

**INSTRUCTIONS:**

**Section 5.3: Ethanol Production Facility Information**

**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 registered with the Nebraska Secretary of State's office. 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 DWEE. If this is a new facility, leave this box blank. If this is an existing facility, contact the Department if this number is unknown.

**General Information**

- 1) Indicate the amounts of the products listed that are currently produced at the facility and the amounts of each product that will be produced after the permitting action if you are permitting an expansion project. Enter the moisture content of each by-product if applicable.
- 2) Select the appropriate milling type that does/will occur at your ethanol facility.
- 3) Select the appropriate fermentation method(s) that does/will occur at your ethanol facility.
- 4) Select the type(s) of materials that will be used to generate ethanol.
- 5) Select the maximum quantity of raw materials (identified above) that will be used to generate ethanol.
- 6) **Attachment of manufacturer's specifications are required for: grain scalper, hammermill and grain dryer in steps 11; 14; and Fermentation Operations; and Vapor Recovery System.**

**Grain Receiving Information**

- 7) Indicate the number of dump pits that currently exist at the facility and the total number of pits that will exist after the permitting action if you are expanding the grain receiving operations. If your facility receives grain via a method that is different from truck and rail, please contact the Department.
- 8) For each dump pit, list each unit associated with the operations (by unit name) and select the proper description(s) that reflect the configuration of the unit. If more than three dump pits exist at the facility, then multiple Section 5.3 page 1 forms should be completed for the facility in order for all dump pits to be accounted for and described.
- 9) Indicate the current percentage of grain that is **received** via the methods listed as well as the anticipated percentage of grain that is expected to be received via each method after the permitting action is complete. If the facility will receive grain via a method other than by truck or rail, indicate the method after "Other" and enter the appropriate percentages.

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**Permanent Grain Storage Information**

- 10) List the permanent storage capacity at the facility. For each storage unit, indicate the Emission Unit ID, description of storage unit (i.e., corn bin #1, silo #4, etc.), the maximum storage capacity in bushels, and the height and diameter of the unit. If the unit is new and will be constructed as a result of the current permitting action, select the box in the “New Unit” column. If more than four (4) permanent storage units currently exist or will exist after the permitting action, then multiple Section 5.3 page 2 forms should be completed for the facility in order for all permanent storage units to be accounted for and described. If open storage piles are/will be used for storage, complete Section 6.11 for each storage pile.

**Grain Scalping and Hammermilling Operations**

If this facility does not or will not have scalping and hammermilling operations, select the N/A box located in the section title.

- 11) For each scalper and hammermill that is currently or will be located at the facility after the permitting action, indicate the Emission Unit ID, name of unit, type of unit (i.e. scalper or hammermill), whether there is a surge bin associated with the unit, and the size of the surge bin (bushels) if there is one. If the unit is new and will be constructed as a result of the current permitting action, select the box in the “New Unit” column. If more than three (3) scalpers and hammermills currently exist and/or will exist after the permitting action, then multiple Section 5.3 page 2 forms should be completed for the facility in order for all scalpers and hammermills to be accounted for and described. **Attach the manufacturer specifications for each emission unit as part of the application (Step 29 Manufacturers Specifications).**

**Grain and By-Product Drying Operations**

If grain and by-product drying operations do/will not occur at your facility, select the N/A box located to the section title.

- 12, 13) If grain and/or by-product drying operations do/will occur at your facility, indicate the number of grain dryers and dry distillers grains with solubles (DDGS) dryers that currently exist at the facility as well as the total number of grain dryers and DDGS dryers that will exist after this permitting action is complete. If you would like to request any operational limitations on either of the dryer types (i.e., throughput limitations, hourly operating restrictions, etc), please attach additional information that clearly identifies the requested limitations and the unit(s) for which the limitations apply.
- 14) For each dryer (existing and proposed), enter the Emission Unit ID, unit name, maximum drying capacity of the dryer in units of tons/hour. Select the appropriate descriptions that apply to each dryer. If more than two (2) dryers currently or will exist, then multiple Section 5.3 page 2 forms should be completed for the facility in order for all dryers to be accounted for and described. If the unit is new and will be constructed as a result of the current permitting action, select the box in the “New Unit” column. **Attach the manufacturers specifications for each dryer as part of the application (Step 29 Manufacturers Specifications).**

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

15) This ethanol production facility may be subject to an NSPS subpart. Select the subpart this facility is subject to. If you do not know whether or not the facility is subject to a specific NSPS, contact the Department for additional information.

**Fermentation Operations**

**Attach the manufacturers specifications for each emission unit of the fermentation operations as part of the application (Step 29 Manufacturers Specifications).**

- 16) Indicate the number of fermenters (fermentation tanks) that currently exist at the facility as well as the total number that will exist after this permitting action is complete.
- 17) Indicate the number of beer wells that currently exist at the facility as well as the total number that will exist after this permitting action is complete.

**Solid By-Product Shipping Information**

18) For each solid by-product that is shipped off-site (typically DDGS, modified wet distillers grains with solubles (MWDGS), and/or wet distillers grains with solubles (WDGS) indicate what percentage of the total quantity is shipped off-site via the various shipping methods. First, indicate what the by-product is and then indicate the percentage of each shipping method that is currently shipped off-site, and the percentage anticipated to be shipped off-site after the permitting action is complete. There is enough space to provide information regarding two by-products. If more than two byproducts are shipped off-site, use multiple Section 5.3 page 3 forms in order for all products to be described.

**Ethanol Liquid Loadout Information**

- 19) Indicate the amounts of the liquid products shipped off-site via the various shipping methods that are currently loaded out at the facility and the amounts of each product that is anticipated to be loaded out after the permitting action.
- 20) Occasionally, ethanol production facilities request loadout limitations specifically in order to be a minor source with regard to the Federal New Source Review program or to be in compliance with ambient air quality standards. These limits are typically taken to limit the amount of liquid product that can be loaded out by truck, in order to reduce potential haul road emissions. If you would like to have liquid loadout limitations established for your facility, indicate the limitation(s). If you do not want a limitation, enter "NONE" in this section.
- 21) Select the type of denaturant that will be used to "dirty" the ethanol produced.
- 22) Select the type of loading that will occur in the ethanol trucks. Select "NONE" if truck loadout will not occur at the facility.
- 23) Select the type of loading that will occur in the ethanol railcars. Select "NONE" if railcar loadout will not occur at the facility.

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**Vapor Recovery System Information**

**Attach the manufacturer's specifications for the vapor recovery system as part of the application (Step 29 Manufacturers Specifications).**

- 24) Indicate whether or not a vapor recovery system is or will be installed on the liquid loadout operations for vapor control.
- 25) If a vapor recovery system is/will be used, indicate if the vapors from the truck loadout, rail loadout, or both will be recovered.
- 26/27) If the facility will or currently utilizes a vapor recovery system as an emission control device for load out operations, provide the following information in the table:
  - a. Enter the Capture Efficiency (A) for both Truck and Rail Loadout, if applicable. If assuming 100% capture, manufacture's guarantee or the equivalent is required to be submitted with the application.
  - b. Enter the Control Efficiency (B) for both Truck and Rail Loadout, if applicable. If assuming greater than 95% control, manufacture's guarantee or the equivalent is required to be submitted with the application.
  - c. Multiply (A) and (B) to calculate the Overall Control Efficiency for both Truck and Rail Loadout, if applicable.

If a combustion flare is used to control the collected vapors, Section 7.1 for combustion flares should be completed.

**Potential to Emit (PTE) Calculations**

- 28) **PTE calculations must be submitted with this application.** If there are questions on calculating the potential emissions associated with the ethanol production activities, contact the Department. The Department may be able to send you electronic spreadsheets for ease in calculating the potential emissions; or on the DWEE website search for: AIR068. Be sure that the potential emission calculations are attached and select the box to indicate this has been done.

**Manufacturers Specifications**

- 29) **Attach the manufacturer's specifications for each emission unit or control device listed under for the grain scalper, hammermill and grain dryer in steps 11; 14; Fermentation Operations; and Vapor Recovery System. Select the box to indicate it has been done.**

**Additional Information**

- 30) Please include any additional information associated with the ethanol production facility 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.

**INSTRUCTIONS (continued):**

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**Complete the following sections only if submitting an Operating Permit Application.**

**Actual Operation Rates**

- 31) Indicate the actual quantity of products produced (both liquid and solid), grain received, and denaturant received in the past year as well as the maximum produced or received in the past five years.

**Actual Emission Calculations**

- 32) **If you are applying for an operating permit (initial or renewal) submittal of actual emission calculations with this permit application is required.** If there are questions on calculating the actual emissions associated with the ethanol production activities, contact the Department. The Department may be able to send you electronic spreadsheets for ease in calculating the actual emissions. Be sure that the actual emission calculations are attached and select the box to indicate this has been done.

**Additional Information**

- 33) Please include any additional information associated with the ethanol production facility 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.