

## **INSTRUCTIONS:**

### **Section 7.3: Baghouse (Fabric Filter)**

**IMPORTANT:** Do NOT use pencil to fill out the application. Please type responses or print using black ink. If you have any questions, feel free to contact the Nebraska Department of Water, Energy, and Environment (DWEE) via [DWEE.AirQuality@nebraska.gov](mailto:DWEE.AirQuality@nebraska.gov) or the Air Quality Permitting Section at (402) 471-2186.

Complete the information on the top of each page. Enter the name of the company/facility as it is known in Nebraska. The facility name on every page of the application should be identical. Enter the date the form was completed. Enter the DWEE Facility Identification Number (FID) assigned by the Nebraska Department of Water, Energy, and Environment. If this is a new facility, leave this space blank. Enter the Emission Point ID. Each place where emissions are emitted into atmosphere from your facility should be labeled with an individual identification number.

Complete a Form 7.0, Section 7.3 for each baghouse at your facility.

#### **General Information**

- 1) Enter the control equipment ID that has been assigned to this baghouse. A unique control equipment ID should be assigned to each control device located at the facility.
- 2) Enter the date that the baghouse was installed at the facility. You need to include a month, day, and year. If this is a new unit, indicate so by checking the new unit box.
- 3) Enter the name or number for the baghouse and provide a brief description of the unit's purpose.

#### **4) Unit Information**

Include ALL of the emission units whose emissions will be controlled and then emitted from the baghouse. Each emission unit should be entered on its own line. Attach the manufacturer's information for each emission unit as part of the application (**Step 14 Manufacturer Specifications**).

- a) Enter the emission unit ID.
- b) Enter the emission unit type.
- c) Enter the emission unit name.
- d) Enter the maximum capacity of the emission unit (be sure to include appropriate units).
- e) Enter the installation date. You should include a month, day, and year of installation if known.

If more than four (4) emission units will be controlled by the baghouse (identified at the top of the page), then multiple Section 7.3, page 1, forms should be completed for the emission point in order for all emission units to be accounted for.

#### **5) Baghouse Information**

Attach the manufacturer's information for the baghouse as part of the application (**Step 14**).

- a) Enter the name of the baghouse manufacturer.
- b) Enter the model name if the manufacturer has assigned one.
- c) Enter the model number of the baghouse.
- d) Enter the number of compartments within the baghouse
- e) Enter the number of bags per compartment.

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Identify the type of draft (air flow) through the baghouse by checking the appropriate box. If you check "Other", then enter a brief description of the draft in the baghouse.

**6) Bag (Fabric Filter) Information**

Enter as much information about the bags used in the baghouse as you can obtain. If you do not know something and cannot obtain the information from the manufacturer, put N/A on the form and attach a separate page with a brief explanation of why the information is unavailable.

- a) Enter the bag surface area in square feet.
- b) Enter the length of the bag in inches.
- c) Enter the diameter of the bag in inches.
- d) Enter the air to bag ratio.
- e) Enter the type of fabric used in construction of the bag.
- f) Enter the fabric weight.
- g) Enter the fabric weave.
- h) Enter the fabric finish.

Check any fabric properties that apply to the bags used in the baghouse. If you check "Other," provide a brief description of the property or properties.

**7) Stack Information**

- a) If the baghouse does not have a "stack" through which the emission point's emissions exhaust, select the N/A box.
- b) Enter the height of the stack in terms of feet.
- c) Enter the inside diameter (in feet) of the top of the stack where the emissions are discharged.
- d) Select whether the stack discharges horizontally, vertically, or vertically with a rain cap by selecting the appropriate box.
- e) Enter the velocity in meters per second of the gas as it discharges from the top of the stack.
- f) Enter the exit temperature (Kelvin) of the gas exiting the top of the stack.

**8) Baghouse Temperature Information**

- a) Enter the maximum temperature the bags in the baghouse are designed to handle. Check the appropriate temperature unit's check box.
- b) Enter the maximum and minimum baghouse inlet temperatures to which the bags are exposed during normal operation. Check the appropriate temperature unit's check box.
- c) Enter the maximum and minimum baghouse outlet temperatures that occur during normal operation. Check the appropriate temperature unit's check box.

**9) Baghouse Operational and Monitoring Information**

- a) Enter the maximum design air flow in actual cubic feet per minute (acfm).
- b) Enter the maximum gas exhaust air flow that occurs during normal operation in acfm.

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- c) Enter the maximum moisture, in percent, of the gas entering the baghouse (inlet gas stream moisture).
- d) Select the type of monitoring system used for the baghouse and enter a brief description of the system.

**10) Baghouse Maintenance Information**

- a) Describe how you determine when one or more of the bags in the baghouse needs to be cleaned.
- b) Check the type(s) of cleaning that is/are used. If you use a cleaning method other than one of those listed, check "Other" and enter a brief description.

**11) Control Information**

- a) Enter the emission rate before the exhaust passes through the baghouse; that is the uncontrolled emission rate.
- b) Enter the emission rate after the exhaust passes through the baghouse; that is the controlled emission rate.
- c) Enter the minimum particle size the bags in the baghouse are capable of collecting; include the units.
- d) Enter the loading rate of particles onto the bags; include the units.
- e) Enter the name and chemical abstracts service (CAS) number of each pollutant captured by the baghouse as well as the capture efficiency for each pollutant in percent. If you need to enter more than three pollutants, then multiple Section 7.3, page 2, forms should be completed so that all pollutants are accounted for.
- f) Indicate if test or manufacturer's data is available for the baghouse and whether the data is attached to the application.

**12) Particle Size Distribution**

- a) If you know the particle size distribution of the pollutant entering the baghouse, enter the size range of each particle class.
- b) Enter the weight of all particles in this class as a percent of the total particles entering the baghouse.
- c) Enter the cumulative percentage as you move from class to class.

**13) Potential to Emit Calculations**

**PTE calculations must be submitted with this application.** If there are questions on calculating the potential emissions associated with the baghouse, contact the Department. The Department may be able to send you electronic spreadsheets for ease in calculating the potential emissions. Calculation spreadsheets are also available on the Department's website. Be sure the potential emission calculations are attached and select the box to indicate it has been done.

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**14) Manufacturer Specifications**

Attach the manufacturer's information for each emission unit listed under **4) Unit Information** and for the wet scrubber listed under **5) Baghouse Information**. Select the box to indicate it has been done

**15) Additional Information**

Indicate if you attached additional information that will make your application more complete. Only check yes if the information attached was not requested elsewhere in Section 7.3.

**If you are completing Section 7.3 as part of an operating permit application, please include the following information.**

**16) Actual Operating Information**

Indicate the amount of hours the baghouse operated for the past five years. If this is a new source (i.e., obtaining its initial operating permit), provide the operating hours for the past year.

**17) Actual Emissions Calculations**

Indicate if actual emissions calculations are attached. You must attach actual emission calculations if you are submitting Section 7.3 as part of an operating permit application.

**18) Additional Information**

Indicate if you attached additional operating information that will make your application more complete. Only check yes if the information attached was not requested elsewhere in Section 7.3.