

SEE INSTRUCTIONS ON REVERSE SIDE

Section A

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 condenser to be used. Attach a 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		Hood capture efficiency (%)	Outlet pollutant concentration		Efficiency (%)
	gr/acf	ppmv		gr/acf	ppmv	

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

11. Prepare a malfunction prevention and abatement plan (if required under s. NR 439.11) for this pollution control system. Please include the following:
- Identification of the individuals(s), by title, responsible for inspecting, maintaining and repairing this device.
 - Operation variables such as temperature 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.
 - What type of monitoring equipment will be provided (temperature sensors, pressure sensors, CEMs).
 - An inspection schedule and items or conditions that will be inspected.
 - A listing of materials and spare parts that will be maintained in inventory.
 - Is this plan available for review?

Section B

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

12. Average specific heat of the condensing medium (BTU/lb/°F):	13. Pressure drop range across the coolant (psia):
14. Mass flow rate of condensing medium (lb/hr):	15. Temperatures of the condensing medium (°F): T(inlet) _____ T(outlet) _____
16. Composition of the condensing medium:	17. Mass flow rate of the vapor stream (lb/hr):
18. Average specific heat of the vapor stream (BTU/lb/°F)	19. Inlet and outlet temperature of the vapor stream (°F)
20. Heat transfer area of the device (ft ²):	21. Heat transfer coefficient (BTU/ft ² /hr/°F)

CONTROL EQUIPMENT - CONDENSERS -- Form 4530-111
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.

- 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 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 in detail. For contact condensers, discuss type of spray nozzle and the mist elimination system or the number of baffles. If this is a surface condenser, discuss whether it is cross, concurrent, or countercurrent, the type of extended surface tubes, etc. Provide calculations. Attach a blueprint or diagram 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, hood capture efficiency, outlet pollutant concentration, and the overall efficiency of the control device for each pollutant emitted. Data entered in this table **MUST BE DOCUMENTED**, either by stack test or manufacturer-supplied guarantees or by other means approved by the Department. Please indicate (by checking the box) that this information is attached to this form. If you cannot complete this table or fail to provide sufficient documentation, you will have to fill out section B of this form or your permit application will be considered incomplete.
- Item 10 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 11 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 11 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 12 Indicate the average specific heat of the coolant over the operating temperature range of the device.
- Item 13 Give the pressure drop range across the coolant (in actual pounds per square inch).
- Item 14 Indicate the mass flow rate of coolant through the device (in pounds per hour).
- Item 15 Indicate the operating inlet temperature and outlet temperature of the coolant (in degrees F).
- Item 16 Indicate the substance to be used as the coolant.
- Item 17 Give the mass flow rate of the vapor through the device (in pounds per hour). Ideal gas law may be assumed to apply.
- Item 18 Indicate the specific heat of the vapor over the operating temperature range of the device.
- Item 19 Indicate the operating inlet temperature and outlet temperature of the vapor (in degrees F).
- Item 20 Indicate the heat transfer area of the device (in square feet). Show all calculations.
- Item 21 Indicate the overall heat transfer coefficient. Show all calculations.