

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

B718659921

FACILITY: Haworth Inc		SRN / ID: B7186
LOCATION: One Haworth Center, HOLLAND		DISTRICT: Kalamazoo
CITY: HOLLAND		COUNTY: ALLEGAN
CONTACT: James Kozminski , Sr. Project Engineer - Environmental		ACTIVITY DATE: 06/02/2021
STAFF: Cody Yazzie	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Onsite Inspection		
RESOLVED COMPLAINTS:		

On June 2, 2021 Air Quality Division (AQD) staff (Cody Yazzie) arrived at One Haworth Center, Holland Michigan at 1:00 PM to conduct an unannounced air quality inspection of Haworth, Inc. (hereafter Haworth). Staff made initial contact with the office security guard and stated the purpose of the visit. Jim Kozminski, Haworth, Senior Project Engineer-Environmental, is the environmental contact and arrived shortly thereafter and took staff to his office for further discussions.

The Facility has three plants under one roof: steel, panels, and laminated products. In the steel plant, volatile organic compounds (VOC) containing coatings are applied by electrostatic spray guns in a series of booths and in E-coat tanks. The panels plant houses the partition making process. There are also powder coating operations in the panels plant. In the laminated products plant, there are many woodworking operations with particulate emission controls. Various other small operations using adhesives or other coatings are located throughout the plant. They have added a wood stain and topcoat line using low VOC materials.

Some of their operations are subject to federal regulations including the federal National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63 Subpart JJ (Wood Furniture Coating), Subpart RRRR (Metal Furniture Coating), and Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines) and New Source Performance Standards (NSPS), 40 CFR Part 60 Subpart EE (Surface Coating of Metal Furniture).

The facility had previously discussed that they would be looking to apply for an Opt-Out permit to get out of the Title V program. The facility mentioned during the inspection that it was still their plan to apply for the permit but was unsure of a date. Staff mentioned to Mr. Kozminski that the facility would still be expected to have a completed ROP application by October 26, 2022 if the Opt-Out permit was not obtained before that date.

Haworth was last inspected by the AQD on August 14, 2019 and appeared to be in Non-compliance at that time with MI-ROP-B7186-2018 Staff asked, and Mr. Kozminski stated that the facility does have emergency generators, boilers, and cold cleaners.

Mr. Kozminski gave staff a tour of the facility. Required personal protective equipment are safety glasses and steel toe boots. Staff observations and review of records provided during and following the inspection are summarized below:

EU-MANUAL-ADESLN:

This emission unit are manual spray applications of adhesives and prints for curved panel, specials, paint repair, and laminates. Mr. Kozminski stated that the booths were operated in the

same manner as the previous inspection. It was noted that the facility is still using the same HB Fuller SC 1931 adhesive. The adhesive that was being used during the inspection was HB Fuller SC 1931. During the inspection it was noted that fabric filters that were installed in the booths looked to be new and in good condition. The VOC content of this adhesive is 3.82 lbs./gallons.

This emission unit requires that Haworth show compliance with two emission limits. Special Condition 1.1 is an hourly emission limit for VOC's. Special Condition 1.2 is an annual 12-month rolling VOC emission limit. These limits are 28.21 lbs./hour and 30.66 TPY respectively.

The facility was keeping the appropriate records to calculate and record an average hourly emission rate for each month. Records spanning from January 2020 through April 2021 were reviewed during the inspection. The monthly average hourly emission rate ranged from 0.69 to 1.49 lbs./hour of VOC for this time period. The 1.49 lbs./hour of VOC occurred in July of 2020. This is well below the permitted limit.

Haworth was keeping the monthly VOC emissions records that are used to calculate and record a 12-month rolling VOC emissions for each month. The facility appeared to be correctly calculating the 12-month rolling. Records spanning from January 2020 through April 2021 were reviewed during the inspection. The 12-month rolling emission rate ranged from 0.57 to 1.33 TPY of VOC for this time period. The 1.33 TPY of VOC occurred in January of 2020. This is well below the permitted limit. The VOC 12 month rolling emissions have been decreasing since January 2020.

EU-SANDSTRIPPER:

This emission unit has been removed from the facility. It was noted that Haworth had this unit removed and sold in the third quarter of 2020. Due to this emission unit being removed no records were reviewed for this emission unit. This emission unit could be removed from the ROP or if a PTI modification is applied for.

EU-COMPACTFANS:

This emission unit are four trash compactors each with a fan located in the wood plant and recycling area. Each compactor has its own stack. Three of the four compactors are located in the Panels Plant. Each of the three compactors at this location are used for a specific material. The materials that are processed through the three compactors are mineral board, waste to energy materials (non-recyclables), and co-gen materials (particle board, wood, and cardboard). During the inspection Staff observed the compactors at the Panels Plant location. Staff did visit this location but did not observe any visible emissions during the inspection.

FG-RULE290:

Haworth has five different Rule 290 groups listed in as emission units in the ROP emission unit summary table. A description of the emission unit and a review of the recordkeeping is described below.

EUWBADHESIVES: This is a miscellaneous water based adhesive line. The facility only uses two adhesives for this 1070-2301 Franklin MX 90 and 2240-1038 Franklin 65. The facility is currently using 0.09% wt. VOC value to calculate emissions for the Franklin MX 90 adhesive. The facility appear to be using correct VOC emission factors. Emissions from this emission unit are very small

around 30 lbs per month. The facility also appears to be categorizing the emissions appropriately for screening levels as such related to Rule 290.

EU-FOAM: This emission unit has been removed from the facility. Staff was informed that the facility removed this emission unit in quarter 2 of 2020. No records were reviewed for this emission unit due to it being removed.

EU-MISCSOLVENT: A room storing a couple of solvent barrels is located in this area. This solvent is dispersed throughout the facility and is used for manual equipment cleanup. Haworth provided the SDS for Spirt 106. This SDS showed that there are two chemicals that make up this compound. Haworth identifies them petrol distillates which is given the CAS number 64742-47-8 and limonene which is given the CAS number 5989-27-5 from the SDS. Staff checked the screening levels for each of these chemicals and recorded that each had an ITSL well over 2.0 micrograms per meter cubed. For the reviewed SDS the facility appears to be categorizing chemicals correctly according to Rule 290. The emissions for this emission unit are well below the 1,000 lbs per month around 250 lbs. The highest emissions appeared to occur in March 2021 when the facility reported 320 lbs.

EU-WBFINISH: This is a fully automated coating system used for applying water-based stains and coatings. The process includes a stain application line, two automated top coating booths, and a cure oven. Staff requested that the SDS for the four most used coatings to review if Haworth was categorizing the contaminants into the proper ITSL and IRSL categories. From the four selected SDS's Haworth did appear to be categorizing each contaminant correctly. Haworth has identified Butoxy propanol and propylene glycol as compounds that have an ITSL greater than 2.0 micrograms per meter cubed. When staff checked these chemicals, the compounds appeared to be classified correctly. The facility calculates and categorizes emissions for VOC's, Butoxy propanol, Propylene glycol, and acetone. These emissions are very low January 2020 had the highest emissions in which all combined for 120.7 lbs.

EU-ECOAT: The E-coat tank is self-contained in an enclosure and cannot be entered unless the line is shutdown. The E-coating consists of a Resin, Pigment, Solvent, and lots of water. These items are added as needed to maintain a proper mix in the dip tank. The parts being coated exit a pre-wash system and then travel the length of the dip tank and then go through a cure oven. The coating in the dip tank gets applied to the parts through electro-static means which is why it would need to be shut down prior to entering the enclosure. Haworth provide Staff with SDS for WECC015 Resin, Acetic Acid Glacial additive, and WEAC089 Paste. When staff checked these chemicals, the compounds appeared to be classified correctly. The facility calculates and categorizes emissions for VOC's, Acetic Acid, MIBK, and Glycol Ether. These all have ITSL that are above 2.0 micrograms per meter cubed. The largest emissions that were calculated were recorded in January 2020, which the facility used 390.16 lbs.

FG-WOOD:

This flexible group includes all the various woodworking operations found throughout the facility. These woodworking operations are controlled by eight different baghouses. The facility is required to complete weekly 6-minute visible emissions observations. Haworth provided Baghouse emission observations logs that document if emissions were observed, date, time, and the hours of operation per week.

The facility ROP certification it was reported two different occurrences where the facility was documenting the weekly inspection log entries for the Panels Plant dust collector. The deviation occurred for 5 weeks. It was indicated that the reason for the deviation was for due to the operator not following documented work instructions. The facility indicated that there have been communications with the engineer, production supervisor, and manufacturing manager about the occurrence which resulted in corrective action in the company database. The deviation appears to be resolved with the issue of the ROP certification. The facility had continued VE observations as required since.

The facility calculates the PM emissions from each dust collector based on volume of air flow per minute, the weight of air per cubic foot (0.072 lbs. air/CF), and an emission factor of 0.0005 lbs. PM emitted/1000 lbs. of air. All dust collectors are operated 8760 hours per year. This calculates PM emissions to be 3.30 TPY. This is below the permitted limit of 25.0 TPY.

FG-METALNESHAP:

This flexible group contains all the metal coating operations located facility-wide that are subject to 40 CFR Part 63, Subpart RRRR NESHAP for Metal Furniture Coating. Specific emission units that are identified in the ROP as being a part of this flexible group include EU-POWDERCOAT, EU-FOAM, and EU-ECOAT. As noted, earlier EU-FOAM has been removed from the facility and would no longer have emissions contribute to towards this flexible group. This NESHAP requires that the facility complies with an Organic HAP emission limit of 0.83 pounds per gallon of applied coating solids. During 2020 the largest emission rate of pounds HAPs per gallon of coating solids that was emitted occurred in March 2020. This emission rate was 0.116 lbs HAP per gallon solids which is well below the 0.83 limit.

The facility appears to be meeting the appropriate monitoring and recordkeeping requirements by calculating the solid and HAP content of each coating that is used for these emission units. In addition to the appropriate recordkeeping the facility appears to be submitting the necessary Semi-Annual and Annual Reports.

FG-NSPSEE:

This flexible group contains all the operations that apply coating to metal furniture located facility-wide that are subject to 40 CFR Part 60, Subpart EE NSPS for Surface Coating of Metal Furniture. Specific emissions units that are a part of this flexible group include EU-EUCOAT. This regulation requires that VOC emissions be limited to 0.9 kg per liter (7.5 pounds per gallon) of solids as applied. It was reported that the VOC emission rate for 2020 was less than 0.75 lbs VOC per gallon of applied solids. This is well below the limit.

Haworth appears to be meeting the appropriate monitoring and recordkeeping requirements along with submitting the necessary Semi-Annual and Annual Reports for this regulation.

FG-MACTZZZZ:

Haworth has six existing and new natural gas-fired emergency generators that range in horse power from 40-771 HP. These emergency generators are subject to Part 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). This regulation requires that every 500 hours of operation the oil be

changed, and the hoses and belts be inspected. It also requires that every 1000 hours the of operation the air cleaner be inspected and replaced as necessary. Haworth is contracting out the preventative maintenance on these engines to Cummins. It was noted in the previous inspection that Haworth's current contract goes from April 1, 2019 until March 31, 2024. Haworth was able to provide invoices that appear to meet the required preventative maintenance task. Each engine is also equipped with a non-resettable hour meter.

FG-MACTDDDDDD:

Haworth has 11 natural gas-fired boilers/process heaters that range in heat input capacity from 0.1 – 4.5 MMBTU/hr. These boilers and process heaters are subject to 40 CFR Part 63 Subpart DDDDD National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. As a part of this regulation the facility is required to all boilers or process heaters that are less than 5 MMBTU/hour to complete a tune-up every 5 years. Haworth provided records that the tune-up was last conducted on October 11, 2017. The tune-up appears to meet the necessary inspection requirements. From these records the facility would have until October 11, 2022 to complete the next boiler tune-up.

FG-COLDCLEANERS:

Staff observed one parts washer during the inspection. The parts washer was filled with Crystal Clean 142 Mineral Spirits. Staff requested a list of all 8 cold cleaners with a picture of the instructions posted on the outside of the container. Mr. Kozminski was able to provide these photos in which the cold cleaners could be seen with the lids closed and instructions posted as required by the part 7 rules.

EU-POWDERCOAT:

Is a powder coating system operation that includes a wash, followed by a dryer, then the powder coat, and finally ending at the cure oven. The powder coating systems are controlled by cartridge filters and vented indoors. This operation appears to be exempt from permitting via Rule 287(2) (d). This coating operation is still subject to 40 CFR Part 63, Subpart RRRR NESHAP for Metal Furniture Coating.

FG-WOODNESHAP:

This flexible group contains all the wood furniture coating operations located facility-wide that are subject to 40 CFR Part 63, Subpart JJ NESHAP for Wood Furniture Coating. Specific emissions units that are a part of this flexible group include EU-WBFINISH. This regulation has various instantaneous Volatile HAP limits for the following finishing materials: stains, wash coats, sealers, topcoats, basecoats, enamels, and thinners. The facility has reported that there are no HAPs in the coatings used in EU-WBFINISH.

This regulation also requires that all emission units shall comply with the Work Practice Standards noted in 40 CFR 63.803. In the previous inspection report it was noted that the facility does have a work practice plan for the Wood Furniture Finishing. It was also noted that the work practice plan appears to meet all the requirements of Special Condition VI.3. Since the last inspection there appears to be

Haworth appears to be meeting the appropriate monitoring and recordkeeping requirements along with submitting the necessary Semi-Annual and Annual Reports for this regulation.

Non-Production Coating Line:

This is a paint booth that is used for on-site nonproduction coating. The facility is utilizing exemption Rule 287(2)(c) for this emission unit. During the inspection the fabric filters appeared to be in okay condition with a little build up. The facility is tracking the coating usage that goes through the booth. From January 2020 through May 2021 the largest coating usage that was recorded was 3.5 gallons. This is well below the 200 gallon per month limit.

Welding Stations:

The facility has several welding stations that are located throughout the facility. There are manual welding stations and machine welding stations. A few of the welding stations are equipped with a filtration system and release the emission back into the facility. These welding stations appear to meet the requirements of Rule 285(2)(i).

Electric Wood Grinding:

This emission unit that is an electric grinder that is fully enclosed that is used to grind scrap wood. This enclosed grinder has a venting system that directly transports the ground scrap wood from the grinder to a storage trailer. This emission unit was installed recently in 2020.

The facility uses a 0.024 lbs. PM/ton wood processed. These emission factors have been noted AP-42 Table 10.3-1 for wood product Industries. Several other state Air Quality agencies have used similar emission factors for grinding operations. The 0.024 emission factor is the worst out of the ones provided. Calculated the maximum current daily wood waste for the facility and applied a safety increase of 25%. The facility calculated the worst-case maximum of waste wood processed by the grinder to be 62.5 tons/day. Using these the facility calculated 0.274 TPY PM emissions. These emissions are assuming the grinding operation was not enclosed. Based on the calculation and emission factors provided the facility does appear to meet the requirements of Rule 291.

At the time of the inspection and based on a review of records obtained during or following the inspection, the facility appears to be in compliance with MI-ROP-B7186-2018. Staff stated to Mr. Kozminski that a report of the inspection would be sent to the facility for their records. Staff concluded the inspection at 3:30 PM.-CJY

NAME

Cody Young

DATE

9/20/21

SUPERVISOR

RIL 9/22/21