

## EMISSIONS ACTIVITY CATEGORY FORM GRAIN TERMINALS AND ELEVATORS

*This form is to be completed for each grain terminal or elevator. State/Federal regulations which may apply to grain terminals and elevators are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.*

Note: This emissions activity category (EAC) form does not include roadways and parking areas and open storage piles which may also be associated with a grain terminal or elevator. Therefore, additional EAC forms for these emissions units may need to be submitted.

1. Reason this form is being submitted (Check one)

- New Permit       Renewal or Modification of Air Permit Number(s) (e.g.

F001) \_\_\_\_\_

2. Maximum Operating Schedule: \_\_\_\_\_ hours per day; \_\_\_\_\_ days per year

If the schedule is less than 24 hours/day or 365 days/year, what limits the schedule to less than maximum? \_\_\_\_\_

3. Identification of emissions units:

<u>Check Those</u> <u>Emissions Units Present</u>	<u>Emissions Units</u>	<u>How many?</u>
<input type="checkbox"/>	Receiving: Truck unloading Railcar unloading Barge unloading	_____ _____ _____
<input type="checkbox"/>	Transferring and conveying: receiving elevator leg, elevator head, garner, scales, distributor, trippers, spouting, storage bin vents and turning	_____
<input type="checkbox"/>	Screening and cleaning	_____
<input type="checkbox"/>	Drying: Column Rack	_____ _____
<input type="checkbox"/>	Shipping: Truck loading Railcar loading Barge or ship loading	_____ _____ _____
<input type="checkbox"/>	Other (describe): _____ _____	_____ _____

4. General process data:

- a. Year facility installed \_\_\_\_\_
- b. Permanent grain storage capacity \_\_\_\_\_ bushels

5. Grain receiving process data:

a.	Type of Vehicle Unloaded	Type of Grain Unloaded	Method of Unloading	Quantity of Grain Unloaded	
				(max. tons/hour)	(max. tons/year)
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____

- b. Number of receiving areas at this facility \_\_\_\_\_
- c. Describe grain receiving equipment at this facility \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Maximum hourly grain throughput of all receiving areas in bushels \_\_\_\_\_
- e. If railcar unloading is performed at this facility, indicate the type of railcars unloaded:  
 boxcar       hopper car       other (describe) \_\_\_\_\_

6. Grain transferring and conveying process data:

a.	Type of Grain Handled	Quantity of Grain Transferred and Conveyed	
		(max. tons/hour)	(max. tons/year)
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

- b. Describe transferring and conveying equipment at this facility \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Grain screening and cleaning process data section:

a.	Type of Grain Handled	Quantity of Grain Screened and Cleaned	
		(max. tons/hour)	(max. tons/year)
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

b. Describe screening and cleaning equipment at this facility \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

8. Grain drying process data:

a. Grain dryer ID \_\_\_\_\_

b. Type of dryer \_\_\_\_\_  
 (specify column or rack)

c. Manufacturer \_\_\_\_\_

d. Model number \_\_\_\_\_

e. Maximum design grain input capacity  
 (bushels/hour at 5 points moisture removal) \_\_\_\_\_

f. Maximum hourly input rate by type of grain  
 (tons/hour):

corn	_____	_____	_____
wheat	_____	_____	_____
rye	_____	_____	_____
oats	_____	_____	_____
barley	_____	_____	_____
flax seed	_____	_____	_____
sorghum	_____	_____	_____
soybeans	_____	_____	_____

g. Maximum annual throughput by type of grain (tons/year):

corn	_____	_____	_____
wheat	_____	_____	_____
rye	_____	_____	_____
oats	_____	_____	_____
barley	_____	_____	_____
flax seed	_____	_____	_____
sorghum	_____	_____	_____
soybeans	_____	_____	_____

h. Average design percent moisture in grain after drying (%) \_\_\_\_\_

9. Grain shipping process data:

a.

<u>Type of Vehicle</u>	<u>Type of Grain Shipped</u>	<u>Method of Loading</u>	<u>Quantity of Grain Shipped</u>	
			<u>(max. tons/hour)</u>	<u>(max. tons/year)</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

b. Number of loading areas at this facility \_\_\_\_\_

c. Maximum hourly grain throughput of all loading areas in bushels \_\_\_\_\_

d. If ship loading is performed at this facility, indicate the type of ship(s) loaded:

bulk carrier       tanker       tween decker

other (describe) \_\_\_\_\_

e. If railcar loading is performed at this facility, indicate type of railcars loaded:

boxcar       hopper car       other (describe) \_\_\_\_\_

10. Control methods to be used for emissions from grain terminals and elevators:

Operation	Capture Method	Capture Efficiency	Install Capture Date	Control Method	Control Efficiency	Install Control Date
Truck unloading						
Railcar unloading						
Barge unloading						
Transferring and conveying						
Screening and cleaning						
Drying: Dryer ID: _____						
Drying: Dryer ID: _____						
Drying: Dryer ID: _____						
Truck loading						
Railcar loading						
Barge loading						
Other (describe):						

# INSTRUCTIONS FOR COMPLETION OF THE EMISSIONS ACTIVITY CATEGORY FORM FOR GRAIN TERMINALS AND ELEVATORS

## **GENERAL INSTRUCTIONS:**

Provide complete responses to all applicable questions. If an item does not apply to the emissions unit, write in "Not Applicable" or "NA." If the answer is not known, write in "Not Known" or "NK." If you need assistance in understanding a question after reading the instructions below, contact your Ohio EPA District Office or Local Air Agency for assistance. Submittal of an incomplete application will delay application review and processing. In addition, the application may be returned as incomplete if all applicable questions are not answered appropriately.

## **APPLICABLE REGULATIONS:**

The following State and Federal Regulations may be applicable to grain terminals and elevators. *Note that there may be other regulations which apply to this emissions unit which are not included in this list.*

Federal: 40 CFR 60, (NSPS) Subpart A, Subpart DD

State: OAC 3745-31-02 (Permit to Install)

OAC 3745-35-02 (Permit to Operate)

OAC 3745-17-07 (Visible particulate emissions from stationary sources)

OAC 3745-17-08 (Fugitive dust)

OAC rule 3745-15-07 (Nuisances Prohibited)

If you would like a copy of these regulations, contact your Ohio EPA District Office or Local Air Agency. State regulations may also be viewed and downloaded from the Ohio EPA website at <http://www.epa.state.oh.us/dapc/regs/regs.html>. Federal regulations may be viewed and downloaded at <http://www.epa.gov/docs/epacr40/chapt-I.info/subch-C.htm>.

## **CALCULATING EMISSIONS:**

Manufacturers of some types of emissions units and most types of control equipment develop emissions estimates or have stack test data which you can request. Stack testing of the emissions may be done. Emissions unit sampling test data may be either for this emissions unit or a similar one located at the facility or elsewhere. You may develop your own emission factors by mass balance or other knowledge of your process, if you can quantify inputs and outputs accurately. You may be able to do this on a small scale or over a short period of time, if it is not practical during regular production. If you have control equipment, you may be able to quantify the amount of pollutants collected over a known time period or production amount.

USEPA has developed emission factors for many types of emissions units and published them in a document titled "Compilation of Air Pollutant Emission Factors, AP-42", available from the following website: <http://www.epa.gov/ttn/chief/ap42/index.html> See Chapter 9.9 (Grain Processing). Any emission factor calculation should include a reference to the origin of the emission factor or control efficiency.

## **SPECIFIC INSTRUCTIONS:**

This emissions activity category (EAC) form is to be used for certain operations at grain terminals and/or elevators. Typical emissions units to be included on this form are listed in item # 3. Other EAC forms (e.g., roadways and parking areas and storage piles) may need to be completed for other emissions units at grain terminals and elevators.

Paragraph (B)(6) of OAC Rule 3745-17-01 defines "fugitive dust" as "...particulate matter which is, or was prior to the installation of control equipment, emitted from any source by means other than a stack." Several emissions units at grain terminals and elevators emit particulate matter in such fashion, and the requirements of OAC Rules 3745-17-07(B) (Visible particulate emission limitations for fugitive dust) and 3745-17-08 (Restriction of emissions of fugitive dust) may be applicable.

1. Indicate whether this is an application for a new permit or an application for permit renewal. If applying for a permit renewal, provide the 4-character OEPA emissions unit identification number.
2. Provide the maximum number of hours per day and days per year the lime plant is expected to operate. The following are examples of why the maximum number of hours per day may be less than 24 or the maximum number of days per year may be less than 365 (this list is not all-inclusive):
  - The facility can only operate during daylight hours.
  - The process can only operate within a certain range of ambient temperatures.
  - The process is limited by another operation (i.e., a bottleneck).
3. Identify the emissions units at the facility by placing a check mark in the appropriate block adjacent to the respective emissions unit type. If there are other emissions units at the facility which are not specifically listed in item # 3 and do not have other EAC forms prepared for them, please identify such emissions unit(s) in the section marked "Other (describe)". The "OEPA Emissions Unit ID" column may be left blank if such information is not known.
4. Complete the requested general process data in items (a) and (b).
5. Complete items (a) through (e) of the grain receiving process data section.
6. Fill in the requested data in items (a) and (b) of the grain transferring and conveying process data section.
7. Complete the requested grain screening and cleaning process data in items (a) and (b).
8. Fill in the requested data in items (a) through (h) of the grain drying process section.
9. Complete items (a) through (e) of the grain shipping process data section.
10. For each operation identified elsewhere in this form, describe how the emissions are captured and estimate the percentage of emissions which are captured. Enter the month/year that capture methods were implemented. Also describe how the emissions are controlled and estimate the percentage of reduction attained. Enter the month/year that control methods were implemented. Efficiencies may be determined, in order of preference, by testing, design, published estimation methods or best engineering judgement. For multiple methods, enter them in the blank separated by a slash (/) and do the same for the efficiency.