus the uncaptured maximum annual emissions. If capture efficiency is not included as part of the limit, 80% capture efficiency shall be assumed for process equipment unless demonstrated otherwise and 100% capture efficiency shall be assumed for fuel burning equipment unless demonstrated otherwise.

8. If an emission unit, process, or fuel burning equipment has a specific emission or production limit see by a Federal or State rule or regulation or a practically enforceable permit condition, which is not listed in methods I through 7, that emission or production limit shall be used for calculating the potential emissions.

9. Existing emission units subject to Georgia Rule 391-3-1-.02(2)(e) or 391-3-1-.02(2)(p) equipped with air pollution control equipment may use the design control efficiency or maximum controlled emission rate, as listed in the air

quality permit application, to calculate PTE in lieu of the Rule (e) or Rule (p) allowable emission rate if the following criteria are satisfied:

a. The use of the air pollution control equipment must be specifically required in the permit. In other words, operation of the emission unit without operating the air pollution control equipment would be a violation of the permit.
b. The permit must include monitoring that is sufficient to ensure good air pollution control practice for minimizing emissions. The monitoring must be no less frequent than once per day.
c. The Permittee must have supporting data, subject to EPD approval, that the emissions are less than the rate proposed to be used to determine the unit's PTE.
    i. For baghouses, in the absence source specific data, EPD will approve the use of 0.04 gr/dscf.
d. Nothing in this paragraph shall be construed to limit EPD's authority or ability to require additional emission limits and/or operating limits for the purpose of avoiding Title V, Part 63 NESHAP, 112(g), PSD, and/or NAA NSR applicability. This paragraph does not apply to new or modified emission units when applying for a construction permit.

**APPENDIX C**

**Excerpt from Division's Procedures for Testing and Monitoring Sources of Air Pollution**

Procedure for converting emission limits in terms of lb VOC/gallon of coating to lb VOC/gallon of solids. The following is section 1.8(b)(2) as stated in the Division's Procedures for Testing and Monitoring Sources of Air Pollution.

1.8 (b) (2) Calculate the emission limitation on a solids basis according to the following equation:

$$S = \frac{C}{1 - \left(\frac{C}{d}\right)}$$

where: S = VOC emission limitation in terms of kg VOC/L of coating solids (lb. VOC/gal. coating solids);
C = the VOC emission limitation in terms of kg VOC/L of coating (lbs./gal.), minus water and exempt compounds; and
d = the density of VOC for converting emission limitation to a solids basis. The density equals 0.882 kg/L (7.36 lb./gal.), unless otherwise approved or specified in a specific case.

**APPENDIX D**

**Determination of Maximum Hours of Operation**

Once the facility has determined an hourly emission rate for the emission unit, it must determine the maximum number of hours per year the unit operates. The U.S. EPA default value is 8760 hours per year (24 hours per day and 52 weeks per year - continuous operation). Federal regulations require the use of 8760 hours/year operation when calculating "Potential to Emit" except when the equipment's physical or operational design limit its operation. These physical or operational design limitations, also called constraints, can be taken into account when calculating an emission unit's maximum hours of operation.

Constraints or "Bottlenecks" in Production:

A source may take credit for not operating an emissions unit 8760 hours/year (24 hours/day, 365 days/year) if constraints or "bottlenecks" in production limit the unit's operation. An example where such a constraint may occur is when a process depends on other processes in order to operate. Market conditions cannot be considered constraints, i.e., simply because orders for widgets have gone down does not mean widget manufacturing must go down. The use of mutually exclusive raw materials having different potential emissions requires the facility to calculate potential emissions for the continual use of the worst polluting material. In addition, work-day or work-week schedules for a facility, like 5 hour days or two 8-hour shifts per week, cannot be considered constraints. Thus, a facility must scale up emissions to reflect a 24 hour per day operation. The following example illustrates how constraints can be used to calculate maximum hours of operation for an emissions unit.

Widget Production Example:

A process that involves the manufacture of widgets, has to pre-treat the widget for painting, and then paint the widgets. Say in a normal work week of 80 hours/week (8 hours/shift, 2 shifts/day, 5 days/week) the facility makes 40 widgets which represents the maximum production capacity for the facility. If it is estimated that each widget requires 1 hour for pre-treatment and 1 hour for painting, 40 hours/week are spent in pre-treatment, and the other 40 hours are spent painting. In order to calculate the maximum hours of operation for the emission units involved in the pre-treating and painting processes, the 40 hours/week schedule needs to be scaled up to correspond with a work-week of 168 hours (24 hours/day, 7 days/week) instead of a work-week of 80 hours/week. The calculation is as follows:

$$\frac{40\ \frac{hours}{week}\ painting}{80\ \frac{hours}{week}\ actual\ operation} = \frac{X\ \frac{hours}{week}\ painting\ potential}{168\ \frac{hours}{week}\ potential\ operation}$$

Solving for X in the above equation gives the potential hours that the painting process can operate per week - 84 hours/week. Multiplying these potential hours per week by 52 weeks per year gives 4,368 potential hours per year that the emissions unit in this painting process operates. This number is then multiplied by the Allowable Hourly Emission Rate or the Maximum Hourly Uncontrolled Emission Rate to obtain the Potential to Emit for the emission unit in question.

Emergency Generator Example:

Emergency generators are an example of type of emission unit that has inherent physical limitations and/or operational design features which restrict its potential emissions. Emergency generators are constrained in their operation, in the sense that, by definition and design, they are used only during periods where electric power from public utilities is unavailable. U.S. EPA[5] has recommended that the PTE be based upon an estimate of the maximum amount of hours the generator could operate, taking into account (1) the number of hours power would be expected to be unavailable and (2) the number of hours for maintenance activities. The U.S. EPA stated that 500 hours would be an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case conditions. Alternative estimates can be made on a case-by-case basis where justified by the source owner or permitting authority (for example, if historical data on local power outages indicate that a larger or smaller number would be appropriate, or if the generator was avoiding being subject to an emission limitation under Georgia Rule 391-3-1-.02(2)(mmm) or another state or federal rule).

[5] September 6, 1995 memo from John S. Seitz regarding, "Calculating Potential to Emit (PTE) for Emergency Generators."

**APPENDIX E**

**Methods of Calculating Potential to Emit**
**using**
**Maximum Hourly Uncontrolled Emission Rates**

In order to calculate an emissions unit's Potential to Emit" one must first calculate the unit's Maximum Hourly Uncontrolled Emission Rate (MHUER). To calculate an emissions unit's MHUER, one must first determine if the unit is equipped with an air pollution control equipment. See the definitions of “air pollution control equipment” and “inherent process equipment” in the Glossary section of this guidance document. Any equipment that meets the definition of “inherent process equipment” is considered as part of the facility's physical and operational design for purposes of calculating potential to emit.

One must then determine the number of hours per year that represent the maximum capacity. See Appendix D to determine if the emission unit's PTE is calculated using 8760 hours/year or using an adjusted value for the yearly hours of operation.

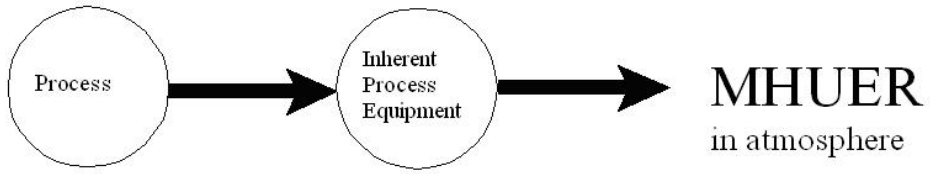
The formula to use when calculating an emissions unit's Potential to Emit based on its MHUER is as follows:

Potential to Emit = MHUER (lb/hr) x H (hrs/yr)

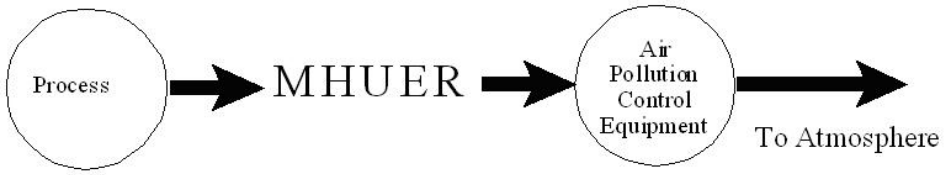
where H = 8760 hours per year (U.S. EPA default value) **or** hours per year indicative of the maximum capacity of the facility according to Appendix D.

The following diagrams indicate what the Maximum Hourly Uncontrolled Emission Rate is for each scenario:

**Source Equipped with Inherent Process Equipment**




**Air Pollution Control Equipment**



The MHUER of an emissions unit is its estimated maximum hourly uncontrolled emission rate. It can be expressed in units of lbs/hour, tons/hour, grains/hour, and so on. MHUER is used to calculate the Potential to Emit of an emissions unit, which is expressed in units of tons/year. This is done by calculating the product of MHUER and the emission unit's maximum operating schedule. This schedule can be a maximum of 8760 hours/year, or it can be an adjusted schedule calculated according to the guidance given in Appendix D.

Methods for estimating MHUER are listed below in order of priority. When more than one source of data can be used to calculate MHUER, the method with the highest priority should be used.

1. Material balance for VOC emissions except where over 50% of the VOC used is carried out in a product or by-product (i.e. includes printing, coating, etc. does not include paint mixing, etc.)

2. Representative emissions test data or continuous emissions monitor data (i.e. SO2 or NOX monitoring systems) during the present calendar year. If more than one emissions test is conducted during the year, the average of all tests conducted shall be used.

3. Representative emission test data performed during a previous calendar year.

4. Representative test data from similar processes.

5. Emission factors - The owner or operator shall obtain emission factors from the following publications, listed in order of priority. When the emission factor or control efficiency is given as a range of values, the average of the range shall be used. Emission factors should only be used to calculate PTE as a last resort when better sources of information (as described in items 1-4 above) are not available. Whenever factors are used, one should be aware of their limitations in accurately representing a particular facility, and the risks of using emission factors in such situations should be evaluated against the costs of further testing or analyses. The use of inaccurate (with low bias) emission factors has led to many enforcement cases in Georgia and across the country. The penalties for using such an inaccurate emission factor can be very severe.

    i. U.S. EPA document AP-42, "Compilation of Air Pollutant Emission Factors", as revised
    ii. U.S. EPA document EPA 450/4-90-003' "AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants", as revised
    iii. Emission factors developed by industry or trade associations or government regulatory agencies (may be subject to approval by the Division)
    iv. Any other published emission factors (may be subject to approval by the Division)
    v. Material balance
    vi. Design calculations
    vii. Best available estimate

## APPENDIX F

### Practically Enforceable Permit Conditions

A facility's classification is primarily dependent upon its "Potential to Emit". A facility may be classified as a Title V Major Source if its PTE is over a certain threshold. However, a facility may choose to take practically enforceable limits on its production to reduce its PTE and thereby not be a Title V Major Source.

Permit conditions can limit a facility's "Potential to Emit". Such permit conditions would include a limitation on the operation, production, emission rate, or air pollution control equipment, from the emissions unit. These permit conditions may include direct emission limits, limits on hours of operation, limits on amount of raw material processed, limits on amount of finished product produced, limits on amount or type of material combusted, or requirements for the operation of specific air pollution control equipment. However, in order for these permit conditions to effectively limit the potential emissions from the source the conditions must be "Practically Enforceable."

Practically Enforceable: A permit limit is enforceable as a practical matter (or practically enforceable) if permit conditions establish a clear legal obligation for the source and allow compliance to be verified. It is important that permit conditions be unambiguous and do not contain language which may intentionally or unintentionally prevent enforcement. Permit limits or other applicable requirements must have associated monitoring, recordkeeping, and reporting to make it possible to verify compliance and provide for documentation of non-compliance.

Practically enforceable limitations may be used with procedures in Appendix B to calculate an emission unit's PTE. If the operation of specific control equipment is required by a practically enforceable permit condition, the design control efficiency or maximum controlled emission rate as listed in the air quality permit application may be used to calculate a unit's PTE.

## APPENDIX G

### Limitations to Reduce Potential to Emit below Title V Major Source Thresholds

If the facility is classified as a Major Title V Source, it may have the option of choosing to be permitted as a Synthetic Minor Source. To do this, the facility must determine what regulated air pollutant(s) make it a Major Source. For each of these pollutants, the facility must determine if the pollution generating equipment can accept any of the following physical or operational limitations:

1. Restriction on hours of operation to below 8760 hours per year;

2. Restriction on types or amounts of material combusted;

3. Restriction on types or amounts of material processed;

4. Reduction of allowable emission limits supported by practically enforceable requirements for the operation of Air pollution control equipment.

For each different limitation adopted, enforceable conditions must be added to the facility's Air Quality Permit to make them a Synthetic Minor Source.