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

N826436230

FACILITY: PIDD BROTHERS FARM		SRN / ID: N8264
LOCATION: 5195 SWAN RD, STOCKBRIDGE		DISTRICT: Lansing
CITY: STOCKBRIDGE		COUNTY: INGHAM
CONTACT: John Pidd, Partner		ACTIVITY DATE: 08/30/2016
STAFF: Daniel McGeen	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: Minor
SUBJECT: Unannounced, scheduled inspection of facility which AQD has never previously inspected.		
RESOLVED COMPLAINTS:		

On 8/30/2016, the DEQ, AQD conducted an unannounced, scheduled inspection of a permitted 12,500 gallon anhydrous ammonia tank at Pidd Brothers Farm, a facility which AQD has not previously inspected.

Environmental contact:

John Pidd, Partner; 517-851-7601

Travis Pidd, Partner; 517-851-7601

Emission units:

Emission unit ID	Emission unit description	General Permit to Install No., or Rule	Compliance Status
EU-AMMONIA	A single anhydrous ammonia storage tank and any associated handling process, nurse tanks or applicator tanks. This tank's capacity is rated as 12, 500 gallons.	No. 90-09	Noncompliance.
Second ammonia tank	A second anhydrous ammonia storage tank, converted from a former truck trailer.	Rule 201	Noncompliance

Regulatory overview:

This facility was issued a General Permit to Install for an anhydrous ammonia tank No. 90-09, on 4/23/2009. This facility is agricultural in nature. It is considered to be a true minor source, rather than a major source of air emissions. A *major source* has the potential to emit (PTE) of 100 tons per year (TPY) or more, of one of the criteria pollutants. *Criteria pollutants* are those for which a National Ambient Air Quality Standard exists, and include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns, and particulate matter smaller than 2.5 microns. It is also considered a minor or area source for Hazardous Air Pollutants (HAPs), because it was not considered to have a PTE of 10 TPY or more for a single HAP, nor to have a PTE of 25 TPY or more for combined HAPs.

AQD most recently updated the Special Conditions for the General Permit to Install for anhydrous ammonia tanks on 3/3/2005.

Fee status:

This facility is not a Category I fee subject source, because it is not a major source for criteria pollutants. It is not a Category II fee-subject source because it is not a major source for Hazardous Air Pollutants (HAPs), nor is it subject to federal New Source Performance Standards. Additionally, it is not Category III fee-subject, because it is not subject to federal Maximum Achievable Control Technology standards. 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 rural, agricultural area. The farm is on both the north and south sides of Swan Road, although the house and majority of barns are on the north side.

Recent history:

On 4/23/2009, the anhydrous ammonia tank general PTI No. 90-09 was issued. As mentioned earlier in this report, on 3/3/2005, AQD most recently updated the Special Conditions for the General Permit to Install for anhydrous ammonia tanks. This update applies to all issued general PTIs for anhydrous ammonia tanks, so I brought a copy of the updated conditions to give to the staff of Pidd Brothers Farm.

Arrival:

I arrived at 9:33 AM. There were no ammonia odors detected offsite, and no signs of any visible emissions from the ammonia tanks. Weather conditions were mostly cloudy and 73 degrees F, with winds 5-10 miles per hour out of the south.

I met Mr. John Pidd, Partner, and explained the purpose of my visit. I provided my credentials, per AQD procedures. I provided J. Pridd with a copy of the DEQ brochure *Environmental Inspections: Rights and Responsibilities*, per AQD procedures. I also provided a copy of the updated General PTI conditions. I also provided a copy of the yellow DEQ pamphlet on anhydrous ammonia tanks, as well as a copy of the MIOSHA regulation for anhydrous ammonia tanks, *Part 78, Storage and Handling of Anhydrous Ammonia (MIOSHA 1910.111)*. I did not provide a copy of the boiler NESHAP card, as it did not appear to me that there would likely be a boiler or hot water heater other than a residential hot water heater onsite.

Inspection:

J. Pridd introduced me to his cousin, Mr. Travis Pidd, Partner. T. Pridd accompanied me during the inspection itself.

There are three large, horizontal white tanks at the site, in a group. The one to the north is a stationary propane tank, I was informed. The one in the middle is the permitted stationary anhydrous tank, EU-AMMONIA. The one to the south is a former truck trailer converted to a second stationary anhydrous ammonia tank. This second anhydrous ammonia tank will be discussed later on in this report.

EU-AMMONIA, General PTI No. 90-09:

I was informed that they have a spring application season, but not an autumn application season for anhydrous ammonia. Compliance with the updated General PTI special conditions is described below.

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

Special Condition (SC) No. 1 requires the permittee to maintain onsite a copy of *Part 78, Storage and Handling of Anhydrous Ammonia (MIOSHA 1910.111)*. I provided the facility with a copy of this regulation.

SC No. 2 requires the inspection and maintenance program specified in Appendix A of the general PTI to be implemented and maintained. I advised that they begin keeping written records of their maintenance from this point forward, to document their work. We reviewed the checklist, as follows:

I & M program checklist for permanent anhydrous ammonia storage tank, from Appendix A of the General PTI:

1. Tank free of leaks: Yes.
2. Tank supports in good condition (no cracked or crumbled concrete, etc.): Yes, new concrete forms had just been installed, with the wood forms still around them.
3. Paint in good condition: Yes.
4. Equipment locked when not in use: Not clear.
5. Tank properly labeled: On the tank was a green U.S. DOT placard for pressurized gas, with DOT/UN 4 digit Identification Number 1005. There was also a label reading; INHALATION HAZARD.
6. Valves and fittings free from leaks and in good condition: Yes, outgoing lines were disassembled and put back together this spring.
7. Piping properly supported and guards in place: Yes.
8. Pipes free of physical damage and rust and properly painted: Yes, other than surface rust on a few couplers.
9. Employees trained in proper filling procedures: Yes.
10. Provisions for bleeding of transfer hose from transport truck: They have a 20 gallon container next to the tank. I advised this should be 55 gallons, under the permit. I was advised that they will make this change.
11. Wheels properly chocked on the transport truck or rail tank car while unloading: Yes.
12. Information and warning signs displayed and in good condition: On the tank was a green U.S. DOT placard for pressurized gas, with DOT/UN 4 digit Identification Number 1005. There was also a label reading; INHALATION HAZARD.
13. Area free of weeds, trash, and other unsafe conditions: Yes.
14. Unused equipment stored out of the way: Yes.
15. Chemical safety goggles available, and in good condition: Yes.
16. Protective gloves, boots, suits or slickers available and in good condition: Yes.
17. Gas masks with ammonia type canisters and refill canisters within date limits available: Yes.
18. Emergency clean water, shower or 75 gallon tank available nearby: Yes, a shower facility is in the nearby shop building, I was informed.
19. Hoses in good condition: Yes.
20. Hoses no older than 5 years from date of manufacture and marked: Yes, marked "2012."
21. Vapor and liquid hoses are proper ammonia-type and free of damage or deterioration: Yes.
22. Hoses suitably racked to prevent kinking: Yes.
23. Hoses, including those on nurse tanks, securely clamped to the nipples: Yes.
24. Gages, pressure and liquid level, operable: Yes. The tank was currently empty, except for an estimated couple of gallons, I was informed.
25. Valves properly labeled "liquid" and "vapor": Yes.
26. Safety relief valves within 5 years of manufacture or recertification and marked: Yes, replaced in 2015.
27. Outlet openings on valves and lines free of dirt and rust with protective caps in place: Yes, except for one, but spare caps were onsite and one would be installed, I was informed.
28. Safety relief valves free of debris with rain caps installed: Yes.
29. Safety relief valve manifold operable: Yes.
30. Remote shut-off valve in working order: I was shown that they have a device known as a "sloppy Joe" valve in place.

I & M Program checklist for nurse and applicator tanks, from Appendix 2 of the General PTI:

1. Tank(s) free of leaks: Yes.
2. Paint in good condition: Yes.
3. Valves and fittings free from leaks and in good condition: Yes.
4. Protective guards in place and in good condition: Yes.
5. Outlet openings on valves and lines free of dirt and rust with protective caps in place:
6. Safety relief valves free of debris with rain caps installed? Yes, but one rain cap crumbled to the touch; I was assured it would quickly be replaced.
7. Gages, pressure and liquid, are operable: Yes.
8. Excess flow valves installed and in good condition: Yes.
9. Valves properly labeled "liquid" and "vapor": I was informed that these valves will be labeled on the two tanks we examined.
10. Vapor and liquid hoses are proper ammonia type and free of damage or deterioration: NA, as the hoses were not hooked up to the two nurse tanks which we examined outdoors.
11. Hoses, including those on nurse tanks, securely clamped to the nipples: NA, see number 10, above.
12. Hoses suitably racked to prevent kinking and hose on delivery tanks securely fastened to prevent dragging. NA, see number 10, above.

13. Tanks securely attached: NA, as tanks were not hooked up to tractor.
14. Trailer tongues, hitches, and safety chains in sound condition: Yes.
15. Nurse tank valves locked or capped if site is unattended or not fenced in: I did not notice any locks, on the two tanks we examined, but the farm appears to be attended.
16. Nurse tanks properly labeled: On each tank was a green U.S. DOT placard for pressurized gas, with DOT/UN 4 digit Identification Number 1005, and labels reading: ANHYDROUS AMMONIA; and: INHALATION HAZARD
17. Five gallon or larger can filled with clean water for transport vehicles: the two nurse tanks we examined each had two 2.5 gallon containers, equivalent to 5 gallons.
18. Quick disconnects annually reconditioned: Yes, I was informed.

SC No. 3 requires an emergency response plan to be approved by the local fire department or county emergency response agency, and to be implemented and maintained. The permittee is also required to review this plan with the local fire department or emergency response agency and make any necessary updates. I was informed that they have reviewed this plan with their fire department in the past couple years, but not this year. This will be documented in a Violation Notice (VN). I advised that they should keep a written record each year, when they have this discussion with the fire department.

SC No. 4 requires that EU-AMMONIA be located a minimum of 50 feet from the property line, 300 feet from any existing places of residence or private or public assembly, 500 feet from a school, apartment building, or institutional occupancy, and not less than 1,000 feet from a hospital or nursing home. I was informed that they are meeting this setback criteria.

SC No. 5 requires that all transfer operations including transport deliveries are performed by a reliable person properly trained and made responsible for proper compliance with all applicable procedures. I was informed that transfer operations are done by a reliable person.

SC No. 6 states how close nurse and applicator tank storage can be to the property line, residences, places of private or public assembly, schools, apartment buildings, institutions, hospitals, or nursing homes. I was informed that they are meeting these setback requirements.

SC No. 7 requires that nurse tank filling shall only be done from a permanent stationary storage tank. I was informed that this is the case here.

SC No. 8 states that nurse and applicator tanks shall be filled to no more than 85% of liquid capacity by volume. I was informed that they are filled to no more than 85% of liquid capacity by volume.

SC No. 9 states that vapor return lines shall be employed whenever necessary to ensure an accidental release from pressure relief valves will not occur during ammonia transfer operations. I was informed that this is done whenever necessary.

SC No. 10 states that nitrogen stabilizer shall not be added to any permanent stationary storage tank or to rail or truck transport tanks. I was informed that nitrogen stabilizer is not added to the permanent stationary storage tank.

IV. DESIGN/EQUIPMENT PARAMETERS

SC No.1 requires that all containers shall be fitted with safety relief valves in accordance with Rule 7801 (b)(9). The valves are required to be stamped with the date manufactured, and to be replaced, or retested and certified, at least every five years or more often, if there is evidence of danger or deterioration. I was informed that the safety relief valves were replaced either this year, or last year.

SC No. 2 requires a remotely operated internal or positive shut-off valve to allow access for emergency shut-off of all flow from stationary containers. I was shown that their tank is equipped with a device known as a "sloppy Joe" shut off valve.

SC No. 3 requires a bulkhead, anchorage, or equivalent system to be used at each transfer area so that

any break resulting from a pull will occur at a predictable location while retaining intact the valves and piping on the plant side of the transfer area. It is my understanding that this is the case.

SC No. 4 requires that any liquid lines in rail and transport transfer areas be equipped with back pressure check valves and that all liquid lines not requiring a back check valve, and all vapor lines, be equipped with properly sized excess flow valves. These valves are required to be installed on the main container side of the predictable break point at the bulkhead. T. Pridd indicated that to the best of his knowledge, this was the case.

SC No. 5 requires that all hoses be replaced five years after the date of manufacture, or more often, if there is evidence of damage or deterioration. The hoses were date stamped "2012."

SC No. 6 states that any vapor line, exclusive of couplings, requiring venting after ammonia transfer be vented through a water trap of 55 gallons minimum size. Safety water is prohibited from being used for this purpose. They have been using a water trap of 20 gallons in size, I was shown. I advised that this must be 55 gallons minimum, in size, under the permit. I was advised that a 55 gallon container will be used, with a cover, from a safety standpoint.

SC No. 7 requires that a sign be present and conspicuously placed at the facility entrance, stating the emergency phone numbers for the owner, primary operator, local and state police, local fire department, and ambulance service. There is not a sign with emergency contact information, which is a violation, and will be included in the VN. It is my understanding that they will locate a sign within the property, at a distance from the tank such that a witness to an ammonia release would not need to approach too close to the tank to read the sign, and that 911 will be listed as the emergency contact number.

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

SC No. 1 requires the permittee to keep records of the date, duration, and description of any malfunction or spill occurring from EU-AMMONIA. I was informed that they have not had any malfunctions, nor any spills.

SC No. 2 requires the permittee to keep, in a satisfactory manner, records of the annual review and approval of the emergency response plan with the local fire department. It is my understanding that they have reviewed the emergency response plan with the local fire department in the past, but not this year. Written records of the reviews have not been kept, as mentioned earlier in this report. This will be documented in the forthcoming VN. However, I was advised that they will correct this.

VII. REPORTING

SC No. 1 requires the permittee to contact the Pollution Emergency Alert System (PEAS) telephone number (1-800-292-4706), or the AQD District Supervisor immediately, if there is an abnormal release. I was advised that there have not been any abnormal releases of anhydrous ammonia.

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

SC No. 1 prohibits the permittee from replacing or modifying any portion of EU-AMMONIA, or installing new equipment, unless conditions (a), (b), and (c) are all met. The three conditions require that the general permit be updated, that the permittee continue to meet all general permit applicability criteria, and that the permittee keep records of the date and description of any replacement, modification or

installation of new equipment. My understanding is that the permitted 12,500 gallon anhydrous ammonia tank, EU-AMMONIA under the general PTI, has not been replaced or modified.

Second anhydrous ammonia tank; Rule 201:

A formerly portable ammonia tank/trailer was converted roughly 6 or more years ago to a stationary storage tank, I was informed. They do not have a general anhydrous ammonia tank permit to install, however. This is a violation of Michigan Air Pollution Control Rule 201, which requires a permit to install prior to installation, construction, and/or operation of any process or process equipment which may be a source of an air contaminant. T. Pridd indicated their willingness to apply for a PTI.

I was shown a working manual liquid level gauge on this tank, which is operated by hand. Although different in design from the liquid level gauge on the permitted tank, it did appear to be in working order. It had a working pressure gauge, of what appeared to be conventional design. I was informed that the safety relief valves atop the tank would soon be replaced, as they were about due. The exact year they were installed was uncertain.

This former truck trailer was supported at the back of the tank on horizontal railroad ties, under the rear wheels and/or axles. The trailer support legs in front rested on a similar wooden base. I explained I did not know if this system of support would be acceptable to AQD for permitting purposes, or if AQD would require some form of concrete pad or supports.

Subsequent research has determined that AQD does not set any parameters on the type of tank supports to be used for permitted equipment. From a safety standpoint, AQD will contact Mr. Mark Scott of MIOSHA, 517-284-7750, to see if the current support system for the former truck trailer could be a cause of concern, or if it is adequately stable. The intent of this question is to avoid anything that might cause an accidental release of ammonia.

Conclusion:

The overall condition of the permitted tank and associated equipment appeared good. Four violations were found, during this first inspection by AQD:

- The facility's emergency response plan has not been reviewed with the local fire department for the most recent year, for the permitted tank, EU-AMMONIA.
- They have not kept written records of the past fire department reviews, for EU-AMMONIA.
- There is no sign onsite with an emergency contact phone number, as required by General PTI No. 90-09.
- The second anhydrous ammonia tank onsite, a former truck trailer tank, was installed and operated without first obtaining a permit to install as required by Rule 201.

A VN will be sent for the above violations.

NAME [Signature] DATE 9/24/2016 SUPERVISOR [Signature]