

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

N767825547

FACILITY: Livingston County Dept. of Public Works		SRN / ID: N7678
LOCATION: 4682 RUNYAN LAKE RD, FENTON		DISTRICT: Lansing
CITY: FENTON		COUNTY: LIVINGSTON
CONTACT: Jim Freeland , Operator		ACTIVITY DATE: 06/18/2014
STAFF: Daniel McGeen	COMPLIANCE STATUS: Pending	SOURCE CLASS: MINOR
SUBJECT: Scheduled inspection of septage unloading station controlled with odor control scrubber.		
RESOLVED COMPLAINTS:		

On 6/18/2014, the Department of Environmental Quality (DEQ), Air Quality Division (AQD) conducted a scheduled inspection of the Livingston County Department of Public Works septage unloading station, which is located on Runyan Lake Road, in Fenton.

**Facility environmental contacts:**

Bob Demyanovich; Deputy Drain Commissioner; 517-546-0040; [bdemyanovich@llvgov.com](mailto:bdemyanovich@llvgov.com)

Jim Freeland, Operator; 517-404-6391

**Facility description:**

This is a septage unloading station, for trucks carrying septage waste from pumping out septic tanks. The septage is filtered through screens, and is then pumped to the Genesee County wastewater treatment plant. A wet scrubber is used to control odors.

**Regulatory overview:**

This facility is classified as a true minor source, not having the potential to emit of criteria pollutants, or Hazardous Air Pollutants (HAPs), to be considered a major source. Since it is not major for HAPs, it is classified as an area source. Permit to Install (PTI) No. 273-06A regulates the scrubber, and limits emissions of hydrogen sulfide (H<sub>2</sub>S). The diesel-powered emergency generator at the site may be subject to 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. It may also be subject to 40 CFR Part 63 Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE), also known as the RICE MACT (Maximum Achievable Control Technology). The AQD does not have delegation of authority for this MACT for area sources.

**Emission units:**

EUODOR; an odor control system (including a bio-filter) for a septage handling/transfer station; PTI 273-06A

Diesel powered emergency generator; possibly exempt under Rule 285(g); possibly subject to 40 CFR Part 60 IIII, and possibly subject to 40 CFR Part 63, Subpart ZZZZ

**Recent history:**

In 2009, PTI No. 273-06A was issued, to replace the prior PTI No. 273-06. The earlier permit had a special condition which required the flow rate to the scrubber to be monitored. This was inconsistent with permits issued for other similar scrubbers, and so the district and the county pursued the permit revision. In addition, the Livingston County Board of Public Works, to whom the permits were issued, is now known as the Livingston County Department of Public Works (DPW).

**Fee status:**

This facility is not considered fee-subject, for the following reasons. Because it is not a major source for criteria pollutants, it is not classified as Category I. Additionally, because it is not a major source for Hazardous Air Pollutants (HAPs), and is not subject to federal New Source Performance Standards, it is not classified as Category II. Finally, because it is not subject to federal Maximum Achievable Control Technology standards, it is not classified as Category III. The facility is not required to submit an annual air emissions report via the Michigan Air Emissions Reporting System (MAERS).

**Location:**

This facility is located in a very rural area, not far from US-23's Clyde Road exit. The closest nearby structures are a gas station about 1,100 feet to the north, and a residence about 1,400 feet to the northeast. There is a residence about 1,800 feet to the west southwest, and another 1,800 feet to the northwest. The rest of the surrounding area consists of farmland, and woods or wetlands.

**Arrival:**

This was not an unannounced inspection. In 2011, AQD's Brad Myott had attempted to inspect the facility, and found that no one was at the site, when he arrived. Therefore, I called Mr. Bob Demyanovich, Deputy Drain Commissioner, and arranged this date and time in advance. I saw the unloading station from US-23, as I drove north. No odors were detectable, as I drove with vehicle windows rolled down. I exited on Clyde Road, then drove south on Lake Runyan Road, again detecting no odors in the area. Weather conditions were hazy/humid, and 70 degrees F, and there appeared to be no breeze.

I arrived at the site at 9:59 AM. I could not smell any odors outside the septage unloading station. I observed that there were no visible emissions from the scrubber. There was a septage hauling truck being unloaded, and another waiting to be unloaded.

I met Mr. Jim Freeland, operator. I provided him with a copy of the DEQ brochure "Environmental Inspections: Rights and Responsibilities," per AQD procedures. A copy of PTI No. 273-06A did not appear to be kept at the site, so I provided a copy.

**Inspection:**

Operating hours for the site are 7 AM to 7 PM on Monday through Friday, 7 AM to 2:30 PM on Saturdays, and as needed, during emergency events.

Trucks hauling septage enter one of two enclosed and heated unloading bays. The doors are then closed, and the operator can follow instructions and photos posted on the walls of the truck bay, to perform the unloading process. A hose is connected to the truck, and the septage unloads to one of two 35,000 gallon tanks located below the building floor. Solids are filtered out by metal screens, in the screen room. The solids from each tank are elevated through an auger/screw, and dewatered in a filter press. The solids are deposited into a dumpster (one for each tank). The contents of the dumpsters are disposed of in a landfill.

The process is exhausted to a scrubber, located on the east side of the facility. The scrubber is a bio-filter, containing a synthetic media, which is sprayed with a nutrient rich solution of water. Mr. Freeland explained that they currently use Miracle Grow as the nutrient source, and have found it to work well, for their needs.

The scrubber, according to the original permit application No. 273-06, is a ZeroChem 3600-2 Reactor, manufactured by Bioway. The designed airflow rate is 1,600 cfm, and the average predicted H<sub>2</sub>S load is 50 ppm. The designed "Instantaneous Water Requirement" is 40 gallons per minute, at 65 pounds per square inch. It was designed to remove over 99% of H<sub>2</sub>S, and over 90% of "odor units".

The condition of the scrubber and its associated ductwork and piping appeared good. I noticed that the pressure drop gauge read below 0 inches of water column (w.c.), during the course of the inspection. I asked if this was normal for the pressure drop gauge, and Mr. Freeland indicated that it appears to be

the normal reading, from his experience here.

The scrubber operates 24 hours per day, 7 days per week, except when it is undergoing maintenance work. There was very little odor inside the unloading station. The only time odors appeared strong was when Mr. Freeland opened the metal lids on the screening processes, to show me the solids that are filtered out. When the metal lids were reclosed, the odors immediately subsided.

The screening processes filter out grit, as well as rags and garbage, which appear to be associated with septage from portable toilets, Mr. Freeland informed me. He cleans the screens of solids 3-4 times per day, and washes the screens with water, he informed me. He showed me the water spray line for one of the screens. The dumpsters which collect the dewatered solids are emptied about twice per week in the summer, and once per week in the winter, when business is slower. The rinse water from cleaning the screens joins the septage on its way to the Genesee County wastewater treatment plant.

At the moment, in their west bay, a hauler identified in their system as number 156 was unloading 211 gallons of septage per minute for a total of 402 gallons, with a pH of 7. A sample is kept of every load of septage, and is analyzed by Brighton Analytical LLC, for 10 metals, total mercury, total cyanide, oil and grease, pH, total suspended solids, biological oxygen demand, total phosphorous, ammonia, polychlorinated biphenyls (PCBs), and volatiles.

The permit requires the scrubber to be operated in accordance with an operation and maintenance plan, which was required to have been sent to the AQD District Supervisor, within 30 days of equipment startup. District files do not contain a copy of an operation and maintenance plan, however. Mr. Freeland advised that I should contact Mr. Demyanovich, for questions on this requirement, which I will do, as part of determining compliance.

#### Scrubber recordkeeping:

The following records are not specifically required to be kept by PTI No. 273-06A. However, Special Condition VI.1. does require that the operation of the scrubber shall be monitored in accordance with the operation and maintenance plan.

They keep records of how many gallons of nutrient solution flow through the scrubber each day. So far today, 418.3 gallons had flown through the scrubber. The day before, from midnight to midnight, 943.0 gallons had flown through the scrubber. Once per week, they record date, time, nutrient level, and pH of the drain water. The following readings were fairly typical, it appeared:

5/2: pH = 1.87

5/9: pH = 1/79

5/16: pH = 1.75

May 2014 was their all time busiest month, with 2,934,588 gallons of septage being unloaded, which Mr. Freeland pointed out, on a spreadsheet. Business has increased the last few years, and he described factors which appear to contribute: they have a convenient location, just off of US-23 and I-96, they have lower prices than other septage unloading stations in the area, and they have enclosed, heated bays for trucks to unload in, which the truck drivers really appreciate, during the winter months.

Mr. Freeman showed me his records of maintenance performed on the scrubber, including a tag system for equipment identifying not only when maintenance was done, but when it was due next. He showed me the inventory of spare parts he keeps onsite, and the daily log he keeps of activities at the site, from maintenance to any events out of the ordinary. This written log goes back to 2007. He also communicates with Mr. Demyanovich about anything noteworthy, he indicated.

The County has sent facility operators to a number of DEQ and non-DEQ training courses, Mr. Freeland said, which have helped them a great deal. The County is also supportive of any additional training

opportunities that they feel would help them in their jobs.

**Diesel powered emergency generator:**

There is a diesel powered emergency generator onsite, manufactured by Cummins Power Generation. It is used to provide power to the unloading station, in the event of a power outage. Rule 285(g) exempts internal combustion engines that have less than 10,000,000 Btu/hr maximum heat input from the requirement of Rule 201 to obtain a permit to install. Mr. Freeland was not aware of the rated Btu heat input capacity, so AQD will contact Mr. Demyanovich to discuss. The generator appeared to be a fairly small unit.

The generator may be subject to 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines; and to 40 CFR Part 63 Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines, also known as the RICE MACT. I will contact Mr. Demyanovich in order to find out specifics on the size of the unit and date of construction. EPA has a RICE MACT quiz, which is an online questionnaire to help facilities determine what requirements under Subpart ZZZZ a RICE is subject to. EPA also has a New Source Performance Standard (NSPS) ICE questionnaire, to identify what requirements of Subpart IIII (or JJJJ, for spark ignition ICEs) apply to an ICE. Both of these tools are accessible as links on the DEQ Clean Air Assistance webpage that is devoted to RICE.

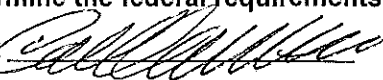
The generator self-starts once or twice per week, I was informed, as part of being kept in a state of operational readiness. Mr. Freeland indicated maintenance of the generator and recordkeeping is handled by one of the other operators. Once or twice per year, Bridgewater Generators comes out to perform maintenance on the unit, and they provide a written report of their findings.

**Conclusion:**

Mr. Freeland was very helpful, professional, and thorough. The facility appeared to be clean and well maintained. Compliance status is identified on this activity report as "Pending", because there are a few items (below) which are still being followed up on.

On 7/2/2014, I e-mailed Mr. Demyanovich (see attached e-mail) to request a copy of the scrubber's operation and maintenance plan. I also inquired as to the Btu heat input capacity of the diesel fueled emergency generator, to determine if it is exempt under Rule 285(g). I also provided links to information on 40 CFR Part 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ, so that the Livingston County DPW can determine the federal requirements applicable to the emergency generator.

NAME



DATE

7/7/2014

SUPERVISOR

