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

B606733587

FACILITY: Burkard Industries Inc.		**SRN / ID:** B6067
LOCATION: 35300 Kelly Rd., CLINTON TWP		**DISTRICT:** Southeast Michigan
CITY: CLINTON TWP		**COUNTY:** MACOMB
CONTACT: Jay Burkard , President		**ACTIVITY DATE:** 03/04/2016
STAFF: Sebastian Kallumkal	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Onsite Inspection.		
RESOLVED COMPLAINTS:		

On Friday, March 4, 2016, I conducted a targeted annual inspection at Burkard Industries, Inc., located at 35300 Kelly Road, Clinton Township, Michigan. The purpose of the inspection was to verify facility's compliance with requirements of Article II, Air Pollution Control, Part 55 of Act 451 of 1994 and the Permits to Install No (s): 252-02 and 54-08.

I arrived at the facility about 10:00 am. Before entering the facility, I conducted observations of the stack. I did not observe any visible emissions from the stacks. At the facility, I met with Mr. Jay Burkard, President and Carly Charreet, HR/Safety/Environmental Manager. I introduced myself and stated the purpose of my inspection. I provided them the "DEQ Environmental Inspections: Rights and Responsibilities" brochure.

Mr. Burkard explained to me the manufacturing processes at the facility. Burkard Industries performs coating of metal parts using electro-deposition coating (E-Coat), Powder coating and liquid (spray) coating for various automotive parts (civilian and military automotive). He informed me that they had no process change since the last AQD inspection, except they started purchasing coatings for E-Coat from BASF Corp. since July, 2015 and using Propylene Glycol Phenyl Ether as flow control solvent instead of dibasic ester which was included in PTI No. 252-02. The facility is performing coatings for more automotive than military parts. In the liquid spray coating process they use the same coatings (chemical agent resistant coatings (CARC)) for military parts which comes in black, tan and green colors, but all three have similar chemical composition.

The plant has an e-coat line, a conveyerized powder coat line, a batch powder-coat booth, a conveyerized liquid spray coating line (with 2 booths) and two burn-off ovens to clean the coating racks. Each liquid coating booth sprays coating to each side of the parts.

They operate 6 days with occasional 7^{th} day. All three types of coatings are conducted at different times of the day, so the facility may be open 24 hours a day. (E. Coat-9 PM to 4:30 PM, Large Power Coating line-1 Shift, Small Powder coating line- 2 shifts; Military liquid coating line – 1 shift). The facility employs about 125-130 employees.

The E-coat line has a 14-stage pre-cleaner process prior to the E-coating. After the E-coating, the parts go through dehydration oven (180-200°F) followed by a cure oven (380°F). The ovens are natural gas fired. The e-coat uses cathodic epoxy coating from BASF since July 2015. It is a 2 component (resin & pigments) water based coating. The coating baths are connected to totes. The coating baths are monitored electronically and replenished automatically from the attached coating totes.

The conveyerized liquid spray coating line for the military automotive parts includes alkaline clean, rinse, dry off oven, two opposing cross draft spray booths, flash off area, cure oven and unloading/loading area. He told me that they usually add MAK (Methyl Amyl Ketone) or acetone as thinner for the coatings (5% of the coating is MAK or acetone). Some of the parts are e-coated parts and some primer coated prior to liquid spray coating.

The powder coating line also includes cleaning, drying and powder coating and baking areas.

Mr. Burkard informed me that they started using Propylene Glycol Phenyl Ether (CAS 770354, ITSL= 8 ug/m3 Annual) as flow control solvent instead of dibasic ester (CAS 95481622, ITSL=1 ug/m3-Annual) which was included in PTI No. 252-02 and butyl cellosolve (ITSL, 24-hr = 13000 microgram per cubic meter) which was used in the interim. The use of dibasic ester was ceased in 2003. This change is exempt from PTI review pursuant to Rule 285 (c)(iii).

After the pre-inspection meeting, they accompanied me for an inspection of the facility. The power coating and E-Coating booths were operating. The liquid coating booths were not operated at the time of my inspection. On Tuesday, March 8, 2016, I returned to the facility. Mr. John Burkard, Quality Manager collected a sample of the liquid coating (CARC-Black). It was sent out for analysis on March 9, 2016. Jay told me that they usually add MAK (Methyl Amyl Ketone) as thinner for this coating (5% of the coating is MAK).

PTI No.: 252-02 (EU-ECOAT)

Condition 1.1a: This condition limits the VOC emissions to 8.9 TPY based on a 12-month rolling time period as determined at the end of the each calendar month. The facility provided coating usage records for 2013, 2014, and 2015. Records for the VOC emission calculations were calculated for 2015. The records show that the VOC emissions were 2.9 TPY as of December 2015. The emissions for the 2013 and 2014 were not calculated. So the compliance was not verified. However, based on the coating usage for 2013 and 2014, the VOC emissions appear to be in compliance with the permit limit.

Condition 1.1b and 1.1c: These conditions limit the dibasic ester emissions to 2753 lb/yr and 9.6 lb/hr respectively. The facility has ceased using dibasic ester in 2003.

Condition 1.2 limits VOC content of the coating to 0.68 lb/gal (minus water) as applied, based on instantaneous measurement. The data sheet show that the coating used is in compliance with the permit limit. Jay told me that this is a water based coating.

I observed that the waste materials are stored in containers.

The facility is using the manufacturer's formulation data to estimate the VOC content of the coating. The facility had requested and AQD approved the use of manufacture's formulation provided that the facility conducts Method 24 analysis initially quarterly followed by semi-annual. The technical data sheet show that the VOC content is in compliance with the permit limit.

Facility is keeping a current listing of the Material Data Safety Sheet and technical data sheet (both electronic) from the manufacturer of the chemical composition of each coating and solvent, including the weight percent of each component.

Permittee is keeping records of coating and solvent usage, but the records do not show any the units of measurements and VOC the emission calculations. The permittee appears to be in violation of SC 1.6. The records pursuant to Condition 1.7 are currently not applicable.

The stack dimensions appeared to be in compliance with the permit requirements. The facility has two burn-off ovens to clean the used coating racks. They were exempt from permit to install requirements at the time (1988 and 1994) of the installations. Review 2008 self initiated inspection report for details.

PTI No.: 54-08 (FG-METALPARTS and FGFACILITY)

This permit also includes a facility-wide synthetic minor permit for Hazardous Air Pollutants (HAP) which limits each individual HAP to 9.0 Tons per year and aggregate HAP to 22.5 Tons per year.

Condition 1.1 limits the VOC emissions to 36.0 TPY based on a 12-month rolling time period as determined at the end of each calendar month. The facility provided coating usage records for 2013, 2014,

and 2015. The VOC emission calculations were calculated for 2015. The records show that the VOC emissions were 14.45 TPY as of December 2015. However the emissions for the 2013 and 2014 were not calculated. So the compliance was not verified. However, based on the coating usage for 2013 and 2014, the VOC emissions appear to be in compliance with the permit limit. On March 14, 2016, I discussed the current format of the records with Jay and suggested modifications which would make the records easier to understand.

Condition 1.2 limits VOC content of the coating to 3.5 lb/gal (minus water) as applied, based on instantaneous measurement. The calculations show that the VOC content of the coating after mixing with thinner MAK is more than the permit limit. On 3/15/2016, we discussed this alleged violation with Jay and he informed me that he will contact the coating supplier regarding this issue. I also informed him that acetone is a not a VOC, so if it is used as a thinner, its amount should not be included in the VOC content calculation. This exceedance is a violation of the permit condition.

Condition 1.3 limits the daily coating usage to 100 gallons and annual usage to 26,000 gallons per 12-month rolling time period. The 2013, 2014, and 2015 records show that the coating usage is below the daily and annual permit limits.

Condition 1.4 requires that the permittee capture all waste coatings, reducers, thinners, additives, catalysts, purge solvents, and/or cleanup solvents and shall store them in closed containers and dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. I observed that the facility's waste paint tanks are closed. Mr. Burkard informed me that Usher Oil, Inc. is collecting and disposing the waste coatings and other solvents.

Condition 1.5 requires that the permittee dispose of spent filters in a manner which minimizes the introduction of air contaminants to the outer air. He informed me that that the spent filters are air dried and disposed in the dumpster.

Condition 1.6 requires the permittee to handle all VOC containing materials, including coatings, reducers, solvents and thinners, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. I observed that the coatings and other solvent materials containers were kept closed when not in use. I did not any spill of those materials.

Condition 1.7 requires the permittee to operate the paint spray booths of FG-MetalParts with all respective exhaust filters are installed, maintained and operated in a satisfactory manner. I observed that the filters were in place and were not heavily soiled. He informed me that the filers were replaced either every day or per shift as necessary.

Condition 1.8 requires that the permittee equip and maintain each paint spray booth portion of FG-MetalParts with high volume low pressure (HVLP) spray guns or comparable technology with equivalent transfer efficiency. For HVLP applicators, the permittee shall keep test caps available for pressure testing. He informed me that they are using HVLP spray guns for coating. I did not request pressure testing during the inspection.

Condition 1.9 requires the permittee to determine the VOC content, water content and density of any coating, reducer, thinner, additive, catalyst, purge solvent, and cleanup solvent, as applied and as received, using federal Reference Test Method 24. The facility has not performed any EPA Method 24 testing to determine the VOC content. They calculate the VOC content based on the formulation data. They told me that the supplier conducts the VOC content testing. I suggested that they obtain those results to comply with the requirement.

Condition 1.10 requires the permittee to complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. The facility has not made proper calculations as required. This is a violation of the permit condition.

Condition 1.11 requires the permittee to maintain a current listing from the manufacturer of the chemical composition of each coating, reducer, thinner, additive, catalyst, purge solvent, and cleanup solvent, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. Mr. Burkard explained to me that they are keeping all MSDS and Technical Data Sheets for all coatings and solvents in electronic format. He provided me MSDS for the E-Coating.

Condition 1.12 requires that the permittee to keep monthly records of coating usage, VOC content (with water and without water), monthly and 12-month rolling VOC emission calculations and hours of operation. The facility currently is not keeping monthly and 12-month rolling VOC emission calculations and hours of operations. This is a violation of the permit condition.

Condition 1.13 requires the permittee to keep monthly records of solvents uses, VOC content, and VOC emission calculations (monthly and 12-month basis). The facility is not keeping monthly records of the solvent usage, VOC content and VOC emissions, as required. This is a violation of the permit condition. The facility is not reclaiming solvent.

Condition 1.14 requires the permittee to keep the total amount of coating sprayed per calendar day and on a 12-month rolling basis. The facility is not keeping adequate records to comply with this requirement.

Condition 1.15 requires the permittee to keep records of tertiary butyl acetate (TBA) in usage. The records show that the facility is not using TBA in the process.

Condition 1.16 limits stack/vent dimensions for the FG-METALPARTS. These dimensions were not verified during the inspection.

Conditions 2.1 (a) and (b) limit the facility's single HAP and aggregate HAP emissions to 9.0 TPY and 22.5 TPY respectively. The major HAP emissions are from the FG-METALPARTS. The facility has not calculated the single and aggregate HAP emissions, so compliance with this requirement was not verified.

Condition 2.2 requires the permittee to determine the HAP content of any material as received and as applied, using manufacturer's formulation data and upon request of the AQD District Supervisor, to verify the manufacturer's HAP formulation data using EPA Test Method 311. Permittee is determines the HAP content from the formulation data and AQD has not requested analysis for HAP.

Condition 2.3 requires the permittee to complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. Permittee has not calculated HAP emissions. This is a violation of the permit requirement.

Condition 2.4 requires the permittee to keep monthly records of the amount of HAP containing material used, HAP content, and individual and aggregate HAP emission calculations on a monthly and 12-month basis. The facility has not been keeping the necessary records. This is a violation of the permit requirement. The permittee is not reclaiming the solvents.

Conclusion: The facility's records show that it exceeded the VOC content of the coating limit and it has not been keeping adequate records and emission calculations. A Notice of Violation requesting compliance with the permit requirements would be sent.

NAME Sebastian Kallunki DATE 3/15/2016 SUPERVISOR CJE