

AIR POLLUTION EMISSIONS INVENTORY INSTRUCTION SHEET

FOR CRITERIA POLLUTANTS

This instruction sheet provides the registrant with a guide to providing the correct information for the 2019 Air Pollutant Emissions Inventory. For each air pollution source at your facility you should have received a two-page form in this packet. If an individual emission source at your facility has not been included in this mailing, the appropriate operating data for that source must be furnished on your own letterhead or on the addendum forms provided. The information provided on the forms should reflect what data has been supplied to the Air Pollution Control Division in the past by your facility. Therefore, if the information already supplied is correct, only certain variables that change annually need be entered each year. To start filling out the forms sign your name where indicated on the first page of the two page form. Also sign and complete the Certification form. Then, on the emission inventory forms, correct any incorrect information identifying the plant name and location. Read the Source ID Description given on the first page of the two page forms. This description should give you an idea of which air **pollution source** at your facility the form refers to. In the upper right corner of page one the forms should be identified as one of three general types - **PROCESS SOURCE, COMBUSTION SOURCE, OR VOLATILE ORGANICS SOURCE.**

Additionally, there are several types of **COMBUSTION SOURCE** forms, including a general form for external combustion of liquid or gaseous fuels (oil, natural gas), a wood combustion form, and an internal combustion form.

If the source is identified as a COMBUSTION SOURCE the following information must be supplied :

Annual Hours of Operation - may be taken from a boiler meter. If no meter exists to monitor fuel consumption please supply your best estimates of this value based on your records.

Fuel Type - common fuels used in Vermont include oils of grades 1,2,4, or 6, dry wood, wet wood, bark, a wood/bark mixture, natural gas, or liquid petroleum gases (propane and butane). For wood fuels please give a specific description of the nature of the material.

2019 Fuel Consumption - the annual fuel consumption for calendar year 2019 in the units given. For wood fuels give the actual weight of wood consumed.

Sulfur Content of Fuel (percent by weight) - This value should be available from your fuel supplier.

Ash Content of Fuel (percent by weight) - This value also available from fuel supplier.

Maximum Heat Input (burner rating) - the combustion source burner maximum rating.

Maximum Heat Input (boiler rating) - for boilers the combustion source boiler maximum rating.

Maximum Actual Firing Capacity - the actual hourly maximum rated fuel use for the year determined from a meter or measure of actual fuel consumption. This value may differ from the burner or boiler rating.

Percent Space Heat - the percent of heat or steam generated by the combustion source used for space heating purposes.

Percent Process Heat - the percent of heat or steam generated by the combustion source used for all other purposes other than space heating.

(OVER)

If the source is identified as a PROCESS SOURCE the following information must be supplied :

Raw Materials Input - as indicated on the forms, information in this section is only necessary if accurate figures for stack flow rate and hours of operation cannot be supplied. If raw materials input is used for the emissions calculation, it will be through a mass balance calculation.

Product Materials Output - same applies here as for raw materials input.

If the source is identified as a VOLATILE ORGANICS SOURCE the following information must be supplied :

The information requested in the table is used to calculate VOC emissions using a mass balance. Therefore, as explained under (*) on the form, the material types must be broken down in a manner in which the information requested can be given.

Percent Volatile - This percent is necessary in our calculation to account for the fraction by weight of the material indicated which is volatile. Most paints, for example, have a large percent of non-volatile solids in them, while most lacquers are close to 100% volatile. See the Material Safety Data Sheet (MSDS), for this information.

Quantity Input - The annual figure in weight used for a specific material.

Waste Recovered - The waste recovered must represent the total mass of any recovered material in the process. For some processes, such as degreasing operations, hazardous wastes often have a component of VOC's in them, although the bulk of the waste may be composed of solids. Please specify how the waste is recovered in the process operation.

% VOC Of Waste - This percent is multiplied by the waste recovered mass to account for VOC recovered and subtract from total VOC usage.

Stack Parameters, Control Device, and Emissions Estimation Information :

The parameters requested in these sections are essentially the same for the three source types.

Stack/Duct Discharge Height - is the emission exit point height above ground level (e.g. top of the stack for combustion sources).

Stack/Duct Diameter at Exit - is the emission exit point inside diameter.

Exit Gas Temperature - is the temperature of the air stream at the emission exit point. This value is best determined by sampling, but the equipment manufacturer may be able to provide an estimate in some instances.

Flow Rate at Exit - is the flowrate of the air stream at the exit point. This value can either be determined by sampling or through the manufacturer of either the combustion equipment, control device equipment (cyclones or baghouses), or fans used in an industrial process.

Air Pollution Control Device - Refers to equipment which will reduce pollutants in the air stream exiting a source.

Most COMBUSTION sources in Vermont have no air pollution control devices except for multicyclones on some wood burning units.

For PROCESS sources the most common control devices are cyclones (centrifugal collectors), and baghouses (fabric filters). Any theoretical capture efficiencies supplied should be for total particulate matter instead of PM10 or PM2.5.

Most sources emitting VOC's in Vermont, such as paint booths, are equipped with filters which do not control VOC's but rather particulate matter (TSP). Some vapor recovery systems are in existence, however.

Estimated Emission Rate and Basis of Estimate - If you are making your own estimate of an emission rate supply the value here and indicate the basis of the estimate. Some estimation methods include source testing, mass balance measurements, or usage of an emission factor.

