

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

P075867010

FACILITY: UNIFIRST CORPORATION		SRN / ID: P0758
LOCATION: 1300 AUBURN RD, PONTIAC		DISTRICT: Warren
CITY: PONTIAC		COUNTY: OAKLAND
CONTACT: Mike Maples , Maintenance Supervisor		ACTIVITY DATE: 02/13/2023
STAFF: Noshin Khan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: scheduled on-site inspection		
RESOLVED COMPLAINTS:		

On Monday, February 13, 2023, I, Noshin Khan, Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) staff, performed a scheduled, on-site inspection of UniFirst Corporation located at 1300 Auburn Road, Pontiac, Michigan 48342 (SRN: P0758). I was joined by Kerry Kelly, EGLE-AQD. The purpose of the inspection was to determine the facility's compliance status with the requirements of the federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 Public Act 451, as amended (Act 451); the AQD administrative rules, and the conditions of Permit to Install (PTI) Number 166-16B.

Kerry and I arrived at the facility at 10AM and met with Mike Maples, Maintenance Supervisor, and Damian Williams, Production Manager, to discuss the facility's operations. UniFirst is an industrial laundering facility that has been operating since 2001. Uniforms, mats, mops, shop towels, and aprons are laundered. According to Mike, the facility has 84 employees and operates Monday through Friday; washers and dryers operate between 5AM and 3PM, after which sorting processes continue. Mike said that washers run almost continuously while dryers run at different times depending on the types and amount of soiled materials being laundered. This is because mats, which Mike said compose approximately 48% of materials laundered, are not put into dryers. Soiled materials are tracked by category and weight, and some categories like shop towels have a maximum amount per day that are laundered—for example, no more than 5 loads of shop towels (equivalent to about 1000 lbs) are laundered per day.

Mike confirmed that the facility operates the following equipment listed in PTI 166-16B: 10 industrial washers, 5 natural gas-fired industrial dryers, 1 natural gas-fired steam tunnel, 1 on-site wastewater treatment system, and 1 natural gas-fired process boiler. One washer (EUW03 in the permit) has been out of service since around November 2022, according to Mike, but will be replaced with a washer of equivalent capacity. The process boiler provides steam for the steam tunnel and heated water for the washers.

After discussing the facility's operations, Mike and Damian led us on a walkthrough of the site. We began at the soil dock, where soiled materials arrive in color-coded bags. One-drip tests (where no material should drip from a towel when squeezed) are performed on shop towels to ensure that they are not saturated with oils or contaminants. Customers are expected to send their soiled materials to UniFirst free of contaminants, and Mike said that service has been discontinued with repeat offenders of this expectation. Soiled materials are sorted by category (uniforms/mats/etc.) and put into color-coded slings. There are 45 categories and each has a target load weight per sling. Each sling is tagged to note its weight and the type of product it holds and is then loaded on to a conveyor which carries it to the washers.

Mike said that once the maximum weight of towels is processed for the day, the remaining unprocessed towels are stored outside, as company policy prohibits storage inside to prevent any emissions indoors. A fire-proof cover is placed over each storage bin. For this reason, Kerry and I determined that towels are being stored in a way to minimize emissions outside.

Next to the soil dock we observed a bulk chemical storage area, most of which are detergents, according to Mike. I observed lids over all containers. Kerry noted that one of the large chemical tanks did not have a label on it for the type of material it held, and Mike said he would make sure a label was placed as soon as possible. Two other large tanks had labels indicating storage of Performance XXL Detergent and E-Max Alkali.

Next, we observed the conveyor carry a sling towards the line of washers. Mike said that the conveyor drops the sling into the washer and an operator manually pushes the load in. The operator notes the weights from each sling to ensure that washers are loaded to the correct capacity.

Down the line from the washers are the 5 dryers – I looked at the nameplate for each of these and confirmed that the heat input capacity of each matches what is listed in the permit. Some of the dryers appeared to have two stacks, and Mike noted that one was the air inlet and the other was the air outlet. I asked about the maintenance performed on the dryers and Mike said that lint collectors are checked every morning, and the small dryer (EUD01, in the permit) is cleaned daily or it won't run. Screens are checked once a week. The larger dryers have an automatic dust collection system adjacent to them, and the drum is disposed of in the dumpster once it fills up.

From here, products are transferred to other lines as required by the type of product. Mats are stored in carts after washing and pressed through rollers one by one to squeeze out any remaining water. Shop towels are bagged through an automated system. Uniforms go through the steam tunnel and are inspected before being sorted.

According to Mike, the steam tunnel conveyor has a retention time of about 14.5 minutes and operates between 285- and 300-degrees Fahrenheit. We could not locate the nameplate for the steam tunnel so I was unable to confirm the heat input capacity.

Next, Mike took us to the boiler room where I noted a heat input capacity of 10.5 MMBtu/hr on the nameplate, which matches what is described in the permit.

Last, we observed the wastewater treatment tanks. Mike explained that water from the washers goes to two settling tanks from which water is pumped through a filtration screen. The sand and soil that is separated out is disposed in municipal waste. The filtered water goes through a heat reclamation system, and finally to a storage tank before the treated water is discharged. Kerry noted that the lids of the settling tanks were partially open, and Mike explained that this is done to keep an eye on the water level.

Compliance Evaluation

FGLAUNDRY

Emission Limits

Special Conditions (S.C.) I.1, I.2, and I.3: For each dryer, the facility has a PM emission limit of 0.10 lbs per 1,000 lbs of gas, a PM10 limit of 0.0019 lbs per lb of textiles processed, and a PM2.5 limit of 0.0011 lbs per lb of textiles processed.

Compliance with these conditions is determined by testing upon request by the AQD District Supervisor, per FGLAUNDRY S.C. V.1. Based on records at the EGLE Southeast District Office, it does not appear that the facility has been requested to perform this testing. The facility provided the following records in accordance with S.C. VI.4, VI.5, and VI.7 as noted as the monitoring method for the above conditions:

- The amount of textiles processed through the dryers in pounds per calendar month and pounds per 12-month rolling time period (S.C. VI.4)
- The amount of natural gas delivered to the facility each month and the amount of natural gas attributable to EUBOILER01 (S.C. VI.5)
- Records of all actions taken under the dryer lint collector operation and maintenance plan (S.C. VI.7)

Material Limits

S.C. II.1: The permittee shall process no more than 10,000 pounds of soiled shop towels per day in FGLAUNDRY.

The facility provided records, in accordance with S.C. VI.2, of the amount of shop towels processed daily in pounds from February 2018 through January 2023. According to this log, the highest weight of shop towels processed in a day was 6,450 pounds on February 28, 2018.

S.C. II.2: The permittee shall process no more than 191,666 pounds of soiled shop towels per calendar month in FGLAUNDRY.

The facility provided records, in accordance with S.C. VI.3, that track the weight of shop towels processed monthly. From February 2018 through January 2023, the highest weight of towels processed was 58,192 pounds in August of 2018.

S.C. II.3: The permittee shall process no more than 14,925,000 pounds (soiled weight) of textiles (uniforms, mops, shop towels, etc.) in the dryers (EUD01, EUD02, EUD03, EUD04, & EUD05) portion of FGLAUNDRY per year, based on a 12-month rolling time period as determined at the end of each calendar month.

The facility records the amount of textiles processed through the dryers in accordance with recordkeeping requirement S.C. VI.4. The provided records indicate that from February 2018 through January 2023, the highest amount textiles processed in dryers over a 12-month period was 5,555,635 lb/year as calculated in December 2018.

S.C. II.4: The permittee shall burn only sweet natural gas in EUBOILER01.

During the pre-inspection meeting, Mike confirmed that the facility only burns sweet natural gas in the process boiler.

S.C. II.5: The permittee shall clean textiles only with water solutions of bleach or detergents in FGLAUNDRY.

The facility provided a list of materials used at the facility and corresponding Safety Data Sheets (SDS's), in accordance with S.C. VI.6. These include bleach and multiple laundry products that are diluted with water. According to the SDS's provided, several detergents are sold diluted and ready to use. This information provided indicates compliance with S.C. II.5.

S.C. II.6: The permittee shall not process print towels in FGLAUNDRY.

According to Mike, the facility does not process print towels. I did not observe processing of print towels during the facility walkthrough.

S.C. II.7: The permittee shall not process furniture towels in FGLAUNDRY.

According to Mike, the facility does not process furniture towels. I did not observe processing of print towels during the facility walkthrough.

Process/Operational Restrictions

S.C. III.1: The heat input capacity of EUD01 shall not exceed a maximum of 0.395 MMBtu per hour.
This was confirmed during the facility walkthrough.

S.C. III.2: The heat input capacity of EUD02 shall not exceed a maximum of 2.8 MMBtu per hour.
During the facility walkthrough, I observed that the name plate for the boiler listed an input capacity matching this condition.

S.C. III.3: The heat input capacity of EUD03 shall not exceed a maximum of 2.9 MMBtu per hour.
During the facility walkthrough, I observed that the name plate for the boiler listed an input capacity matching this condition.

S.C. III.4: The heat input capacity of EUD04 shall not exceed a maximum of 2.8 MMBtu per hour.
During the facility walkthrough, I observed that the name plate for the boiler listed an input capacity matching this condition.

S.C. III.5: The heat input capacity of EUD05 shall not exceed a maximum of 2.8 MMBtu per hour.

During the facility walkthrough, I observed that the name plate for the boiler listed an input capacity matching this condition.

S.C. III.6: The heat input capacity of EUST01 shall not exceed a maximum of 0.8 MMBtu per hour.

Mike and I were unable to locate the name plate of the steam tunnel during the facility walkthrough, so I was unable to confirm compliance with this condition.

S.C. III.7: The heat input capacity of EUBOILER01 shall not exceed a maximum of 10.5 MMBtu per hour.

During the facility walkthrough, I observed that the name plate for the boiler listed an input capacity matching this condition.

S.C. III.8: The permittee shall implement and maintain the approved operation and maintenance plan for the lint collectors associated with the dryers (EUD01, EUD02, EUD03, EUD04, & EUD05) portion of FGLAUNDRY.

The facility shared maintenance logs from the week of December 20, 2021 through the week of January 30, 2023, in accordance with S.C. VI.7. These logs list daily and weekly operation and maintenance actions to be performed for lint collection for each dryer. These records indicate compliance with this condition.

Design/Equipment Parameters

S.C. IV.1: The permittee shall not operate the dryers (EUD01, EUD02, EUD03, EUD04, & EUD05) portion of FGLAUNDRY unless all respective lint collectors are installed, maintained and operated in a satisfactory manner in accordance to the operation and maintenance plan required by S.C. III.8.

As discussed above, the facility provided maintenance logs indicating proper operation and maintenance of lint collectors.

Other Requirements

S.C. IX.1: The permittee shall comply with 40 CFR Subparts A and Dc as they apply to EUBOILER1.

The boiler is fueled with natural gas. As required by S.C. VI.5, the facility records the amount of natural gas delivered to the facility each month and the amount of natural gas combusted attributable to the boiler. This is calculated based on the ratio of the heat input rating of EUBOILER01 to the heat input rating of all natural-gas-burning equipment at the facility. This also meets requirements for 40 CFR 60.48c(g)(3). These records indicate compliance with the above condition.

FGFACILITY

Emission Limits

S.C. I.1 and I.2: The facility has an individual HAP emission limit of 8.9 tons per year (tpy) and aggregate HAPs emission limit of 22.4 tpy, based on a 12-month rolling time period as determined at the end of each calendar month.

The facility maintains records calculating individual and aggregate HAP emissions on a monthly and 12-month rolling basis, as required by S.C. VI.3. The facility's calculations use HAP emission factors specified in Appendix A of PTI 166-16B for pounds of HAP emitted per pound of soiled shop towels laundered. These records indicate that from February 2018 through January 2023, the highest emissions for aggregate HAPs in a 12-month period was 0.46 tpy as calculated in December 2018. This is below both limits.

Material Limits

S.C. II.1: The permittee shall process no more than 2,300,000 pounds of soiled shop towels in FGLAUNDRY per year, based on a 12-month rolling time period as determined at the end of each calendar month.

The facility records the amount of shop towels processed through FGFACILITY in pounds per calendar month and in pounds per 12-month rolling time period, as required by S.C. VI.2. These records indicate that from February 2018 through January 2023, the highest amount of shop towels processed in a 12-month period was 600,115 pounds as calculated in December 2018.

Based on my observations during the on-site inspection of UniFirst and records review, the facility is in compliance with the above rules and regulations.

NAME Noshin Khan

DATE 05/03/2023

SUPERVISOR K. Kelly