



**Minnesota Pollution
Control Agency**

520 Lafayette Road North
St. Paul, MN 55155-4194

GI-05A-R

**Facility Description: Control Equipment (CE)
Supplemental Information for Title V Reissuance**
Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 3

- 1a) AQ Facility ID No.: _____
- 1b) AQ File No. _____
- 2) Facility Name: _____

To complete the rest of this form, you will need the colored sheet(s) labeled *Facility Description: Control Equipment (CE)*.

- 3) Review the information on the colored sheet(s) labeled "Facility Description: Control Equipment (CE)." Is the information on the form complete and accurate (i.e., is everything listed still in use, and is every piece of equipment in use listed)? If there are blank fields (e.g., missing manufacturers or model numbers, missing efficiencies, etc.) for any listed control device, answer "no" to this question and fill in the missing information as directed in Question 4.
- ☐ Yes – The "Facility Description: Control Equipment (CE)" form is complete and accurate. No changes are necessary. Done with this form. Return this page with your application.
- ☐ No – Go to Question 4.
- 4) Are there changes to be made that are administrative in nature (e.g., filling in missing information [blank fields] for existing equipment, typographical errors, incorrect model numbers, other errors)? [**Note:** This does not include replacing listed equipment with new equipment.]
- ☐ Yes – Using a red pen, make changes and fill in all missing information on the colored sheet. Go to Question 5.
- ☐ No – Go to Question 5.
- 5) Is there equipment listed that is no longer in use at the facility?
- ☐ Yes – Using a red pen, draw a line on the colored sheet through the equipment that is no longer in use. Indicate the date that it was removed. Go to Question 6.
- ☐ No – Go to Question 6.
- 6) Is there control equipment in use that is not listed (either additional equipment, or equipment that replaced something you crossed out for Question 5)?
- ☐ Yes – Complete one line of the table on the next page for each piece of control equipment that is not currently listed on the colored sheet. Return this form (pages 1 and 2) and the colored sheet(s) labeled "Facility Description: Control Equipment (CE)" with your application.
- ☐ No – Done with this form. Return this page and the colored sheet(s) labeled "Facility Description: Control Equipment (CE)" with your application.

a) Control Equip ID No.	b) CE Type Code	c) Description	d) Manufacturer	e) Model No.	f) Pollutants Controlled	g) Capture Efficiency	h) Destruct/ Collect Efficiency	i) Afterburner Combustion Parameters

Instructions for Adding Control Equipment to the List

- a) **Control Equipment (CE) ID No.** -- Assign a Control Equipment ID number to each additional piece of pollution control equipment (e.g., fabric filter or afterburner) or pollution control practice (e.g., dust suppression by water spray). Number the equipment/practices at your facility sequentially beginning with the next number after the last one currently listed (e.g. if the last item on the list is 004, begin with 005). Even if the equipment replaces previous equipment that has been removed, assign the next number; do not reuse numbers. This number will be used in other forms to identify control equipment that is described in this form. This ID number is unique to this piece of equipment and must be used consistently throughout the application.
- b) **CE Type Code** -- Fill in the appropriate Control Equipment (CE) Type Code from Table GI-05A.1 following these instructions. For control equipment or pollution control practices that are not listed in the table, enter the CE Type Code 099 for "other" and describe the equipment or practice. **The type-code for the control equipment must be entered correctly, since this will be the primary means of recording and identifying the type of air pollution control equipment at this facility.**
- c) **Description** -- Fill in the appropriate control equipment or control practice description. This description **must** correspond with the Control Equipment Type Code in the second column (Item 4b). For control equipment assigned Control Equipment Type Code 099, please provide a detailed description of the control equipment or pollution control practice; use additional pages if necessary.
- d) **Manufacturer** -- Fill in the name of the pollution control equipment manufacturer. Pollution control practices such as dust suppression by water spray or chemical oxidation may not use control equipment. In these cases, fill N/A for items d and e.
- e) **Model No.** -- Fill in the manufacturer's model number for the pollution control equipment. If no control equipment is used, fill in NA.
- f) **Pollutants Controlled** -- Fill in the pollutants controlled. **If multiple pollutants are controlled, enter the criteria pollutants first in alphabetical order, followed by Hazardous Air Pollutants in alphabetical order.** List each pollutant controlled, using a new box for each pollutant. For example, if a wet scrubber is used to control both sulfur dioxide and particulate matter emissions from an emissions unit at your facility, list particulate matter (PM) in the first row, and sulfur dioxide (SO₂) , and particulate matter less than 10 um in size (PM₁₀) in the second and third rows. It is not necessary to repeat the other information in the other columns (i.e., equipment manufacturer's name, equipment model number, etc.).
- g) **Capture Efficiency** -- Fill in the capture efficiency of the emission capture device. The capture efficiency is the portion of the pollutants emitted that are routed via ducting to the control equipment (e.g., a fabric filter). For emission units in which all of the pollutants emitted are routed via ducting to the control equipment, the capture efficiency is 100 percent. These devices are called total enclosures. Hoods and other devices that do not completely surround the emissions from an emission unit do not capture all of the pollutants emitted and therefore have a capture efficiency that is less than 100 percent.

If the capture efficiency has been determined by performance testing in accordance with Minn. R. 7017.2001 to 7017.2060, and the test report has been reviewed and approved by the MPCA, the determined efficiency must be used.

If the capture efficiency has not been determined by a performance test, but the capture device is a hood that has been evaluated and conforms with the requirements of "Industrial Ventilation- A Manual of Recommended Practices", 21st ed., fill in 80 percent for particulate matter or 60 percent for volatile organic compounds. Hood evaluations must be conducted by qualified personnel. You may use the Hood Evaluation (Form HE-01). The Hood Certification (Form CR-02) must be signed by a responsible official and submitted with the application. Refer to the cover page of the application for information on obtaining these forms.

Hoods that have not been evaluated or do not conform to the recommended design and operating practices in "Industrial Ventilation- A Manual of Recommended Practices", 21st ed., must be either evaluated and brought into conformity with those design and operating practices or tested in accordance with Minn. R. 7017.2001 to 7017.2060, and the test report reviewed and approved by the MPCA, to determine a capture efficiency. You may propose an alternative capture efficiency based on engineering calculations approved by the Commissioner.

The results of the evaluation and a copy of the certification must be kept on site. The owner or operator must make this evaluation and certification available for examination and copying upon request of the Commissioner and must, upon request, submit these records to the Commissioner by the time specified in the request.

- h) **Destruct/Collect Efficiency** -- Fill in the collection or destruction efficiency. The collection or destruction efficiency is the portion of the pollutants that are captured and routed to the control equipment that is either collected and retained in the control equipment or is destroyed by the control equipment. Environmental Protection Agency publications and data bases are the preferred sources for destruction/collection efficiency factors.

If you conducted a performance test which was reviewed and accepted by the MPCA, you may propose that efficiency. You must always attach a description of the basis/justification for any efficiency you propose.

- i) **Afterburner Combustion Parameters** -- Fill in the combustion parameters for **afterburners only**. The parameters of interest are the temperature and residence time of the unit. Please state the temperature in degrees Fahrenheit and the residence time in seconds. List the parameters in a column, filling in each square with only one parameter (i.e., minimum operating temperature and residence time). For example, list the unit's minimum operating temperature in the first row and the residence time in the second row. It is not necessary to repeat the other information in the other columns (i.e., equipment manufacturer's name, equipment model number, etc.).

Table GI-05A.1

Code	Control Device/Pollution Control Practice	Code	Control Device/Pollution Control Practice
001	Wet scrubber, high eff.	057	Dynamic separator (wet)
002	Wet scrubber, med. Eff.	058	Mat or panel filter
003	Wet scrubber, low eff.	059	Metal fabric filter screen (cotton gins)
004	Gravity collector, high eff.	060	Process gas recovery
005	Gravity collector, med. eff.	061	Dust suppression by water spray, 10,000 gal/min
006	Gravity collector, low eff.	062	Dust suppression by chemical stabilizers or wetting agents, 350 gal/min
007	Centrifugal collector (cyclone), high eff.	063	Gravel bed filter
008	Centrifugal collector (cyclone), med. eff.	064	Annular ring filter
009	Centrifugal collector (cyclone), low eff.	065	Catalytic reduction
010	Electrostatic precipitator, high eff.	066	Molecular sieve
011	Electrostatic precipitator, med. eff.	067	Wet lime slurry scrubbing
012	Electrostatic precipitator, low eff.	068	Alkaline fly ash scrubbing
013	Gas scrubber (general)	069	Sodium carbonate scrubbing
014	Mist eliminator (v>250 ft/min), high vel.	070	Sodium-alkali scrubbing
015	Mist eliminator (v<250 ft/min), low vel.	071	Fluid bed dry scrubber
016	Fabric filter (T>250 °F), high temp.	072	Tube and shell condenser
017	Fabric filter (180 °F >T>250 °F), med. Temp.	073	Refrigerated condenser
018	Fabric filter (T<180 °F), low temp.	074	Barometric condenser
019	Catalytic afterburner, no heat exch.	075	Single cyclone
020	Catalytic afterburner, w/heat exch.	076	Multiple cyclone w/o fly ash reinjection
021	Direct flame afterburner, no heat exch.	077	Multiple cyclone w/ fly ash reinjection
022	Direct flame afterburner, w/heat exch.	080	Chemical oxidation
023	Flaring	081	Chemical reduction
024	Modified furnace or burner design	082	Ozonation
025	Staged combustion	083	Chemical neutralization
026	Flue gas recirculation	084	Activated clay adsorption
027	Reduced combustion - air preheat	085	Wet cyclone separator
028	Steam or water injection	086	Water curtain
029	Low excess - air firing	099	Other control equipment or pollution control practices
030	Fuel w/low nitrogen content	101	High efficiency particulate air filter (HEPA)
031	Air injection	106	Dust suppression by physical stabilization
032	Ammonia injection	107	Selective noncatalytic reduction for NO _x
033	Control of percent O ₂ in combustion Air	109	Catalytic oxidizer
034	Wellman-Lord/sodium sulfite scrubbing	113	Rotoclone
035	Magnesium oxide scrubbing	131	Thermal oxidizer
036	Dual alkali scrubbing	139	Selective catalytic reduction (SCR)
037	Citrate process scrubbing	146	Wet electrostatic precipitator
038	Ammonia scrubbing	159	Electrified filter bed
039	Cat. Oxidation - flue gas desulfurization	203	Catalytic converter
040	Alkalized alumina	204	Overfire air
041	Dry limestone injection	205	Low NO _x burners
042	Wet limestone injection	206	Dry sorbent injection

Code	Control Device/Pollution Control Practice
043	Sulfuric acid plant- contact process
044	Sulfuric acid plant- double contact process
045	Sulfur plant
047	Vapor recovery system (Including condensers, hoods, other encl.)
048	Activated carbon adsorption
049	Liquid filtration system
050	Packed-gas absorption column
051	Tray-type gas absorption column
052	Spray tower
053	Venturi scrubber
055	Impingement plate scrubber
056	Dynamic separator (dry)

Code	Control Device/Pollution Control Practice
207	Carbon injection
901	Moisture content of material, 2-3%
902	Moisture content of material, 4%
903	Moisture content of material, 5%
904	Moisture content of material, 6% or more
905	Paper filter (not accordion)
906	Fiberglass filter (with cardboard frame)
907	Fiberglass filter (without cardboard frame)
908	Andre -- cardboard Binks filter (accordion)
909	Roll media -- fiberglass tack filter (tacky on one side)
910	Split paper + polyester paint arrestor