

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

U1308068143247

FACILITY: Waco Aircraft		SRN / ID: U13080681
LOCATION: 15955 S. Airport Road, Battle Creek		DISTRICT: Kalamazoo
CITY: Battle Creek		COUNTY: CALHOUN
CONTACT: Peter Bowers , President		ACTIVITY DATE: 01/30/2018
STAFF: Rex Lane	COMPLIANCE STATUS: Compliance	SOURCE CLASS: B
SUBJECT: Self Initiated Inspection		
RESOLVED COMPLAINTS:		

On January 30, 2018, MDEQ, Air Quality Division (AQD) staff (Rex Lane and Cody Yazzie) arrived at Waco Aircraft located at 15955 South Airport Road, Battle Creek, MI to conduct an unannounced air quality inspection. Staff arrived at 9:35 am and met with Mr. Peter Bowers, President. Staff stated the purpose of their visit and provided their inspector credentials and exchanged business cards. The facility was last inspected by the AQD on 10/22/08 and was determined to be compliant with State air quality regulations.

Staff asked several questions of Mr. Bowers prior to going through the facility operations. Waco Aircraft was founded in Battle Creek in 1983 and manufactures two general aviation open-cockpit biplane models, Waco Classic YMF-5D and Great Lakes 2T-1A-2. The adjoining hangar building houses Centennial Aircraft Services that is a subsidiary of Waco Aircraft which provides maintenance and service repair of Waco biplanes and other small planes. Waco Aircraft and Centennial Aircraft Services are a single stationary source for purposes of state and federal air quality regulations since they are contiguous facilities, under common ownership, and Centennial Aircraft Services is a support facility to the parent facility. The combined facilities employ approximately 30 associates and operate one-shift/day (7 – 3:30 pm), Monday through Friday.

Centennial Aircraft Services (CAS):

CAS has a small natural gas fired boiler used for heating the concrete pad which is exempt from air use permitting under Rule 282(2)(b)(i). The facility also has a parts washer that is serviced by Safety Kleen and uses their Premium Solvent (100% petroleum distillates) which is exempt under Rule 281(2)(h). Staff pointed out that the parts washer lid should remain closed when not in use to comply with Rule 707. Staff gave Mr. Bowers two cold cleaner stickers to post on the unit that explain the Rule 707 requirements.

The facility has three jigs that are used to align the steel tubing framework for the plane fuselage before being welded together with either TIG or MIG welding equipment. The steel tubing is pre-cut off-site to required specifications and then shipped to and assembled on to the jig. The welding equipment vents in-plant and is exempt under Rule 285(2)(i). The welded fuselage is then shipped to Beech & Rich in Battle Creek for application of epoxy coating and then shipped back to Waco Aircraft.

The Waco Model YMF-5D uses a Jacobs radial piston air cooled engine that is manufactured in Mississippi and the Great Lakes Model 2T-1A-2 uses a Lycoming horizontally opposed piston air cooled engine that is manufactured in Pennsylvania. Staff asked if CAS does engine overhauls on premises or if that is outsourced. Mr. Bowers said that if an engine requires work besides regular maintenance that CAS will remove it and ship it to manufacturer to be repaired and re-certified for use by FAA and/or install a new engine for the plane owner. Staff asked if any paint stripping is done on-site by either CAS or Waco Aircraft. Mr. Bowers said that if there are any plane components that need to be stripped they are sent to Kalamazoo Stripping and Derusting.

Waco Aircraft:

Staff observed a high-pressure water jet machine that uses a garnet-based adhesive to cut materials and a sand blast cabinet. Both processes vent in-plant and are exempt under Rule 285(2)(l)(vi)(B).

The plane wings are made of wood and consist of aircraft grade Sitka spruce spars and thinner wood ribs that are attached to the spars. The woodworking equipment associated with wing manufacturing in the mezzanine area vents internally and is exempt per Rule 285(2)(l)(vi)(B). The completed wing structure is brush coated with a spar varnish and then sent downstairs to the fabric area. The wings and most of the fuselage are then covered with a Dacron fabric (polyethylene terephthalate) which is then attached to the sub-structure using rivets and/or stitching which is overlain with reinforcing tape. The fabric is then heated to shrink it to the sub-structure and then a nitrate dope is brush or roll applied to the taunt fabric to make it airtight and weatherproof prior to

application of a final top coat.

The facility has a completely enclosed downdraft paint booth to spray coat plane components, wings and fuselage with a PPG polyurethane based automotive top coat finish. The booth was being prepped for use during the inspection. The painter uses lacquer thinner to clean the spray gun and Mr. Bowers estimated thinner usage at about one 55-gallon drum per year.

During the post-inspection discussion, staff requested 2017 material usage records for the nitrate dope, spar varnish and top coat to determine if the paint booth is exempt from air use permitting under Rule 287(2)(c) (i.e. coating use less than 200 gallons/month). Mr. Bowers indicated that it would take a couple of days to obtain these records for staff. Staff thanked Mr. Bowers for his time and left the facility at 11:00 am.

Note: The paint booth operations may be subject to the National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources (40 CFR Part 63, Subpart HHHHHH). Per 40 CFR 63.11169(c), the regulation applies to spray application of coatings containing compounds of chromium, lead, manganese, nickel or cadmium, collectively referred to as the target HAP to any part or product made of metal or plastic, or combinations of metal and plastic that are not motor vehicles or mobile equipment. Plastic refers to substrates containing one or more resins and may be solid, porous, flexible or rigid. Automotive coatings may contain one or more of the listed metal target HAPs and staff recommends that the facility contact PPG to determine if any coatings they use are subject to this federal regulation. The MDEQ has not taken delegation for this federal regulation so it is implemented and enforced by USEPA, Region V.

On 2/5/18, Ms. Julie Bunday, Controller, Waco Aircraft provided the attached email summary of coating purchase invoice data and estimated monthly nitrate dope and varnish usage for Calendar Year 2017. The highest monthly coating usage rate was 12 gallons and an annual usage rate of 82 gallons. Including the estimated nitrate dope and varnish usage rate of two gallons each/month, total annual material coating usage is 130 gallons/year for Calendar Year 2017 which demonstrates compliance with the monthly coating usage limit under Rule 287(2)(c).

At the time of the inspection and based on provided material usage rates, the facility appears to be compliant with State air quality regulations. -RIL

NAME RIL

DATE 2/6/18

SUPERVISOR MB 2/7/2018