

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

N298924838

FACILITY: BOHNING CO LTD		SRN / ID: N2989
LOCATION: 7361 N 7 MILE RD, LAKE CITY		DISTRICT: Cadillac
CITY: LAKE CITY		COUNTY: MISSAUKEE
CONTACT:		ACTIVITY DATE: 04/09/2014
STAFF: Kurt Childs	COMPLIANCE STATUS:	SOURCE CLASS:
SUBJECT: Compliance Inspection PTIs 949-91 and 675-92.		
RESOLVED COMPLAINTS:		

I Conducted an inspection of The Bohning Company to determine compliance with AQD PTI's 949-91 and 675-92 and the Air Pollution Control Rules. At the time of the inspection I met with Ms. Niki Vander Muelen, the Chemical Production and Testing Supervisor, who showed me around both the Main and North plants. The Bohning Co. makes parts and accessories for the archery industry, golf club ferrules, paints and adhesives used in fishing and archery accessories, and also produces tree paint which is a water based paint that they repackage.

PTI 949-91 applies to the paint and adhesive manufacturing process which is located in the Main plant. They produce an assortment of paints and adhesives that are used in building custom arrows. The largest volume product is "Platinum" adhesive which is mixed in relatively large batches and packaged in 3/4 ounce tubes. Bohning maintains a stock of a variety of resins in powdered form and various thinners in 55 gallon drums. Some of the thinners include MEK, Acetone, Tetrahydrofuran (THF), amylacetate, and methylisobutylketone.

Adhesives are mixed in one room in a large enclosed mixer and paints are mixed in separate rooms. Most of the paints are packaged in 5 gallon pails or smaller containers. There is also a separate room for filling containers and one for repackaging adhesives into smaller containers. There is also a lab room where products are tested and an adjacent small spray booth used for R&D (less than 200 gallons per month). The booth is equipped with filters and is vented out the side of the building (Rule 287(c) compliant). Each of the rooms has a fan and vent in the side of the room exhausting directly outdoors. There are no stacks or ductwork for the adhesive and paint manufacturing and mixing rooms.

PTI 949-91 contains a VOC emission limit (0.6 tons per year), a production limit of 15,000 gallons of paint and adhesives per year, and a requirement for no visible emissions from the process. At the time of the inspection no production was taking place, they are currently in production approximately 2 days per week. Summer months are their busiest time of year. Production of adhesives and paints consists of adding the ingredients to containers that are then sealed and mixed. The potential for VOC emissions is small, only during the time the vessels or containers are open to add materials. There is no practical way to determine actual emissions from these limited operations. VOC content and volume of the materials is known but the duration of exposure to the atmosphere would be impractical to measure. Unlike a coating operation most of the VOC content remains in the product until it is used by the customer. The production limit and process observations are the most practical way to evaluate compliance although the PTI evalform does provide an emission estimate of 0.7 pounds per hour. During a previous inspection, there were no visible emissions and odors were minimal.

The North plant which is located about 1/2 mile north of the Main plant on N. 7 Mile Rd contains the machine and tool shop, plastic injection molding and plastic extrusion processes. The machine and tool shop makes molds and tools for the injection molding and plastic extrusion processes. PTI 975-92 covers the mold grinding process and includes PM emission limits of 2 pounds per hour and 8.8 tpy as well as a 20% opacity limit and requirements to have a properly operating cyclone and minimize re-introduction of collected air contaminants. The molds are made from blocks of carbon that are cut and ground into shape. The CNC, grinding and cutting machines are connected to a dust collector (cyclone) located outside the building. The process was not running at the time of the inspection but close inspection of the cyclone did not reveal any accumulations of carbon dust or other air contaminants on the control equipment or nearby surfaces. During a previous inspection there were no visible emissions from the process. Compliance with the permit requirements is demonstrated by proper operation of the cyclone.

The injection molding process makes plastic parts such as the arrow quiver components I observed being produced during the inspection. Plastic injection molding is exempt from permitting pursuant to R 336.1286(b). There are also two small cold cleaners utilizing mineral spirits which were closed at the time of the inspection and meet the requirements of the R 336.1281(h) exemption.

The plastic extrusion process produces long ribbons of plastic from which arrow vanes are cut. Plastic extrusion processes are exempt from permitting pursuant to R 336.1286(a). The arrow vanes that are cut from the plastic extrusions are coated along one edge with "vane primer" that improves adhesion to the arrow. There are two vane production lines, Vane Line 1 and Vane Line 2. Most of the production takes place on Vane Line 2. The plastic extrusion and primer application process was previously permitted but the permit was voided when the company decided to operate the process under the exemption in R 336.1290. Bohning also manufactures golf club ferrules in a process that was also previously permitted but is now done by injection molding. During the inspection I did not see any new processes or processes that have not been previously addressed by a permit or exemption.

I have discussed the various recordkeeping requirements with Ms. Vander Muelen. The recordkeeping system has changed since the last inspection. With regards to the paint and adhesive, production is tracked based on daily orders referred to as "job travelers" that identify the product, materials used, and recipe. Data from the job travelers is linked to a spreadsheet that tracks the material usage. There is a plant production limit of 15,000 gallons per year. Based on a review of 2013 production records the annual production of VOC based products is well below that limit. The highest production for 2013 was for Platinum adhesive at 832.5 gallons. Approximately 500 gallons of white paint was produced and 118 gallons of vane primer (which is used at the north plant) was also produced. The remaining paints were produced in much smaller quantities, primarily 5-40 gallons each. I also informed Ms. Vander Muelen of the 0.7 pph emission factor and recommended she use this factor and operation records to record monthly VOC emissions.

I also discussed the Rule 290 records with Ms. Vander Muelen. The vane primer used at the north plant is provided by the paint and adhesive department at the Main plant and usage is tracked on a daily log that they maintain and provide to Ms. Vander Muelen. These records indicated 199 pounds of primer were used in 2013 with a maximum monthly usage of 24 pounds. The vane primer contains Tetrahydrofuran (THF) which is not currently a carcinogen (no initial thrisk screening level established) so the Rule 290 emission limit is 1,000 pounds per month of vane primer. Because less than 24 pounds of primer are used, monthly emissions are much less than 1,000 pounds.

As a result of the inspection and recordkeeping review it appears that the facility is in compliance with both of their PTI's and the Air Pollution Control Rules.

NAME  DATE 4-10-14 SUPERVISOR 