

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

N511046343

FACILITY: ENSTROM HELICOPTER CORP		SRN / ID: N5110
LOCATION: 2209 22ND ST, MENOMINEE		DISTRICT: Upper Peninsula
CITY: MENOMINEE		COUNTY: MENOMINEE
CONTACT: Kristopher Brooks , Safety & Environmental Controls Manager		ACTIVITY DATE: 09/05/2018
STAFF: Joe Scanlan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced inspection to determine compliance with PTI#s 547-92, 548-92, and 87-04.		
RESOLVED COMPLAINTS:		

SOURCE DESCRIPTION

Rudy Enstrom began building custom helicopters in 1957 in Crystal Falls. Presently, Enstrom Helicopter Company is located in Menominee and fabricates complete helicopters, including the fiberglass bodies. They currently have 4 models in production of 3-5 seat light-duty helicopters that are in use around the world for pilot training, surveying, agricultural use (spraying), medivac, military, personal use, etc. The company employs approximately 100-120 employees. In 2014-15, the company doubled the size of the production facility to make production more efficient.

The fiberglass shells of the helicopters are fabricated for exceptional strength using a hand lay-up process instead of using a chopper gun. Engines are either normal piston combustion or turbo-powered and are essentially the same engines used in many Bombardier vehicles.

INSPECTION

On 9/5/2018 I conducted an unannounced inspection of this facility. My contact was Mr. Kristopher Brooks, Safety and Environmental Controls Manager.

PTI# 547-92 -- Sand Blast Booth

The facility continues to operate their sand blast booth and uses 100 grit aluminum oxide as the blasting media.

SC15 requires VE from the sand blasting booth shall not exceed a 6-minute average of 20% opacity except as specified in Rule 301(1)(a)

- The booth was not operating at the time of inspection, however there were no signs of fugitive PM outside the facility. Observations outside the booth show the collection of waste to be acceptable. No objectionable amounts of waste were observed on the ground.

SC16 Rule 331 requires that particulate emissions (PM) from the sand blasting booth shall not exceed 0.10 lb/1000 lb of exhaust gases, calculated on a dry-gas basis.

- See permit evaluation in file.

SC17 Rules 1001, 1003, & 1004 allows for AQD to require verification of PM emissions at the discretion of AQD. Verification shall be completed via testing at the owners expense, with testing protocol approved by the U.P. District Supervisor and results supplied to AQD within 120 days of the request.

- AQD has not requested verification via testing due to the potential to emit (PTE) PM being quite low.

SC18 requires that the facility shall not operate the sand blast booth unless the exhaust filters are installed and operating properly.

- Exhaust filters were installed and were in good condition; filters are changed as necessary.

PTI# 548-92 --Fiberglass layup operation and gel-coat spray booth with dry-filter control

A small booth is used for gel coat operations.

SC15 requires that the VOC emission rate shall not exceed 2.5 lbs/hr nor 0.50 TPY. These limits are based on 384 gal/yr max of gel coat usage and 80 gal/yr max of acetone usage for the fiberglass shop.

- The facility used 220 gallons of DION FR 7704-00 polyester resin and between 9/01/2017 and 9/01/2018 -SDS is on file;
- The facility used approximately 385 gallons of acetone facility-wide between 9/01/2017 and 9/01/18; it is unknown how much acetone was actually used in the fiberglass shop.

SC16 requires that the facility shall not operate the gel-coat spary booth unless all exhaust filters are in place and operating properly.

- The filters in the booth look acceptable; filters are replaced as necessary.

SC17 requires no VE from the fiberglass shop.

- No VE was observed due to no activity taking place in the spray booth at the time of inspection.

SC18 requires the facility to keep records of monthly usage of resin, gel coat, and cleanup solvents. Data of VOC content shall be kept on file for the most recent 2 years.

- See the material usage for gel coat resin and acetone above;
- The lack of proper record-keeping to discern the usage of acetone within and outside the fiberglass shop is violation of SC18. This will be addressed with the facility.

PTI# 87-04 Econ Model DE-4 Drum Evaporator System

The drum evaporator completely encloses a 55-gallon drum of chromate dip system rinse water and indirectly electrically heats it to evaporate off water. No emissions other than water vapor are expected from this unit because: there are no VOCs in the rinse water; the pH of the rinse water is adjusted with caustic soda to a neutral pH of 7 in order to prevent acid attack on the evaporator system (this also prevents volatile acid emissions); the system has a mist eliminator that removes any water droplets from the exhaust.

The volume of rinse water allowed to be treated is limited to 400 gal/week, generating 20-25 gal/week of waste. Normal processing is expected to be 75-100 gal/week, generating 4-6 gal/week of waste. Between 9/01/2017 and 9/01/2018 the drum evaporator system processed 65-75 gal/week of water and the facility ships out 1 to 2 55-gallon barrels of waste per year.

Records are kept of the amount, type, and pH of the waste liquid placed into the evaporator and the amount of liquid taken out of the evaporator. Any maintenance issues or actions are also recorded. Waste manifest records are kept for all waste containers of material that are shipped off-site.

RULE 287(c) exemption -- Paint Spray Booths

The facility has 4 paint booths that are utilized. The filters in the paint booths looked acceptable. Observations outside show the collection efficiency appears good. No overspray was observed on the ground or surrounding buildings.

COMPLIANCE

Within the last couple of years the facility has installed a natural gas-fired drying oven in the fiberglass shop for curing pre-impregnated fiberglass laid on molds. The oven is rated at 150 kW or 511,821 Btu/hr

at 600° F . However, normal operating temperature for curing the pre-impregnated fiberglass is 260° F for an average of 2.5 hrs, 15 - 20 times/yr. The oven may require a toxics analysis and/or a PTI if it is not exempt under Rule 290/291. District staff will discuss this with the facility and AQD permit engineers.

The facility is in violation of SC18 of PTI# 548-92 for failing to adequately keep records of acetone usage for within the fiberglass shop. Additionally, PTI# 547-92 is likely eligible to be void, as it appears to meet Rule 281 exemption requirements. These two issues will be addressed after conferring with district staff and the facility.

Excluding the issues mention above, the facility appears to be in compliance with all remaining PTI conditions and applicable air pollution control rules.

NAME Joseph Gendron

DATE 11/20/18

SUPERVISOR CSJ

