

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

P0153
FY 2018 Insp

P015344014

FACILITY: JESSUP ENGINEERING INC		SRN / ID: P0153
LOCATION: 2745 BOND ST, ROCHESTER HLS		DISTRICT: Southeast Michigan
CITY: ROCHESTER HLS		COUNTY: OAKLAND
CONTACT: Ran Jessup , President		ACTIVITY DATE: 03/12/2018
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: FY 2018 inspection of Jessup Engineering, Inc. ("Jessup")		
RESOLVED COMPLAINTS:		

Jessup Engineering, Inc. (SRN P0153)
A Division of George Koch Sons, LLC
2745 Bond Street
Rochester Hills, Michigan 48309-3513

WWW.JessUpSystems.com

FY2010 Complaint: C-10-01325; USEPA-CAA-FY10-77105-3714-CV

Rules: 285 (plastic parts cutting and welding) and 287(2)(c) (coating booth – site-specific special exemption by treating the entire plant as a booth).

VN: AQD issued September 23, 2010, Violation Notice (VN) for failure to obtain Rule 336.1201 Permit-to-Install. As a result, Jessup installed 30,000 cfm ventilation system, one booth with a backdraft filter system and two 36-foot stacks. 30,000 cfm exhaust flow is sufficient to handle painting outside the booth. Make-up air (about 29,500) is introduced via perforated bag running along the plant for uniform air distribution.

On March 12, 2018, accompanied by new AQD engineers (Bognar & Magirl), I conducted a level 2 self-initiated **FY 2018 inspection** of Jessup Engineering, Inc. ("Jessup") located at 2745 Bond Street, Rochester Hills, Michigan 48309-3513. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 (PA 451); and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

Mr. Jeff Dellach (Phone: 248-853-5600; Fax: 248-853-7530; E-mail: jDellach@KochLLC.com), Engineering Manager, and Mr. Jack Hayes (Phone: 248-853-5600; Cell: 248-872-8909; Fax: 248-853-7530; E-mail: jHayes@KochLLC.com), Manufacturing Manager, assisted me during the inspection.

Mr. Jerry Romito (Phone: 248-853-5600; Fax: 248-853-7530; E-mail: jromito@jessupengineering.com), Director of Engineering, retired about 2012.

Mr. Ran Jessup (Phone: 248-853-5600; Fax: 248-853-7530; E-mail: ranjessup@jessupengineering.com), General Manager, was present but did not participate.

About March 2018, Mr. Jessup sold his company to George Koch Sons, LLC. Hence, his title changed from President to General Manager. All other titles changed as well.

Jessup makes parts finishing process equipment for electro-plating industry such as electro-plating tanks (especially, Cr+6 plating). Prior to 2010 Violation Notice, structural components for the process equipment used to be painted in an open factory space. i.e., there was no paint spray booth with filters. Nor was there a properly designed ventilation system. Paint fumes (VOC) were discharged via open shutters causing neighborhood odors. The painting process did not comply with Rule 336.1287(2)(c) exemption conditions.

As a result of the September 23, 2010, Violation Notice, Jessup installed a 24 ft. wide * 10 ft. high * 8 ft. deep paint spray booth with two layers of dry filters to control paint overspray particulate matter. While the first (primary) layer is inexpensive protective filter system, the second (secondary) layer is expensive pleated filter system. The pleated design increases cross sectional area of air flow and consequently decreases pressure drop (ΔP) across the filters. The booth is equipped with two (2) 36-foot stacks with vertical discharge. The filter system is equipped with two inclined manometers (Dwyer Mark II) to measure pressure drops (ΔP) across the filter media so that a judicious decision to change the filters can be made. Painting of large structural parts is done outside the booth with its fan turned on.

I asked Mr. Dellach to start the booth fan and I observed a pressure drop (ΔP) of 0.1 inch of water. Some large parts are painted outside the booth but near it such that paint overspray particulate is filtered by the filter system of the booth. The booth has very high air flow of 30,000 cfm. Slightly less make-up air (about 29,500) is supplied to the plant through a bag air distribution system. I observed at the door air leaking into the factory floor indicating all VOC are exhausted via two 36-foot stacks.

All paints are either water or solvent based (orange, yellow and blue). Almost entire factory floor is covered with these paints. About 50-150 gallons of paint per month are used based upon the estimated usage records (purchase records are available, and Jessup submitted the MS Spreadsheet that had confidential information such as \$ amount, proper names, prices, etc. removed). CY 2017 purchases = 1,513 gallons per year.

The booth may be deemed to meet the Rule 336.1287(2)(c) requirements:

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.

During my inspection, there was no painting and therefore there was no potential for odor. However, an operator painted a small part without starting the exhaust fan. I warned Mr. Hayes on March 12, 2018, such unventilated painting activity may result in fire and explosion if spark is generated and if hydrocarbon concentrations are within VOC's flammability range.

Misc. particulate operations

Cutting, welding and grinding equipment (for plastic parts) with two (2) portable Donaldson Torrit Filters are exempt from Rule 201 pursuant to Rule 285 because filtered exhaust is recycled into the building. i.e. filtered exhaust is released to in-plant environment.

Conclusion:

Special exemption of the booth pursuant to Rule 287(2)(c) considering the entire plant as booth. Jessup submitted purchase record spreadsheet (< 200 gallons per month purchased).

FYI: September 23, 2010, VN

NAME *J. McManahall* DATE *04/09/2018* SUPERVISOR *Joyu*

