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

P063435511

FACILITY: Worthen Coated Fabrics		**SRN / ID:** P0634
LOCATION: 1125 41st Street SE, GRAND RAPIDS		**DISTRICT:** Grand Rapids
CITY: GRAND RAPIDS		**COUNTY:** KENT
CONTACT: Jack Hoffman , General Manager		**ACTIVITY DATE:** 07/13/2016
STAFF: David Morgan	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

At 10:00 AM on July 13, 2016, Air Quality Division staff, Dave Morgan, conducted a scheduled inspection in conjunction with a Renewable Operating Permit pre-application meeting at Worthen Coated Fabrics located at 1125 41st Street in Grand Rapids. The purpose of the inspection portion was to determine the facility's compliance with Permit to Install No. 151-15 as well as state and federal air pollution regulations. At the inspection was Jack Hoffman, General Manager; Roy Davis, Quality and Environmental Coordinator; Andy Boddy, CFR Environmental and NateCottrell, CFR Environmental. A copy of the inspection brochure was provided.

FACILITY DESCRIPTION

Worthen Coated Fabrics is a fabric coating facility that contracts primarily as a clothing label fabric coater, but also coats fabrics for other uses. The facility consists of one coating line with two permanent total enclosed (PTE) coating booths with oven and a regenerative thermal oxidizer (RTO). The line can apply both solvent and water based coatings. The facility is considered a major source of hazardous air pollutant (HAP) emissions and will be submitting an application for an initial Renewable Operating Permit. The facility is also subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Printing, Coating, and Dyeing of Fabrics and Other Textiles found in 40 CFR Part 63, Subpart OOOO. PTI No. 151-15 was approved in September 2015.

COMPLIANCE EVALUATION

Rule 290:
The company conducts seam adhesive operations under Rule 290. The seam adhesive emission unit is used to apply a urethane based adhesive in small quantities to fabrics. This low volume application meets Rule 290.

EU-FabricCoating:
EU-FabricCoating, or the coating line, consists of knife coating of textiles with solvent-based and water-based coatings and sovent-based cleanup. In the process a web of fabric is fed through a knife coater where a layer of coating is applied to the substrate. The coated fabric is then fed through an oven for curing and then through another PTE booth where additional coating is applied. Volatile organic compound (VOC) emissions are controlled by the RTO only when solvent-based coatings are applied.

-Emission Limits-
According to company records VOC emissions from the process from January 2016 through July 2016 were 0.197 tons which is below the 26.6 ton per 12-month rolling limit in the permit. It is noted that ~~the~~ due to recordkeeping problems (discussed below) VOC emission calculations may not be accurate, however, it is likely that emissions are still well below permitted limits. Since the coating line began operation in January 2016, twelve months of emissions data is not available.

It is noted that solvent-based cleanup operations (consisting of a toluene/isopropanol blend [80/20 mixture]) occur both in the PTE booths as well as outside of the booths. VOC emission limits are to include clean-up solvent emissions although the permit does not specify how these should be calculated for controlled and uncontrolled emissions. The company will be required to ensure that both controlled and uncontrolled emissions from cleanup solvent is accurately accounted for in company recordkeeping.

-Material Limits-
The VOC content of water-based coatings is limited to 1.2 lb/gal (minus water) as applied on an instantaneous basis. Based on company records, the highest VOC content of any water-based coating applied since operation is 0.22 lb/gal

- Process/Operational Restrictions-
All waste coatings, cleanup solvents, and other materials appeared to be stored in closed containers to minimize

fugitive emissions.

A startup, shutdown, malfunction plan was provided by the company. The company needs to update the malfunction abatement plan to include the specific operating ranges for the monitored values (e.g. pressure drop across the booths, the LEL for the materials applied). In addition, the plan needs to identify personnel responsible for carrying out various aspects of the plan.

The coating booths are restricted to a continuous pressure differential between the PTE and the adjacent area of a minimum of 0.007 inches of water. A magnahelic gauge is used to monitor pressure in the booth. At the time of the inspection, the first booth had a pressure drop of 0.11" of H2O and the second booth had a pressure drop of 0.14" of H2O.

-Design/Equipment Parameters-
According to PTI No. 151-15, whenever solvent-based coating is being applied, EUFABRICCoating shall not be operated unless the RTO is installed and operating with a minimum destruction efficiency of 98% (to be tested), a minimum temperature of 1,525°F, and a minimum retention time of 0.5 seconds. In addition, the company is required to install, calibrate and maintain a temperature monitor in the combustion chamber of the RTO. At the time of the inspection, the RTO temperature was fluctuating above and below 1,525°F. As one chamber of the RTO would heat up above 1,525°F, the other chamber would cool below 1,525°F and therefore the average combustion temperature would fluctuate. It is noted that at the time, no solvent coatings were being applied only cleanup solvent. The company indicated that when solvent-based coatings are applied the amount of VOC fuel to the RTO increases the temperature significantly with the unit reaching the high temperature limit and that during clean-up the temperature can drop. The company will need to make adjustments to the temperature to ensure proper operation of the RTO. The company was advised that a steady temperature above 1,525°F would be needed when coatings were being applied.

The company is meeting the PTE and pressure monitoring requirements in this section of the permit.

-Testing-
The company is required to conduct Method 24 analysis of applied coatings. Attached to this report are Method 24 analysis for coatings used.

In addition, the company is required to conduct destruction efficiency testing of the RTO within 180 days after completion of trial operation. Because the company had some engineering problems when running solvent-based coatings, trial operations for solvent-based operations were not completed until July. Therefore performance testing will be conducted in October 2016.

-Monitoring/Recordkeeping-
The company is maintaining Safety Data Sheets for the coatings used at the facility. In addition, the company is maintaining monthly coating, cleanup solvent and emissions information. However, discrepancies were found between the company's Permit Management System, Safety Data Sheets, and Method 24 data. The company made additional efforts to correct data inconsistencies, however, further recordkeeping issues were identified. Because of the recordkeeping problems, a violation of PTI No. 151-15, EUFabricCoating, Special Condition No. V.2 will be cited.

As noted above, records for both controlled and uncontrolled emissions from the application of coatings as well as clean-up solvent should be accurately accounted for in company records. This includes applying an appropriate control factor where applicable.

As for records of the PTE pressure drop, the company has an electronic data monitor for the booth pressure but the value on the control panel represents a correlated value on the booth not the true pressure differential. The company can produce a record but does not provide meaningful data as to whether the PTE is in compliance. A violation of PTI No. 151-15, EUFabricCoating, Special Condition No. V.4 will be cited.

In addition, the company has records of RTO temperature however, software upgrades are necessary in order to extract records from
the data logger in a usable format. The company does not have the software capabilities at this time. A violation of PTI No. 151-15, EUFabricCoating, Special Condition No. V.5 will be cited.

-Reporting-
The company supplied a notice of operation in accordance with the permit.

-Stack Restrictions-
The RTO stack appears to meet the maximum diameter of 48 inches and the minimum height of 45 above ground.

FG-MACT-OOOO:
-Emission Limits-
The company is not maintaining individual HAP emission calculations demonstrating compliance with Subpart OOOO. Therefore a violation of PTI No. 151-15, FG-MACT-OOOO will be cited. Based on company VOC emission estimates (based on the available information) it is likely that HAP emissions would meet applicable limits. Once HAP records are obtained emission limit compliance will be determined.

The 98% control of HAP emissions will be determined after testing.

-Process/Operational Restrictions-
The company is implementing work practice standards to minimize HAP emissions during solvent, storage, spillage, transfer, mixing and cleaning. These are attached to this report.

The company is operating and monitoring the RTO in accordance with Subpart OOOO. RTO operating parameters will be established for the MACT during the performance test in October 2016.

The company has submitted a startup, shutdown malfunction plan in accordance with Subpart OOOO. This plan has a minimum amount of information to meet startup, shutdown, malfunction requirements

-Testing-
The company is not maintaining specific hazardous air pollutant (HAP) records including the mass fraction of organic HAP for each material used, the mass fraction of coating solids for each coating, and the organic HAP emission rate in kilogram per kilogram of solids applied.

Performance testing to satisfy Subpart OOOO will be conducted in October 2016.

-Records-
See above.

SUMMARY
Worthen Coated Fabrics will be sent a Violation Notice for violations identified above. Records obtained during and after the on-site inspection are attached.

NAME _____ DATE 8/18/16 SUPERVISOR _____