



## Determining When a Country Grain Elevator Needs an Air Permit

### Introduction

This guidance document will assist owners and operators of country grain elevators in Kansas to know when an air permit is needed. The pollutant of concern with grain elevators is particulate matter, or PM — total particle pollution suspended in the air, and PM-10 — inhalable particles with diameters of 10 micrometers and smaller. PM or “grain dust” is emitted during receiving, handling and shipping of grain.

#### Definitions

**Country grain elevator** receives more than 50 percent of its grain from farmers in the immediate vicinity during the harvest season.

**Grain terminal elevator** has a permanent storage capacity of more than 2.5 million U.S. bushels, except those located at animal food manufacturers, pet food manufacturers, cereal manufacturers, breweries and livestock feedlots.

**Grain storage elevator** has a permanent storage capacity of 1 million bushels, and is located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill or soybean oil extraction plant.

**Permanent storage capacity** refers to grain storage capacity inside a building, bin or silo.

**Throughput** is the total amount of grain handled by an elevator during a calendar year.

### New Source Performance Standards

Grain elevators can be subject to federal and state environmental regulations. The U.S. Environmental Protection Agency has federal rules called *new source performance standards* (NSPS). One of these NSPSs (subpart DD) applies to larger grain elevators that were constructed or modified since 1978. Both grain **terminal** elevators and grain **storage** elevators, as defined by the regulations (see box), are subject to NSPS DD. A [grain elevator guidance document](#) on KDHE’s website summarizes which elevators are affected by NSPS DD and what

requirements each has. A **country** grain elevator with 2.5 million bushels or less of permanent storage capacity is not subject to NSPS DD. However, country grain elevators could be subject to other air quality regulations. Continue reading this guidance document for more information on requirements for country grain elevators.

### Kansas Air Permitting

Whether your facility needs a permit is based on your *potential* emissions, not your *actual* emissions. Two main types of permits are issued under the Kansas Air Quality Act – **construction** permits and **operating** permits. Under construction permits are *permits* and *approvals*. These apply mostly to **projects** (new emission units and/or modification of existing emission units). To determine whether an operating permit is needed, evaluate potential air emissions from the **entire facility**.

**Construction permits.** Facilities that add new, or modify existing, emission sources of air pollutants (e.g., a new conveyor or leg) must evaluate these new or modified emission sources to determine whether they need a construction permit or approval prior to construction. Typically, the facility is required to evaluate the *increase* in potential to emit (PTE) of air pollutants and follow applicable requirements for the new project only.

**Operating permits.** To determine whether a facility needs an air operating permit, it needs to calculate PTE of certain air pollutants and compare the concentrations against regulatory thresholds. For grain elevators, one criteria pollutant, PM-10, is of concern. If PTE PM-10 is calculated to be greater than 100 tons per year, then the facility will need an air operating permit.

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### When Permitting Is Needed for a Country Grain Elevator

PTE considers maximum capacity of a stationary source (e.g., a grain elevator) to emit air pollutants under its physical and operational design. KDHE recognizes country elevators are limited in the amount of grain they will receive from local farmers. Also, the amount of grain grown, and then harvested, is limited to the Kansas growing season. Therefore, PTE calculations for country grain elevators are based on the highest amount of grain received in a calendar year during the previous five years, multiplied by a factor of 1.2. KDHE believes this procedure is a reasonable estimate of the maximum amount of grain a country elevator could receive. This bushel amount is then used to calculate PTE of PM and PM-10, where calculations account for various ways grain might be handled by the elevator.

**Installing new equipment?  
Retrofitting existing equipment? Use  
the *Grain Elevator PTE Spreadsheet*  
tool on KDHE's website to calculate  
any increase in air emissions.**

[www.kdheks.gov/air-permit/tech\\_guidance.html](http://www.kdheks.gov/air-permit/tech_guidance.html)

If new equipment is to be installed, or existing equipment is to be modified, throughput at the new or modified emission unit should be evaluated to determine whether an air construction permit or approval may be needed. To determine whether construction *approval* is required, throughput must be calculated on an hourly basis. To evaluate whether a construction *permit* is required, throughput will be compared to thresholds posted in tons per year. Even if you determine no permit or approval is needed, it is recommended you notify the local KDHE inspector when adding new equipment or changing processes.

If an approval or permit will be needed, forms and applications are available on the KDHE website at [www.kdheks.gov/air-permit/download.html](http://www.kdheks.gov/air-permit/download.html). In addition to the permit application, complete the equipment form, 3-2.0 *Grain Elevators*.

Even if emissions are calculated to be below threshold values for needing an approval, it is recommended calculations be filed where they can be easily retrieved if an inspection takes place.

### Help Available

If you have questions or need help with environmental compliance, including air permits, don't hesitate to contact the Kansas Small Business Environmental Assistance Program at 800-578-8898 or [sbeap@ksu.edu](mailto:sbeap@ksu.edu). This is a free and confidential program located at Kansas State University. The Kansas SBEAP can assist with PTE calculations.



Rich, Gary A. (Photographer). (2012, Dec 01). *Tribune, KS grain elevator* [digital image]. Retrieved from <http://www.pbase.com/grainelev/image/147780994>