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

B886148563

FACILITY: Terex		**SRN / ID:** B8861
LOCATION: 212 S. OAK, DURAND		**DISTRICT:** Lansing
CITY: DURAND		**COUNTY:** SHIAWASSEE
CONTACT: Chris Konan , HSE Manager		**ACTIVITY DATE:** 03/14/2019
STAFF: Julie Brunner	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Scheduled inspection of the Terex Minerals Processing Systems for compliance with PTI 337-05		
RESOLVED COMPLAINTS:		

On March 14, 2019, I conducted an unannounced, scheduled inspection of Terex Minerals Processing Systems (B8861) in Durand. The last inspection of this facility was on June 14, 2016.

Contacts:
Mr. Chris Konen, HSE Manager, 989-288-9291, chris.konen@terex.com

Facility Description and Regulatory Overview:
Terex produces heavy construction equipment such as gravel screens designed for use in road building and mining. It started out in the 1940s as Simplicity Engineering, and later was known as Powerscreen. Terex has a number of facilities throughout the United States, and worldwide.

The facility is located in Durand in a mixed use area consisting of residential and commercial/industrial properties.

The facility is a minor source of any regulated air contaminants including hazardous air pollutants (HAPs) and not subject to the Title V Renewable Operating Permit (ROP) program. Terex has one (1) active Permit to Install (PTI) Nos. 337-05 for a large coating booth. There are also other exempt processes as identified below at the facility.

Emission unit / Process	Emission unit description	Permit to Install, or exemption rule
EU-SPRAYCOAT	Cross-draft paint spray booth equipped with air-assisted airless or HVLP coating applicators and dry filter overspray control for coating miscellaneous metal parts. The booth is also equipped to operate as a natural gas-fired 0.888 MMBtu/hr bake oven. The booth and oven share an exhaust stack.	PTI 337-05
Small paint booth	Small paint booth with mat panel filters	Rule 287(2)(c)
Metal machining processes	Various metal machining processes, exhausting to the in-plant environment	Rule 285(2)(l)(vi)(B)
Plasma cutting	Plasma cutting of metal, exhausting to the in-plant environment	Rule 285(2)(l)(vi)(B)
Welding	Welding units	Rule 285(2)(i)
Paint touch up	Touch up of paint using hand held spray cans in the shipping area	Rule 287(2)(b)
Parts washers	Five (5) cold cleaners using solvent-based cleaners	Rule 281(2)(h)

Facility may be subject to 40 CFR 63, Subpart XXXXXX - National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories, but the NAICS code doesn't match the requirements. The applicability is listed in 40 CFR 63.11514:

§63.11514 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate an area source that is primarily engaged in the operations in one of the nine source categories listed in paragraphs (a)(1) through (9) of this section. Descriptions of these source categories are shown in Table 1 of this subpart. "Primarily engaged" is defined in §63.11522, "What definitions apply to this subpart?"

(1) Electrical and Electronic Equipment Finishing Operations;
(2) Fabricated Metal Products;
(3) Fabricated Plate Work (Boiler Shops);
(4) Fabricated Structural Metal Manufacturing;
(5) Heating Equipment, except Electric;
(6) Industrial Machinery and Equipment Finishing Operations;
(7) Iron and Steel Forging;
(8) Primary Metal Products Manufacturing; and
(9) Valves and Pipe Fittings.

(b) The provisions of this subpart apply to each new and existing affected source listed and defined in paragraphs (b)(1) through (5) of this section if you use materials that contain or have the potential to emit metal fabrication or finishing metal HAP (MFHAP), defined to be the compounds of cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form with the exception of lead. Materials that contain MFHAP are defined to be materials that contain greater than 0.1 percent for carcinogens, as defined by OSHA at 29 CFR 1910.1200(d)(4), and greater than 1.0 percent for noncarcinogens. For the MFHAP, this corresponds to materials that contain cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (of the metal), and materials that contain manganese in amounts greater than or equal to 1.0 percent by weight (of the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material.

(1) A dry abrasive blasting affected source is the collection of all equipment and activities necessary to perform dry abrasive blasting operations which use materials that contain MFHAP or that have the potential to emit MFHAP.

(2) A machining affected source is the collection of all equipment and activities necessary to perform machining operations which use materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?", or that have the potential to emit MFHAP.

(3) A dry grinding and dry polishing with machines affected source is the collection of all equipment and activities necessary to perform dry grinding and dry polishing with machines operations which use materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?", or have the potential to emit MFHAP.

(4) A spray painting affected source is the collection of all equipment and activities necessary to perform spray-applied painting operations using paints which contain MFHAP. A spray painting affected source includes all equipment used to apply cleaning materials to a substrate to prepare it for paint application (surface preparation) or to remove dried paint; to apply a paint to a substrate (paint application) and to dry or cure the paint after application; or to clean paint operation equipment (equipment cleaning). Affected source(s) subject to the requirements of this paragraph are not subject to the miscellaneous surface coating provisions of subpart HHHHHH of this part, "National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources."

(5) A welding affected source is the collection of all equipment and activities necessary to perform welding operations which use materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?", or have the potential to emit MFHAP.

(c) An affected source is existing if you commenced construction or reconstruction of the affected source, as defined in §63.2, "General Provisions" to part 63, before April 3, 2008.

(d) An affected source is new if you commenced construction or reconstruction of the affected source, as defined in §63.2, "General Provisions" to part 63, on or after April 3, 2008.

Michigan does not have delegation for this standard, and therefore, it is under the purview of the EPA.

Michigan Air Emissions Reporting System (MAERS):
The facility does not currently report emission information to MAERS.

Inspection:
Arrived: 1:00 pm
Departed: 3:30 pm
Weather: 56°F, SSE 18 mph, UV Index 2

I detected no odors around the facility. There were no visible emissions from the stacks that could be viewed from the parking lot.

A pre-inspection meeting was conducted with Mr. Chris Konen (HSE Manager). Chris started in July of 2018, replacing Mr. Daniel Thompson (HSE Specialist) who left in November of 2017. The facility has some gaps in records during the timeframe when there was no HSE staff. I gave a brief overview of the inspection process which was the purpose of my visit. All visitors are required to wear a safety vest, hardhat, hearing protection, and steel-toed shoes when out in the manufacturing areas. The facility was operating during the time of the inspection.

The facility operates two (2) shifts per day, and prefers operating 5 days per week, but is currently doing 6 to 7 days per week. There are approximately 80 people between the two (2) shifts. Also, the facility does not have any boilers or emergency generators. Heat is provided by natural gas-fired full air make-up units (exempt per Rule 282(2)(b)).

Terex uses Sherwin-Williams water-based and solvent-based paints in the large paint booth, and in the small exempt paint booth. The paint coatings do contain some HAPs such as xylene, styrene, ethylbenzene, etc. The large pieces such as decks receive a topcoat in the large booth, and are then assembled into products such as large gravel screening tables.

Large paint booth with dry filter overspray control, PTI 337-05:
This booth identified as EU-SPRAYCOAT is used for coating larger metal parts. It is a manual spray booth with large overhead doors that are closed when the operator is painting. From outside the plant, it could be seen that there were no visible emissions from the exhaust stack, nor were there any signs of paint particulates on the stack itself. The stack height appears to be compliant with the permitted height of 46.5 feet and discharges unobstructed vertically as required by Special Condition (SC) 1.12. The pre-filters are changed weekly, and post -filters are changed monthly in compliance with SC 1.5 to install, maintained and operate the exhaust filters in a satisfactory manner.

Terex is using spray guns that are Graco G40 with air assist set to 10 psi. Sherwin-Williams (paint supplier) adjusts the gun pressure and locks them. This is in compliance with SC 1.6 which requires that EU-SPRAYCOAT be equipped with air-assisted airless or high volume low pressure (HVLP) applicators or comparable coating applicator technology with equivalent transfer efficiency. A reducer is not added to the paints prior to spraying. Clean-up in the booth (and guns) is done using Water Butyl Cell 90/20 (R06XXK3475-4318) which has up to 18% by weight 2-Butoxyethanol (CAS No. 111-76-2).

Small paint booth; Rule 287(2)(c):
The small paint booth is a 3-sided walk-in manual booth equipped with a wall-sized bank of mat or panel filters. They change the filters in this booth on the same schedule as the large paint booth. The pre-filters are changed weekly, and post-filters are changed monthly. There is good draw of the overspray to the back of the booth and filters. The booth has a vertical exhaust out of the roof.

Painting of smaller parts prior to assembly is done in this booth. The paint applicator used is a Graco Silver without air assist. Paint is feed to the applicator from a 55-gallon drum that sits outside the booth. Tracking of paint usage is by the use of a paper log that is posted right outside the booth. The operator logs the date, amount sprayed, and paint type when the booth is used.

Miscellaneous Processes (Machining, Assembly, and Shipping):
There are a number of metal machining processes, including a plasma cutter, CNC lathes, and milling machines which exhaust into the in-plant environment. The machining equipment dates to 1920, 1950, 2010 and 2011. It is exempt under Rule 285(2)(l)(vi)(B).

A small parts welding booth, plasma torch table, and various welding operations have aircan-fume collectors overhead. The welding operations are exempt under Rule 285(2)(i).

There are 5 parts washers located throughout the plant:
- o 150 gal agitation tank in Assembly (Crystal Clean 100)
- o 80 gal tank in Assembly/Layout (Crystal Clean 100)
- o 40 gal tank in Maintenance (Crystal Clean 100)
- o 40 gal tank in Small Paint (N-Terpinal)
- o 40 gal tank in Tech Center (Crystal Clean 100)

In 2018, 1,080 gallons of Crystal Clean 100 was purchased. Crystal Clean maintains the parts washers for the facility. The parts washing solvent contains a mixture of Petroleum Hydrocarbon Naphtha and up to 5% by weight of 1,2,4-Trimethylbenzene (CAS No. 95-63-6). The VOC content of the parts washing solvent is ~ 6.7 lb/gal. If all 1,080 gallons were used in 2018, then VOC emissions due to parts washing is estimated by AQD staff to be 3.6 tons. The parts washing solvent does not appear to contain any HAPs. The parts washers are exempt under Rule 281(2)(h). All parts washers observed during the inspection had closed lids.

There is some touch up of paint using hand held spray cans in the shipping bay/area. This was considered exempt under Rule 287(2)(b), but the spray cans used appear to be 16 oz. cans. The exemption is for a maximum size of 8 oz. cans. Chris is checking with Sherwin-Williams about whether 8 oz. cans can be purchased. AQD staff estimated that 176.2 pounds of VOCs were emitted in 2018 due to paint application from spray cans.

Records:
The Air Quality Data Sheets for the paint coatings, and the purge and clean-up solvent (Water Butyl Cell 90/20), Safety Data Sheets (SDS) parts washers, the paint and solvent monthly usage tracking for PTI 337-05 for the March 2017 to Feb. 2019, and the monthly usage tracking for Rule 287(2)(c) for December 3, 2018 to March 11, 2019 were obtained during the inspection. Some hard copies are attached and electronic files are located here: S:\Air Quality Division\@District Facilities\B8861\Records.

SC 1.7 of PTI 337-05 states that "Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data." On June 20, 2016, Terex requested approval to use manufacturer's formulation data, and included the "Environmental Data Sheet" for the Metal Primer, KF 500 dated June 6, 2016 and High Solids Acrylic Enamel, RAL 1013 (Topcoat White) dated May 24, 2016. Approval was granted on June 22, 2016 by the Lansing District Supervisor.

VOC Records for PTI 337-05:
A review of the VOC content in the paints shows that the highest VOC containing coating used was Oli Orange Paint (Kem® Acrylic HS 100 Enamel, RAL 2009, Product # F88KXE23258) with a VOC content of 3.37 lb/gallon (minus water). The paint coatings used by Terex appear to be in compliance with the VOC content limit of 3.5 lb/gallon (minus water) in SC 1.2 of PTI 337-05.

Terex records show that VOC emissions for the 12-month rolling period in February 2019 were 9.7 tons per year (tpy) which is below the 9.9 tpy VOC limit in PTI 337-05. VOC and HAP emission records include the usage of all paints at the facility (large and small booths, and spray paint cans). HAP emissions (all painting operations) for the 12-month rolling period in February 2019 were 3.6 tpy.

Exempt Small Booth Records:
For the small booth, the records for show that 233 gallons was sprayed in January 2019 and 255 gallons was sprayed in February 2019. By March 11th, 155 gallons of paint coating had been sprayed. Keeping coating usage below 200 gallons per month as required by exemption Rule 287(2)(c) is a struggle. It looks like operating the small booth as exempt per Rule 287(2)(c) no longer looks appropriate. I recommended that this process be permitted.

Summary:
The facility appeared to be in compliance with PTI 337-05. There is an issue with continuing to use exemption Rule 287(2)(c) for the small booth. I recommended that PTI 337-05 be modified to include the small booth, and that a facility-wide HAPs opt-out from the ROP Program is needed. Also, pending investigation of the size of spray paint cans, this coating process may also need to be added to the PTI modification application. The facility also needs to start reporting emissions to MAERS.

A pre-application meeting was held on March 28th with permitting staff. Chris is working on the PTI application.

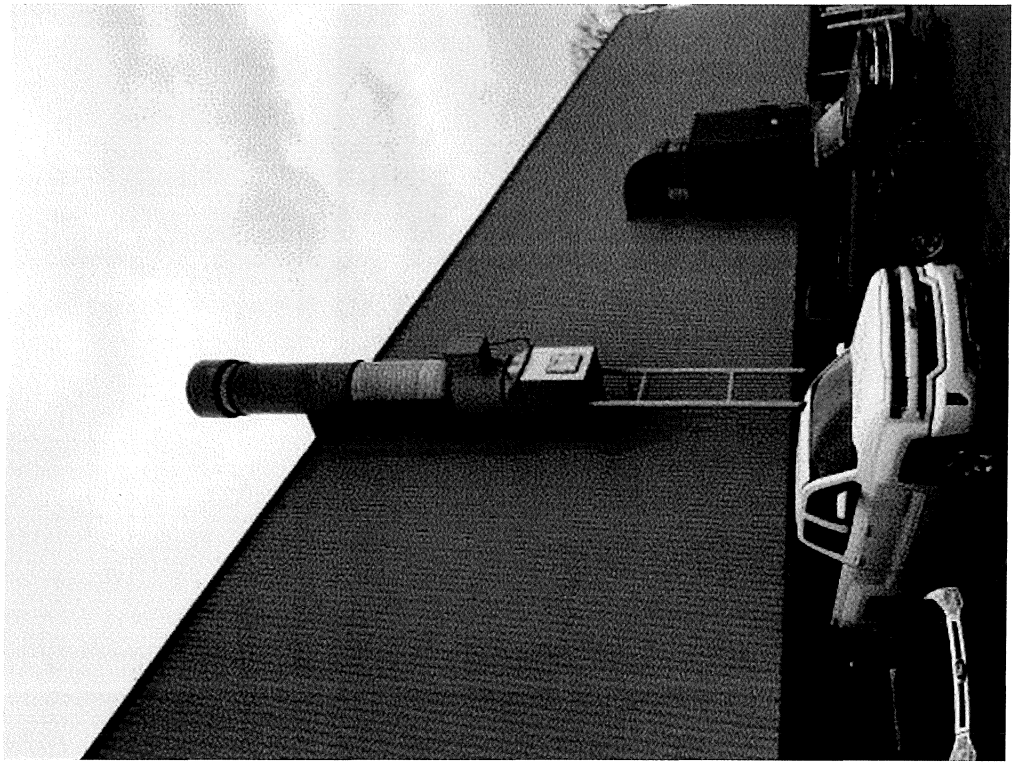

Image 1(1) : Large booth stack

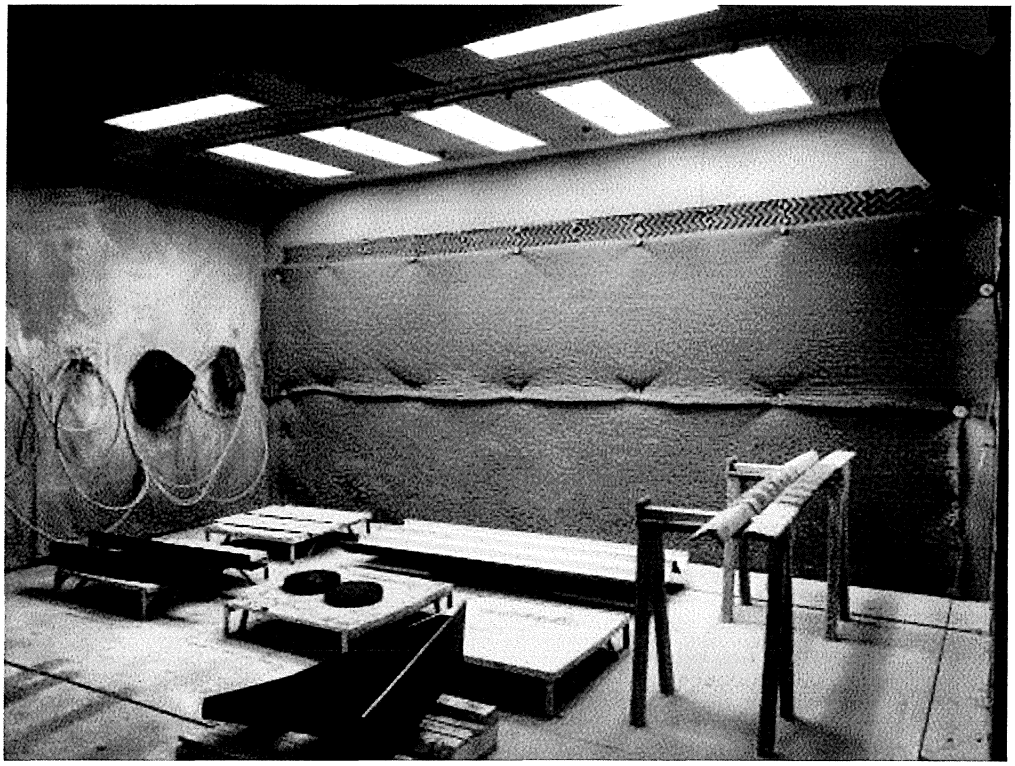

Image 2(3) : Small booth

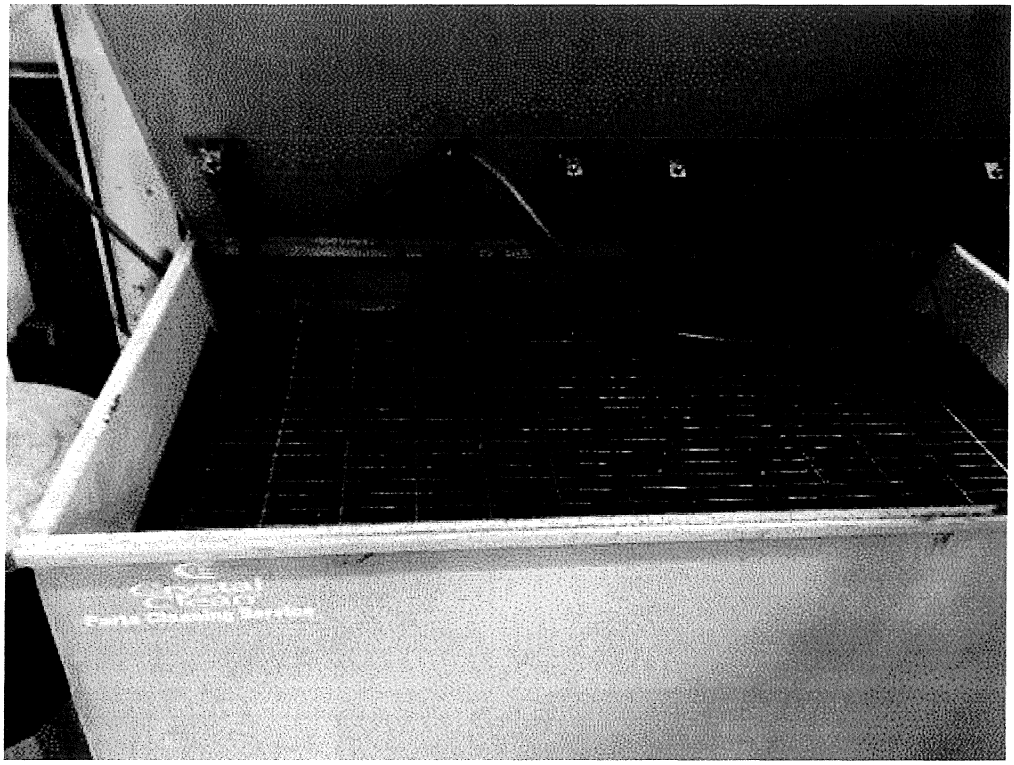

Image 3(6) : Parts washer

NAME Julie L. Brunner DATE 4/22/19 SUPERVISOR B. M.