

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

N5850

N585036687

FACILITY: BROACHING MACHINE SPECIALTIES	SRN / ID: N5850
LOCATION: 25180 SEELEY, NOVI	DISTRICT: Southeast Michigan
CITY: NOVI	COUNTY: OAKLAND
CONTACT:	ACTIVITY DATE: 09/16/2016
STAFF: Iranna Konanahalli <i>JK</i>	COMPLIANCE STATUS: Compliance
SUBJECT: FY 2016 inspection of Broaching Machine Specialties, Inc.	SOURCE CLASS: MINOR
RESOLVED COMPLAINTS:	

N5850-SAR-2016 0916

Broaching Machine Specialties, Inc. (N5850)
25180 Seeley Road
Novi, Michigan 48375-2044

Phone: 248-471-4500

Not Subject to: NESHAP/ MACT T, area source National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T; NESHAP/ MACT T); Correction; 29484 Federal Register / Vol. 60, No. 107 / Monday, June 5, 1995 / Rules and Regulations; amended National Air Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T); Final Rule; Page 25138 Federal Register / Vol. 72, No. 85 / Thursday, May 3, 2007 / Rules and Regulations. Solvents containing halogenated compounds are not used.

On September 16, 2016, I conducted a level 2 self-initiated inspection of Broaching Machine Specialties, Inc. ("Broaching" or "BMS"), a broaching machines building company, located at 25180 Seeley Road, Novi, Michigan 48375-2044. The inspection was conducted to determine compliance with the requirements of federal Clean Air Act; Article II, Air Pollution Control, Part 55 of Act 451 of 1994; and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

During the FY 2016 inspection, Mr. Chuck Good (Phone: 248-471-4500; Fax: 248-471-0745; Chuck.Good@BroachingMachine.com), Manufacturing Team Leader, assisted me.

Mr. Lance Ertman (Phone: 248-471-4500; Fax: 248-471-0745; Lance.Ertman@BroachingMachine.com), Manufacturing Manager, was on vacation.

Mr. Lee Egrin, Owner and CEO, semi-retired, and Mr. Mathew Egrin, Owner and President, were out of town.

The company builds broaching machines, i.e. metal cutting machines. The company also rebuilds both used and new machines. Broaching in its business model has only one-third automotive business and hence insulating itself from cyclical nature of automotive industry.

Three portable welding (one large Lincoln Mig Welder, one small Lincoln Mig Welder and one Lincoln Arc Welder) machines are present. Plasma cutting machines are present as well. The machines are enclosed with no discharge of exhaust gases to outside ambient air. Several grinding and cutting machines, which are used about 2% percent of the time, are present. The machines are not equipped with any dedicated exhaust system to outside ambient air. The emissions are insignificant and are released into the general plant environment, which has ventilation fans on roof. These operations are exempt from Rule 336.201 (Permit-to-Install) pursuant to Rule 336.285.

Two acetylene torch cutting machines are present and all emissions are released to in-plant environment. The torch cutting operations are exempt as well from Rule 336.201 (Permit-to-Install) pursuant to Rule 336.285(l).

Acetylene (C₂H₂ CAS # 74-86-2 with carbon-to-carbon triple bonds; VP = 44 atm. at 20 °C) and oxygen (O₂) mixture is used in welding operation to obtain highest flame temperature (adiabatic flame temperature = 2,534 °C = 4,593 °F with stoichiometric air & adiabatic flame temperature = 3,480 °C = 6,296 °F with stoichiometric oxygen). Use of oxygen instead of air avoids quenching effect of atmospheric nitrogen (air ≈ 79 %v N₂ + 21 %v

O2).

AQD removed this facility from MAERS, about 2000, based upon company's request and information submitted. Based upon subsequent inspections (after 2006), this was a correct decision.

Three cold-cleaners

There are three cold-cleaners (4 ft. * 2 ft. and 5 ft. * 3 ft), which were installed in 1989. Each cold-cleaner is subject rule 336.611 or 336.1707 depending on if it is new or existing. A cold-cleaner is exempt from Rule 336.1201 pursuant to Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979. As the coldcleaners were installed in 1989, they are considered new coldcleaners.

During the FY 2007 inspection, I found that the operating procedures were not posted. I gave, on January 12, 2007, Mr. Ertman a copy of DEQ's "cold-cleaner operating procedures".

Repeat compliance assurance inspection was conducted on May 21, 2009. The operating procedures were posted but work-practice procedures were not implemented as indicated by open lids at all times. Mr. Ertman stated on May 21, 2009, that he would incorporate the "cold-cleaner work-practice" into 'ISO Program' and 'Training Program'. It was decided not to issue a violation notice (VN). Instead repeat inspection was conducted on October 8, 2009.

During the repeat inspection of October 8, 2009, Mr. Egrin stated that employees were trained once every three months regarding environmentally sound cold-cleaner operating procedures. I confirmed that the lids were closed when not in active use.

During the FY 2016 inspection, I confirmed that the cold-cleaner work-practice procedures were posted and the lids were closed. During the FY 1015 inspection, as original decals were soiled, I gave again DEQ's decals for "cold-cleaner operating procedures" for posting and complying with work-practice rules. I asked the company to follow the common sense work practice in the procedures.

The Cold-cleaners are NOT Subject to: 40 CFR, Part 63, Subpart T, NESHAP/ MACT T, since solvents containing halogenated compounds are not used.

Zep's Dyna 143 (Product No. 0366) parts cleaner solvent (Light Aliphatic Naphtha – Petroleum Distillate.

100% VOC solvent. Flash Point (FP) = 143 °F Pensky Martins Closed Cup. Auto Ignition = NA °F. Boiling Point (BP) = 377-412 °F @ 760 mm Hg. Vapor Pressure (VP) = 0.32 mm Hg (0.043 kPa or kilo Pascal) at 68 °F. Specific Gravity (SG, Water = 1.0) = 0.79. Density (ρ) @ 68 °F = 6.58 lbs. / gallon (0.790 kg /L). Flammability range = 1 %v (LEL) – 7%v (UEL).

Three cold-cleaners are as follows:

1. One Powermaster is a tank type cold-cleaner with a power-assisted lid. As the lid closes, the parts are immersed into a solvent. The lid was closed. The unit is equipped with a bag to clean solvent via filtration. The cold-cleaner work-practice procedures are posted. The parts immersion device and the lid are linked together and hence lid must be closed to soak parts in liquid.
2. One Kleer-Flo CleanMaster is a tank type cold-cleaner consisting of one 55-gall drum reservoir for solvent storage / drainage from the tank with a mechanically-assisted lid. Solvent can be sprayed on soiled parts. The lid was closed. The cold-cleaner work-practice procedures are posted. This unit may be removed because it is hardly used. During FY 2016 inspection, it was long-term idled.
3. One Handi-Kleen is a tank type cold-cleaner with a mechanically-assisted lid. The lid was closed. The cold-cleaner work-practice procedures are posted.

With respect to all cold-cleaners, during the FY 2016 inspection, lids were closed, DEQ decals were posted.

All cold-cleaners are self-serviced. Currently (FY 2016), spent cold-cleaner solvent is disposed of as RCRA hazardous waste. Based upon my discussions Mr. Ertman will look into swapping spent solvent for clean solvent with the solvent supplier with a twin objective of saving money and to be eco-friendly.

Sandblasting Unit

About 2010, BMS purchased and installed one Trinco sandblasting machine.

Metal parts surface is prepared by sandblasting with sand. The process is equipped with an air pollution control system, consisting of a cyclone (primary control for large particles to increase longevity of bags) and a fabric filter arranged in series, to collect the dust. The collected sand is reused. The bags are cleaned using a pulse-jet air system. Collected sand is NOT reused and fines that are lost are made up with fresh sand.

Because exhaust air is recirculated upon cleaning into the building, the process is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(l).

Portable Rule 287(c) Paint Spray Booth

All painting is outsourced. A contractor brings his equipment, builds a temporary booth and paints the machines for Broaching.

Paint usage records are not kept; Mr. Good stated that about 10 gallons of paint per month was used. Solvent based 2-component epoxy coatings are used. 3-4 colors are used. I asked Mr. Good to ensure that the overspray paint filters are installed properly during the painting to protect exhaust fan from going out of balance and to protect cars outside.

The booth was not present during the FY 2016 inspection and I have never seen this portable booth in operation.

I asked Mr. Good to make sure to install and inspect the filters on portable paint booth such that they fit, at all times, snugly without gaps and holes. I also asked him to keep records of paint and solvent usage according to Rule 336.287(c).

The booth is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.287(c).

Upon keeping usage records, the coating booth meets all of the Rule 336.1287(c) conditions:

1. The coating use rate is not more than 200 gallons, as applied, minus water, per month.
2. Any exhaust system that serves only coating spray equipment is supplied with a properly installed and operating particulate control system.
3. Monthly coating use records are maintained on file for the most recent 2-year period and are made available to the air quality division upon request.

All broaching machines after assembling and painting are tested. Water based coolants are used to cool tools albeit oil based coolants are used occasionally. Hydraulic oil is stored at the facility.

Conclusion

A decision to remove this source from MAERS is correct based upon level-2 inspection. After several failures, BMS has implemented cold-cleaner work-practice rule (Rule 707). A contractor sets up a portable booth (Rule 287(c)) for painting finished broaching machines.

NAME J S Venema Hall DATE 09/21/2016 SUPERVISOR Joyce B

