

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

N330363190

FACILITY: DUNCAN AVIATION INC.		SRN / ID: N3303
LOCATION: 15745 S AIRPORT RD, BATTLE CREEK		DISTRICT: Kalamazoo
CITY: BATTLE CREEK		COUNTY: CALHOUN
CONTACT: Timothy Irvine , Environmental Supervisor		ACTIVITY DATE: 06/03/2022
STAFF: Amanda Chapel	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

On June 3, 2022, EGLE Air Quality Division's (AQD) Amanda Chapel (staff) conducted an unannounced air quality inspection of Duncan Aviation located at 15745 South Airport Road, Battle Creek, Calhoun County. The facility was last inspected by the AQD on 8/15/18 and was not compliant at the time of the inspection. The purpose of the inspection was to determine the facility's compliance with Permit to Install (PTI) No. 254-05A issued on August 9, 2019 and all other applicable state and federal air quality regulations.

Upon arrival, staff was buzzed into the building and proceeded back to the reception desk. There, I asked for Mr. Timothy Irvine, Environmental Supervisor. He came down and I stated I wanted to conduct an unannounced air quality inspection.

Duncan is a privately held business that purchased the facility from Kal-Aero in 1998. Their main business function is scheduled maintenance, repair, and refurbishing of corporate aircraft. The facility has about 700 employees and operates three shifts per day, Monday through Friday. Two shifts run on Saturday and Sunday. Most of the repair and refurbishing happens during the first and second shifts. The general process is as follows; Saturday and Sunday, the aircraft is stripped, Monday is for sanding and etching, Tuesday is priming, Wednesday is further sanding, and Thursday and Friday are for paint and base/stripes. The use of methylene chloride to strip airplane coatings was discontinued in August 2009. The base paint stripping product, PS-3012, which was being used during the last inspection, is still being used on site.

The facility is subject to 40 CFR Part 63, Subpart HHHHHH for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources. Hangars 1 through 3 are used to perform maintenance activities. Under PTI No. 254-05B, EU-PaintHangar4 and EU-PaintHangar6 are authorized to strip, prime, paint, and air-dry aircraft. EU-PaintHangar5 is used to prime and paint stripped planes. EU-BPT-7 paint booth uses a three-stage dry filter and is used to strip and refinish miscellaneous parts. Hangar 7 and 8 are used mainly for storage or minor repair. Cleanup activities are done with acetone or isopropyl alcohol. All bulk chemicals are stored in the chemical building. Chemicals are stored, covered, until ready for use or disposal.

General exempt equipment on site includes cold cleaners and parts washers located on site. A number of these were observed during the onsite inspection. All lids were closed and appears in good condition. Cold cleaners use Crystal Clean Premium Solvent which is listed as 100% VOC and does not contain halogenated solvents This is exempt under Rule 281(2)(h).

Building A

Building A has two Veissman boilers, an 8.1 MMBtu/hr unit and 3.2 MMBtu/hr unit which were installed in 2011. They each had a boiler inspection label with the date 10/16/2021. All the natural gas fired boilers on site are exempt under Rule 282(2)(b)(i) based on heat input capacity. They are also exempt from 40 CFR Part 60, New Source Performance Standards (NSPS), Subpart Dc based on installation date or heat input capacity. The boilers are also exempt from 40 CFR Part 63 Maximum Available Control Technology (MACT) Subpart JJJJJ per 63.11195(e) because these units fire only natural gas.

This building also contains a paint booth (PJFPB1) which uses a chromate primer. This paint booth is exempt under Rule 287(2)(c) but is still subject to NESHAP 6H as the facility is an area source of HAPs. As part of subjectivity to NESHAP 6H, the facility is required to have a three-stage filter in certain paint booths. This paint booth has a three-stage filter. Filters are changed throughout the facility once per quarter. The filters appeared to be in good working condition. The booth is also equipped with a magnehelic gauge which was reading 0 as the booth was not in use.

Mr. Irvine approximated this booth is used about once per week. Waste was stored next to the booth and covered. I spoke to Mr. Irvine about records showing compliance with rule 287(2)(c). Mr. Irvine said that all paint usage is being tracked as part of the usage of the following paint booths: BACPB3, BFNPB5, BFNPB6, BUPPB4, and BPT-7. It is recommended that the facility track all records of paint booths, individually. However, since the usage for all paint booths combined is less than 200 gallons a month, all paint booths combined are exempt under Rule 287(2)(c).

Building B

Building B has a wall mounted boiler similar in size to a domestic unit. There is also a 5Kw emergency generator located adjacent to Building B that was installed in 1982. The generator is driven by a 126 HP natural gas fired Ford engine. The unit is equipped with a non-resettable hours meter which read 1436.9 hours during the inspection. The unit is inspected monthly by Duncan maintenance staff. It is serviced, in house, annually. The unit is exempt from permitting under Rule 285(2)(g) and is also subject to 40 CFR Part 63, Subpart ZZZZ (RICE MACT).

Records were reviewed for this emission unit. Preventative maintenance is performed and documented. Any malfunctions are documented and added coolant or oil and parts replacement is noted.

Building C

Building C is mainly used for bulk chemical storage. This was observed during the inspection.

Building D

Building D has three Raypack boilers rated at 1.63 MMBtu/hr each and one smaller domestic size boiler. The boilers provide radiant floor heat to the hangars and aprons surrounding each hangar along with sidewalk snow removal in winter months. These boilers had a service sticker on them

with the date 4/18/19. These boilers are subject to the same boiler regulations as discussed above.

This building also contains a number of paint booths which serve various functions. All paint booths are equipped with a magnehelic gauge. The first floor has interior completions paint booth #2 (BCMPB2). This paint booth has a three-stage filter changed once per quarter. They were in good condition and the paint booth was not in use during the inspection.

The second floor has the accessory shop paint booth #3 (BACPB3). This paint booth uses chromate primer and therefore it is subject to 40 CFR Part 63, Subpart 6H. The paint booth has a three-stage filter which was in good condition and is changed quarterly. This booth was not in use during the inspection.

The third floor has three paint booths; finish shop paint booth #5 (BFNPB5), finish shop paint booth #6 (BFNPB6), and the upholstery shop paint booth #4 (BUPPB4). All of these paint booths have three-stage filters which are changed quarterly. These paint booths are all operated under Rule 287(2)(c).

Coating usage records were reviewed for the following paint booths: BACPB3, BFNPB5, BFNPB6, and BUPPB4. The highest usage of any of these paint booths was in July 2021 in BFNPB5 when 47 gallons of coatings were used. The records show the above paint booths are complying with Rule 287(2)(c)

Building F

Building F is mainly comprised of the accessories area. There are two bead blasting machines located in a small room along with a paint booth and parts cleaners. The bead blasters are used approximately weekly. The bead blasting does not exhaust outside and is exempt under Rule 285(2)(l)(vi)(B). This building also contains an Alodine small parts cleaning system which is exempt under Rule 285(2)(r)(i) and 285(2)(r)(iii) through (v).

Wastewater Treatment Building

The facility does its own wastewater treatment and sends no water to the city. This building contains a spray can puncturing machine, which is used daily. This is exempt under Rule 287(2)(b). In this building, there is also a natural gas-fired and electric wastewater evaporator which is exempt under Rule 285(2)(m) and a solvent recovery still which is exempt under Rule 285(2)(u).

Cabinet Shop

The cabinet shop contains various woodworking equipment, which is connected to a dust collector, located on the roof. The dust collector did not have any dust around the collection bins, which are changed about once per year. This equipment is exempt under Rule 285(2)(l)(vi)(C).

Tank Farm

The facility has an above ground tank farm that was installed in 1996. There are 5 20 Kgal tanks, 4 of Jet Fuel A and 1 filled with low-lead avgas. There is also a small gas and diesel tank located just outside the main farm, still inside secondary containment. These tanks are exempt from permitting under Rule 284(2)(d) or Rule 284(2)(g)(i). The Avgas tank is subject to 40 CFR Part 60, Subpart Kb and an internal floating roof (IFR) was installed in the tank in September 2011 to comply with the federal standard.

Hangar 7

Hangar 7 is used for storage and was observed during the inspection.

Hangar 8

Hangar 8 contains a paint booth used for touch-ups (BJFPB2) and a cold cleaner. This paint booth is not subject to the NESHAP 6H and has a one-stage filter. This booth is used infrequently, and the filters are changed quarterly. Discussion about paint booth records can be found under Building A.

PTI No. 254-05B

Permitted emission units and flexible group units have similar process and operational restrictions for capture and storage of waste coatings in closed containers. Requirements are as follows; proper disposal of waste materials and spent paint filters, handle all VOC and/or HAP containing materials to minimize fugitive emissions, and maintaining the stripping and/or painting hangar under negative pressure whenever stripping/painting process is taking place.

Waste coating and solvent drum containers appeared to be properly sealed and bulk chemical drums in the Chemical building were noted to be in good condition and sealed and drums were grounded to prevent static electricity. Hangar 4 and 6 and two of the exempt paint booths use chromate primer which require three-stage filters to comply with NESHAP, Subpart HHHHHH. Spent filters from these areas are characterized and disposed of as hazardous waste. Hangar 5 does not use chromate primer and its filters can be disposed of as regular solid waste. Maintenance performs quarterly checks on their analog differential pressure gauges. Hangar 4 and 6 pressure differential gauges are tied into PLC controls that will lock out spray guns if pressure in the hangar goes positive (or outside low/high pressure drop range set by manufacturer) for more than five seconds.

Permitted emission units and flexible groups have similar design/equipment parameter requirements for installing, maintaining and operating exhaust filters in a satisfactory manner; operate each paint booth and or paint hangar under negative pressure; and equip and maintain each paint hangar with HVLP applicators or comparable technology with equivalent transfer efficiency. Mat filters in the glue booths appeared to be installed properly and in good condition.

EUPaintHangar4

This emission unit is for stripping, priming, painting, and air-dry aircraft. It is closed during stripping, priming, and painting operations. Materials used include adhesives, catalysts, cleaners, primer, reducer, stripper, thinner, and topcoat. This hangar was being used during the inspection. All doors and accesses to the outside were closed. The differential pressure gauge was not accessible during the inspection and could not be read by AQD staff. The permit allows for the below listed emissions. Records review shows the facility emitted the following:

Pollutant	Limit	Time Period	Actual Emissions
VOC	2,000 lbs/month	Monthly	70.4% or 1,409 lbs (April 2020)
VOC	10.0 tpy	12-month rolling	5.57 tons or 55.7% of limit (Oct 2019 – Sept 2020)
Acetone (CAS No. 67-64-1), t-butyl acetate (TBA, CAS No. 540-88-5), and p-chlorobenzotrifluoride (PCBTF, CAS No. 98-56-6), combined	19.6 tpy	12-month rolling	Monthly - 62.8% or 2,051 lbs (August 2020 2020) 12-Month Rolling - 8.52 tons or 43.5% (April 2020 - Mar 2021)

According to Mr. Irvine, the facility has not used any products that contain t-butyl acetate (TBA) in quite a while and for that reason, TBA is not included in the total emission calculations.

Method 24 testing is required by the permit to determine VOC content, water content, and density of any coating, as applied and received, for this emission unit. The facility can obtain written approval from the AQD district supervisor to determine VOC content from the manufacturer's formulation data. The facility is not performing Method 24 testing and has not received prior, written approval to use the manufacturers formulation data.

The facility is also required to keep the date and differential pressure for EU-PaintHangar4 on a calendar day basis. These records were not available for review during the inspection.

EUPaintHangar5

This emission unit is for priming and paint stripping aircraft. This was also in use during the inspection. The hangar contains downdraft filters which appeared to be in good condition, though it was hard to fully evaluate as the hangar was in use during the inspection. The differential pressure gauge was not accessible during the inspection and could not be read by AQD staff. The permit allows for the below listed emissions. Records review shows the facility emitted the following:

Pollutant	Limit	Time Period	Actual Emissions
VOC	21.0 tpy	12-month rolling	5.1 tons or 25% of limit (Feb 2020 – Jan 2021)

Method 24 testing is required by the permit to determine VOC content, water content, and density of any coating, as applied and received, for this emission unit. The facility can obtain written approval from the AQD district supervisor to determine VOC content from the manufacturer's formulation data. The facility is not performing Method 24 testing and has not received prior, written approval to use the manufacturers formulation data.

The facility is also required to keep the date and differential pressure for EU-PaintHangar5 on a calendar day basis. These records were not available for review during the inspection.

FG-2005Equipment

This flexible group contains five emission units permitted in the year 2005 which include the following; Hangar 6 (Strip, prime, paint, air-dry aircraft), EU-BPT-7, EU-BCGB2, EU-BUPGB3, EU-BCMGB1.

Pollutant	Limit	Time Period	Actual Emissions
VOC	41.4 tpy	12-month rolling	29.036 tons or 70% of limit (Feb 2019 – Jan 2020)

Method 24 testing is required by the permit to determine VOC content, water content, and density of any coating, as applied and received, for this emission unit. The facility can obtain

written approval from the AQD district supervisor to determine VOC content from the manufacturer's formulation data. The facility is not performing Method 24 testing and has not received prior, written approval to use the manufacturers formulation data.

The facility is also required to keep the date and differential pressure for FG-2005Equipment on a monthly basis. These records were not available for review during the inspection.

FG-Acetone

This flexible group includes purge and cleanup operation using acetone. The affected emissions units are EU-PaintHangar4, EU-PaintHangar5, EU-PaintHangar6, EU-BPT-7, EU-BCBGB2, EU-BUPGB3, EU-BCMGB1.

Pollutant	Limit	Time Period	Actual Emissions
Acetone	50.0 tpy	12-month rolling	Monthly – 6,214 lbs (Nov 2021) 12-Month Rolling- 61,931 lbs or 62% of limit (May 2021-April 2022)

FG-FACILITY

Pollutant	Limit	Time Period	Actual Emissions
Individual HAP	Less than 9.0 tpy	12-month rolling	Methyl Isobutyl Ketone (MEK) 3,175 lbs or 18% of limit (Feb 2020-Jan 2021)
Aggregate HAP	Less than 22.5 tpy	12-month rolling	Monthly – 1,541 lbs (January 2021)

			12-Month Rolling – 7.6 tons (Feb 2019-Jan 2020)
VOC	Less than 90.0 tpy	12-month rolling	Monthly – 11,080 lbs (January 2021)
Methylene Chloride	530 lbs/day	Daily	See below

The main HAPs that are emitted on site are MEK, Toluene, and Xylene (mixed isomers). The permit also has a daily limit for methylene chloride. According to the 12-month rolling emission records, only 1 pound of methylene chloride was used since 2020.

Material Limits:

Pollutant	Limit	Time Period	Actual Usage
Low-use coatings	55 gal/year	12-month rolling	805.5 gallons/year

Low-use coatings are those coatings which the facility might use once and then not again. These kinds of paints are tracked in the same system as the rest of the coatings.

The facility will be receiving a violation notice for not completing the Method 24 testing for VOC content of coatings nor having written approval from the AQD supervisor to use formulation data to determine VOC content. The VN will also include the lack of records for the daily or monthly differential pressure readings as records, as required by the emission unit or flexible group. This will also contain a violation for exceeding the material limits in FG-FACILITY for low-use coatings.

The facility is in compliance with the requirements contained in PTI 254-05B except for those violations identified above.

NAME *Amber Clapp*

DATE 6/15/2022

SUPERVISOR *RAJ* 6/15/2022