



**Air Pollution Control Permit Number: RCP-G01**

**AIR POLLUTION CONTROL TYPE G01  
REGISTRATION CONSTRUCTION PERMIT (RCP)  
FOR FACILITIES WITH INTENT TO ENTER  
TIER 2 OF THE GREEN TIER PROGRAM**

In compliance with the provisions of Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code, the permittee granted coverage under this permit is authorized to operate a direct stationary source in conformity with the conditions herein.

The authority to construct, modify, replace, reconstruct and initially operate any process covered in this **Construction Permit expires eighteen (18) months** from the date of coverage under this permit. This approved period to construct, modify, replace, reconstruct, and initially operate may be extended for up to 18 months upon request for cause, prior to expiration, unless otherwise specified by this construction permit. [s. 285.60(1), Wis. Stats.; s. NR 406.12, Wis. Adm. Code]

All facilities covered under this permit are subject to the General Conditions in Part Ia. Additional source-specific conditions applicable only to the covered source may be included in Part Ib. Conditions in Part Ib that were established in a source-specific construction permit are permanent unless they are revoked or revised through revision of that construction permit or through the issuance of a new source-specific construction permit.

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in all Parts hereof.

Dated at Madison, Wisconsin, February 1, 2019

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES  
For the Secretary

By /s/ Kristin Hart  
Kristin Hart  
Chief, Air Permits and Stationary Source Modeling Section

# Registration Permit Contents, Glossary of Terms, and Other Useful Information

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## Glossary of Terms Used in This Permit and Other Useful Information

**Annual maximum controlled emissions** – For the purposes of this permit, annual maximum controlled emissions are the maximum hourly emissions calculated using the control efficiencies listed in Section G of Part Ia of this permit or in any source specific conditions listed in Part Ib of this permit (if control equipment is used) multiplied by 8,760 hours per year for all emissions sources at the facility. Emission units listed in Attachment 1 of Part Ia are not included in the calculation of annual maximum controlled emissions. If an emission unit’s physical design makes it impossible to operate 8,760 hours per year, the annual maximum controlled emissions may be calculated taking time restrictions into account.

**Environmental Management System** means an organized set of procedures to evaluate environmental performance and to achieve measurable or noticeable improvements in that environmental performance through planning and changes in operations. For the purposes of qualifying for this permit, a facility’s environmental Management System must obtain ISO 14001 certification or be determined by DNR to be Functionally Equivalent, as defined in s. 299.83, Wis. Stats.

**Facility-wide emissions** – For the purposes of this permit, facility-wide emissions are the total actual emissions generated by all emission sources at the facility, except emission units listed in Attachment 1 of Part Ia, taking into account any reductions made by a control device or technique. When considering reductions made by a control device, only the control devices and control device efficiencies listed in Part Ia may be used unless they were included in Part Ib.

**Hazardous air pollutants or contaminants** are those regulated by s. 112(b) of the Clean Air Act and ch. NR 445, Wis. Adm. Code.

**Participation Contract** means a contract entered into by the department and a participant in Tier 2 of the Green Tier Program, and that may, with the approval of the department, be signed by other interested parties, that specifies the participant’s commitment to superior environmental performance and the incentives to be provided to the participant.

**Photochemically Reactive Organic Compounds** are defined in s. NR 419.02(14), Wis. Adm. Code, as any of the following: Group A: Hydrocarbons, alcohols, aldehydes, esters, ethers or ketones, which have olefinic or cyclo-olefinic type unsaturation. Group B: Aromatic compounds with 8 or more carbon atoms to the molecule, except ethylbenzene. Group C: Ethylbenzene, toluene or ketones having branched hydrocarbon structures. Group D: A solvent or mixture of organic compounds in which any of the following conditions are met: 1. More than 20% of the total volume is composed of any combination of

compounds listed in group A, B, or C above. 2. More than 5% of the total volume is composed of any combination of the compounds listed in group A above. 3. More than 8% of the total volume is composed of any combination of the compounds listed in group B above.

**Volatile Organic Compounds** or VOC is defined in s. NR 400.02(162), Wis. Adm. Code, and means any organic compound which participates in atmospheric photochemical reactions. This includes any such organic compound other than those listed in s. NR 400.02(162), Wis. Adm. Code.

### **Abbreviations**

BACT – Best Available Control Technology

Department – Department of Natural Resources, DNR

EMS – Environmental Management System

GACT – Generally Available Control Technology

HAP – Hazardous Air Pollutant or Contaminant

LACT – Latest Available Control Technique and Operating Practices Demonstrating Best Current Technology

LAER – Lowest Achievable Emission Rate

MACT – Maximum Achievable Control Technology

MSDS – Material Safety Data Sheet

NESHAP - National Emission Standard for Hazardous Air Pollutants

NSPS – New Source Performance Standard

PHAP – Hazardous Air Pollutant emitted as a particle

PM – Particulate Matter less than 100 micrometers in diameter

PM<sub>10</sub> – Particulate Matter less than 10 micrometers in diameter

PM<sub>2.5</sub> – Particulate Matter less than 2.5 micrometers in diameter

ROP – Registration Operation Permit

RCP – Registration Construction Permit

VHAP – Hazardous Air Pollutant emitted as a vapor

VOC – Volatile Organic Compounds

Wis. Adm. Code – Wisconsin Administrative Code

Wis. Stats. – Wisconsin Statutes

## Part Ia – General Permit Conditions

### A. ELIGIBILITY AND EMISSION LIMITATIONS

All facilities covered by this permit must meet the following eligibility requirements and emission limitations:

1. Green Tier 2 Application Requirements for facilities not yet in Tier 2 of the Green Tier Program and Tier 2 Acceptance Schedule:

- (a) The facility shall gain acceptance to Tier 2 of the Green Tier Program and submit proof of acceptance to the Air Management Program, including a signed participation contract, within 18 months of obtaining coverage under this permit.
- (b) The facility may apply for and the department may approve an extension for an additional 18 months to gain acceptance into Tier 2, if a facility demonstrates to the department's satisfaction that it has taken steps and is progressing to Tier 2 status under the Green Tier Program.
- (c) If the facility fails to obtain acceptance into Tier 2 of the Green Tier Program within the timeframes in 1.(a) and 1.(b) above, it will no longer be eligible for coverage under the Type G01 Registration Construction Permit. The facility shall submit an application for an appropriate construction permit under chs. NR 405, 406, or 408, Wis. Adm. Code, prior to expiration of the time allotted in this Green Tier 2 acceptance schedule. As long as the facility has submitted an application for a different type of permit and responds to requests from the department for additional information in timeframes laid out by the department, the facility may continue to operate under this registration permit until issuance of the appropriate construction permit.
- (d) Coverage under this permit will be withdrawn and any source specific conditions revoked per s. NR 406.11(1), Wis. Adm. Code, for any of the following reasons:
  - (1) upon expiration of this Green Tier 2 acceptance schedule except as allowed under (2) below;
  - (2) if an application for a source-specific construction permit is received prior to expiration of this Green Tier 2 acceptance schedule, upon issuance of a different type of permit; or
  - (3) upon issuance of the Type G02 Registration Permit for Tier 2 Green Tier facilities.

[ss. 285.63, and 299.83, Wis. Stats., and s. NR 406.17, Wis. Adm. Code.]

2. Facility-Wide Emission Limits:

For each consecutive 12-month period, facility-wide emissions may not exceed the following:

- (a) PM<sub>10</sub>, PM<sub>2.5</sub>, volatile organic compounds, nitrogen oxides, sulfur dioxide, carbon monoxide, and federally regulated hazardous air pollutants listed in s. 112(b) of the Clean Air Act, shall be less than 80% of any applicable major source threshold set forth in s. NR 407.02(4), Wis. Adm. Code.
- (b) Emissions of lead may not exceed 0.5 tons.

[s. 285.65(7) and (14), Wis. Stats., and s. NR 406.17(1)(c), Wis. Adm. Code]

Notes:

- The emission limits in Table 1 are expressed in units of tons per year but are complied with on a rolling consecutive 12-month basis.
- Major source thresholds vary according to the attainment status of the area in which the facility is located. If there is a change in the attainment status of the area where the facility is located for any pollutant, then the facility-wide emission limit for that pollutant will also change to less than 80% of the new major source threshold. Table 1 is for informational purposes only; the ton per year values may change if there is a change in the definition of a major source. These thresholds were current as of December 1, 2018.

## A. ELIGIBILITY AND EMISSION LIMITATIONS

**Table 1. Emission Limits in Tons Per Year (12-month consecutive period)**

Pollutant	Less Than
PM <sub>10</sub> and PM <sub>2.5</sub>	<ul style="list-style-type: none"> <li>• 80.0 ton/year for PM<sub>10</sub> and PM<sub>2.5</sub> attainment &amp; moderate nonattainment areas</li> <li>• 56.0 ton/year for serious PM<sub>10</sub> and PM<sub>2.5</sub> nonattainment areas</li> </ul>
Volatile Organic Compounds (VOCs)	<ul style="list-style-type: none"> <li>• 80.0 ton/year for ozone attainment and basic, rural transport, marginal or moderate ozone nonattainment areas</li> <li>• 40.0 ton/year for serious ozone nonattainment or areas within ozone transport regions except for any severe or extreme nonattainment area for ozone</li> <li>• 20.0 ton/year for severe ozone nonattainment areas</li> <li>• 8.0 tons/year for extreme ozone nonattainment areas</li> </ul>
Nitrogen Oxides	<ul style="list-style-type: none"> <li>• 80.0 ton/year for ozone attainment and basic, marginal or moderate ozone nonattainment areas</li> <li>• 40.0 ton/year for serious ozone nonattainment or areas within ozone transport regions except for any severe or extreme nonattainment area for ozone</li> <li>• 20.0 ton/year for severe ozone nonattainment areas</li> <li>• 8.0 tons/year for extreme ozone nonattainment areas</li> </ul>
Sulfur Dioxide	<ul style="list-style-type: none"> <li>• 80.0 ton/year</li> </ul>
Carbon Monoxide	<ul style="list-style-type: none"> <li>• 80.0 ton/year for attainment and moderate carbon monoxide nonattainment areas</li> <li>• 40.0 tons/year for serious nonattainment areas, where the department determines a stationary source contributes significantly to CO levels in the area</li> </ul>
Lead	<ul style="list-style-type: none"> <li>• less than 0.5 tons/year (new lead standard may require a different emission cap)</li> </ul>
Section 112(b) Hazardous Air Pollutants (HAPs)	<ul style="list-style-type: none"> <li>• 8.0 ton/year for any <i>single</i> HAP</li> <li>• 20.0 ton/year for a <i>combination</i> of all HAPs</li> </ul>

### 3. Other Applicable Requirements:

The owner or operator shall comply with all air pollution control applicable requirements in ch. 285, Wis. Stats., and chs. NR 400 to NR 499, Wis. Adm. Code, all applicable New Source Performance Standards under 40 CFR Part 60 and National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63, and all other applicable federal air pollution control requirements in the Clean Air Act (42 USC 7401 to 7671q) and 40 CFR parts 50 to 97. [s. 285.65(3) and (13), Wis. Stats.; 40 CFR 50 to 97]

## A. ELIGIBILITY AND EMISSION LIMITATIONS

Facilities that emit organic compounds *may* need to meet the following requirements.

### 4. Organic Compound Limitations for Process Lines:

For any process line that emits organic compounds, and which is not exempt<sup>1</sup> under s. NR 424.03(1), Wis. Adm. Code, the owner or operator shall meet the requirements of s. NR 424.03(2) or (3), Wis. Adm. Code, by doing one of the following:

(a) Apply 85% control as applicable in (1) or (2) below:

(1) For a process line constructed or last modified before August 1, 1979, control photochemically reactive organic compound emissions from the process line by at least 85%.

(2) For a process line constructed or last modified on or after August 1, 1979, control volatile organic compound emissions from the process line by at least 85%.

(b) In lieu of A.4.a., above, apply latest available control techniques and operating practices demonstrating best current technology (LACT) for the process line as described in A.5 below. The LACT as described in this permit shall be followed at all times the process line is operating.

(c) If a surface coating or printing process line meets the specific applicability<sup>2</sup> requirements in any section from ss. NR 422.05 to 422.155, Wis. Adm. Code, but is not subject to that section based on an exemption, the owner or operator may elect to meet the emission limitations in ss. NR 422.05 to 422.155 for the process line instead of meeting A.4.(a) or A.4.(b) of Part Ia, after submitting a written request to the department and receiving approval from the department to do so. [ss. NR 406.17(1)(c) and NR 424.03(2) and (3), Wis. Adm. Code.]

**Requirement A.5. applies to each process line for which the owner or operator elected to apply LACT under condition A.4.(b)**

### 5. Emission Limitation for process lines, electing LACT:

The permit holder shall, for each process line that is electing LACT, do one of the following:

(a) Follow the LACT conditions, monitoring and recordkeeping requirements approved by the Air Management Program and included as source specific conditions in Part Ib of this permit. [ss. NR 406.17(1)(c) and NR 424.03(2)(c), Wis. Adm. Code]; or

(b) Limit VOC emissions from a process line as follows:

(1) The owner or operator shall limit emissions of photochemically reactive organic compounds to less than 10 tons per calendar year for each process line on which construction or modification last commenced prior to August 1, 1979; and [ss. NR 406.17(1)(c), Wis. Adm. Code, and 285.65(7), Wis. Stats.]

(2) The owner or operator shall limit emissions of volatile organic compounds to less than 10 tons per calendar year for each process line on which construction or modification commenced on or after August 1, 1979. [ss. NR 406.17(1)(c), Wis. Adm. Code, and 285.65(7), Wis. Stats.].

(3) *Coating Process Line LACT:* In addition to complying with A.(5)(b)(1)-(2), LACT for a coating process line has been determined to be use of high transfer application techniques including: electrostatic spray, dip coating or low-pressure spray methods such as high volume low pressure (HVLP). [ss. NR 406.17(1)(c) and NR 424.03(2)(c), Wis. Adm. Code]

<sup>1</sup> Process lines that are subject to and not exempt from emission limitations listed elsewhere in chs. NR 419-423, Wis. Adm. Code, are not subject to requirements of s. NR 424.03(2), Wis. Adm. Code.

<sup>2</sup> Geographic location or emission rates are not considered in determining if a process line meets the specific applicability requirements. The intention is to allow facilities that are in the same industrial group as those for which the section was written to use the conditions in that section.

## A. ELIGIBILITY AND EMISSION LIMITATIONS

**(4) Hot-Mix Asphalt Plants LACT:**

- a. Each year, within 30 days of the onset of hot mix production, and after that point, once within 20,000 tons of every additional 100,000 tons of hot mix production, a burner check shall be performed to determine the optimum levels of the following parameters:
  - i. Carbon monoxide (CO) and oxygen (O<sub>2</sub>) levels in the drum, using a portable combustion analyzer, corresponding to burner operation in the most efficient manner, where the test port is located in the drum between the burner and the hot mix asphalt line, at the knock-out box, or in the duct-work after the drum;
  - ii. Draft pressure levels at the front of the drum to assure the most efficient burner operation, measured by means of a pressure gauge (i.e., photohelic gauge) or other type of controller that controls a variable damper located in front of or behind the induced draft fan;
  - iii. The following liquid fuel viscosity and gaseous fuel pressure and fuel feed conditions:
    1. Liquid fuel temperature for each liquid fuel;
    2. Pump pressure for each liquid fuel; and
    3. Gaseous fuel pressure.
- b. The hot mix asphalt plant shall undergo a minimum of one burner check annually unless a written waiver is obtained from the department.
- c. The owner or operator shall perform weekly inspections to ensure that the plant drum has tightly sealing drum end seals and duct work which keep air in-leakage to a minimum.
- d. The owner or operator shall maintain records of the optimum levels of the parameters in Condition A.5.(b)(4)a. of Part Ia.
- e. The owner or operator shall maintain records of the burner checks and weekly inspections required under Conditions A.5.(b)(4)b. and A.5.(b)(4)c. of Part Ia. These records shall include the date of each action.

[ss. NR 407.105(1)(c) and NR 424.03(2)(c), Wis. Adm. Code]

## **B. STACK AND AIR QUALITY ANALYSIS REQUIREMENTS**

**Stacks venting emission units listed in Attachment 1 and stacks that serve exclusively as general building ventilation need not be included in any air quality analysis, or be included in the calculation of maximum controlled emissions under this section.**

### **1. Stack Requirements for Stacks Emitting Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, and Lead<sup>3</sup>:**

Except as provided in B.2. of Part Ia, the following requirements apply to all stacks at the facility except those serving emissions units listed in Attachment 1 and stacks serving exclusively as general building ventilation:

- (a) Stack vented emissions shall be exhausted upwards from unobstructed discharge points that are within 10 degrees of vertical. [s. NR 406.17(1)(c), Wis. Adm. Code]
- (b) Stacks shall be taller than any building that influences the dispersion of emissions from the stack. A building is considered to influence the dispersion of emissions from a stack if it is located within a circle around the building, the radius of which is 5 times the height of the building. [s. NR 407.105(2)(a)3, Wis. Adm. Code]

### **2. Alternative to Stack Requirements:**

Notwithstanding B.1. above, the facility may have stacks that do not meet the stack requirements of B.1. of Part Ia, if the owner or operator demonstrates, through an air quality analysis such as a dispersion modeling analysis, that the facility's emissions will not cause or exacerbate a violation of any ambient air quality standard for the following pollutants: PM<sub>10</sub>, sulfur dioxide, nitrogen oxides, carbon monoxide, and lead. [s. NR 407.105(2)(a)4, Wis. Adm. Code]

### **3. Air Quality Analysis Requirements for Changes at Facilities:**

- (a) Except as provided in B.3.(b) of Part Ia, the owner or operator shall demonstrate through an air quality analysis such as an air dispersion modeling analysis that the facility's emissions will not cause or exacerbate a violation of any ambient air quality standard prior to:
  - (1) Adding a new stack or emissions unit that will emit PM<sub>10</sub>, nitrogen oxides, sulfur dioxide, or carbon monoxide.
  - (2) Making changes to an existing stack that may increase its ambient impact of PM<sub>10</sub>, nitrogen oxides, sulfur dioxide, or carbon monoxide emissions.
  - (3) Making physical or operational changes that will increase the maximum controlled emission rate of PM<sub>10</sub>, nitrogen oxides, sulfur dioxide, or carbon monoxide.
- (b) An air quality analysis is not required when making a change under B.3.(a) in the following cases:
  - (1) Analysis of PM<sub>10</sub> is not required if facility-wide annual maximum controlled emissions of PM<sub>10</sub> after the change will be less than 5 tons per year.
  - (2) Analysis of sulfur dioxide is not required if facility-wide annual maximum controlled emissions of sulfur dioxide after the change will be less than 25 tons per year and all stacks meet the requirements in B.1. of Part Ia, or 5 tons per year for any other stacks configuration.

<sup>3</sup> The stack and modeling requirements for hazardous air contaminants are in ch. NR 445, Wis. Adm. Code. All facilities covered by this permit must meet the applicable requirements of ch. NR 445, Wis. Adm. Code, in addition to the requirements of this permit.



## B. STACK AND AIR QUALITY ANALYSIS REQUIREMENTS

(3) Analysis of nitrogen dioxide is not required if facility-wide annual maximum controlled emissions of nitrogen oxides after the change will be less than 25 tons per year and all stacks meet the requirements in B.1 of Part Ia, or 5 tons per year for any other stacks configuration.

(4) Analysis of carbon monoxide is not required if facility-wide annual maximum controlled emissions of carbon monoxide after the change will be less than 50 tons per year regardless of the stacks configuration.

[s. NR 406.17(1)(c), Wis. Adm. Code]

## C. PROHIBITIONS

**Changes at your facility that result in any of the following will make your facility ineligible to remain covered under this Registration Permit. You will need to apply for and receive a different type of permit *before* doing any of the following activities.**

1. The owner or operator may not add or change emission units or operations so that the facility would be considered an affected source under ch. NR 409, Wis. Adm. Code, a municipal solid waste combustion source under s. NR 500.03(86), Wis. Adm. Code or an infectious waste combustion source. [s. NR 406.17(3)(a), Wis. Adm. Code]

2. The owner or operator may not add or change equipment or raw materials or operations such that the annual actual 12 consecutive month emission rates would exceed an emission limit listed in A.2. of Part Ia. [s. NR 406.17(1)(c), Wis. Adm. Code]

3. The owner or operator may not add or change emission units, operations, or stacks so that they cause or exacerbate a violation of an ambient air quality standard, demonstrated as required in Section B of Part Ia. [s. NR 406.17(3)(c), Wis. Adm. Code]

4. The owner or operator may not make a change that results in the facility being classified as a major source under chs. NR 405 or NR 408, Wis. Adm. Code or requires the source to obtain a Part 70 permit. [s. NR 406.17(2)(b), Wis. Adm. Code, and s. 285.65(7), Wis. Stats]

Note: Some standards promulgated under ss. 111 or 112 of the Act (New Source Performance Standards, NSPS, or National Emission Standards for Hazardous Air Pollutants, NESHAPs) specifically require that subject facilities to obtain a Part 70 Permit. If a facility needs a Part 70 Permit, it is ineligible for coverage under this permit.

5. The owner or operator may not add or change emission units or operations so that the emissions of HAPs regulated under ch. NR 445, Wis. Adm. Code, require a case-by-case BACT or LAER determination unless those conditions are included in a source specific construction permit issued under ch. NR 406, Wis. Adm. Code, and included in Part Ib of this permit. [s. NR 407.105(4)(b), Wis. Adm. Code]

6. The owner or operator may not fail to obtain Tier 2 status under Green Tier prior to expiration of this permit. [s. NR 407.105(4)(b), Wis. Adm. Code]

## D. COMPLIANCE DEMONSTRATION REQUIREMENTS

All facilities need to meet the following compliance demonstration requirements:

### 1. Facility-Wide Emissions Calculations:

Upon construction and initial operation, the owner or operator shall, within 30 days after the end of each month, calculate and record facility-wide emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, volatile organic compounds, sulfur dioxide, nitrogen oxides, carbon monoxide, lead, each federally regulated hazardous air pollutant, and all federally regulated hazardous air pollutants combined, emitted by the facility in the previous month and in the previous consecutive 12-month period as follows:

- (a) All emissions from the facility shall be included in the calculation except emissions from emissions units listed in Attachment 1;
- (b) Emissions shall be calculated using the methods specified in Attachment 2;
- (c) If the facility uses a control device, one of the following efficiencies shall be used for each control device to calculate facility-wide emissions:
  - (1) *Source Specific Control Efficiency*: Control efficiency listed in Part Ib of this permit; or
  - (2) *ROP Control Efficiency*: Control efficiencies listed in Section G. of Part Ia. Where the control efficiency listed in Section G. and the control efficiency required in an applicable requirement differ, the higher control efficiency must be met and may be used to calculate facility-wide emissions. A control efficiency higher than that listed in Section G. of Part Ia may also be used as approved by the Air Management Program in the following cases:
    - i. For thermal and catalytic oxidizers, the facility has demonstrated the higher control efficiency through a department approved stack test performed within the last 5 years or as required in s. NR 439.075, Wis. Adm. Code, and the permittee maintains the temperature of the oxidizer at or above the temperature measured during the stack test; or
    - ii. For wall/overspray filters, the filter is guaranteed by the manufacturer to meet the higher control efficiency, the permittee maintains and operates the filter as specified by the manufacturer, and the permittee maintains manufacturer's documentation which specifies the guaranteed control efficiency.
- (d) Work practices and pollution prevention techniques that reduce emissions are not considered control devices for the purposes of this permit. These practices and techniques may be considered when calculating the facility-wide emissions as long as such reductions are quantifiable<sup>4</sup>.

[s. NR 406.17(1)(c), Wis. Adm. Code.]

### 2. Control Device Requirements:

If the owner or operator must use a control device to meet a facility-wide emission limit in A.2. of Part Ia, or any other applicable emission limitation in ch. 285, Wis. Stats., and chs. NR 400-499, Wis. Adm. Code, or any other applicable federal air pollution requirement in the Clean Air Act (42 USC 7401 to 7671q and 40 CFR parts 50 to 97), then the following requirements shall be met:

- (a) The control device shall be listed in Section G. of Part Ia or in Part Ib of this permit or otherwise specifically required by an air pollution applicable requirement.

<sup>4</sup> Work practices that reduce emissions include techniques such as applying water to dust piles or road ways, the practice of keeping containers of organic compounds or used rags covered and other pollution prevention techniques.

## D. COMPLIANCE DEMONSTRATION REQUIREMENTS

- (b) The control device shall meet, at a minimum, the control efficiency listed in Section G. of Part Ia or in Part Ib of this permit for the device or the control efficiency required in an air pollution applicable requirement, whichever is higher.
- (c) The control device shall be used at all times the emission unit is operating except as allowed by an applicable emission limitation.
- (d) A facility opting to use an alternative control efficiency as allowed under D.1.(c)(2)i. based on a stack test, shall verify that it can continue to meet that control efficiency by performing a department approved stack test within 5 years of the date of the previous stack test. If tests are not performed every 5 years, the control efficiencies in Section G. of Part Ia, or a control efficiency required in an air pollution applicable requirement, shall be used in emissions calculations.
- (e) A facility opting to use a Source Specific Control Efficiency as allowed under D.1.(c)(1) shall submit an application for a new source-specific construction permit or revision of an existing source-specific construction permit as required under ch. NR 406, Wis. Adm. Code, to the Air Management Program to establish limitations, testing requirements, and monitoring parameters prior operation. The permit holder may revise Part Ib to include new applicable conditions for the control devices per s. NR 406.11, Wis. Adm. Code.

[s. NR 406.17(1)(c), Wis. Adm. Code]

### 3. Other Applicable Requirements:

The owner or operator shall ensure that appropriate methods for demonstrating compliance are in place and followed for all other requirements applicable to this facility in ch. 285, Wis. Stats., and chs. NR 400 to NR 499, Wis. Adm. Code, all applicable New Source Performance Standards under 40 CFR Part 60 and National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63, and all other applicable federal air pollution requirements in the Clean Air Act (42 USC 7401 to 7671q) and 40 CFR parts 50 to 97. [s. NR 406.17(1)(c), Wis. Adm. Code, 40 CFR 50 to 97]

### 4. Malfunction Prevention and Abatement Plans:

The owner or operator of a facility shall, for each emission unit that emits hazardous substances or emits more than 15 pounds in any day or 3 pounds in any hour of an air contaminant for which emissions limits have been adopted, prepare a malfunction prevention and abatement plan to prevent, detect, and correct malfunctions or equipment failures which may cause any applicable emission limitation to be violated or which may cause air pollution. The plan shall be in writing and updated at least every 5 years and shall include:

- (a) Identification of the individual responsible for inspecting, maintaining and repairing the air pollution control equipment;
- (b) The maximum intervals for inspection and routine maintenance of the air pollution control equipment. The maximum interval for routine inspection and maintenance may not exceed that recommended by the manufacturer unless otherwise specified in a plan prepared under this section;
- (c) A description of the items or conditions that will be checked;
- (d) A listing of materials and spare parts that will be maintained in inventory;
- (e) A description of the corrective procedures that will be taken in the event of a malfunction or failure which results in the exceedance of the applicable emission limitation. These corrective procedures shall achieve and maintain compliance with the applicable emission limitations as

## D. COMPLIANCE DEMONSTRATION REQUIREMENTS

expeditiously as possible but not longer than the time necessary to discontinue operation of the source consistent with safe operating procedures;

- (f) A description of the activities and maximum intervals for routine maintenance and inspection of instrumentation installed and operated to monitor the operations of air pollution control equipment as required under s. NR 439.055(1), Wis. Adm. Code. The maximum interval for inspection and routine maintenance may not exceed that recommended by the manufacturer of the instrumentation unless otherwise specified in a plan prepared under this section;
- (g) The calibration schedule for any device which monitors either a source or air pollution control equipment operational variables. The time between calibrations may not exceed one year or as specified in a plan prepared under this section, whichever is shorter; and
- (h) Such other information as the department may deem pertinent.

[s. NR 439.11, Wis. Adm. Code]

### 5. Control of Malodorous Emissions:

The owner or operator of a facility shall not cause, allow or permit emission into the ambient air of any substance or combination of substances in such quantities that an objectionable odor is determined to result unless preventive measures satisfactory to the department are taken to abate or control such emission. The abatement or control requirements may include but are not limited to:

- (a) Use of catalytic incinerators, after burners, scrubbers, adsorbers, absorbers or other methods approved by the department;
- (b) The removal and disposal of odorous materials;
- (c) The use of methods in handling and storage of odorous materials that minimize emissions;
- (d) The following of prescribed standards in the maintenance of premises to reduce odorous emissions; and
- (e) Use of best available control technology to reduce odorous emissions.

[s. NR 429.03, Wis. Adm. Code]

## E. RECORDKEEPING AND MONITORING REQUIREMENTS

### All facilities must follow the requirements in E.1. through E.8:

#### 1. Records of Facility-Wide Consecutive 12-Month Emissions:

The owner or operator shall maintain records of facility-wide emissions for each consecutive 12-month period as required in D.1. of Part Ia. [ss. NR 406.17(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

#### 2. Recordkeeping and Monitoring Requirements for all Other Applicable Requirements:

The owner or operator shall conduct monitoring and maintain records sufficient to demonstrate compliance with other applicable requirements in ch. 285, Wis. Stats., chs. NR 400 to NR 499, Wis. Adm. Code, all applicable New Source Performance Standards under 40 CFR Part 60 and National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63, and other applicable federal air pollution requirements in the Clean Air Act (42 USC 7401 to 7671q) and 40 CFR parts 50 to 97. [ss. NR 407.105(1)(c) and NR 439.04(1)(d), Wis. Adm. Code, 40 CFR 50 to 97]

## **E. RECORDKEEPING AND MONITORING REQUIREMENTS**

### **3. Records of Stack Parameters:**

The owner or operator of a facility shall keep and maintain on-site technical drawings, blueprints or equivalent records that describe or illustrate the physical stack parameters of each stack. Stacks that only vent emissions from emissions units listed in Attachment 1 of Part Ia, and stacks serving exclusively as general building ventilation, do not need to meet this requirement. [s. 285.65(3), Wis. Stats.]

### **4. Air Quality Analysis Records:**

If the owner or operator demonstrated eligibility for this permit through an air quality analysis or if the owner or operator subsequently performed an air quality analysis under B.3 of Part Ia, the owner or operator shall maintain on site records of the following:

- (a) Modeling input files used in any air dispersion modeling analyses and the output files sufficient to show the results of the modeling analyses. [ss. NR 406.17(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]
- (b) If required to perform an air quality analysis under B.3. of Part Ia, the owner or operator shall also maintain records describing the change that was made and the start date of the construction or modification. [ss. NR 406.17(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

### **5. Records Retention:**

The owner or operator shall keep on site all records required by this permit for at least five years, unless a longer time period is required under any other condition of this permit or by statute or rule. [ss. NR 407.105(1)(c), NR 439.04(1)(d), and NR 439.04(2), Wis. Adm. Code]

**The monitoring and recordkeeping requirements below apply to facilities that must use a control device in order to meet any limit in this permit.**

### **6. Air Pollution Control Device Monitoring:**

If a source at the facility is equipped with an air pollution control device, the owner or operator shall monitor the operation of the control device to ensure that it is operating properly. The parameters to be monitored and the frequency of monitoring are listed as source specific conditions in Part Ib of this permit. If a control device is not listed in Part Ib, the owner or operator shall use the parameters to be monitored and the frequency of monitoring contained in Table 2. of Part Ia. If a control device is not listed in Table 2 of Part Ia or in Part Ib of this permit, the owner or operator shall monitor the device as recommended by the control device manufacturer or where manufacturer's recommendations are not available, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [ss. 285.65(3), Wis. Stats., and NR 406.17(1)(c) and NR 439.055, Wis. Adm. Code]

### **7. Air Pollution Control Device Operational Parameter Ranges:**

The owner or operator shall maintain a list of the proper control device parameter ranges for each control device at the facility. These ranges shall be based on the control device manufacturer's recommendations or where manufacturer's recommendations are not available, determined in a manner consistent with safety and good air pollution control practices for minimizing emissions. [ss. NR 406.17(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

## E. RECORDKEEPING AND MONITORING REQUIREMENTS

### 8. Air Pollution Control Device Monitoring Records:

If a source at the facility is equipped with an air pollution control device, the owner or operator shall record the appropriate control device parameters at the frequency specified in Part Ib of this permit. If a control device is not listed in Part Ib, the owner or operator shall record the appropriate control device parameters at the frequency specified in Table 2. of Part Ia. If the facility operates a type of control device that is not listed below in Table 2 of Part Ia or in Part Ib of this permit, then the owner or operator shall keep records of control device parameters which demonstrate the proper operation of the device per the manufacturer’s specifications or where manufacturer’s specifications are not available, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [ss. NR 406.17(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

**Table 2. Control Device Monitoring Parameters**

If you operate this control device:	You must monitor this parameter:	At this frequency, or more often:
Centrifugal collector (cyclone)	Pressure drop	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements
Multiple cyclone w/out flyash reinjection	Pressure drop	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements
Multiple cyclone with flyash reinjection	Pressure drop	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements
Wet cyclone separator	Pressure drop and water flow rate	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements
Wall filter, including paint overspray filters and rotary drum filters	Pressure drop <b>or</b> Condition of filter including alignment, saturation and tears/holes	Pressure drop: once every 8 hours of source operation or once per day, whichever yields the greater number of measurements Filter condition: once before every day of operation
Fabric filter and HEPA filter, including baghouses and cartridge collectors	Pressure drop <b>or</b> Output of bag leak detection system	Pressure drop: once every 8 hours of source operation or once per day, whichever yields the greater number of measurements Bag leak detection system: once per day of operation
Spray towers	Pressure drop and water flow rate	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements
Venturi scrubber	Pressure drop and scrubber liquor flow rate	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements
Condensation scrubber (packed bed)	Pressure drop and scrubber liquor flow rate	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements
Impingement plate scrubber	Pressure drop and scrubber liquor flow rate	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements

<b>Table 2. Control Device Monitoring Parameters</b>		
<b>If you operate this control device:</b>	<b>You must monitor this parameter:</b>	<b>At this frequency, or more often:</b>
Electrostatic precipitator	Primary and secondary voltage; primary and secondary current; and sparking rate, in sparks per minute	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements
Thermal oxidizer	Temperature in the combustion chamber	Once every 15 minutes
Catalytic oxidizer	Temperature in the inlet to the catalytic bed; and catalyst bed reactivity	Once every 15 minutes
Condenser	Condenser outlet gas temperature	Once every 15 minutes
Flaring or direct combustor	Presence of flame	Continuous
Bio-filter	Bed temperature, moisture content	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements
Carbon adsorption	Pressure drop, VOC concentration at outlet	Once every 8 hours of source operation or once per day, whichever yields the greater number of measurements

<b>F. REPORTING AND NOTIFICATION REQUIREMENTS</b>
<b>All facilities covered by this permit must meet the following reporting and notification requirements.</b>
<p><b>1. Annual Summary of Monitoring, and Certification of Compliance:</b></p> <p>By <b>March 1</b> of each year, the owner or operator shall submit an annual summary of monitoring, and a compliance certification to the Air Management Program.</p> <ul style="list-style-type: none"> <li>(a) The report submission under this condition shall meet the requirements of s. NR 439.03(1)(b) and (c), Wis. Adm. Code.</li> <li>(b) The time period to be addressed by the report is the January 1 to December 31 period that precedes the report.</li> <li>(c) The report shall include a list of the air emissions units operated at the facility during the reported year.</li> <li>(d) If the facility had a deviation, a Deviation Summary Report shall be included with the following information:                         <ul style="list-style-type: none"> <li>(1) Permit condition or rule that was infringed;</li> <li>(2) Deviation period;</li> <li>(3) Description of the deviation;</li> <li>(4) Method used to identify the deviation; and</li> <li>(5) Cause of deviation and corrective actions taken.</li> </ul> </li> <li>(e) The report shall be certified by a responsible official as to the truth, accuracy and completeness of the report.</li> </ul> <p>[ss. NR 406.17(1)(c), NR 439.03(1)(b) and (c), NR 439.03(2) and (4), Wis. Adm. Code.]</p>

## F. REPORTING AND NOTIFICATION REQUIREMENTS

### 2. Air Emission Inventory Report:

By March 1 of each year, the owner or operator shall submit an air emission inventory report of annual, actual emissions or throughput information in accordance with ch. NR 438, Wis. Adm. Code. If facility emissions are below the reporting thresholds in ch. NR 438, Wis. Adm. Code, the facility shall submit, in lieu of a full inventory report, notification and documentation that its emissions are below reporting thresholds. [ss. NR 406.17(1)(c) and NR 438.03(1)(c), Wis. Adm. Code.]

### **Additional reporting for facilities that changed ownership or made a change during the previous year.**

### 3. Change of Ownership or Control:

The Department of Natural Resources, Bureau of Air Management, shall be notified of a change of ownership or control of a facility covered by this permit within 30 calendar days after the change. The notification shall specify a date for the transfer of permit responsibility, coverage and liability. [s. NR 406.17(1)(c), Wis. Adm. Code]

### 4. Reporting requirement for facilities required to provide an air quality analysis under B.3. of Part Ia:

If required to perform an air quality analysis prior to making changes under B.3 of Part Ia, the owner or operator shall submit with the annual compliance certification required in F.1. of Part Ia the following information associated with operational changes at the facility:

- (a) A brief description of the change which caused the need for an analysis under B.3. of Part Ia.
- (b) The results of any air quality modeling performed under B.3. of Part Ia, including the modeled concentrations, the background concentration, and the total concentrations.

[ss. NR 406.17(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

Note: This requirement does not apply to changes at emission units that emit exclusively volatile organic compounds, to emissions units listed in Attachment 1 or to stacks serving exclusively as general building ventilation.

### 5. Reporting requirement for an operational change:

If the facility made a change to equipment or operations that resulted in the emissions of an air contaminant not previously emitted, or an increase in emissions or changes that would add a new stack or decrease the atmospheric dispersion from existing stacks, but no air quality analysis was required prior to making changes, the owner or operator shall submit with the annual compliance certification required in F.1. of Part Ia the following information associated with operational changes at the facility:

- (a) A brief description of the change;<sup>5</sup>
- (b) An explanation of why the change did not require further air quality modeling under section B.3 of Part Ia.

[ss. NR 406.17(1)(c), NR 439.03(2), and NR 439.04(1)(d), Wis. Adm. Code.]

<sup>5</sup> Examples include, but are not limited to, addition or modifications of processes, adding or changing of raw materials, or changes to pollution control devices, stack heights diameters, and other stack parameters, stack locations, and building heights.



## F. REPORTING AND NOTIFICATION REQUIREMENTS

**Facilities that want to change operations in such a way that they will no longer be eligible for this permit must notify the department as follows *before* making these changes.**

### 6. Changes Rendering Your Facility Ineligible for This Permit:

If the owner or operator plans to make a change at the facility that will result in the facility no longer being eligible for this permit:

- (a) Before making the change, the owner or operator shall submit to the department an application for a different type of permit, unless the change is exempt under chs. NR 405, 406 and 408, Wis. Adm. Code;
- (b) Before making the change, the owner or operator shall request in writing that coverage under this registration permit be withdrawn upon issuance of any required air permit and submit to the department an application for a different type of permit if required.
- (c) The owner or operator may not make the change until any required air pollution control permit(s) is obtained.

[s. NR 407.105(6)(a) and (e), Wis. Adm. Code.]

### **Additional reporting requirements.**

### 7. Other Reporting and Notification Requirements:

The owner or operator shall meet the reporting and/or notification requirements specified in any limitation or standard applicable to the facility including any applicable New Source Performance Standards (NSPS) and applicable National Emissions Standards for Hazardous Air Pollutants (NESHAPs)<sup>6</sup>. Dates by which the notifications are due is specified in the applicable regulation. [s. NR s. NR 439.03, Wis. Adm. Code.]

- (a) Submit all required reports or notifications to the DNR Air Compliance Inspector assigned to the facility.
- (b) For federal rules or when an applicable regulation requires it, submit a copy of the reports or notifications to the USEPA.

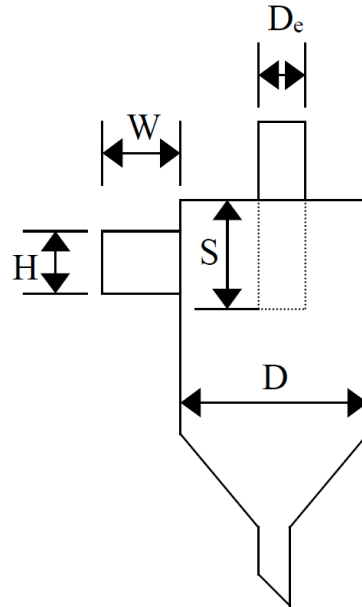
<sup>6</sup> NSPS and NESHAP may require submittal of an initial Notification and a Notification of Compliance Status.

<b>G. AIR POLLUTION CONTROL DEVICE EFFICIENCY REQUIREMENTS</b>						
<b>Control Device</b>	<b>Control Efficiency for Total Enclosures</b>			<b>Control Efficiency for Hoods</b>		
	<b>PM</b>	<b>PM<sub>10</sub>/PHAP</b>	<b>VOC/VHAP</b>	<b>PM</b>	<b>PM<sub>10</sub>/PHAP</b>	<b>VOC/VHAP</b>
Low efficiency cyclone <sup>7</sup>	40%	20%	-	32%	16%	-
Medium efficiency cyclone <sup>7</sup>	60%	40%	-	48%	32%	-
High efficiency cyclone <sup>7</sup>	80%	60%	-	64%	48%	-
Multiple cyclone w/out flyash reinjection	80%	60%	-	64%	48%	-
Multiple cyclone with fly ash reinjection	50%	38%	-	40%	30%	-
Wet cyclone separator	50%	38%	-	40%	30%	-
Wall filter, including paint overspray filters and rotary drum filters	95%	95%	-	76%	76%	-
Fabric filter and HEPA filter, including baghouses and cartridge collectors	98%	92%	-	78%	73%	-
Spray towers	80%	80%	70%	64%	64%	56%
Venturi scrubber	90%	85%	-	72%	68%	-
Condensation scrubber (packed bed)	90%	90%	-	72%	72%	-
Impingement plate scrubber	75%	75%	-	60%	60%	-
Electrostatic precipitators	95%	95%	-	76%	76%	-
Thermal oxidizers	-	-	95%	-	-	76%
Catalytic oxidizers	-	-	95%	-	-	76%
Condenser	-	-	70%	-	-	56%
Flaring or direct combustor	-	-	98%	-	-	78%
Bio-filter	-	-	80%	-	-	64%
Adsorber (activated carbon, carbon adsorption)	-	-	85%	-	-	68%

<b>Table 3. Cyclone Efficiency</b>			
<ul style="list-style-type: none"> <li>To determine a cyclone’s efficiency level, calculate each of the “ratio dimensions” listed in the table below and determine which efficiency level (i.e, high, medium or low) it corresponds with. If one or more ratio dimensions fall into a different cyclone efficiency level, then the lowest efficiency level should be used.</li> <li>See Diagram 1. below for cyclone dimension nomenclature.</li> </ul>			
<b>Ratio Dimensions</b>	<b>High Efficiency</b>	<b>Medium Efficiency</b>	<b>Low Efficiency</b>
Height of inlet, H/D	≤0.44	>0.44 and <0.8	≥0.8
Width of inlet, W/D	≤0.2	>0.2 and <0.375	≥0.375
Diameter of gas exit, D <sub>e</sub> /D	≤0.4	>0.4 and <0.75	≥0.75
Length of vortex finder, S/D	≤0.5	>0.5 and <0.875	≥0.875

<sup>7</sup> See Table 3. to determine a cyclone’s efficiency level for purposes of this permit.

**Diagram 1. Cyclone Dimension Nomenclature**



**ATTACHMENT 1  
EMISSION UNITS NOT SUBJECT TO CERTAIN  
REGISTRATION PERMIT REQUIREMENTS**

1. Convenience space heating units with combined heat input capacity of less than 5 million Btu per hour that burn gaseous fuels, liquid fuels or wood
2. Convenience water heating
3. Maintenance of grounds, equipment and buildings, including lawn care, pest control, grinding, cutting, welding, painting, woodworking, general repairs and cleaning, but not including use of organic compounds as clean-up solvents
4. Boiler, turbine, generator, heating and air conditioning maintenance
5. Pollution control equipment maintenance
6. Internal combustion engines used for warehousing and material transport, forklifts and courier vehicles, front end loaders, graders and trucks, carts and maintenance trucks
7. Fire control equipment
8. Janitorial activities
9. Office activities
10. Fuel oil storage tanks with a combined capacity of 10,000 gallons or less
11. Stockpiled contaminated soils
12. Demineralization and oxygen scavenging of water for boilers
13. Purging of natural gas lines
14. Any emission unit, operation, or activity that has, for each air contaminant, maximum controlled emissions that are less than the level specified in Table 3 of ch. NR 407, Wis. Adm. Code. Multiple emissions units, operations, or activities that perform identical or similar functions shall be combined for the purposes of this determination.
15. If the maximum controlled emissions of any air contaminants listed in Table 3 of ch. NR 407, Wis. Adm. Code, from all emission units, operations or activities at a facility are less than 5 times the level specified in Table 3, for those air contaminants, any emission unit operation or activity that emits only those air contaminants.

## ATTACHMENT 2

### EMISSION CALCULATION METHODOLOGY

#### **Calculation of Emissions:**

The permittee shall calculate the monthly and consecutive 12-month emissions for each emissions unit at the facility other than those emission units listed in Attachment 1, and the total for the entire facility. Similar emissions units may be aggregated for emission calculation purposes. Fugitive dust emissions must be included in the emission calculations only if the stationary source is in a category listed in s. NR 407.02(4)(b), Wis. Adm. Code.

In the first month after coverage under this permit, and operation of any emissions units at the facility, the consecutive 12-month emissions shall be the emissions for that first month. After the second month, the consecutive 12-month emissions shall be the sum of the emissions for the previous two months. After the third month, the consecutive 12-month emissions shall be the sum of the emissions for the previous three months. This procedure shall be followed through the 12<sup>th</sup> month. From the 13<sup>th</sup> month and beyond, the consecutive 12-month emissions shall be the total emissions from the previous 12 consecutive months.

#### **Hierarchy of Emission Calculation Methods:**

Emissions shall be calculated according to the following hierarchy: The permittee shall calculate emissions using Method A, if that data is available. If Method A is not available, the permittee shall calculate emissions using Method B, if that data is available. If Methods A and B are not available, the permittee shall calculate emissions as follows:

- For VOC and hazardous air pollutants emitted as a vapor (VHAP), Method C shall be used,
- For SO<sub>2</sub>, Method D or E shall be used,
- For PM, PM<sub>10</sub>, NO<sub>x</sub>, CO, lead, and hazardous air pollutants emitted as a particulate (PHAP), Method D shall be used.

To prevent double counting of emissions, the permittee must use one calculation method for each pollutant emitted from each emissions unit at the facility.

#### **Calculation Methods:**

##### **Method A**

Emissions data collected through use of a continuous emission monitor (CEM) that complies with 1. to 3. below:

1. The CEM has been certified by the department;
2. The CEM data have not been rejected by the department or EPA due to failure by the owner or operator to comply with all requirements of s. NR 439.09(6), Wis. Adm. Code, all applicable permit conditions, and any other applicable state or federal laws pertaining to CEM operation;
3. The permittee maintains records that include an explanation of how the emissions were calculated based on the CEM data. In calculating actual emissions, the permittee must use the rated capacity of the flow unless the CEM provides actual data on the flow rate. For periods when the CEM is down and the emission unit is operating, the CEM data shall be substituted with emission data calculated using data obtained from the CEM. The CEM must have recorded data for at least 90 percent of the hours the emission unit was operated for the calendar year. The substitute CEM data must be representative of emission unit operation and, if applicable, of the control equipment operation during the period of CEM downtime. If substitute CEM data meeting these conditions is not available, emissions during periods of CEM downtime shall be calculated using performance test data as specified in Method B, or if that information is unavailable, emission factors as specified in Method D or E.

## ATTACHMENT 2

### EMISSION CALCULATION METHODOLOGY

#### **Method B**

Emission factors from performance tests may be used for the calculation of emissions, provided that:

1. The emissions unit is either an uncontrolled unit (for the tested pollutant) or is equipped with air pollution control equipment that meets the compliance demonstration, monitoring and recordkeeping requirements in conditions D.1., D.2., E.6., E.7., and E.8. of Part Ia;
2. The performance tests met all the requirements of ss. NR 439.06 and NR 439.07, Wis. Adm. Code, and all other applicable state rules and federal regulations governing performance tests, and have been deemed to be valid tests by the department; and
3. The permittee that uses an emission factor developed from a performance test shall use that emission factor in conjunction with calculation Method D.

#### **Method C**

A material balance method may be used to calculate emissions of VOC emissions and hazardous air pollutants emitted as a vapor (VHAP). The owner or operator of a stationary source that uses material balance to calculate emissions shall determine emissions (E) using the equation below.

$$E = (a - b - c) \times (1 - CE)$$

Where,

*E* = Actual emissions of VOC/VHAP;

*a* = The amount of VOC/VHAP entering the process;

*b* = The amount of VOC/VHAP incorporated permanently into the product. This includes VOC/VHAP chemically transformed in production. It does not include latent VOC/VHAP remaining in the product that will at some time be released to the atmosphere. An explanation of this calculation must also be maintained at the facility;

*c* = the amount of VOC/VHAP, if any, leaving the process as waste and properly disposed of on-site or off-site or recycled, or otherwise not incorporated into the product and not emitted to the air; and

*CE* = Control efficiency (percent expressed as a decimal fraction of 1.00) determined according to section G. of Part Ia, from a department approved stack test performed within the last 5 years (for thermal and catalytic oxidizers only), or where specifically required in an air pollution applicable requirement.

#### **Method D**

Calculations of emissions may be based on the facility's actual operating parameters, and use the following equation:

$$E = OP \times EF_U \times (1 - CE)$$

Where,

*E* = Actual emissions in pounds per month;

*OP* = Operating parameter as required by the uncontrolled emission factor (hours of operation or units produced);

*EF<sub>U</sub>* = Uncontrolled emission factor (pounds of pollutant per hour of operation or units produced) as defined below; and

*CE* = Control efficiency (percent expressed as a decimal fraction of 1.00) determined according to section G. of Part Ia, from a source-specific requirement in Part Ib, or where specifically required in an air pollution applicable requirement.

“Emission Factor” means the most accurate and representative emission data available from one of the following sources:

1. The Compilation of Air Pollutant Emission Factors (AP-42), Volume I, Fifth Edition, United States Environmental Protection Agency, available at the EPA Internet site <https://www.epa.gov/air->

## ATTACHMENT 2

### EMISSION CALCULATION METHODOLOGY

- [emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors](#). Where more than one emission factor are listed in AP-42, the permittee shall use best engineering judgment as described in 4. below, to determine the most appropriate factor to use.
2. The WebFIRE online database, United States Environmental Protection Agency, available at the EPA Internet site <http://cfpub.epa.gov/webfire/>. Where more than one emission factor are listed in AP-42, the permittee shall use best engineering judgment as described in 4. below, to determine the most appropriate factor to use.
  3. An emission factor developed or approved by the department and derived from the following sources:
    - Other EPA publications including, but not limited to, Locating and Estimating documents, Control Technology Center documents, the preamble and background information documents for New Source Performance Standards or National Emission Standards for Hazardous Air Pollutants;
    - Other EPA databases and computer programs;
    - Engineering publications;
    - Performance test data from the same or a similar emission unit at the same or a similar facility;
    - Manufacturer's performance tests;
    - Emission data developed by the permittee using the best engineering judgment criteria listed in 4., below; or
    - The General Reporting Protocol for the voluntary reporting program of the Climate Registry.
  4. An emission factor developed or approved by the department using best engineering judgment and based on one or more of the following considerations:
    - The precision and accuracy of the data;
    - The design and operational similarity between the emission units tested and the emission units to which the emission factor is to be applied;
    - The number of emission units tested in developing the emission factor under consideration;
    - The availability of emission data of equal or greater quality;
    - The emission unit operating conditions under which the tests were conducted; and
    - The data analysis procedures.

#### **Method E**

Emissions of sulfur dioxide may be calculated by measuring the sulfur content of the fuel and assuming that all of the sulfur in the fuel is oxidized to sulfur dioxide. The sulfur content of each batch of fuel received must be measured by an independent laboratory using ASTM methods or verified by vendor certification. The sulfur dioxide actual emissions shall be determined for each batch of fuel received by using the following equation:

$$SO_2 = (\%S / 100) \times (F / 2,000) \times 2$$

Where,

$SO_2$  = Sulfur dioxide emissions from a batch of fuel in tons;

$\%S$  = Weight percent sulfur in the fuel being

burned;  $F$  = Amount of fuel burned by weight

in pounds;  $2,000$  = Pounds per ton; and

$2 = 64/32$  = Pounds of sulfur dioxide per pound of sulfur in one pound-mole.

The total sulfur dioxide emissions for the year shall be the sum total of the individual batch totals.

## Part Ib – Source Specific Permit Conditions

**Source Specific Conditions** are limitations, compliance demonstration methods, test methods, recordkeeping and reporting requirements established by the department for individual sources. Source Specific Conditions shall be approved in a new source-specific construction permit issued in accordance with applicable procedures listed in s. 285.61, Wis. Stats., or through a revision to a source-specific construction permit(s) in accordance with s. 285.67, Wis. Stats., including preparation of an analysis and preliminary determination and draft permit, notice to the public of availability of materials and opportunity for 30 days, for public comment, and the opportunity to request public hearing. After responding to public comment and final permit decision, any issued permit containing source specific conditions shall be attached as Part Ib of this registration permit. For purposes of maintaining eligibility for coverage under the Type G Registration Permits, only the following source specific conditions may be approved for attachment to this permit:

- (1) Latest Available Control Techniques (LACT) under s. NR 424.03(2)(c), Wis. Adm. Code and associated compliance demonstration requirements;
- (2) Use of source specific control devices, control efficiencies, and/or alternate control device monitoring parameters;
- (3) Source specific control requirements (BACT or LAER) needed to meet applicable limitations of ch. NR 445, Wis. Adm. Code, and associated compliance demonstration requirements;
- (4) Retention of limitations taken in previously issued permits to avoid major source construction permit review under chs. NR 405 and 408, Wis. Adm. Code; and
- (5) Retention of limitations set in previously issued major source construction permits under s. NR 405.08, Wis. Adm. Code, (BACT) or s. NR 408.04, Wis. Adm. Code, (LAER) and offsets, and compliance demonstration requirements associated with these limitations.

Source-specific conditions attached as this section authorize the permit holder to construct and preliminarily operate in accordance with plans and specifications in conformity with the conditions issued in the source-specific construction permit. The authority to construct, modify, replace and/or reconstruct any process covered in this Construction Permit expires **eighteen (18) months** from the date of coverage under this permit. This approved period to construct, modify, replace and/or reconstruct may be extended for up to 18 months upon request for cause, prior to expiration, unless otherwise specified by this construction permit. [s. 285.60(1), Wis. Stats.; s. NR 406.12, Wis. Adm. Code]

The conditions in this permit are permanent and may only be revised through a revision of the construction permit condition, revision of a construction permit, or through the issuance of a new construction permit. [s. 285.66(1), Wis. Stats.]

Conditions of the permit marked with an asterisk (\*) have been created outside of Wisconsin's federally approved State Implementation Plan (SIP) and are not federally enforceable.

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in all Parts hereof.