Instructions for Form ARD-3, *Information Required for Permits for a Unit of Processing or Manufacturing Equipment*

This form is to be completed for applications for manufacturing equipment and processes. This form should be used for all devices or processes that are not covered under the other ARD forms. A separate form must be completed for each device. Please fill out all sections completely using "not applicable (n/a)" or "unknown" as applicable.

I. EQUIPMENT INFORMATION

Device Description: State the name that you use to identify the device or process (e.g. Asphalt Plant #1, Metal Finishing Operation, Printing Press #3). This name should be noted on all subsequent pages of the form in the upper left corner.

Date Construction Commenced: State the date that construction of the device was originally started. For a new device, state the anticipated construction start date.

Device Start-Up Date: State the date that the device started operating at this location. If the application is for a new device that is not yet operational, list the anticipated start up date.

Equipment Manufacturer:

Model Number:

Serial Number:

A. Raw Materials Entering Process

For each raw material utilized in the device, state the following information in the table provided. A reference can be made to an attachment that contains this information.

Description: State the name of all the raw materials entering the process or device (i.e. metal alloy, crushed stone, fabric);

Actual Usage: State the actual amount of the raw material that is typically used in this device in units of pounds per hour (lb/hr). Note that this number will not be used as a permit restriction for this device, but will assist DES in determining an appropriate restriction for the facility if one is required.

Maximum Usage: State the maximum amount of raw material that can be used in this device in units of lb/hr.

Actual Usage: State the actual annual amount of raw material that is used in this device in units of tons per year (tons/yr).

B. Coatings and Solvents Entering Process

For each coating or solvent utilized in the device state the following information in the table provided. A reference can be made to an attachment that contains this information. If no coatings or solvents are used in the device, write "Not Applicable" and skip to Section I.C.

Description: State the name of all the coating or solvent entering the process or device (e.g. paint #123, acetone);

Weight Percent of Solvent: For coatings, state the percent by weight of solvent in the mixture.

Reason for Use: State the purpose of the coating or solvent (i.e. cleaning, coating of metal parts)

Actual Usage: State the actual amount of the coating or solvent that is typically used in this device in units of pounds per hour (lb/hr). Note that this number will not be used as a permit restriction for this device, but will assist DES in determining an appropriate restriction for the facility if one is required.

Maximum Usage: State the maximum amount of coating or solvent that can be used in this device in units of lb/hr.

Actual Usage: State the actual annual amount of coating or solvent that is used in this device in units of tons per year (tons/yr).

C. Amount of Liquid Waste Discarded: If applicable, state the approximate amount of chemical, liquid waste that is discarded on an annual basis. Check the box or state the appropriate units:

gal/yr = gallons per year
tons/yr = tons per year

D. Stack Information:

Is unit equipped with multiple stacks? If the answer is yes, then please provide data for each stack. You may reference attached information if applicable.

Identify other devices on this stack: In some cases a facility may have multiple devices exhausted out of one stack. If this is the case, note the other devices exhausted through this stack.

Is Section 123 of the Clean Air Act applicable? Section 123 of the Clean Air Act limits the use of dispersion techniques, such as merged gas streams, intermittent controls, or stack heights above Good Engineering Practice (GEP), to meet air quality standards. If your facility has employed any of these methods for the specific purpose of increasing plume dispersion, Section 123 may apply.

Is stack monitoring used? If yes, describe. Examples of stack monitoring include CEMs (continuous emissions monitors) and opacity meters.

Is stack capped or otherwise restricted? If yes, describe. Flapper valves and other devices which do not restrict the exhaust flow while the device is operating are not considered obstructions.

Stack exit orientation: Check the box to note the direction of the exhaust as it exits the stack: vertical, horizontal or down.

State the following information in the appropriate spaces:

Either the stack's inside diameter in feet or the exit area in square feet;
Height of the stack discharge in feet above ground level;
Exhaust flow rate in actual cubic feet per minute (acfm);
Exhaust velocity in feet per second (ft/sec); and
Exhaust temperature in degrees Fahrenheit.

II. OPERATIONAL INFORMATION

A. Supplemental Fuel Usage Information: List applicable information for the fuel burned in this device.

1. **Fuel Supplier:** List the name, address, and telephone number for the primary fuel supplier for this location.

2. **Fuel Additives:** For any fuel additive used in this device, list the manufacturer's name, address and telephone number. Identify the name of the additive and how much is used (gallons of additive used for every 1000 gallons of fuel used).

   If no fuel additives are used in this device, write "Not Applicable" and skip to Section 3.

3. **Fuel Information:** For each type of fuel utilized in the device, state the following information in the table provided:

   Sulfur content of the fuel (either percent sulfur by weight or grains of sulfur per cubic feet of natural gas);

   Ash content of solid fuels;

   Moisture content of solid fuels;

   Heat rating of fuel with units[1];

   Potential Heat Input in million British thermal units per hour (MMBtu/hr)

   Actual Annual Usage – state the actual amount of fuel that is typically used in this device along with the units (e.g. gal/yr). Note that this number will not be used as a permit restriction for this device, but will assist DES in determining an appropriate restriction for the facility if one is required.

B. Hours of Operation

State the typical, actual operating hours for this device in terms of hours per day and days per year.

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[1] Heating Values for common fuels – these numbers may be used to convert the fuel flow to the heat input rate of a device.

#6 fuel oil = 150,000 Btu/gal
#4 fuel oil = 145,000 Btu/gal
#2 fuel oil = 140,000 Btu/gal
diesel fuel = 137,000 Btu/gal
natural gas = 1,020 Btu/cf
propane (LPG) = 94,000 Btu/gal

III. POLLUTION CONTROL EQUIPMENT

If there is no pollution control equipment associated with the device, check the "Not Applicable" box and skip to Section IV.

A. Type of Equipment: Check off the type of pollution control equipment utilized on this device.

B. Pollutant Input Information

List the total emissions from this device, prior to the pollution control equipment. A reference can be made to an attachment that contains this information.

Actual emissions should reflect the normal operations of the facility.

Potential emissions should reflect the maximum capacity of the source without regard to restrictions on hours of operation or on the type or amount of material combusted (i.e. what the emissions would be if the device ran at maximum capacity, lb/hr and for 8,760 hours per year, ton/yr)

Check the appropriate box stating the method used to determine the emissions listed. Note that a copy of all calculations is required to be submitted as part of the application package. Calculations should include the emission factors used (if applicable) and the source of the factors (i.e. vendor data, AP-42)

C. Operating Data

1. **Capture Efficiency:** state the percent of emissions captured by the exhaust system and check if this number has been verified by test data or by calculation.

2. **Control Efficiency:** state the percent of emissions controlled by the control equipment and check if this number has been verified by test data or by calculation.

3. Normal Operating Conditions

For the pollution control device state the appropriate operating factors that will be monitored for the source. For example, if the pollution control device is a wet scrubber, the appropriate parameters to monitor are pressure drop across the scrubber and the liquid recycle rate.

A range of numbers may be entered (i.e. pressure drop can be listed as between 2 to 4 inches of water).

IV. DEVICE EMISSIONS DATA

List the total emissions from this device, after pollution control equipment, if applicable. A reference can be made to an attachment that contains this information.

Actual emissions should reflect the normal operations of the facility.

Potential emissions should reflect the maximum capacity of the source without regard to restrictions on hours of operation or on the type or amount of material combusted (i.e. what the emissions would be if the device ran at maximum capacity, lb/hr and for 8,760 hours per year, ton/yr)

Check the appropriate box stating the method used to determine the emissions listed. Note that a copy of all calculations is required to be submitted as part of the application package. Calculations should include the emission factors used (if applicable) and the source of the factors (i.e. vendor data, AP-42)