

SEE INSTRUCTIONS ON REVERSE SIDE

Section A

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|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 1. Facility name: | 2. Facility identification number: |
| 3. Stack identification number | 4. Unit identification number: |
| 5. Control device number: | |
| 6. Manufacturer and model number: | |
| 7. Date of installation: | |
| 8. Describe in detail the cyclone, multicyclone or gravity settling chamber. Attach a blueprint or diagram of the system. Attached? | |

9. List the pollutants to be controlled by this equipment and the expected control efficiency for each pollutant on the table below.

Documentation is attached

| Pollutant | Inlet pollutant concentration | | Outlet pollutant concentration | | Efficiency (%) |
|-----------|-------------------------------|------|--------------------------------|------|----------------|
| | gr/acf | ppmv | gr/acf | ppmv | |
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10. Pressure drop across the device (inches of H₂O):

11. Discuss how the collected material will be handled for reuse or disposal.

12. Prepare a malfunction prevention and abatement plan (if required under s. NR 439.11) for this pollution control system.

Please include the following:

- a. Identification of the individuals(s), by title, responsible for inspecting, maintaining and repairing this device.
- b. Operation variables such as pressure drop that will be monitored in order to detect a malfunction or breakthrough, the correct operating range of these variables, and a detailed description of monitoring or surveillance procedures that will be used to show compliance.
- c. An inspection schedule and items or conditions that will be inspected.
- d. A listing of materials and spare parts that will be maintained in inventory.
- e. Is this plan available for review?

Section B

The following questions must be answered by sources installing new equipment or existing Units which cannot document control efficiency of this device by other means.

| | |
|---------------------------------------------------------------------------------------------------|---------------------------------------------|
| 13. Device dimensions: | 14. Gas flow rate (ACFM): |
| 15. Inlet gas velocity (ft/sec): | 16. Inlet gas temperature (°F): |
| 17. Mean particle diameter (ft): | 18. Particle density (lb/ft ³): |
| 19. Number of turns (for cyclones) or number of parallel chambers (for gravity settling chamber): | |

CONTROL EQUIPMENT - CYCLONE/SETTLING CHAMBERS -- Form 4530-114
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions. If you are using more than one settling chamber in parallel, you must answer items 10 and 13 - 18 for each individual chamber. Use form 4530-135 for this purpose.

- Item 1 Provide the name of the facility.
- Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.
- Item 3 Provide the identification number for the stack exhausting to this device. Use the same number used on form 4530-103.
- Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.
- Item 5 Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of your application.
- Item 6 Indicate the equipment manufacturer and its model number.
- Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.
- Item 8 Describe the device indicating whether it is a cyclone, multicyclone, or a gravity settling chamber. Include information on the inlet (whether top, axial, or bottom), type of entry (tangential, helical, etc.), the dust discharge system, hopper design, type of gas outlet, and any other relevant information. Attach a blueprint or diagram of the device which clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. Attach extra information on form 4530-135.
- Item 9 For each pollutant controlled, enter the inlet pollutant concentration and outlet pollutant concentration (use the same units), hood capture efficiency, and the overall efficiency of the control device. YOU MUST DOCUMENT all data by stack test, manufacturer-supplied guarantees, or by other means approved by the Department. Indicate that data is attached.
- Item 10 Give the pressure drop across the device (in inches of water).
- Item 11 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.
- Item 12 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 12 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

Section B - This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B.

- Item 13 For cyclones, give the following dimensions for your cyclone: D_c = body diameter, L_c = body length, Z_c = cone length, D_a = exit tube diameter, S_c = length of exit tube in cyclone, H_c = inlet height, and B_c = inlet width. These dimensions can be used to verify efficiency claims. For gravity settling chambers, give the length L , the height H , and the width B , of the device. For cyclones of alternative design, provide a diagram labeling the dimensions of analogous parts.
- Item 14 Give the gas flow rate at the inlet of the device (in actual cubic feet per minute).
- Item 15 Give the velocity of the gas at the inlet (in feet per second).
- Item 16 Give the average temperature of the inlet gas stream (in degrees F).
- Item 17 Provide the mean particle diameter (in feet) of the dust this device is expected to collect. You can calculate it from experimental data or obtain it from the literature. Attach calculations or documentation.
- Item 18 Give the density of the particles (in pounds per cubic foot) this device is expected to collect. You can calculate it from experimental data or obtain it from the literature. Attach calculations or documentation.
- Item 19 Give the number of turns for the cyclone. (This is an important design variable and should be part of the manufacturer's literature.) Show documentation. For gravity settling chambers, give the number of parallel chambers.