

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

*FY 2016 Insp-*

U6312002234516

FACILITY: Pratt Miller Engineering Fabricator		SRN / ID: U63120022
LOCATION: 29600 W.K. Smith Road, New Hudson		DISTRICT: Southeast Michigan
CITY: New Hudson		COUNTY: OAKLAND
CONTACT:		ACTIVITY DATE: 04/11/2016
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS:
SUBJECT: FY 2016 inspection of Pratt Miller Engineering Fabricator		
RESOLVED COMPLAINTS:		

*U63120022 - SAR - 2016 0411*

**Pratt Miller Engineering Fabricator (U-63-12- 0022)**  
**29600 W.K. Smith Road**  
**New Hudson, Michigan 48165-9722**

**Permit-to-Install: Rules 290, 285, 287, 281 exempt process equipment.**

**Subject to: Area Source NESHAP / RICE MACT 4Z, 40 CFR Parts 60 and 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines (ICE);, Page 6674 Federal Register / Vol. 78, No. 20 / Wednesday, January 30, 2013 / Rules and Regulations / Final Rule. This final rule is effective on April 1, 2013. AQD has not determined compliance with Area Source MACT 4Z as it has refused to accept delegation for Area Source MACT standards.**

**Subject to: 40 CFR, Part 60, Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (natural gas fired Spark Ignition)**

On April 11, 2016, I conducted a level 2 self-initiated inspection of Pratt Miller Engineering Fabricator ("Pratt" or "Pratt Miller"), a race car engineering and prototyping company (Design, Develop, Build, Race & Win), located at 29600 W.K. Smith Road, New Hudson, Michigan 48165-9722. 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.

During the inspection, Mr. Robert (Rob) Oldenburg (Phone: 248-446-9800; Fax: 248-446-9020; Cell: 517-404-1229; E-mail: rOldenburg@PrattMiller.com), Facilities Manager, assisted me.

Mr. Russell Elliott (Phone: 248-446-9800; Fax: 248-446-9020; Cell: 248-755-8051; E-mail: rElliott@PrattMiller.com), Shipping & Receiving Manager, does not have responsibilities for safety and environmental affairs anymore. Mr. Oldenburg took SHE responsibilities.

Pratt Miller is in the business of race cars engineering and prototyping. Pratt is a dominant force in professional racing. Pratt is full-service engineering and low volume manufacturing company. Pratt also restores old classic cars. It involves machining, cutting, grinding, welding, painting, etc. processes. Pratt employs about 200 workers / employees (increased from 200 in CY2011 to 300 in CY2014 and down to 200 in 2016), ninety percent of them engineers. Recently, Pratt Miller added military work.

**Rule 290 Magnaflex Room**

Solvent with fluorescent dye is sprayed over metal parts so that cracks on parts can be observed. The solvent containing this dye is re-circulated / recycled / reused. Negligible quantity of solvent is evaporated.

**Rule 290 Composite Material Processes**

Carbon fiber cloth is impregnated with a polymer and a hardener. Parts are molded and enclosed in a plastic bag and air is sucked out of the bag creating no-air environment surrounding the part. The mold is baked for 2 hours in a natural gas fired 1.5 MM BTU per hour oven (12 ft. W\* 20 ft. L\* 10 ft. H dimensions; Jenson Industries of Whitmore Lake, Michigan; Phone: 800-883-6836) at 140-160 °F to cure the mixture of the polymer and the hardener.

Carbon fiber is light-weight replacement material for race cars. Door panels, etc. are replaced with carbon fiber doors so that weight of race car is reduced.

**Rule 287(c) Paint Spray Booth**

One paint spray booth (26 ft. D x 14 ft. W x 10 ft. H Binks) with a back-draft and side-draft dry filter system is present. There is a filter system for intake air. Paint usage records are not kept; about 4 gallons of primer paint and 2 gallons of thermal dispersion coatings per month are used (CY 2015).

During FY 2016 inspection, I found one of the filter panels was partially removed. This is a violation of to Rule 336.287(c).

I asked Mr. Oldenburg to install and inspect the filters 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). I emphasized that removing filters is not a solution for air flow problems; the filters must be replaced if pressure drop ( $\Delta P$ ) across the filter media is too high for air flow.

Binks booth is equipped with an inclined manometer. The manometer had no fluid such as dyed water and hence malfunctioning. I asked Mr. Oldenburg to fill the manometer with dyed water and perform zero adjustment.

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:

The coating use rate is not more than 200 gallons, as applied, minus water, per month. Any exhaust system that serves only coating spray equipment is supplied with a properly installed and operating particulate control system.

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.

**Rule 287(b) Paint Spray**

One aerosol can spray coating process is present. Only spray cans are used. The aerosol can spray process is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.287(b).

Due to odor issues most the time aerosol can spraying occurs within the above 287(c) booth.

**Rule 285 welding, metal cutting, metal grinding machines – Fab Dept. & Machine Shop**

12 metal grinding, lathes, milling machines are present. Each machine has its own capture device for particulate matter emissions. The captured particulate exhaust is filtered using a cartridge filter system. No exhaust to outside ambient air. Some machines, upon filtration, exhaust to outside ambient air. Each Air Pollution Control Device consists of a cyclone (40-gallon hopper) and a cartridge filter (20-gallon hopper)

10 welding machines are present (Rule 285(i)). Each machine has its own capture device and air filtration device for particulate matter emissions. No exhaust to outside air.

CNS Mills and Lathes are present. Metal shavings are sold / recycled by a waste metal management company.

Metal cutting processes are present. Neosol-300 coolant is used and is recycled / reused.

The machines are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(l) & (i).

**4 solvent cold-cleaners and 2 aqua-cleaners**

There are four (4) Safety-Kleen parts cold-cleaners with spray a brush and a solvent tank. The cold-cleaners are 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.

1. Two (2) units: Safety-Kleen Model 34.1 Solvent VAT Cleaner
2. Two (2) units: Safety-Kleen Model 250 Recycle Units, which recycle solvent via filtration.

Each machine is sink-on-tank type.

Mechanically assisted lids are present. Lids were open during the FY 2012 inspection. I asked Mr. Oldenburg to keep the lids closed when access not required. Lids were closed during the FY 2016 inspection. Safety-Kleen services each cold-cleaner.

Safety-Kleen supplies the solvents and services the cold-cleaners.

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

On April 11, 2016, I gave Mr. Oldenburg DEQ's decals for "cold-cleaner operating procedures" for posting (replacing soiled decals) and complying with work-practice rules. I asked the company to follow the common sense work-practice as described the decal.

Cadillac and Corvette bays are present to maintain, repair, service race cars. In these bays cold-cleaners are located.

Mineral spirits containing no halogenated solvent is used; i.e. Safety-Kleen Gold Solvent 6605 and 6616. 100% VOC, Petroleum Distillate.

100% VOC solvent. Flash Point (FP) = 148 °F TCC. Auto Ignition = 480 °F. Boiling Point (BP) = 350 °F @ 760 mm Hg. Vapor Pressure (VP) = 0.2 mm Hg at 68 °F. Specific Gravity (SG, Water = 1.0) = 0.79. Density ( $\rho$ ) @ 68 °F = 6.7 lbs / gallon (0.790 kg /L). Flammability range = 0.7 %v (LEL) – 5%v (UEL).

### **SI RICE NSPS 4J and MACT 4Z**

Subject to: 40 CFR, Part 60, Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (natural gas fired Spark Ignition)

45 kW (0.045 MW) SI RICE Emergency Generator (GGPC Cummins Power Generation 45/50kW NG/LP). This is equivalent to 60 hp without considering efficiency of work-to-electricity conversion based upon <http://www.globalpwr.com/power-calculator/>

Model: GGPC A046D878

Serial No.: K130598582

One 45 kW (0.045 MW) natural gas fired Spark Ignition (SI) Reciprocating Internal Combustion Engine (RICE) Emergency Generator is present. SI RICE is manufactured about November 20, 2013. The generator, under emergency power interruption, provides power to the computer center and keeps few lights on.

The generator is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(g).

The generator is so small that it can barely keep some lights on during power supply interruption.

### **RICE SI MACT**

Subject to: Area Source NESHAP / RICE MACT 4Z, 40 CFR Parts 60 and 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines (ICE);, Page 6674 Federal Register / Vol. 78, No. 20 / Wednesday, January 30, 2013 / Rules and Regulations / Final Rule. This final rule is effective on April 1, 2013.

A combined total of 100 hours per year may be used to prevent blackouts and brownouts without meeting emission limits for the following purposes:

1. maintenance and testing,
2. emergency demand response for Energy Emergency Alert Level 2 situations,
3. responding to situations when there is at least a 5 percent or more change in voltage,
4. operating for up to 50 hours to head off potential voltage collapse, or line overloads, that could result in local or regional power disruption.

### **RICE SI NSPS 4J, Conclusion**

The machines, booths, painting, degreasing process are exempt from Rule 336.1201 per Rules 290, 281, 285, 287, etc. I asked Pratt Miller to obtain a copy of US EPA Certification (NSPS 4J) for this family of SI RICE engines.

NAME *R McManahall* DATE *5/16/2016* SUPERVISOR *CJE*