

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

A161424411

FACILITY: Barnes Aerospace		SRN / ID: A1614
LOCATION: 5300 AURELIUS RD, LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: INGHAM
CONTACT:		ACTIVITY DATE: 02/14/2014
STAFF: Brian Culham	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT:		
RESOLVED COMPLAINTS:		

David R. Swearingner – EHS Manager – <mailto:mdswearingner@barnesaero.com>

This was a self-initiated inspection. At the end of January 2014 I was contacted by David Swearingner of Barnes Aerospace. He stated that he had taken over Environmental, Health, and Safety (EHS) responsibilities at Barnes. He was new in his capacity and he would like to discuss permitting and other Air Quality Regulations. It was his understanding that most of the processes at his company were exempt from permitting, but he would like to make sure and learn why they were exempt. He invited me out to do an inspection and spend time with him explaining air regulations. I scheduled this inspection with him.

Barnes Aerospace is located south of Lansing on Aurelius Road near Holt. Sycamore Creek flows adjacent to Aurelius Road opposite the plant. The surrounding area is light industrial and commercial with few residences. A soccer park is to the south.

Barnes Aerospace is primarily engaged in the manufacturing of components for the airplane industry. Metal blanks are heated and formed in presses. A spray coating is applied to the part prior to forming so that it will release from the mold. The formed parts go through a caustic/acid dip processes to clean and treat the metal.

Files indicate that as recent as 2007 the source was known as Jet Die. Between 2007 and 2010 Jet Die became Barnes Aerospace. In 2010 Barnes was cited for failing to properly monitor pressure drop across the alkaline scrubber. The deficiency was corrected.

VOC and HAP, specifically toluene, are the pollutants of greatest concern. Barnes is expected to be a true minor source of all criteria air pollutants as well as a minor source of Hazardous Air Pollutants (HAPs) both individually (PTE >10 tpy) and combined (PTE >25 tpy). Because Barnes is not considered a "Major Source" they are not subject to 40 CFR 63 subpart GG, National Emission Standards for Aerospace Manufacturing and Rework Facilities. Because Barnes is a minor source of HAPs they are considered an area source and could be subject to 40 CFR 63 subparts, specifically XXXXXX, Nine Metal Fabrication and Finishing Area Source Categories and HHHHHH, Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources. Presently, the Air Quality Division does not have administrative authority for either of these two area source subparts.

Barnes Aerospace is not presently required to report to MAERS or pay fees.

I arrived at 1:30 pm as scheduled. I met with Dave Swearingner and showed my credentials. I gave him the entry brochure and explained our inspection authority. We inspected the plant.

No.	Emission Unit or Flexible Group	Description	Permit Number or Exemption	Comp. Status
1	FGALKACIDSCRBS	A 6 tank alkaline processes with a packed bed scrubber and a 6 tank acid processes with a packed bed scrubber.	PTI 495-85B	C
2.	SPRAYCOATLINE	Spray booths used to apply a mold release agent.	Rule 287(c)	C
3.	FORMINGOVENS	Several natural gas fired ovens and associated dies or forms.	Rule 282(a)(i)	C

4.	SHOTBLASTING	Several blasting units, some of which share an in-plant filter device.	Rule 285(l)(v)	C
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1. FGALKACIDSCRBS

This process is covered by PTI 495-85B. The permit was last modified in 2007. The permit covers a series of 12 tanks. The tanks contain various treatments and rinses including an acid bath and an alkaline bath. Hoods were evident along the edges of the tanks. To separate plenums were identified exiting the south side wall of the plant.

Outside of the south wall I identified installations of an alkaline scrubber and an acid scrubber. They both appeared to be packed bed types and were approximately the same size. They were operating. I noticed that the lines for the pressure drop were disconnected. D. Swearinger stated that instrumentation has been freezing in the cold weather so they were using a portable gauge to determine pressure drop on each of the scrubbers. Pressure drop data is measured daily and recorded.

A copy of the December 2013 pressure drop data was submitted to me following the inspection. The alkaline scrubber consistently operated between 0.5 and 0.65 inches water gauge. The acid scrubber operated between 0.75 and 1.25 inches water gauge. Maximum operating ranges of 1.25 and 2.0 have been identified for each scrubber respectively.

Flow rate and pH are monitored continuously and can be accessed remotely through a local area network. A copy of a data set collected earlier in the day of my inspection was submitted to me following the inspection. A value is recorded every minute.

Flow rates range from 43 gpm to 53 gpm through the alkaline scrubber and 165 gpm to 230 gpm through the acid scrubber.

The permit only requires pH monitoring on the acid scrubber. The pH ranges from 6.0 to 10.0 through this scrubber. Records exhibited that this swing can occur in less than a 10 minute interval.

No opacity or odor was identified from the exhaust stacks of the two scrubbers.

2. SPRAYCOATLINE

Spray applicators are used in coating booths equipped with overspray mat filters. Records are being maintained and indicate that use is less than 200 gallons per month as require by the permit exemption 287(c).

The coating being applied to the surface of the metal substrate is Formkote T-50. The coating is a mold release agent. An MSDS for the product was submitted to me following the inspection. The coating is primarily toluene, but also contains ethyl benzene and other compounds. During January of 2014, 70 gallons of T-50 was used.

I explained to D. Swearinger a "coating line" is a series of booths, flash areas, and ovens and is allowed up to 200 gallons per month of applied coating. A permit is required for amounts over the 200 gallon per month rate.

The "Potential to Emit" (PTE) toluene for the SPRAYCOATLINE is 7.0 tons per year. This is because the toluene content in the Formkote T-50 is 75% by weight. If the PTE reaches 10.0 tons per year of toluene, Barnes Aerospace would be a "Major Source" of HAPs and be required to obtain a Renewable Operating Permit (ROP).

On February 28, 2014 I contacted D. Swearinger by phone to inform him of the high PTE for toluene. I stated that a second exempt coating line using the Formkote T-50 would make them a "Major Source" of a single HAP and Barnes would be required to obtain a Title V Renewable Operating Permit. He did not expect that they would ever need to apply more than the 200 gallons allowed on their current line.

The MACT HHHHHH, Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, restricts the use of certain target HAPs in coatings being applied at an area source. The target HAPS are compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), and cadmium (Cd). The MSDS for Formkote T-50 does not include any of these compounds. For that reason I do not believe that Barnes is subject to this subpart.

3. FORMINGOVENS

The metal blanks coated with the release agent are placed in dies that are associated with a forming oven. The ovens heat the metal to a softened, but not molten state so that the metal will follow the form. Pressure or vacuum is applied to draw the metal to its form. I identified several of these units on the plant floor.

Because the parts are not molten, not quenched, and the ovens are sweet gas fired at less than 10MMBTU/hour, they are exempt from the Rule 201 requirement to obtain a Permit to Install.

4. SHOTBLASTING

Several blasting units were identified in a walled off area in the plant. I identified a baghouse control and it appeared that most of the units were connected to it. The baghouse exhausted in-plant. None of the units had stacks discharging to the outside air.

Rule 285(l)(v) exempts shot and sand blast cleaning, or shot peening of metal substrates from the requirement to obtain a Rule 201 Permit to Install when the units exhaust into the general in-plant environment.

The NAICS digits for aerospace manufacturing fall under 3364XX. These codes are not listed as codes being subject to 40 CFR 63 subpart XXXXXX, Nine Metal Fabrication and Finishing Area Source Categories. For that reason I do not believe that Barnes is subject to this subpart.

I left the facility at 3:00 pm. I did not notice any opacity nor experience any odors as I left the property.

NAME

[Signature]

DATE

3.3.2014

SUPERVISOR

[Signature]



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