

Air Quality Permit Application Form 7.0: Control Equipment Information

INSTRUCTIONS:

Section 7.2: Thermal Oxidizer

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 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 (FID) number 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 7.2 for each thermal oxidizer at your facility.

General Information

- 1) Enter the control equipment ID that is assigned to this thermal oxidizer. A unique control equipment ID should be assigned to each control device located at the facility.
- 2) Enter the date the thermal oxidizer was installed at the facility. You need to include a month, day, and year. If this is a new unit, indicate by checking the “new unit” box.
- 3) Enter the name or number for the thermal oxidizer 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 thermal oxidizer. 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 thermal oxidizer (identified at the top of the page), then multiple Section 7.2, page 1, forms should be completed for the emission point in order for all emission units to be accounted for.

INSTRUCTIONS (continued):

Section 7.2: Thermal Oxidizer (continued)

5) Thermal Oxidizer Information

Attach the manufacturer specifications for the thermal oxidizer scrubber as part of the application (Step 12).

- a) Enter the name of the thermal oxidizer manufacturer.
- b) Enter the model name if the manufacturer has assigned one.
- c) Enter the model number of the thermal oxidizer.
- d) Indicate whether or not the thermal oxidizer is a regenerative unit by checking Yes or No.
- e) Enter the volume of the combustion chamber. Be sure to include the units of measurement.

6) Stack Information

- a) If the thermal oxidizer 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 from which 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.

Operational Information

- 7) Enter the heat input capacity of the thermal oxidizer and the fuel information. This includes the maximum heat input capacity in million British thermal units (MMBtu), maximum potential hourly and annual fuel use, and the type of auxiliary fuel, if any, combusted by the thermal oxidizer. Please note fuel means the pollutant combusted by the thermal oxidizer, while auxiliary fuel refers to the fuel combusted by a pilot light or combusted in addition to the pollutant by the thermal oxidizer. If no auxiliary fuel is used, enter “N/A” for not applicable.
- 8) Enter all requested temperature data. Minimum chamber temperature is the minimum temperature at which the thermal oxidizer can achieve the required level of pollutant destruction. Combustion temperature is the temperature at which the thermal oxidizer operates under normal operating conditions.
- 9) Enter the type of temperature monitoring your facility performs to confirm the thermal oxidizer is operating properly.
- 10) Enter the minimum amount of time the pollutant resides in the combustion chamber of the thermal oxidizer.
- 11) Describe the maintenance procedures that are followed, including how often each procedure is performed. If you need more room for your description, please attach a page on which you have typed or printed the additional descriptive material.

INSTRUCTIONS (continued):

Section 7.2: Thermal Oxidizer (continued)

12) Control Information

- a) Enter the pollutant emission rate before the exhaust passes through the thermal oxidizer; that is the uncontrolled emission rate.
- b) Enter the emission rate after the exhaust passes through the thermal oxidizer; that is the controlled emission rate.
- c) Enter the name and chemical abstracts service (CAS) number of each pollutant captured by the thermal oxidizer as well as the capture efficiency for each pollutant in percentage. If you need to enter more than three pollutants, then multiple Section 7.2, page 2, forms should be completed so that all pollutants are accounted for.
- d) Indicate if test or manufacturer's data is available for the thermal oxidizer and whether the data is attached to the application.

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 thermal oxidizer, 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.

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) Thermal Oxidizer**. 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 7.2.

If you are completing Section 7.2 as part of an operating permit application, please include the following information.

16) Actual Operating Information

Enter the amount of hours the thermal oxidizer operated for each of the past five years. Then enter the annual fuel use for each year and the average hourly fuel use for each year. If this is a new source (i.e. obtaining its initial operating permit), provide the operating hours and fuel usage 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 7.2 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 7.2.