

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

P016555025

<b>FACILITY:</b> AFC Holcroft		<b>SRN / ID:</b> P0165
<b>LOCATION:</b> 89630 Pontiac Trail, WIXOM		<b>DISTRICT:</b> Warren
<b>CITY:</b> WIXOM		<b>COUNTY:</b> OAKLAND
<b>CONTACT:</b>		<b>ACTIVITY DATE:</b> 08/12/2020
<b>STAFF:</b> Iranna Konanahalli	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> FY 2020 inspection of AFC-Holcroft ("AFCH")		
<b>RESOLVED COMPLAINTS:</b>		

**AFC-Holcroft (SRN P0165)  
49630 Pontiac Trail  
Wixom, Michigan 48393-2009**

**Rules: 285, 281, 287(2)(c) (coating booth – site-specific special exemption by treating the entire plant as a booth). The building exhaust filters and intake air system are operated only when painting is occurring. Similar plant-wide booth consideration was approved for Jessup Engineering, Inc. (SRN P0153).**

**VN: AQD issued October 21, 2010, Violation Notice (Rule 336.1201)**

**Not Subject to: NESHAP/ MACT T, area source National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T; NESHAP/ MACT T); Correction; 29484 Federal Register / Vol. 60, No. 107 / Monday, June 5, 1995 / Rules and Regulations; amended National Air Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T); Final Rule; Page 25138 Federal Register / Vol. 72, No. 85 / Thursday, May 3, 2007 / Rules and Regulations.** About 2007, AFCH quit using halogenated solvents in Graymills Handy-Kleen parts cleaner; at any rate, the parts cleaner is serviced by Safety-Kleen. Currently (CY 2020), AFC Holcroft does NOT use the MACT T listed halogenated HAP solvents (>5%w: methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5), and chloroform (CAS No. 67-66-3)) in the cold-cleaners.

On August 12, 2020, I conducted a level 2 self-initiated **FY 2020 inspection** of AFC-Holcroft ("AFCH") located at 49630 Pontiac Trail, Wixom, Michigan 48393-2009. 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 Environment, Great Lakes and Energy, Air Quality Division (EGLE-AQD) administrative rules.

During the FY 2020 inspection, Mr. Jeff Thompson (Phone: 248-668-4092; Fax: 248-668-5592; E-mail: jThompson@afc-holcroft.com), Manufacturing Manager, and Ms. Lisa Rutledge (fka Shropshire) (Phone: 248-668-4093; Fax: 248-668-5593; E-mail: LRutledge@afc-holcroft.com), Quality / Safety Manager, assisted me.

About Feb 26, 2019, Mr. Gordon J. Cargill (Phone: 248-668-4054; Cell: 248-705-2094; Fax: 248-624-3710; E-mail: gCargill@afc-holcroft.com), Manufacturing Manager, retired after 45 years of service with Holcroft. Mr. Michael J. Boutsikaris (Phone: 248-668-4051; Fax: 248-668-

-5561; E-mail: mBoutsikaris@afc-holcroft.com), formerly Manufacturing Supervisor, moved to aftermarket sales

About April 01, 2015, Ms. Cathy Morgan (Phone: 248-668-4093; Fax: 248-668-5593; E-mail: cMorgan@afc-holcroft.com), Quality / Safety Manager, retired. Ms. Neumann replaced Ms. Morgan. About January 2018, Ms. Kathy Neumann (Phone: 248-668-4093; Fax: 248-668-5593; E-mail: kNeumann@afc-holcroft.com), Quality / Safety Manager, separated and moved to Kansas City, Missouri. Ms. Rutledge (fka Shropshire) replaced Ms. Neumann.

Headquartered in Wixom, Michigan, privately held AFCH makes heat-treating furnaces for both ferrous and non-ferrous metal heat-treating industry. The furnaces assembled may either use electricity or natural gas for attaining and maintaining heat-treating temperature. Most styles of furnaces built are: atmosphere and vacuum furnaces, batch integral quench furnaces, pusher furnaces, cast link belt and mesh belt conveyor furnaces, roller hearth and rotary hearth furnaces, walking beam furnaces, car bottom furnaces, batch furnaces, continuous belt furnaces, pit furnaces & ancillary equipment, etc. Support equipment such as atmosphere generators, parts handling equipment and process controls and instrumentation are also built or supplied to the customer. AFCH is in furnace business for nearly 100 years.

Atmosphere Furnace Company (AFC) was established in 1962. In October 1996, AFC acquired Pacific Industrial Furnace Co. (PIFCO, a division of Detrex), which was established in 1930, and consolidated all operations in Wixom. PIFCO had strong presence in foundry, forge and aluminum industries. In April 1999, AFC purchased privately held Thermal Alliance of Detroit. Thermal Alliance has been in heat treating business since 1914. In March 2000, AFC purchased privately held Holcroft of Livonia and became AFC-Holcroft. Holcroft has been building furnaces since 1916.

### **Painting – Special site-specific case of Rule 287(2)(c)**

Structural components such as furnace walls are painted in an open factory space; i.e., there no paint spray booth with filters for overspray particulate control. Paints may be either solvent-based or water-based depending upon customer requests (usually, orange, yellow and blue). Most paints are solvent based. Almost entire factory floor is covered with these paints due to paint overspray. Entire factory floor may be treated as paint spray booth with a dry filter system on each of the four exhaust fans. The November 09, 2010, VN response letter states that the filters would be installed on all four building exhaust fans and VOC records would be kept. These filters (4) are now installed and operating. The filters are inspected once per month and replaced if necessary. Each exhaust via filters (4) has its own dedicated fan.

I confirmed that four filters on four exhaust fans are installed. Painters are trained to operate the filters properly during painting. The filters can be closed or opened as desired by operating a rope or a chain. Intake air fan is operated when the exhaust fans with filters are operated. Intake air is passed through a system of bags with holes for air discharge for uniform air distribution in the plant; two large fans are present.

Further, each painting area (furnace) is enclosed by fire-retardant curtains only when painting is performed. Wixom Fire Dept. has approved these curtain materials. Furnaces can be 10-30 feet long or wide; usually a square or rectangle in shape based upon an engineering drawing section (top or front view).

The exhaust fan filters that serve the entire plant are changed upon completion of paint jobs according to Maintenance Dept. There are four (4) filters in all. I observed that the spent filters were covered with overspray paint indicating that the plant overspray control system is working properly.

While painting, outside ventilation air is brought into the building using a giant bag for proper air distribution in the plant. Outside air drawn and ventilation exhaust is such that proper air balance is maintained: intake air flow rate should be slightly less than paint overspray particulate laden exhaust air flow rate.

**Based upon 12-month usage records review, less than 200 gallons of paint per year were used (Coatings: CY2011 = 125, CY2012 = 181, CY2013 = 174, CY2014 = 185, CY2015 = 88, CY2016 = 184, CY2017 = 128; CY2018 = 247 and CY2019 = 156 gallons per year; Clean-up solvents: CY2014 = 139, CY2015 = 87, CY2016 = 119, & CY2017 = 101, CY2018 = 163 and CY2019 = 123 gallons per year). Rule 336.1287(2)(c) exempts a booth (from Rule 336.1201 (Permit-to-Install) if paint usage is less than 200 gallons per month on water-free basis. The filters are installed on all four exhaust fans, which treat particulate emissions from the entire building. I asked Ms. Rutledge tabulate coatings and diluent & clean-up solvents properly using MS Excel; currently paper logs are kept and the required calculations are performed using a calculator. I performed, using MS Excel, the calendar annual usage calculations stated above from the coatings and solvents usage logs provided to me at the Wixom site.**

### **Misc. particulate emissions equipment**

Cutting and grinding equipment is present in the building. Steel sheets are cut using shear-cutting, natural gas-based torch-cutting, plasma-cutting. Welding equipment is also present. One machine shop is present. None of the process equipment is equipped with any filter system. Upon installing filters (about 2011) on four building ventilation fans in order to comply with Rule 287, all particulate emissions can be controlled. All exhaust gases are released to in-plant environment. The process equipment are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(l). However, four filters are not always operated; but operated when painting.

### **Cutting machines (in machine shop)**

In the machine shop, three (3) cutting machines are present. Each machine has its own capture device for particulate matter emissions. The captured particulate laden exhaust gases are transported via a manifold to one Industrial Air Cleaners pleated filter system installed inside the building. Cleaned air is released to in-plant environment.

The pleated filters are inspected quarterly (1 / 3 months) and replaced annually (1 / year). There is no pulse-jet air cleaning of filters; only filter replacement on as needed or annual basis. The machines are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(l).

### **Cold-cleaner**

There is one Graymills (Model No. PL36-A; Serial No. 87; Graymills Corporation of Chicago; Phone: 312-477-4100) Handy-Kleen (3 ft. \* 4 ft.) parts cold-cleaner with spray a brush and a

solvent tank. The cold-cleaners are subject rule 336.1611 or 336.1707 depending on if it is existing (611) or new (707). A cold-cleaner is exempt from Rule 336.1201 pursuant to Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing (611) cold cleaners were placed into operation prior to July 1, 1979. New (707) cold cleaners were placed into operation on or after July 1, 1979.

Safety-Kleen supplies the solvents and services the cold-cleaners. Mineral spirits containing no halogenated solvents is used. Once a month, dirty solvent is picked up for disposal or recovery.

The Cold-cleaner is NOT Subject to: 40 CFR, Part 63, Subpart T, NESHAP/ MACT T, since solvents containing halogenated compounds are not used after 2007. AFC-Holcroft used to use, before 2007, Zep Parts Cleaner 036. Product code 036 contained halogenated solvents: 50% Trichloroethylene (CAS 70-01-6) and 50% Tetrachloroethylene (CAS 127-18-4). The solvent's high specific gravity of 1.53 (water = 1) is due to chlorine.

About 2013, I gave DEQ's decals for "cold-cleaner operating procedures" for posting and complying with work-practice rules. I asked the company to follow the common-sense work practice described in the procedures. During FY2016 inspection, the work-practice procedures were posted; but soiled. Mechanically assisted lid was closed. Spent solvent is disposed of as RCRA Hazardous Waste.

During FY2013 inspection, the work-practice procedures were not posted. But now (FY 2018), the DEQ Decals are posted albeit soiled. Upon request, decals were cleaned.

After 2007, Zep 0366 (Dkyna 143) is purchased (before 2007, halogenated compounds were used).

100% VOC solvent. Flash Point (FP) = 143.6 °F TCC. Auto Ignition = xx °F. Boiling Point (BP) = 369 °F @ 760 mm Hg. Vapor Pressure (VP) = 1 mm Hg at 68 °F. Specific Gravity (SG, Water = 1.0) = 0.79. Density ( $\rho$ ) @ 68 °F = 6.58 lbs. / gallon (0.790 kg /L). Flammability range = 1 %v (LEL) – 7%v (UEL).

### Conclusion:

Please refer to October 21, 2010, Violation Notice. Exhaust filters are installed on four ventilation fans and are operated when painting only. This is a special case of Rule 287(2)(c), where entire manufacturing plant is treated as a paint spray booth with exhaust filters. AFCH complies with the conditions of the exemption.

NAME J. S. Marshall

DATE September 10, 2020 SUPERVISOR Joyce