

## **INSTRUCTIONS:**

### **Section 6.1: External Combustion Unit**

**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 facility, as it is known in Nebraska. The facility name on every page of the operating permit 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 box blank. If this is an existing facility, contact the Department if this number is unknown. Enter the Emission Point Identification Number. Each place where emissions are emitted into atmosphere from your facility should be labeled with an individual identification number.

Form 6.0, Section 6.1 should be used for external combustion units (i.e., boilers, dryers, etc.). This section assumes one external combustion unit is contributing to the emissions that are being released from the emission point identification number. If multiple external emission units are being routed through a single emission point, multiple Section 6.1 forms must be completed, one for each external combustion unit. Multiple units' information may be located on a single form only if the units are identical.

#### **General Information**

Attach the manufacturer specifications for the emission unit as part of the application (**Step 11 Manufacturer Specifications**).

- 1) Enter the unit ID# that has been assigned to this external combustion unit. A unique emission unit identification number should identify each emission unit located at the facility.
- 2) Enter the date that the external combustion unit was installed and operational at the facility. You need to include a month, day, and year. If this is new equipment that has yet to be installed, check the "NEW" box.
- 3) Select the type of external combustion unit being described on this form. Make the selection by choosing the correct unit type. If the unit type is not provided, select "other" and enter the type of unit in the space provided.
- 4) Enter the maximum rated capacity of the unit in terms of million British thermal units per hour (MMBtu/hr).
- 5) If this external combustion unit is being used to generate electricity, indicate the gross and net power output expected from the unit, in units of megawatts (MW). If this unit will not be used to generate power/electricity, check the N/A boxes.

#### **6) Stack Information**

- a) If this Unit does not have a "stack" through which the unit's emissions exhaust, select the N/A box.
- b) Enter the height of the stack aboveground in 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 or vertically by selecting the appropriate box.

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- 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 (degrees Kelvin) of the gas exiting the top of the stack.

**7) Fuel Information**

- a) Enter the type/grade(s) of fuel that will be combusted in this external combustion unit (examples: No. 2 fuel oil, coal, natural gas).
- b) Enter the maximum fuel capacity of this unit. If this unit was operating continuously (8,760 hours per year), how much fuel would it consume? If enough fuel will not be produced or collected (example: biogas from an anaerobic treatment system) for the unit to be capable of operating year-round, enter the total amount of fuel that will be produced/collected. Be sure to indicate whether or not the amount that will be produced/collected is the maximum fuel capacity by attaching additional information to the form. Be sure to include the appropriate units.
- c) Enter the heat content of the fuel being combusted. Be sure to include the appropriate units.
- d) For fuel specifications, enter the percent sulfur by weight that will be contained in the fuel. Enter "N/A" if the fuel type contains negligible amounts of sulfur. If combusting coal or used oil, enter the maximum ash content as a weight percent.
- e) Enter any requested operating limits or existing limits (for operating permits) that need to be maintained. Typically, this limit for external combustion units may be an hourly restriction on how long the unit can combust a certain fuel type (hours/year) or a specific fuel amount that the unit can combust each year. Be sure to include the appropriate units.
- f) If the external combustion unit will combust more than three different types of fuel, attach additional information in order to account for all of the fuel types that are combusted.

**8) New Source Performance Standard (NSPS) Applicability**

If this external combustion unit is subject to an NSPS subpart, select the subpart this unit is subject to. If you do not know whether or not the unit is subject to a specific NSPS, contact the Department for assistance.

**9) Air Pollution Control Equipment**

- a) Answer whether or not there is an air pollution control device(s) associated with the external combustion unit or the emission point. Check the "YES" or "NO" box as appropriate. If there is a control device associated with the emission point, continue filling out the information specific to the control device. Attach the manufacturer specifications for the control device as part of the application (**Step 11 – Manufacturer Specifications**).
- b) Enter the control equipment identification number. Each piece of control equipment that is used to control the pollutants being emitted from the unit should be identified with an individual identification number.
- c) Enter the type of control equipment that is associated with the steam-generating unit. Common types of control equipment include baghouses, wet scrubbers, filters, etc.

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**9) Air Pollution Control Equipment (continued)**

- d) Enter the types of pollutants that the control equipment controls (i.e., reduces). If numerous pollutants are controlled, indicate the different pollutants controlled in line with their respective control efficiencies.
- e) Enter the control efficiency of the control equipment for each pollutant being controlled. This is the percentage of the pollutant that is controlled by the control equipment.
- f) Enter the date the control equipment for the internal combustion unit was installed at the facility. You need to include a month, day, and year. If this is new control equipment that has yet to be installed, check the “NEW” box.

**10) Potential to Emit (PTE) Calculations**

**PTE calculations are required to be submitted with this application.** If there are questions on calculating the potential emissions associated with the external combustion unit, 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.

**11) Manufacturer Specifications**

Attach the manufacturer specifications for each emission unit listed under **1) Unit Information** and for any control equipment listed under **9) Air Pollution Control Equipment**. Select the box to indicate it has been done.

**12) Additional Information**

Please include any additional information associated with the external combustion unit you feel should be submitted with this application. Only select the “YES” box if information is being included that is not required elsewhere in the application.

**Operating Information**

- 13) Enter the actual amount of fuel combusted in this external combustion unit in the most recent year and the highest annual amount of fuel combusted in the past five years.
- 14) If it is an electric generating unit, indicate the gross and net power output from the unit, in megawatts (MW), for the past five years. If this is a new source (i.e., obtaining its initial operating permit), provide the gross and net power output for the past year.

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**15) Actual Emission Calculations**

**Actual emission calculations are required to be submitted with this application if you are applying for an operating permit (initial or renewal).** If there are questions on calculating the actual emissions associated with the external combustion unit, contact the Department. The Department may be able to send you electronic spreadsheets for ease in calculating the actual emissions. Calculation spreadsheets are also available on the Department's website. Be sure the actual emission calculations are attached and select the box to indicate it has been done.

**16) Additional Information**

Please include any additional information associated with the external combustion unit you feel should be submitted with this application. Only select the YES box if information is included that is not required elsewhere in the application.