

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

FY 2014 Insp

B614326215

FACILITY: FERRO INDUSTRIES INC		SRN / ID: B6143
LOCATION: 35200 UNION LAKE RD, MOUNT CLEMENS		DISTRICT: Southeast Michigan
CITY: MOUNT CLEMENS		COUNTY: MACOMB
CONTACT:		ACTIVITY DATE: 07/29/2014
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM 208A
SUBJECT: FY 2014 level-2 scheduled annual inspection of Ferro Industries, Inc. Environmental Assistance Division will help Ferro resolve Rule 208a issues.		
RESOLVED COMPLAINTS:		

E-file: B6143-SAR-2014 07 29

FERRO INDUSTRIES, INC (B6143)
35200 Union Lake Road
P.O.: Mount Clemens, Michigan 48045-6100
Plant Location: Harrison Twp., Michigan 48045-6100
(586) 792-6001
Initial 208a registration: LV-003-01

Renewal 208a registration: Jan-Dec 2010 registration received on June 29, 2011 – duplicate copy of 208a reg. signed on March 07, 2011. Ferro failed to register in 2014.

PTI Application void: PTI No. 195-05

On April 17 and July 29, 2014, I, accompanied by new AQD inspector Sam Liveson, conducted a level-2 **scheduled** annual inspection of Ferro Industries, Inc. ("Ferro" or "the company") located at 35200 Union Lake Road, P.O.: Mount Clemens / Plant Location: Harrison Twp., Michigan 48045-6100. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994, PA 451; and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

During the inspection, Mr. Terrence Prael (586-792-6001 ext 213), Manufacturing Supervisor, assisted me. Mr. Joseph V. Clemente (586-792-6001 ext 203), President and Owner, was not present.

Mr. Bruce Taylor (586-792-6001 ext 215), former Plant Manager, retired in October 2010.

Ferro manufactures sanding, buffing, polishing pads that are used in power (electric and pneumatic) hand tools. Ferro does not have air use permit to install for any process. As a matter of fact, Ferro submitted an application for Permit-to-Install No. 195-05, a ROP opt-out application in lieu of annual 208a registration. AQD's Permit Section voided the PTI Application No. 195-05 based upon its determination that Ferro was a true minor. This determination was made upon review of VOC (< 7 tons per year, actual) and HAP (< 2 tons per year, actual) calculations submitted with the application. However, the calculations showed actual VOC and HAP emissions and not Potential-to-Emit (PTE). Therefore, instead voiding the application, AQD should have issued a ROP opt-out PTI with federally and practicably enforceable VOC and HAP limits. Thus, Ferro was required to continue to submit an annual 208a registration (2005-2014). However, VOC / HAP emissions have continued to come down due to solvent based materials elimination and reduced business due to ongoing great recession (2008-2011). By 2014, business has picked up, but, however, Ferro replaced

solvents with water.

On March 7, 2007, Mr. Taylor stated that he submitted actual VOC & HAP emissions in the permit application.

In CY 2011, Ferro had to lay off 10-15 employees due economic downturn in the auto industry.

The sanding pad manufacturing process consists of plastic (polypropylene – thermoplastic polymer) injection molding and polyurethane (yellow in color) foam molding. Polyurethane (CAS: 9009-54-5) is a two-component (1. resin; 2. Methyl Di-isocyanate or MDI) polymer. There are two (2) polyurethane molding machines and ten (10) plastic molding machines (10 Milacron plastic polypropylene injection machines); only 2-3 plastic injection machines run at a given time under the current economic conditions. Polypropylene resin pellets are sucked into ten plastic injection machines to mold pads. The process is totally enclosed and practically there is not emission of either particulate matter or volatile organic compounds (VOC). All plastic injection machines (10) are made by Cincinnati Milacron Corporation. It takes approximately a minute and a half to mold one plastic pad. The molding machines are exempt from Rule 336.1201 pursuant to Rule 336.1286(b). Ferro has one adhesive application booth, two manual glue lines (glue is wiped on the part using paint brush) and two adhesive priming stations. Only one of two glue lines is currently used; other one still on site but idled. All booths use substantially less than 200 gallons per month (total for all booths: 40 gal/mo adhesive, 20 gal/mo glue, 4 gal/mo adhesive prime, which is being reduced); and hence are exempt from Rule 336.201 pursuant to Rule 336.1287(c). All the booth filters appeared to be in good condition. One urethane machine that used RTC mold release agent (approx. 0.5 gallon per day) is removed; now hot water flush is used in rotary molding machines. While approximately 0.5 gallons per day of glue is used, 0.25 gallon per day of adhesive is applied in two priming stations. Unlike before, mostly water based glue is used although some solvent based glue products are used.

At Polyurethane Machines, polyurethane is poured into heated (110 degrees Fahrenheit) molds, allowed to cool and solidify. Heat contained in the molds accelerates curing so that it can be accomplished in four minutes instead of 15 minutes of ambient curing. Two Rotary (Carosel) Foam Machines, which use hot water flush, replaced three Polyurethane Machines, which used solvents for flush. Hence, solvent use has drastically reduced at this facility upon installing water flush foam machines.

Water-based adhesive lines replaced solvent-based adhesive lines in January 2008 thereby reducing VOC / HAP emissions.

On March 7, 2007, Mr. Taylor stated that Ferro stopped using toluene as a clean-up solvent. However, Ferro continues to use toluene as a thinner (diluent solvent) in adhesive applications. MDI (HAP) is mixed with a resin (polyester) to make urethane.

Cincinnati Milacron Machines (10) that use polypropylene are not operating these days (CY2014) due to lack of work orders; only two were operating during June 2014 inspection.

All old urethane machines except one were disconnected of electrical utilities, dismantled and sold for scrap in 2010. In 2009, two rotary urethane machines were installed and they replaced old urethane machines. Unlike old machines, which used solvents, the rotary machines use hot water flush during color change. Hot urethane (liquid) is poured into power tool molds. Five (5) colors are currently used. As solvent is not used in the rotary machines,

HAP / VOC emissions have come down.

Dry filters were installed properly, during the FY 2014 inspection, in glue spray booth.

CY2006 emissions were 7 tpy VOC and 1.3 tpy HAP. During 2007-2010, the annual emissions are substantially reduced due to lack of business and replacement of old urethane machines with the rotary machines that use hot water flush.

208a registration

Mr. Clemente has received AQD's letter regarding Rule 208a rescinding. I asked Mr. Prah to contact Mr. James Ostrowski at 517-284-6870 of Clean Air Assistance. I explained to him Mr. Ostrowski would help him to either obtain a ROP / MACT synthetic minor permit or show that Ferro has become true minor source. VOC and HAP emissions have declined upon installing rotary foam machines (2), which replaced solvent consuming polyurethane machines (CY 2009).

Conclusion

Instead voiding the application, AQD should have issued a ROP opt-out PTI No. 195-05 with federally and practicably enforceable VOC and HAP limits. Rule 208a is being rescinded. Thus, Ferro must either obtain a ROP synthetic minor permit or show Ferro is now true minor because of replacing organic solvents with water. Ferro is an insignificant source of VOC and HAP. Environmental Assistance Division will help Ferro resolve Rule 208a issues.

NAME Bill Manahall, DATE 08/04/2014 SUPERVISOR CTE

RULE 208a

AQD UPDATE - July 11 (but really on the 14th)

Fiedler, Lynn (DEQ) <FIEDLERL@michigan.gov>

Here are the notes from my update at the recent Michigan Manufacturer's Association meeting:

- Letters have been sent to the 208a sources letting them know that we are beginning the process of rescinding the rule.
- There are less than 100 sources that received letters
- The main thing here is that we want facilities to be aware of the change. If they elect to not be subject to Title V, that they have the opt-out permit prior to the Rule being rescinded.
- Certainly the facility can elect to be a Title V source.
- However, we expect most to want to get an opt out permit. AQD Policy 004 provides the two options now available – the first is a general permit opt out and the second is a PTI opt out.
- We don't want you to wait until the last minute to get the permit – that's the reason for the timeline. The new permit will require practically enforceable limits and we want to work with you to make sure these limits meet both your needs and that of EPA. This may take some time.
- If you are not doing anything but adding a conditions to limit your potential to emit, New Source Review is not triggered.
- However, if you are making a tweak to the process at the same time, we will do a permit review on you proposal.