

FY 2018 Insp -

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

N279342575

FACILITY: DESIGNS UNLIMITED INC		SRN / ID: N2793
LOCATION: 3160 HAGGERTY RD, W BLOOMFIELD		DISTRICT: Southeast Michigan
CITY: W BLOOMFIELD		COUNTY: OAKLAND
CONTACT:		ACTIVITY DATE: 10/02/2017
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: FY 2018 Inspection of Designs Unlimited, Inc. ("Designs")		
RESOLVED COMPLAINTS:		

Designs Unlimited, Inc. (N2793)
3160 Haggerty Road
West Bloomfield, Michigan 48323-2000

Phone: (248) 624-7301

N2793: In Permit Cards, SRN N2793 is associated with Permit-to-Install No. 157-91 (approved: 03/18/1992). Originally, the booth was located at 3280 New Farm Court, Walled Lake, and Designs moved the booth, in 1992, to 3160 Haggerty Road West Bloomfield. Hence, over the years, SRN N2793 is associated with both addresses. On October 20, 2017, McGeen and I decided keep SRN N2793 for 3160 Haggerty Road.

PTI to be voided: Permit-to-Install No. 157-91 (approved: 03/18/1992) (Permit EQA: Rhonda Stokes. SC 14 limits: 980 pounds of VOC per year) dated March 18, 1991 for a dry filter paint spray booth located at 3280 New Farm Court, Walled Lake. AQD issued the permit to Paul Christian, General Manager, Designs Unlimited, 3160 Haggerty Road, West Bloomfield. AQD inadvertently voided this permit on March 22, 1994, and reinstated on October 24, 1994. Also, Designs Unlimited moved the booth from 3280 New Farm Court to the back of its former showroom at 3160 Haggerty Road. The showroom closed due to economic troubles and consolidated into the Birmingham show room (about 2007). When PTI No. 157-91 (N2793) was issued, while the booth was located at 3280 New Farm Court, the showroom was located at 3160 Haggerty Road.

On October 02, 2018, I conducted a level 2 self-initiated **FY 2018 inspection** of Designs Unlimited, Inc. ("Designs"), located at 3160 Haggerty Road, West Bloomfield, Michigan 48323-2000. 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. Jim Phipps (Ph: 248-624-7300; Fax: 248-624-0354; E-mail: NA), Operations Manager, assisted me. Mr. Steve Wilson (Phone: 248-624-7300), Foreman, was not present.

Founded in 1986, Designs Unlimited, Inc. ("Designs") makes custom design bookcases, counter-tops and cabinetry for expensive and upscale homes.

About 1992, Designs moved its showroom across the street from 3053 Haggerty Road, Walled Lake, to 3160 Haggerty Road, West Bloomfield. Designs also moved its spray booth

(PTI No. 157-91, N2793) in 1992 from 3280 New Farm Court, Commerce Twp., to 3160 Haggerty Road West Bloomfield. Again, in 2007, Designs closed its showroom at West Bloomfield and moved it to 104 Willits Street, Birmingham, and consolidated two showrooms into one, due to oppressive economic conditions. Change of address for this SRN N2793 must be noted.

There are four (4) wood-cutting (saw) machines. The machines are not used every day these days due to lack of business as a result of severe economic crisis in construction industry. Although construction industry has improved, Americans are not upgrading their homes as before due to an idea that home prices might fall. Each machine is equipped with a capture device and a ventilation system. Each ductwork from a machine is connected to a common exhaust manifold. The manifold is ducted outside to a baghouse, consisting of 72 bags. The bags are cleaned using pulse-jet mechanism; 1 compressed air pulse per 10 minutes. After filtration of saw dust, cleaned air is recycled into the plant in heating season (winter) and discharged to outside air in cooling season (summer). I did not see saw dust on ground near the baghouse and the hopper. Saw dust from the baghouse falls into a hopper, which is equipped with a glass window to see a level of saw dust. When sawdust level rises as observed through the window, the hopper is emptied. The wood cutting machines are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(I). I asked Mr. Phipps to empty the hopper promptly so that damage to the bags was not caused.

Dixie Air Systems makes the baghouse. In summer, cleaned air is discharged vertically downward contrary to AQD's policy. I did not detect saw dust on the ground and AQD has not received any complaint.

About June 2015, Designs replaced all 72 bags. Also, Designs rebuilt compressed air system for pulse-jet air cleaning of saw dust cake on the bags' surfaces (dirty saw dust laden air side).

Rule 287(2)(c) Paint Spray Booth (PTI No. 157-91 at 3280 New Farm Court)

One stains, lacquer, sealers and paint booth (Brinks 10 ft. W x 10 ft. D x 8 ft. H, open at the front) with back-draft dry filter system is present for custom-made counter-tops, cabinetry finishing. Across the filter, pressure measurements (inches of water) can be done using an inclined manometer (Dwyer Instruments Model 25 Manometer). Based upon high-pressure drop, the filters are replaced.

As the business is substantially down now (reduced from 15 [2000] employees to 6 [2011] 4 [2014] and 4 [2017]), only 1 gallon per month (<< 200 gallons per month) of the finish materials are sprayed. The booth is now exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(2)(c). The booth is a small source of VOC emissions. Previously, AQD issued PTI No. 157-91 (Permit EQA: Rhonda Stokes. SC 14 limit: 980 pounds of VOC per year based upon 175 gallons of coatings per year) dated March 18, 1991, for a dry filter paint spray booth located at 3280 New Farm Court, Walled Lake.

I observed pressure drop across the filters: 0.12 inch H₂O when the exhaust fan was operating and -0.04 inch H₂O when the fan was shut off. I asked the painter to adjust the manometer's zero reading when the fan is turned off. I could not make zero adjustment due to insufficient red dyed water. I asked him to add make-up water to the inclined manometer (Dwyer Instruments Model 25 Manometer) to compensate evaporative losses. The filters looked good during the inspection.

I asked Mr. Phipps to install the filters such that they fit, at all times, snugly without gaps and holes. I also asked him to keep records of paint and solvent usage; estimates based upon purchase records are available. I asked him to change or check filters when the pressure drop is out of the ordinary for good working conditions.

Herkules Cold-cleaner

No methylene chloride stripper is present.

There is one Herkules (2 ft. x 2 ft.) parts cold-cleaner with spray a brush and a solvent tank. The cold-cleaner is subject rule 336.611 or 336.1707 (new) depending on if it is new or existing. A cold-cleaner is exempt from Rule 336.1201 pursuant to Rule 281(2)(h) or Rule 285 (2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

Mechanically assisted lid was closed during the FY 2017 inspection. The DEQ decal was posted.

Stoddard Lacquer Thinner (M. L. Campbell of Cleveland, Ohio 216-566-2902) is used

The Cold-cleaner is NOT Subject to: 40 CFR, Part 63, Subpart T, NESHAP/ MACT T, since solvents containing halogenated compounds are not used.

During FY 2014 inspection, 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 in the procedures.

100% VOC solvent. Flash Point (FP) = 53 °F TCC. Auto Ignition = NA °F. Boiling Point (BP) = 222-343 °F @ 760 mm Hg. Vapor Pressure (VP) = NA mm Hg at 68 °F. Specific Gravity (SG, Water = 1.0) = 0.85. Density (ρ) @ 68 °F = 7.1 pounds / gallon. Flammability range = 1 %v (LEL) – 10.9%v (UEL).

Conclusion

One paint spray booth and four wood cutting machines are present. Designs is in compliance with Rules 285 and 287.

NAME

J. L. Hennahall

DATE

12/6/2017

SUPERVISOR

Joyce B.

