DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N305762019

FACILITY: STRUCTURAL CONCEPTS CORP		**SRN / ID:** N3057
LOCATION: 888 EAST PORTER RD, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Michael Wolffis , Safety Director		**ACTIVITY DATE:** 02/04/2022
STAFF: Scott Evans	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: An on-site inspection conducted to assess compliance with air permit and all other applicable air rules and regulations.		
RESOLVED COMPLAINTS:		

Introduction

On Friday, February 4, 2022, at approximately 9:00 AM, State of Michigan Department of Environment, Great Lakes, and Energy Air Quality Division (AQD) staff member Scott Evans (SE) conducted an unannounced on-site air quality inspection of the Structural Concepts facility buildings located at 888 East Porter Rd. and 5566 Grand Haven Rd. in Muskegon, Michigan, to assess compliance with air quality regulations. This facility is classified as a Synthetic Minor opt out facility and has one active permit to install (PTI), PTI No. 296-83C, which was approved in April 2019. The facility is a manufacturer of display cases used for various purposes such as food, floral, and other specialty products. This facility manufactures and assembles the cabinet units on site, however, any heating or cooling elements used in the cases are manufactured off-site and are only installed in the constructed cases on site. Construction of these cabinets includes cutting and forming of wood panels, metal cutting, forming, and welding, and installation of insulating foam. This compliance evaluation included visual inspections of metal forming warehouses, woodworking areas, spray application booths for adhesive application, and injection molding processes as well as a review of required records maintained by the facility.

Inspection

Upon arrival at the facility, SE observed no visible emissions or odors during a perimeter inspection of the facility. SE was then greeted by Safety Director Mike Wolffis (MW). After a brief discussion of the purpose of the visit, a walking inspection was conducted of the facility. Records were reviewed remotely at a later date.

PTI No. 296-83C

PTI No. 296-83C is the only currently active air quality permit for this facility. It includes two defined emission units: EUADHESIVE and EUSOLVENTWIPE.

EUADHESIVE

This emission unit consists of three adhesive spray booths used for application of adhesives to wood so that paneling can be adhered. Each booth is equipped with an exhaust filter to control particulate matter formed by the spray process. Appropriate filters could be observed for all spray booths during visual inspection. Additionally, each booth was equipped with a meter that would demonstrate when filters were too dirty for necessary airflow and in need of replacing.

This emission unit has one emission limit included within the PTI: Volatile Organic Compounds (VOCs) and Acetone are limited to combined emissions of no more than 22.8 tons-per-year (tpy) within each 12-month rolling time period. Compliance with this limit was assessed through a review of applicable records and is discussed in detail further below.

This emission unit has three process restrictions included within the PTI:

- The facility is required to capture and store waste materials in closed containers, which must be disposed of in an appropriate manner.
- Spent booth filters must be disposed of so as to minimize release of air contaminants.
- VOC and Hazardous Air Pollutant (HAP) containing materials must be stored and handled so as to minimize release air contaminants.

During the inspection the following could be observed to confirm compliance with these restrictions:

- Waste containers could be seen as properly lidded and disposal procedures were discussed. At the end of each day, waste material containers are collected and brought to waste removal areas for removal from the facility.
- Used filters could be seen being stored appropriately and disposal procedures were discussed. At the end of each day, waste material containers are collected and brought to waste removal areas for removal from the facility.
- Spray adhesive storage was observed and all materials were appropriately covered and contained within a separate storage area at the facility.

This emission unit has two design parameters included within the PTI:

- The unit may only operate if filters are installed appropriately.
- Spray booths must use HVLP applicators or comparable technology to meet transfer efficiency requirements.

During the inspection filters could be seen as properly installed and the applicators were of appropriate specifications to meet the requirements of the permit.

This emission unit is required to have determined VOC content, water content, and density of any used adhesives through Method 24 testing as of the approval of this PTI or else use manufacturer formulation data for each adhesive with the approval of the Grand Rapids District AQD supervisor. At the time of the inspection, the facility had not conducted Method 24 testing as of the PTI approval date nor had they received written approval for the use of manufacturer data. However, review of historic activity demonstrates that the facility is currently using manufacturing data which was approved in past versions of this PTI. With that in mind, no violation will be issued and, instead, the facility has submitted a formal request for approval to use manufacturer data for VOC content calculations so that a written record of approval for this current PTI version may be added to their record.

The following records are required by the permit to be maintained by the facility:

- Listing of specifications for each adhesive used.
- The following monthly records:
    - Gallons of adhesive used.
    - VOC content of each adhesive used.
    - Acetone content of each adhesive used.
    - Monthly VOC and acetone combined emissions.
    - 12-month rolling annual VOC and acetone combined emissions.

Records were requested for the time period of January 2021 through December 2021 and reviewed remotely at a later date. The following observations were made during this review of the records:

- Records were provided of all adhesives used. A copy of the records will be attached to this report.
- Regarding monthly records:
  - Highest month of Adhesive use was July, 2021 with 495 Gallons used.
  - VOC and Acetone content of each adhesive was provided.
  - Highest monthly VOC emissions were in July, 2021 with 1.34 tons emitted.
  - Highest 12-month annual period was from September 2020 through August 2021 with 8.05 tpy emitted.

These records demonstrate compliance with the associated emission limit of 22.8 tpy of VOCs and Acetone as well as demonstrating compliance with all other applicable requirements.

There are three stacks associated with this emission unit: one for each booth. The stacks were not measured, but visual inspection appeared to confirm that they met permitted requirements.

EUSOLVENTWIPE

This emission unit includes all solvent hand wiping operations.

This emission unit has one emission limit included in the PTI: Combined VOC and acetone emissions shall not exceed 9.0tpy within each 12-month rolling period. A review of records was conducted and a detailed discussion of this can be found below.

This emission unit has three process restrictions included within the PTI:

- The facility is required to capture and store waste materials in closed containers, which must be disposed of in an appropriate manner.
- VOC and Hazardous Air Pollutant (HAP) containing materials must be stored and handled so as to minimize release air contaminants.

During the inspection the following could be observed to confirm compliance with these restrictions:

- Waste containers could be seen as properly lidded and disposal procedures were discussed. At the end of each day, waste material containers are collected and brought to waste removal areas for removal from the facility.
- Solvent storage was observed and all materials were appropriately covered and contained in a separate location within the work area.

For this emission unit, the following records are required to be maintained:

- Listing of specifications for each solvent used.
- The following monthly records:
  - Gallons of solvent used.
  - VOC content of each adhesive used.
  - Acetone content of each adhesive used.
  - Monthly VOC and acetone combined emissions.
  - 12-month rolling annual VOC and acetone combined emissions.

Records were requested for the calendar year of 2021 and reviewed remotely at a later date. The following observations were made during this review of the records.

- All used solvents and associated specifications were provided.
- Regarding monthly records:
  - Highest month of Adhesive use was December 2021 with 202 Gallons of solvent used.
  - VOC and Acetone content of each adhesive was provided.
  - Highest monthly VOC emissions were in December 2021 with 0.63 tons emitted.
  - Highest 12-month annual period was from February 2020 through January 2021 with 1.2 tpy emitted.

These records demonstrate compliance with associated emission limit of 9.0 tpy of VOCs as well as demonstrating compliance with all other applicable requirements.

FGFACILITY

This PTI includes facility-wide requirements that are applied to this flexible group which includes all process equipment.

This flexible group has two emission limits included in the PTI:

- Individual HAP emissions shall not exceed 9.0tpy for each 12-month rolling annual period.
- Aggregated HAP emissions shall not exceed 22.5tpy for each 12-month rolling annual period.

Records were obtained for this flexible group to review compliance with these limits. Further discussion of these records can be found further below.

The facility is required to use manufacturer formulation data to determine the HAP content of any material used. The facility is currently utilizing this methodology. Though the PTI states that the AQD may require testing to confirm the accuracy of this formulation data, at this time it is not felt that testing is necessary.

The facility is required to keep the following records for this flexible group:

- Gallons or pounds of each HAP containing material used.
- HAP content of each HAP containing material used.
- Monthly individual and aggregated HAP emissions.
- 12-month rolling annual and aggregated HAP emissions.

Records were provided for the calendar year of 2021 and reviewed remotely at a later date. While the facility maintains documentation and the ability to track use of HAPs, in 2021 there was no use of HAP-containing materials at the facility. The reason for this was a change in manufacturing process.

Historically, the facility would build product ahead of time, sometimes requiring re-working of these products upon purchase by a customer. The facility no-longer pre-builds product, which has eliminated the need for use of HAP-containing solvents. In conjunction with replacing the materials that are used facility wide with alternatives that do not contain HAPs, this process adjustment has eliminated the use of HAP-emitting materials.

Historical records were still available for review upon request and the recording system is maintained for use in the future if these materials are returned to use in the future.

MAERS

The facility submitted required MAERS reporting data for the calendar year of 2020 on March 9, 2021. The report showed no deviations and demonstrated compliance with all reporting requirements. A copy of the reported data will be included with this report.

Exemptions

This facility includes many pieces of equipment that are used for cutting and shaping of wood used for the manufacturing of the display cases. Much of this equipment is vented through a baghouse to control particulate matter. This baghouse and associated equipment all appear to be exempt from air permitting requirements by Rule 285(2)(l)(vi)(C).

This facility includes equipment used for the cutting, shaping, and welding of metal panels used in manufacturing of the display cases. Much of this equipment is vented to internal dust collectors. The dust collectors appear to be exempt from permitting requirements by Rule 285(2)(l)(vi)(B) while the welding operations appear to be exempt from permitting requirements by Rule 285(2)(i).

Part of the manufacturing process includes injection of a plastic foam in between layered cabinet walls to serve as insulation for refrigeration units. This plastic is injected via a type of reaction injection molding, which is exempt from air permitting requirements by Rule 286(2)(e).

The facility has added a new adhesive applicator line that utilizes rollers to apply a water-based adhesive as an alternative to the use of spray applicators in appropriate situations. This machine is used minimally and, when in use, less than 2 gallons of adhesive are used per day. The machine vents to the interior facility environment. This equipment appears to be exempt from permitting requirements by Rule 287(2)(a).

The facility has no on-site boilers or emergency generators.

CONCLUSION

At the conclusion of the inspection, one issue was identified regarding testing requirements for EUADHESIVE. However, as discussed above, no violation will be issued at this time. The facility appears to be compliant with all other applicable air quality regulations.

NAME Scott Evans DATE 03/02/2022 SUPERVISOR HH