

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

N528624798

FACILITY: ROBERT BOSCH FUEL SYSTEMS, L.L.C.		SRN / ID: N5286
LOCATION: 4700 Broadmoor SE, Suite 100, KENTWOOD		DISTRICT: Grand Rapids
CITY: KENTWOOD		COUNTY: KENT
CONTACT: James Oswald , Facilities & HSE Manager		ACTIVITY DATE: 04/03/2014
STAFF: David Morgan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

At 11:20 A.M. on April 3, 2014, Air Quality Division staff Dave Morgan conducted an unannounced scheduled inspection of Robert Bosch Fuel Systems located at 4700 Broadmoor in Kentwood. The purpose of the inspection was to determine the facility's compliance with state and federal air pollution regulations as well as Permit to Install No. 409-95B. Accompanying AQD staff on the inspection was James Oswald, Facilities and Health, Safety, & Environmental Manager.

FACILITY DESCRIPTION

This Bosch facility manufactures diesel fuel injectors for automotive and locomotive diesel engines. The facility consists of various metal machining operations, metal cleaning, assembly and part testing and calibration. The facility is considered a synthetic minor source for HAPs and VOCs.

COMPLIANCE EVALUATION

The company has removed some machining equipment and moved some machining equipment within the plant. Overall there have been very little changes to the facility that affect emission units or emissions since the last AQD inspection.

EUCALIBRATORS:

PTI No. 409-95B covers calibrators and valve open pressure machines used to test the fuel injectors after they have been assembled. Essentially the machines mimic an engine piston and inject calibration fluid through the injector to imitate diesel fuel. The calibration fluid is pumped into each unit from a 700 gallon central feed tank. Spent calibration fluid is metered and then returned to the central system where it is filtered and reused. Fluid transfers are part of a closed loop system and any VOC emissions would be fugitive in nature.

According to company records, the calibration fluid is 99.8% volatile with most of the compound consisting of aliphatic and petroleum hydrocarbon. The company had 0.37 tons of VOC emissions from this line from March 2013 to February 2014 which is well below the 24.0 ton limit in the permit. (Records for EUCALIBRATORS are also included under EU Central System in the company's records).

EUDIPTANKS:

PTI No. 409-95B covers small dip tanks used for parts cleaning in the machining area of the plant. There are approximately 30 units which use a material Exxsol D 60 Naphtha with a VOC content of 6.6 pounds per gallon. According to company records there was 0.021 tons of VOC emissions from these emission units from March 2013 to February 2014 which is well below the 13.2 ton limit in the permit.

EUMACHININGOPS:

This emission unit consists of various metal machining operations. These machining operations use cutting oils and coolant in the grinding, drilling, and extrusion of parts. There are very little VOCs from the materials used in these machines. According to company records, there were 0.217 tons of VOC emissions from these operations from March 2013 to February 2014 which is well below the 20.0 ton limit in the permit.

The company has installed various new machining operations and miscellaneous metal cleaning which will be vented to the in-plant environment. This equipment is exempt from permitting under Rule 285(I)(vi)(B). However, all emissions will be tracked on a monthly basis in accordance with opt-out limits for EU-MACHININGOPS under PTI No. 405-95B. The line also includes a small aqueous washer which will be tracked under EUAQUEOUSWASHERS.

EUTHERMALDEBURR:

There is one thermal deburring unit located at the facility. Essentially a flame burst is used to remove scale on machined parts. Parts are then placed into a cleaning unit to clean the charred part. Exhaust gases from the combustion portion of the process are vented out. The only requirements for this emission unit in PTI No. 405-95B are visible emissions less than 5% and a stack height of 40 feet above ground. These requirements are being met.

EUAQUEOUSWASH:

There are various aqueous washing units at the facility which use a variety of alkaline washing solutions. Some solutions do have low VOCs. All equipment are exempt from permitting under Rule 285.

EURIDIPTANKS:

This emission unit covers several small dip tanks used to apply a rust inhibitor using a material called Ferrocoate. Essentially parts are placed in baskets and then dipped for a certain amount of time. The parts are very small and about 1,000 parts could fit in one basket. This material has a VOC content of 1.7 pounds per gallon. According to company records VOC emissions were 0.209 tons from March 2013 to February 2014 which is well below the requirements contained in Rule 290.

EUMISCCLEANING

There are miscellaneous cleaning operations at the facility which have historically used various types of cleaning solutions, including methanol, acetone, and isopropyl alcohol, total emissions from EUMISCCLEANING from March 2013 through February 2014 were 0.107 tons.

Miscellaneous:

It is noted that many of the processes at the facility do not have specific new source review requirements because they were installed and operated under Rule 285 or Rule 290. However, emissions from the equipment are limited due to the company receiving an opt-out permit to place enforceable restrictions on the potential to emit.

The company also has approximately six performance test stands which are used document performance characteristics and prove-out durability on fuel injectors and components. According to the company, no combustion occurs in any of the test stands because they are only used to simulate the fluid flow characteristics through the fuel injector component. The cylinder compression condition, engine operating temperature and engine ignition conditions necessary for combustion are not present in the test stands. The company installed the performance test stands under Rule 283.

Total facility wide emissions including permitted and exempt equipment from March 2013 to February 2014 were less than 1.9 tons.

SUMMARY

The Robert Bosch facility in Kentwood is in compliance with all applicable requirements. Attached are company records.

NAME 

DATE 3/15/14

SUPERVISOR PAB