

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

N653657297

FACILITY: GE Aviation Systems, LLC		SRN / ID: N6536
LOCATION: 3290 PATTERSON AVE., S. E., GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Cameron Main , Environmental Health & Safety Lead		ACTIVITY DATE: 03/04/2021
STAFF: David Morgan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

At 3:00 PM on March 4, 2021, Air Quality Division (AQD) staff Dave Morgan conducted a scheduled virtual inspection of GE Aviation located at 3290 Patterson Avenue in Kentwood. A virtual inspection was conducted due to the Covid-19 pandemic. 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 (PTI) No. 270-98. Cameron Main, Environmental Health and Safety Lead and Megan McPherson, EH&S Specialist accompanied AQD staff on the inspection. Records were provided by GE Aviation prior to the virtual inspection. It is noted that the virtual inspection was conducted via Microsoft Teams.

FACILITY DESCRIPTION

GE Aviation manufactures aerospace equipment, such as, the "black box", gyroscopes, and circuit boards for commercial and military airplanes, tanks, etc. The facility consists of painting, solvent cleaning and various small electronics manufacturing processes. All equipment is exempt from new source review permitting, however, PTI No. 270-98 limits the facility's potential to emit for hazardous air pollutants (HAPs) and volatile organic compounds (VOC).

COMPLIANCE EVALUATION

The facility has many small bench operations involving hand application of solvents and soldering. Consistent with AQD Policy No. 006, many of the smaller operations have been organized into emission units based on the company's defined production areas because the equipment either has a common emission point or are functionally related in their operation. According to Mr. Main, there have been no significant equipment changes at the facility since the last AQD inspection.

Below is a summary provided by the company of exempt equipment at the facility.

Department	AQD Emission Unit ID (MAERS)	Production Area	Emission Unit Process Description	Rule 201 Exemption
F114	EU00005	Machine Shop	Metal Fabrication	285(2)(l)(vi)(B)
			Blaster Unit	285(2)(l)(vi)(B)
F116	EU00008	Electro Magnetic	Preheat ovens (for epoxy)	287(2)(d)
			Blue_M Ovens (1 to 3 ovens)	287(2)(a);
			Blue_M Ovens (1 to 3 ovens)	287(2)(c);
A112	EU00004	Paint Room	Blue Oven (acrylic and epoxy)	287(2)(c)
			Grieve Oven	
			(2) Paint Booths	
			Hood	
A112	EU00004	Paint Room	(2) Cold Cleaners	285(2)(r)
			Stripper pot	281(2)(h)
F126	EU00009	DTG Lab (Production)	Blue_M Ovens (1 to 3 ovens)	287(2)(c)
General	EU00010	General	Miscellaneous Coating Usage on the Floor	287(2)(c)

			Varnish Application Hood (to Impregnation Chamber)	
F116	EU00008	Electro Magnetic	Impregnation Chamber	287(2)(c)
			Blue Oven (for parts from Impregnation Chamber)	
F117	EU00016	Electronic	6 ovens (4 internal; 2 externally vented)	290
F126	EU00009	DTG Lab (Production)	Gyros Cold Cleaners	281(2)(h)
			(2) Alcohol Spray Booths	281(2)(h)
F126	EU00009	DTG Lab (Production)	Ultrasonic Cleaner	281(2)(h)
			Blue_M Ovens (1 to 3 ovens)	287(2)(a)
		General	Miscellaneous cold cleaners	281(2)(h)
		Calibration	Seal Peel Tank	290
		Test Dept	Small Preheat Oven for curing (epoxy)	290
General	EU00010	EMDF	Air Vac DRS (vented)	290 [or 285(2)(l) (vi)]
		Solder Seal Room	IPA Tank	281(2)(h)
		Material Lab	(4) Chemical Hood	283(2)(b) [lab]
		Material Lab	Umbrella Hood for Oven	283(2)(b) [lab]
		Material Lab	Jet Clean IPA tank	281(2)(h)
F116	EU00008	Electro Magnetic	(3) Ultrasonic Cleaners	281(2)(h)
F114	EU00005	Machine Shop	Cold Cleaners	281(2)(h)
F114	EU00005	Machine Shop	Weld Table/Silver Solder Ventilation	285(2)(i)
F116	EU00008	Electro Magnetic	(1) Tin solder pot	285(2)(i)
			Omniflow Soldering Machine (w/ Reflow Oven)	285(2)(i)
F117	EU00016	Electronic	Flexite Selective Solder	285(2)(i)
			Solder Pot	285(2)(i)
F126	EU00009	DTG Lab (Production)	Mini Reflow Oven	285(2)(i)
		Solder Seal Room	Umbrella Hood, Solder Hood	285(2)(i)
General	EU00010	Maintenance	Welding Booth - Umbrella Hood	285(2)(i)
		EMDF	Solder (with hot air)	285(2)(i)
		Test Dept	Soldering re-work	285(2)(i)
		Flex Lab	Soldering units	285(2)(i)
F117	EU00016	Electronic	Degreaser - Kleen ATMS	290
General	EU00010	General	Degreasers in various departments	281(2)(h)
Boilers	None	Boilers*	Cleaver Brooks #1 (Boiler #1 South), 5.0 MMBtu/hr	282(2)(b)(i) [<50 MMBtu/hr]
Boilers	None	Boilers*	DeDietrich #2 (Boiler #2 North), 4.734 MMBtu/hr	282(2)(b)(i) [<50 MMBtu/hr]

Boilers	None	Boilers*	Lochinvar (Boiler #3), 0.8 MMBtu/hr	282(2)(b)(i) [<50 MMBtu/hr]
Boilers	None	Boilers*	Lochinvar (Boiler #4), 0.8 MMBtu/hr	282(2)(b)(i) [<50 MMBtu/hr]
---	None	Generator	IT Generator, 2.86 MMBtu/hr	285(2)(g) [<10 MMBtu/hr]
---	None	Generator	Kohler Generator, 0.341 MMBtu/hr	285(2)(g) [<10 MMBtu/hr]
F117	EU00016	Electronic	Electrovert Aquajet	290 [VOC in wash]
F116	EU00008	Electro Magnetic	(3) Stripper pots (caustic soda)	281(2)(e)

* The boilers are not subject to the New Source Performance Standards for Steam Generating Units under Subpart Dc as the maximum heat input capacity is less than 10 MMBtu/hr.

The following areas and equipment were observed through the virtual inspection.

EU-A112:

The A112 area has a finishing room which consists of two Brinks spray booths exempt from permitting under Rule 287(2)(c) which are used to apply acrylics, polyesters, enamels, amides, polyurethanes, and epoxys. Conventional spray guns are used to spray less than 200 gallons per month and Andrea paper filters are used as the particulate control. Filters looked to be well maintained. According to Mr. Main, the filters are changed monthly and the booth pressure is also monitored with a manometer. No issues were observed.

Also in the finishing room, there are three cold cleaners exempt from permitting under Rule 281(2)(h) used for cleaning gun nozzles and other spray components. Lids were closed and procedures posted. No issues were observed.

The A112 area also consists of a two component epoxy potting operation (of Hysol). Essentially small quantities (one to eight ounces) of epoxy is mixed under a hood which is vented to the ambient air. The cups of mixed epoxy are then placed into a freezer to be used throughout the plant at a later time. There have been no changes to this process from the last AQD inspection, however, Mr. Main indicated that they are looking to make some mechanical improvements.

EU-F117:

This area consists of a batch vapor degreaser a blend of solvent for cleaning circuit boards. The company considers this unit exempt under Rule 290. The cleaning solvent does not contain halogenated hydrocarbons and is therefore not subject to the Halogenated Solvent Cleaning NESHAP. The degreaser solvent Safety Data Sheet is attached. No issues were identified.

Because the degreasing solvent contains VOCs, the unit is also subject to Rule 708 for new open top vapor degreasers. In the past, the company has documented that the unit solvent-to-air interface is less than 10 square feet, therefore only Rule 708(3) and (4) are applicable to the unit. The company is meeting these requirements. No issues were observed.

Also in the EU-117 area there is an Electrovert "Aquajet" circuit board cleaning unit. No issues were observed.

Lastly the EU-117 area contains an Omniflow soldering machine and several other soldering machines exempt from permitting under Rule 285(2)(i). No issues were observed.

Emergency Generators:

The company has a diesel-fired emergency generator rated at 1,207 horsepower and a natural gas-fired emergency generator rated at 174 horsepower. Based on the fuel and size of the units, each are exempt from new source review permitting under Rule 285(2)(g). It is noted that the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Reciprocating Internal Combustion Engines (RICE) (40 CFR Part 63, Subpart ZZZZ) at Area Sources may apply to these units.

Recordkeeping:

All material usage and emission records are maintained in accordance with permit No. 270-98. Calculations are based on material purchase records and tracked using a spreadsheet.

The volume of all VOC containing materials at the facility is very low. Total VOC emissions from February 2020 to January 2021 were 3.34 tons which is well below the 38.9 ton per 12-month rolling limit. Similarly, total HAP emissions were 0.71 tons which is also well below the 22.5 ton per year limit for the same time period. VOC emissions are primarily from the paint spray booths at the facility. All emissions are well below Rule 287(2)(c) and Rule 290 requirements. Records are attached.

EVALUATION SUMMARY

GE Aviation appears to be in compliance with all applicable requirements. Records are attached.

David K. Ryan

DATE
3-29-2021

SUPERVISOR
MM