

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

N343042513

FACILITY: Applied Textiles		SRN / ID: N3430
LOCATION: 555 76th St, BYRON CENTER		DISTRICT: Grand Rapids
CITY: BYRON CENTER		COUNTY: KENT
CONTACT: Randy Mencarelli , Facilities Engineer		ACTIVITY DATE: 10/26/2017
STAFF: Tyler Salamasick	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: FY 2018 minor source inspection.		
RESOLVED COMPLAINTS:		

Background

Applied Textiles SRN: N3430 is a textile coating facility that specializes in flame resistant, antimicrobial, water resistant and stain resistant fabrics. The production facility is located at 555 76th Street, Byron Center Michigan. Applied Textiles is located in a primarily commercial area with the nearest residential structure approximately 1,700 feet north of the facility. The facility was inspected on 10/26/2017 by Joy Taylor Morgan, Environmental Quality Specialist and Tyler Salamasick (myself), Environmental Quality Analyst of the Michigan Department of Environmental Quality, Air Quality Division (MDEQ AQD). The intent of the inspection was to determine the facility's compliance with the Federal Clean Air Act; Part 55 Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended; and Michigan's Air Pollution Control Rules. Applied Textiles is a minor source of hazardous air pollutants (HAPs) and volatile organic compounds (VOCs). The facility's main emissions are from the two dip coating lines with associated natural gas drying ovens. The coating lines are different in design from metal dip coating lines. The dip coating lines at Applied Textiles convey the fabric in long strips through the coating material and the excess liquid is rolled off. Once the coating is applied the fabric passes through a relatively low temperature drying oven and the coating is set into the fabric.

Inspection

Site arrival was at 9:20 am on 10/26/17. We met with CFO, Kim Falconer. I presented my State of Michigan identification card, informed the facility representative of the intent of our inspection and we were permitted onto the site. Kim informed us that normally we would meet with Randy Mencarelli but he was out of the office. Kim showed us the facility and described the processes.

Applied Textiles processes fabrics for their customers. The customer selects a fabric, ships it to Applied Textiles, and Applied Textiles warehouses it. When ready, the fabric is processed and various treatments are applied. The fabric can be coated, laminated, softened or have a backing added. Applied Textiles also cuts fabric and fiberglass to size. Applied Textiles has various coatings including water repellants, antimicrobials, fire retardants, and abrasion resistance. The laminate and backing materials include various plastics that add structural components as well as various other properties. Applied Textiles has two main coating lines that were previously permitted, but now operate under a permit exemption. The coating line permit exemption will be discussed later in the report, but is also referred to by former AQD staff member Cal Peters in activity report N343010173 from 03/11/2010. Kim informed me that there had not been significant changes since the last inspection.

Processes

Warehousing

Applied Textiles has a shipping and receiving area that process the fabrics. The fabric is labeled with an identification tag and stored for later use. The storage area takes up a large portion of the northern half of the facility. No processes in this area appeared to have the potential to generated significant air

emissions.

Batching

When a fabric treatment is being run, staff sew long sections of various cloth together that require the same treatment. The facility has four main sewing/batching areas. The sewing process does not appear to generate any significant air emissions.

Valspar Line

Applied Textiles has a minor coating line specifically designated to apply one coating. This coating is referred to as Valspar. The material passes through a small tank full of warm yellow liquid. The excess liquid is squeezed off and the coating cools onto the material. I observed some condensed vapors coming off of the material as it cooled. I did not observe any odors. Kim later provided me with a safety data sheet (Yellow PROTOPET 2A Petrolatum) that indicated the material consisted of 100% petroleum jelly. After the material is cool it is cut into thinner strips. This process did not appear to generate a significant amount of air emissions.

Coating Line 1 and Coating Line 2

Applied Textiles's primary emission units are Line 1 and Line 2. Batched rolls of fabric are loaded at the beginning of the line in a staging area. The fabric is fed off of the roll into the dip tank at the front of the line. The dip tank can be filled with various chemicals, depending on the specified treatment. Kim provided me with copies of the SDSs pertaining to some of their main treatments. After the coating soaks into the fabric, a rolling bar squeezes the excess liquid out of the fabric. The lines are nearly identical except that Line 1 has an additional IR (infrared) heater after the bar but prior to the drying oven. The IR heat is used to melt and adhere a powdered polyester coating to the fabric. This is not always used while Line 1 is running. At no point is a coating, or powder sprayed onto the fabric. The fabric continues conveying down the line into the drying oven. The oven temperature varies between 220F and 370F. This drives off moisture and VOCs while it sets the coating into the fabric. Both lines are used to apply flame retardant, water resistant, antimicrobial, and stain resistant chemicals. With the IR heat, Line 1 is capable of adding the backing material (polyester). Kim informed me that she believed the drying ovens are natural gas fired and this appears to be correct based upon my observations. Prior to entering the facility, I made stack observations and did not observe opacity. The facility was running the Nanotex at the time of my inspection. Kim informed me that they will be switching from Nanotex to Alta at the end of December 2017 as they phase out Nanotex. After my inspection, I requested the drying oven size from Randy Johnson. He informed me that they were equipped with 800,000 BTU/hour per burner. Line one has six burners and line two has eight. The oven sizes equate to 4.8 MMBTU and 6.4 MMBTU. ERM consultants previously determined that the process was exempt from Rule 201. The facility maintains records of the coating usage pursuant to Rule 290. During my initial review of the records it appeared that Applied Textiles exceeded the limit of Rule 290 and was in violation of Rule 201. I discussed the records with Randy and Matt Kwiatkowski from ERM. They indicated that they had been using purchase records to calculate the usage, but had not included the sale of some of the materials in their calculations. Matt corrected the discrepancy in the records, included the materials sold and corrected the percentage each line was run. He also indicated that the facility had not exceeded the Rule 290 limits. The records appear to be correct and the facility appears to comply with the Rule 290 exemption.

The provided Nanotex SDS (NT-AP690) indicated that the coating contained a perfluoroalkyl acrylic polymer emulsion. The SDS indicated that the material was made of between 1-6% by weight dipropylene glycol CAS 25265-71-8 and 0.5- 1.5% fatty alcohol polyglycol either CAS- proprietary.

The SDS does not indicate what the other 92.5-98.5% of the material is. I requested that Kim have the supplier provide me with a copy of the manufacturer's formulation data sheet. Kim has not responded to my request for additional information. If the manufacturer's formulation data sheet indicates potential air contaminants that were not included in the Rule 290 exemption demonstration (see discussion below) then the demonstration might not be valid, and could be a violation of Rule 201.

Per exemption (July 2014)

Rule 290 Exemption demonstration R 336.1290(1)(a)(i)

Applied Textiles uses multiple spreadsheets to demonstrate compliance for each of the coating lines. Rule 290 limits each line's emissions to 1000 lb limit of noncarcinogenic VOCs and noncarcinogenic materials per month. March of 2017 had the highest emission at 1320 lbs total between both coating lines. After our conversation Matt from ERM delineated the line usage to 44% and 56%. This equates to a total of 739.2lbs of emissions. This is below the 1000 lb limit set by Rule 290 and appears to comply with the exemption.

Rule 290 Exemption demonstration R 336.1290(1)(a)(ii)(A)

In order to demonstrate compliance with the 1000 lbs uncontrolled monthly emission of air toxics, as described in R 336.1290(1)(a)(ii)(A) Applied Textiles lists the monthly emissions of each air contaminant as well as its ITSL/IRSL. In 2017 the highest aggregate emission of air contaminants between these two ranges was from Unit 2 in August. During that month the facility reports to have emitted 358.81 lb. This is below the 1000 lb limit set by R 336.1290(1)(a)(ii)(A).

Rule 290 Exemption demonstration R 336.1290(1)(a)(ii)(C)

Applied Textiles demonstrates compliance with R 336.1290(1)(a)(ii)(C) in the same spreadsheet as described above. The highest emission of an air contaminant with an IRSL value greater than 0.04 that occurred in 2017 was during the month of March. Applied Textiles reports emitting 2.75 lbs from unit 2 during that month. This is below the 20 lb threshold set by the exemption.

Lamination

Some of the fabric may require additional or separate laminate added. The facility has one laminator that is used to apply a thicker piece of DBK plastic, IM8 or polyester fabric. These materials are attached by a heated PE 85 web glue. These backings are primarily used as structural support of the original fabric. This process appears to be exempt from Rule 201 per Rule 287(2)(i) which in part states "Rule 287. (1) This rule does not apply if prohibited by R 336.1278 and unless the requirements of R 336.1278a have been met. ... (2)(i) Equipment that is used for the application of a hot melt adhesive."

Unbatching

After the fabric is treated, it is sent to one of the five unbatching areas. The areas are used to remove the batching stitching. The treated fabric is either rolled up and sent to the customer, or it can be cut into a pattern. Applied Textiles has one cutting area. This process is not vented to the outdoor air. The cutting process appears to meet permit exemption Rule 285(2)(l)(vi)(B) which in part states..."(vi) Equipment for carving, cutting, ... fiberglass, or fabric which meets any of the following... (B) Equipment that has emissions that are released only into the general in-plant environment." In addition to the fabric cutting station Applied Textiles also has a fiberglass cutting station, which also appears to meet the exemption from Rule 201.

After seeing the processes, we conducted a closing meeting with Kim. We reviewed some of the SDSs on site. Kim indicated that she did not have a complete understanding of what records were required to

demonstrate that the facility's processes were exempt from Rule 201. She indicated that the Facilities Engineer, Randy Mencarelli would provide me with documentation upon his return. As discussed above, Randy and the consultant provided me with the Rule 290 emission records.

Conclusion

It appears that Applied Textiles is in compliance with the Federal Clean Air Act; Part 55 Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended; and Michigan's Air Pollution Control Rules. Applied Textiles is not a major source and does not appear to be subject to 40 CFR Part 63 Subpart OOOO- NESHAP for Printing, Coating, and Dyeing of Fabrics and other Textiles. Kim Falconer did not provide the MDEQ AQD with the requested formulation data sheet for Nanotex as requested. The MDEQ was informed that Nanotex will not be used at Applied Textiles after the end of 2017 and the facility will be switching to an alternative coating. The facility should update their emissions records to reflect the coating changes once the switch takes place.

NAME _____

DATE

1/31/18

SUPERVISOR _____