

MEMORANDUM

To: Senate Agriculture Committee

From: Rebecca Ellis, Senior Counsel for Governmental Affairs, Vermont Department of Environmental Conservation (DEC)

Re: Air Emissions Permit Fees for Anaerobic Digesters

Date: March 17, 2017

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This memo follows up on questions asked by the Senate Agriculture Committee during a walk-through of S.34, draft 1.1, on Tuesday, March 14, 2017. The follow responses were provided by Doug Elliott, Chief of the Permitting & Engineering Section in DEC's Air Quality and Climate Division. Please let us know if you have any additional questions.

How many anaerobic digesters pay an air emissions fee and how much?

There were 12 anaerobic digesters that were large enough to pay air emissions permit fees in Vermont last year. The permit fees ranged from \$1,992 to \$5,993 per facility, depending on the level of air emissions, for a total of \$47,000. Overall, roughly 200 stationary sources of air pollution pay air emission permit fees in Vermont.

Are there any digesters that are registered and do not pay fees, or any digesters that are not required to register?

There were 13 anaerobic digesters registered last year, of which 12 were large enough to trigger the requirement for an air emission permit. Digesters that do not generate electricity are generally small enough to not require permits or annual registration.

What kind of pollutants do anaerobic digesters emit?

The anaerobic decomposition of manure produces methane and hydrogen sulfide. When these gases are burned in an internal combustion engine to produce electricity, they generate air pollution. The most common pollutants from anaerobic digesters are carbon monoxide, nitrogen oxides, sulfur dioxide and formaldehyde.

Can farmers reduce fees by reducing emissions?

Yes. Operators of anaerobic digesters can reduce emissions, and thus permit fees, by installing scrubbers to remove hydrogen sulfide from digester gas. If sufficient amounts of hydrogen sulfide are removed with scrubbers, engines can be equipped with emission control catalysts, which could further reduce emissions and fees.

What are the benefits of air emissions fees?

DEC's air emissions permit fees are proportional to the amount of pollution emitted, and therefore incentivize operators to reduce contaminants. This means cleaner air for all Vermonters. The fees also support DEC's continued efforts to monitor air pollution levels throughout the state, to implement various programs to reduce air pollution, and to meet air quality standards set by the US EPA.

Are these permits required under the federal Clean Air Act?

Yes. Vermont has been delegated to implement the permitting programs under the federal Clean Air Act. These permitting programs include requirements for both major sources and minor sources of air pollution. Anaerobic digester projects are considered minor sources and are required to be permitted under our minor source program approved by the federal US EPA.