

INSTRUCTIONS:

Section 7.1: Combustion Flare

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 Environment and Energy (NDEE) via NDEE.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 NDEE Facility Identification (ID#) number assigned by the Nebraska Department of Environment and Energy. If this is a new facility, leave this space blank. 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 7.0, Section 7.1 should be used for combustion flares. This form assumes one combustion flare is contributing the emissions that are being released from the emission point identification number. If multiple combustion flares are being routed through a single emission point, multiple Section 7.1 forms must be completed, one for each combustion flare, however each Section 7.1 form should have identical emission point identification numbers if multiple units are routed to the same emission point. This section also assumes the combustion flare is being used to provide emissions control on emissions from other equipment.

General Information

- 1) Enter the control equipment ID#(s) that has been assigned to this combustion flare. A unique control equipment ID# should be assigned to each piece of control device located at the facility.
- 2) Enter the date the combustion flare 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 of the combustion flare or provide a brief description of the unit's purpose.
- 4) Enter the maximum rated capacity of the flare itself in terms of million British thermal units per hour (MMBtu/hr).
- 5) Enter the maximum rated capacity of the pilot in terms of million British thermal units per hour (MMBtu/hr).
- 6) If there is an hourly operating limitation on this combustion flare or one is being requested, indicate the limitation. If there is not an hourly limitation on this combustion flare or one is not being requested, indicate that a limit does not exist by checking the box.

7) Unit Information

Enter ALL of the emission units whose emissions will be controlled and then emitted from the combustion flare. Each emission unit should be entered on its own line and all information requested should be completed. Include the unit ID number, unit type, unit name, maximum capacity (be sure to include appropriate units), and the installation date. You should include a month, day, and year of installation if known. If more than six (6) emission units will be controlled by the combustion flare (identified at the top of the page), then multiple Section 7.1 forms should be completed for the emission point in order for all emission units to be accounted for.

INSTRUCTIONS (continued):

Section 7.1: Combustion Flare

8) 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 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) Select whether the flare is enclosed or open.
- f) Enter the velocity in meters per second of the gas as it discharges from the top of the stack.
- g) Enter the exit temperature (Kelvin) of the gas exiting the top of the stack.

9) Flare Fuel Information

- a) Enter the type/grade of fuel that is/will be combusted in this flare (examples: waste gas, biogas).
- b) Enter the maximum fuel capacity of this unit. If this flare 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 this amount is all that will be produced/collected and not the maximum fuel capacity. 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 will contain negligible amounts of sulfur. If combusting coal or used oil, enter the maximum ash content as a weight percent.
- e) Enter any operating limitations that exist or are being requested for the fuel type listed. Typically for a combustion flare, this limit may be an hourly restriction on how long the unit can combust a certain fuel type or how much fuel is permitted to be combusted in the unit. Be sure to include the appropriate units. If there are no operating limitations, select the N/A box.
- f) If the flare will combust more than two types of fuel, attach additional information in order to account for all of the fuel types that are combusted.

10) Pilot Fuel Information

- a) Enter the type/grade of fuel that is/will be combusted in the combustion flare’s pilot (examples: natural gas, propane).
- b) Enter the maximum fuel capacity of the pilot. If this pilot was operating continuously (8,760 hours per year), how much fuel would it consume? 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 will contain negligible amounts of sulfur. If combusting coal or used oil, enter the maximum ash content as a weight percent.

INSTRUCTIONS (continued):

Section 7.1: Combustion Flare

10) Pilot Fuel Information (continued)

- e) Enter any operating limitations that exist or are being requested for the fuel type listed. Typically for a combustion flare, this limit may be an hourly restriction on how long the unit can combust a certain fuel type or how much fuel is permitted to be combusted in the unit. Be sure to include the appropriate units. If there are no operating limitations, select the N/A box.
- g) If the pilot will combust more than one type of fuel, attach additional information in order to account for all of the fuel types that are combusted.

11) Control Information

- a) Enter the types of pollutants the control equipment controls (i.e., reduces). If numerous pollutants are controlled, indicate the different pollutants controlled in line with their respective control efficiencies.
- b) 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.
- c) If more than six pollutants will be controlled by the combustion flare, attach additional pages so that all the controlled pollutants are accounted for in the application.

12) 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 flare, 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 "YES" box.

13) Additional Information

Please include any additional information associated with the flare 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.

Actual Flare Information

14) Indicate the actual amount of each fuel type combusted in the flare in the past year.

15) Indicate the amount of hours the unit 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.

INSTRUCTIONS (continued):

Section 7.1: Combustion Flare

Actual Pilot Information

16) Indicate the actual amount of each fuel type combusted in the pilot in the past year.

17) Indicate the amount of hours the unit 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.

18) 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 flare, 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 "YES" box.

19) Additional Information

Please include any additional information associated with the flare 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.