

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

N808633284

FACILITY: ARROW RACING ENGINES LLC		SRN / ID: N8086
LOCATION: 3729 AUBURN RD, AUBURN HILLS		DISTRICT: Southeast Michigan
CITY: AUBURN HILLS		COUNTY: OAKLAND
CONTACT: Dale Matthews, Senior Technician		ACTIVITY DATE: 01/22/2016
STAFF: Kerry Kelly	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY 2016 Targeted Inspection		
RESOLVED COMPLAINTS:		

On January 22, 2015, Kerry Kelly conducted a scheduled inspection at Arrow Racing Engines, LLC located at 3729 Auburn Road, Auburn Hills, Michigan. This facility is identified by the Air Quality Division with the State Registration Number (SRN) of N8086. The purpose of this inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Michigan's Air Pollution Control Rules; and the conditions of Permit to Install (PTI) No. 207-08.

INSPECTION

Ms. Kelly entered the site, presented her DEQ employee photo identification, explained the purpose of the inspection, and gave a copy of the pamphlet "Environmental Inspections: Rights and Responsibilities" to Mr. Dale Matthews, Senior Technician. Mr. Matthews, and later Mr. Lee Carducci, CEO, accompanied Ms. Kelly on inspection.

Arrow Racing Engines audits, tests, rebuilds, and develops Viper and Hemi engines. Viper engines are audited for Fiat Chrysler Automobiles (FCA). Hemi engines are developed for auto racing. Repair work is done on engines for dealerships and customer warranties. Hours of operation are 7:00 AM – 3:30 AM Monday through Friday, and occasionally Saturday.

The equipment inspected and used to perform the aforementioned services includes; three permitted engine dynamometers (PTI 207-08), one 500 gallon gasoline storage tank, three cold cleaners, two heated parts washers, one CNC, one Bridgeport drill press, a lathe cutting machine, two presses, a hardness tester, valve cutting machine, crank balancer, and a crank boring machine.

Engine Dynamometers

The emission units covered in PTI 207-08 are three engine dynamometers, EU-DYNO1, EU-DYNO2, and EU-DYNO3. These three emission units are combined into one flexible group, FG-DYNOS. According to Mr. Matthews, one of the dynos, EU-DYNO1, has been out of service for two to three years. The company plans to replace EU-DYNO1. Ms. Kelly explained to Mr. Matthews that a permit modification may be necessary if/when EU-DYNO1 is replaced.

Emission Limits and Recordkeeping

Pollutant	Limit	Time Period/ Operating Scenario	Equipment
1. CO	88.7 tpy	12-month rolling time period as determined at the end of each calendar month.	FG-DYNOS
2. VOCs	3.6 tpy	12-month rolling time period as determined at the end of each calendar month.	FG-DYNOS
3. 1,3-butadiene	91 lbs/year	12-month rolling time period as determined at the end of each calendar month.	FG-DYNOS
4. benzene	278 lbs/year	12-month rolling time period as determined at the end of each calendar month.	FG-DYNOS
5. formaldehyde	153 lbs/year	12-month rolling time period as determined at the end of each calendar month.	FG-DYNOS

Arrow Racing Engines is required, per SC VI. 1 and 2(e-n), to keep records of the monthly and 12-month rolling CO, VOC, 1,3-butadiene, benzene, and formaldehyde emissions and calculations. Mr. Matthews provided monthly and 12-month rolling CO, VOC, 1,3-butadiene, benzene, and formaldehyde emissions

the time period of January 2014 through January 2016. The mass balance calculations and emissions factors were also provided. The highest reported 12-month rolling emissions for each pollutant and the month the highest emission rate occurred are listed below:

Pollutant	Highest Reported 12-Month Rolling Emissions between Jan. 2014 – Dec. 2016	Month Reported
1. CO	15.49 tons	May 2014
2. VOCs	1.92 tons	May 2014
3. 1,3-butadiene	0.05 lbs	Jan. 2014 – Jul. 2015
4. benzene	1.23 lbs	May 2014
5. formaldehyde	1.56 lbs	May 2014

Based on the data provided by Mr. Matthews, it appears the CO, VOC, 1,3-butadiene, benzene, and formaldehyde emissions at Arrow Racing Engines are below the permit limits set forth in PTI 207-08.

Material Limits and Recordkeeping

According to SC II.1., only unleaded gasoline shall be used in FG-DYNOS. Mr. Matthews stated that only 93 octane racing gasoline is used in FG-DYNOS. A receipt from Corrigan Oil for "93 – Gas Ethanol" dated January 5, 2016 was provided by Mr. Matthews. Based on this information, it appears only unleaded gasoline is being used in FG-DYNOS.

The fuel use is limited to 500 gallons per calendar day and 45,000 gallons per 12-month rolling time period for FG-DYNOS by SC II.2. and 3. Records of the days of operation, monthly and 12-month rolling gasoline fuel use, required by SC VI. 1 and 2 (a), (b), and (c) were provided by Mr. Matthews for January 2014 through January 2016. Daily fuel use records, required by SC II.3.(d), were not provided. The greatest 12-month rolling fuel use reported for January 2014 through January 2016 was 11,472.04 gallons in May 2014. Arrow Racing Engines, LLC appears to be in compliance with the 45,000 gallon, 12-month rolling fuel use. It appears Arrow Racing is in violation of SC VI.2.(d) for not providing records of daily fuel use.

Testing/Sampling

Verification of the CO emission factors from a single test cell portion of FG-DYNOS is required per SC V.1. According to an Emission Test Report submitted to DEQ by BT Environmental Consulting, Inc. on behalf of Arrow Racing Engines, a compliance emission test was conducted on January 20, 2011. A copy of the Executive Summary from the CO emission test report was submitted by Mr. Matthews. The Executive Summary reports the average test result for CO for Test Cell 1 as 14.6 lbs/hr and 2.7 lbs/gal.

Stack/Vent Restrictions

The stacks appears to meet the requirements set for in SC VIII.1., 2., 3.

Gasoline Storage Tank

Ms. Kelly inspected a 500 gallon tank, used to store gasoline for FG-DYNOS, located on the east side of the Arrow Racing Engine's building. This storage tank is not permitted. The equipment will be deemed exempt per R336.1284(g)(i) due to precedence. Documents/emails archived in the AQD Exemptions Team Room, designed to promote consistency and aid staff in analysis of the use of permit exemptions, propose R 336.1284 (g)(i) include gasoline containers at dynamometer test cells and suggest field staff are applying R 336.1284(g)(i) to containers at dynamometer facilities.

Cold Cleaners and Parts Washers

Arrow Racing Engines has three cold cleaners. Ms. Kelly inspected the cold cleaners. Each cold cleaner has an air/vapor interface less than 10 square feet, contains mineral spirits, and is serviced by Usher Oil. During the inspection the lids to the cold cleaners were closed, a device was available for draining parts, the waste solvent was stored in closed containers, and written procedures were posted in an accessible, conspicuous location near the cold cleaner. Mr. Matthews provided the SDS for the mineral spirits used in the cold cleaners. These units appear to be exempt from R 336.1201 per R 336.1281(h) and appear to be in compliance with R 336.1707.

Two externally vented parts washers were inspected by Ms. Kelly. According to Mr. Matthews and Mr. Carducci, the parts washers use heated water and detergent to clean engine blocks. The SDS was provided for the detergent, Zep Formula 15282, used in the parts washers. It appears the appears these parts washers are exempt from R336.1201 per R336.1285(I)(iii).

Machining & Metrology Equipment

Arrow Racing Engines has one CNC, one Bridgeport drill press, a lathe cutting machine, two presses, a hardness tester, valve cutting machine, crank balancer, and a crank boring machine. The emissions from these pieces of equipment are released into the general in-plant environment. It appears the machining and metrology equipment is exempt from R336.1201 per 336.1285 (I)(i) and (vi).

Conclusion

It appears, based on the inspection conducted on January 22, 2016, that Arrow Racing Engines, LLC is in violation of SC VI.2.(d) for not providing records of daily fuel use. A violation notice will be issued for SC VI.2(d).

NAME Kerry A. Kelly DATE 2/19/16 SUPERVISOR CJE

