

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

A124738952

FACILITY: Brown Machine, LLC		SRN / ID: A1247
LOCATION: 330 N ROSS, BEAVERTON		DISTRICT: Saginaw Bay
CITY: BEAVERTON		COUNTY: GLADWIN
CONTACT:		ACTIVITY DATE: 03/17/2017
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT:		
RESOLVED COMPLAINTS:		

On Friday, March 17, 2017, a scheduled site inspection was conducted by AQD District Staff at the Brown Machine, LLC Facility (SRN A1247). The referenced facility located at 330 N. Ross Street, Beaverton, Gladwin County, Michigan.

The facility was in operation upon arrival, and district Staff met with Mr. Jeff Carrier, Electrical Maintenance Crew Leader, who provided a tour and answered questions regarding facility operations. Mr. Carrier has been with the company for over 20 years.

Site inspection activities were conducted with the intent of confirming the operational status of the permitted equipment that monitoring/reporting activities were being conducted per the referenced permit and applicable exemptions. In addition, District Staff evaluated if any additional permitting may be required for the present facility operations.

As a result of additional information reviewed following the referenced site visit, District Staff met with the facility staff again on June 1, 2017, to discuss future record keeping and general permitting options for the facility.

FACILITY DESCRIPTION

The subject site is located at the northwest corner of the intersection of M-18 and Lang Road, Beaverton, Gladwin County, Michigan. Ross Lake bounds the northeast portion of the property. The property is bounded by predominantly commercial properties of the west and south, and residential properties to the north and east (across Lake Ross).

Available information indicates that the company was created by Mr. Gaylord Brown in 1952. The company moved to its current location in 1961, at which time the company was sold to Purex Corporation.

Brown Machine designs and manufactures both continuous (also known as in-line) and cut sheet thermoforming machines, and tooling (AKA thermoform molds). In addition, the facility designs and manufactures the equipment to remove the thermoformed products and to fill the thermoformed product containers.

The facility is reported to have undergone several expansions as it grew to meet technological changes and market demands. In addition, they have since the last inspection (3/24/2012) purchased "Lyle" a competitor located down the street, and have absorbed their equipment into their facility and client base. A portion of the floor space is presently occupied by EPCO™ who rebuilds and remanufactures injection, blow molding and die casting machinery. Other portions of the facility house multiple engineering groups that are involved in equipment design.

The facility is a minor source of PM and VOC, and a minor source of HAPs. As part of the March 14, 2012, site inspection information was provided to the facility for federal area source requirements associated with paint stripping operations. (Subpart HHHHHHHH) or Misc. Paint Finishing Operations (Subpart XXXXXX). As part of this most recent inspection, the facility is being provided for the Reciprocating Internal Combustion Engine (RICE) Maximum Achievable Control Technology (MACT) requirements for an engine associated with their fire suppression system.

PERMIT HISTORY

Three Permits to Install (PTI) have been issued for the facility. These permits include:

- 49-82 (dry-filter paint booth) approved on April 1, 1982,
- 1112-89 (plasma cutter), and were approved on May 10, 1990.

Permit 330-84 (Sandblast unit with bag house control) approved on May 30, 1984 and was been voided (March 30, 2012) as a result of the March 14, 2012 site inspection.

PERMITTED EQUIPMENT

Permitted equipment onsite included one dry paint booth and one plasma cutter. Both of which have emissions to the outside atmosphere. The permitted dry paint booth (49-82) is an approximately 15 ft X 20 ft cross draft paint booth, equipped with a monorail or a cart to move the equipment/parts being painted into and out of the booth and HVLP (or equivalent) spray guns. The dry filter system is equipped with manometers to measure the mean vacuum, when manometer readings rise above 0.25 inches the filters are changed. The booth is presently only being used for intermittent painting, estimated to be up to 4 hours/day, 5 days a week, and 50 weeks out of the year. Paints used consist of primarily of the same Sherman Williams Paints, purchased by the gallon, historically used. Some changes in coatings have occurred; changes are not restricted by the permit.

The plasma cutter (1112-89) is equipped with a downdraft table filled with water, and a fan with filter assemblies. As the unit is operated the particulate and any vapor generated during the process is pulled down to the downdraft table by the fan, the associated filters and water filled table trap particulate and larger particles generated. The remaining vapors are exhausted to the outside.

UNPERMITTED EQUIPMENT

In general, any emissions generated during business activities are released into the in-plant environment and would not require permitting. Based on activities observed during the most recent inspection, the following permit exemptions appear to apply to a large portion of the equipment manufacturing activities conducted onsite:

- Rule 285 (2)(j)-Brazing, soldering, welding or plasma coating equipment.
- Rule 285 (2)(l) (i)- Equipment and any exhaust system or collector used exclusively for bending, forming, expanding, rolling, forging, pressing, drawing, stamping or extruding either hot or cold metals.
- Rule 285 (2)(l)(vi) – Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening or cleaning ofmetals.....which meets any of the following (A)Equipment used in a non-production basis (B) Equipment that has emissions that are released only into the in-plant environment (C) Equipment has externally vented emissions controlled by an appropriately designed and operated fabric filter collector that, for all specified operations with metal, is preceded by a mechanical precleaner.

Other maintenance activities could be potentially exempted under Rule 285 (2)(i)- Activities performed on a non-production basis such as maintenance, repair and dismantling.

A second dry paint area exists onsite and consists of a permanent wall with filters and fans, and three "curtained walls". The area is used to paint only those components too large to use in the cross draft paint booth. A capture system consisting of dry filters and a fan to draw in particulate generated during the activity exists in the permanent wall. Based on the infrequency of use, and it appears that this work area may be exempt under Rule 287(2)(c) which exempts coating lines reporting less than 200 gallons of coating as applied (minus water) per month.

In addition, the facility reports that touch up painting is conducted in the final construction area for the company's machines during third shift. Based on the information provided at the time of the inspection, it appears that the activities are for small surface areas, and would be exempt under Rule 285 (2)(hh) (processes that use only hand-held aerosol spray cans) or Rule 287 (2)(b) for hand-held aerosol spray cans or other coatings manually applied from containers no greater than 8 ounces. Should the company change from use of aerosol spray cans, the exemptions referenced may no longer apply to the activity.

The facility has a safety kleen solvent recovery system for xylene. The unit is reported to be rented from Safety Kleen. The unit is sealed with no fugitive emissions, and uses an internal cooling tower to separate reusable xylenes from the solvent waste. As part of the 2012 inspection it was also believed

that this unit would be exempt from permitting under Rule 281(h) exemption for cold cleaners. The referenced Rule is now identified as Rule 281 (2)(h) which allows for cold cleaners with a surface area of no more than 10 square feet. Cold cleaners being defined by rule as a tank containing an organic solvent with a VOC content of 5% or more, by weight and a temperature below it's boiling point that is used to spray, brush, flush or immerse metallic and/or plastic objects for the purpose of cleaning or degreasing.

As part of the 2012 site inspection, the facility was noted to have one Crystal Clean cold cleaner onsite. Based on the tank dimensions, work place practices and the odor of petroleum distillate the unit was believed to be exempt from permitting under Rule 281 (2)(h). The referenced exemption for cold cleaners is described above.

The facility reports having a reciprocating internal combustion engine (RICE) for their fire suppression pump. Information provided indicates that it is a Cummins 160 BHP (@1500 rpm) Discussions with Mr. Carrier indicate that the unit only kicks on when power to the facility is down, or there is a fire onsite. Based on that information, the facility has been provided with information regarding Emergency RICE and associated Federal regulations (RICE MACT). Information provided it appears to indicate that the engine on a state level may be exempt under Rule 285 (2)(g), which exempts internal combustion engines of less than 10 million BTU/hour maximum heat capacity from permitting requirements under Rule 201. Initial conversions using manufacturer specs indicated that the existing RICE was well under the maximum heat capacity limit.

COMPLIANCE HISTORY

A review of District Files indicated that previous site inspections for the facility were conducted on March 14, 2012, May 4, 2005, May 30, 1997, December 18, 1995, September 7, 1994 and April 22, 1986. No compliance issues were identified during the referenced site inspections. No complaints or notices of violation are of record for the facility.

COMPLIANCE EVALUATION

Compliance for permitted equipment is based on information provided and observations made during the most recent site inspection.

Operational Status – During the facility tour, the facility was open and there were ongoing activities. With reference to permitted equipment, only the plasma torch was in operation at the time of the inspection.

Material Usage Rates – The facility is a fabrication facility with production based on orders. Both permits associated with the facility contain material use conditions. These include permit 48-92 (paint spray booth) Special Condition (SC) 13, which restricts substitution of materials without prior notification and approval by AQD. The facility has previously reported no change in coatings, the company still purchasing the same Sherman Williams coatings by the gallon that it has historically. Since the 2012 inspection, Sherwin Williams has changed the name of their Aer-O-Jet line of paints, which now known as GenMetal.

Permit 1112-89, SC 20 limits substitution of any material not described in the permit without prior notification and approval by the AQD. The facility reports that the unit is used to cut steel, aluminum and stainless steel, as permitted and that no substitution of materials has taken place.

Emission Points/Limits – Emission points identified during site inspection were limited to stacks/vents associated with the paint spray booths (permanent cross draft spray booth and the curtained booth) and plasma cutting torch. Emission limits for the permanent paint spray booth are limited to no visible emissions (SC 10) and a VOC limit of 11.8 lbs/hour or 5.9 tons per year. Neither paint spray booth were in use during the site visit, so no verification of visible emissions could be conducted, however, no paint stains were observed around any of the observable stacks or vents.

The following table reflects total usage and proposed usage by volume. Based on the totals, it appears that an exceedance of total VOC emissions in ton/year may have occurred. An increase in total volume of coatings and solvents can be noted in the table. However, the total s reported are based on volume purchased. Records of volumes used in aerosol application, or either the permitted or unpermitted coating lines were not available to better determine if an exceedance of emissions had actually

occurred. Prior to the most recent inspection, total coating for the facility appeared to be below permit limits with respect to annual emissions. Based on two coating lines, it would not be unreasonable to assume that monthly coating would be below the 200 gallon-less water allowed to be exempt from permitting. However, future operation under the exemption (Rule 287 (2)(c)) would require the facility to initiate appropriate monthly recordkeeping activities.

YEAR	Total Paint/Coatings (gallons/year)	Total Lacquer Thinner (gallons/year)	Total Xylene (gallons/year)
2004	772	206	440
2011	1112	280	605
2016	1424	592	660
1982 permit application	1306	330	330

As part of an internal discussion within the facility, as well as discussions with District Staff, the company has decided to implement a detailed recordkeeping spreadsheet which will monitor the quantities of coatings and solvents used for each of two coating lines. The spreadsheet will also calculate monthly and 12-month rolling emissions for VOCs and HAPs based on usage. Based on the data generated, the facility will determine if activities onsite will allow for use of the Rule 287 (2)(c) exemption, or if the facility will need to submit for a general permit for its coating operations.

Emission restrictions for the Plasma Torch were limited to PM emissions of 0.10 lbs/1,000 lbs of exhaust gases (or 1.5.lbs/hour) (SC 14), and visible emissions of 10% or less opacity (SC 15). At the time of the inspection, the equipment was in operation, and no VEs were visible. In addition, no staining was noted outside the vent associated with the EU.

Operational Parameters – Both permitted emission units have operational conditions. Permit 49-82, limits the cross draft paint booth to only operating when all exhaust filters are in place and operating properly (SC 12). As previously indicated, the spray booth filters at the facility are equipped with manometers, which staff used to determine the condition of the dry filters. When the manometer reading for a filter is 0.25 inches or greater, the filter is replaced. The manometer reading as well as replacement data is kept on handwritten logs at the spray booth. Spent filters are reported to be disposed of through a waste disposal contractor.

Operational restrictions for permit no. 1112-89 (plasma torch) required that the industrial air cleaner is installed and operated properly (SC 17) and that disposal of the collected contaminants shall be performed in a way that minimizes the introduction of air contaminants to the outer air (SC 18). The downdraft table, fan and filter assembly. The greater portion of the particulate is captured in the waters of the downdraft table and the filter assembly is reported to collect the remainder. Materials from the downdraft table are treated/disposed of as scrap metal. The filters are disposed of through a disposal contractor.

Equipment Maintenance – Review of the permit(s) did not identify requirements for record keeping associated with equipment maintenance. Equipment is kept in proper operating conditions to maintain production levels and is in general compliance with general permit conditions.

Monitoring and Testing – Monitoring and testing requirements are limited to SC 16, permit 1112-89 for the plasma torch operation, which requires verification testing if required by AQD. No such testing has been requested to date.

Record Keeping and Reporting – No record keeping or reporting requirements are specified in permits for either of the two referenced units. Mr. Carrier reported that paint use/paint booth records are maintained for up to 6 years.

SUMMARY

On Friday, March 17, 2017, a scheduled site inspection was conducted by AQD District Staff at the Brown Machine, LLC Facility (SRN A1247). The referenced facility located at 330 N. Ross Street, Beaverton, Gladwin County, Michigan.

The facility was in operation upon arrival, and district Staff met with Mr. Jeff Carrier, Electrical Maintenance Crew Leader, who provided a tour and answered questions regarding facility operations. Mr. Carrier has been with the company for over 20 years.

Site inspection activities were conducted with the intent of confirming the operational status of the permitted equipment that monitoring/reporting activities were being conducted per the referenced permit and applicable exemptions. In addition, District Staff evaluated if any additional permitting may be required for the present facility operations.

Permitted equipment onsite included one dry paint booth and one plasma cutter. Both of which have emissions to the outside atmosphere. Three Permits to Install (PTI) have been issued for the facility. These permits include:

- 49-82 (dry-filter paint booth) approved on April 1, 1982,
- 1112-89 (plasma cutter), and were approved on May 10, 1990.

Permit 330-84 (Sandblast unit with bag house control) approved on May 30, 1984 and was been voided (March 30, 2012) as a result of the March 14, 2012 site inspection. Additional activities onsite appear to meet existing permit exemptions.

Based on total coating volumes reported to be used in the facility for 2016, an exceedance of total VOC emissions in ton/year may have occurred. However, due to the limited recordkeeping required under the permit, and the presence of exempt coating activities (Rule 287 (c) and 287 (b)) confirmation of an exceedance is not possible at this time. As part of an internal discussion within the facility, as well as discussions with District Staff, the company has decided to implement a detailed recordkeeping spreadsheet which will monitor the quantities of coatings and solvents used for each of two coating lines as well as any aerosol applied volumes, and will notify District Staff as to a determination of whether or not the company will be using PreVal aerosol application of coatings in lieu of aerosol cans provided by the vendor. The spreadsheet will also calculate monthly and 12-month rolling emissions for VOCs and HAPs based on usage. Based on the data generated, the facility will determine if activities onsite will allow for use of the Rule 287 (2)(c) exemption, or if the facility will need to submit for a general permit for it's coating operations.

In addition, it appears that the facility is a minor source of PM and VOC, and a minor source of HAPs. As part of the March 14, 2012, site inspection information was provided to the facility for federal area source requirements associated with paint stripping operations. (Subpart HHHHHHHH) or Misc. Paint Finishing Operations (Subpart XXXXXX).

As part of this most recent inspection, the facility is being provided for the Reciprocating Internal Combustion Engine (RICE) Maximum Achievable Control Technology (MACT) requirements for an engine associated with their fire suppression system. (Subpart ZZZZ). Based on historical operation of the unit, it appears that it would meet the requirements for an emergency engine, the requirements of which would be limited to documentation proving that the unit operated for less than the threshold time frame. sgl

NAME Shaouelle Blane

DATE 6/5/2017

SUPERVISOR C. Hove