

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

B439553299

FACILITY: KEEBLER CO		SRN / ID: B4395
LOCATION: 310 28TH ST SE, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Danielle Poma , Occupational Health and Safety Manager		ACTIVITY DATE: 02/21/2020
STAFF: Scott Evans	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled, unannounced inspection to assess air permitting regulation compliance.		
RESOLVED COMPLAINTS:		

On Friday, February 21st, 2020, inspector Scott Evans (SE) conducted an unannounced, scheduled inspection of the Keebler Company facility located at 310 28th St. SE in Grand Rapids, Michigan. Upon arrival at approximately 9:30 AM, SE observed no visible emissions coming anywhere from the facility. The atmosphere outside of the facility smelled of baked cereal goods.

SE was greeted at the guard station by Occupational Health and Safety Manager, Danielle Poma (DP). After watching the required safety video at the guard station, SE and DP briefly discussed the purpose of the visit. A walkthrough inspection was then conducted that spanned the entirety of the facility, including the external perimeter and the roof of the facility where it was verified that there was no evidence of escaping particulate matter through any air ventilation systems. Required documentation was briefly reviewed at the end of the walkthrough inspection, and copies of relevant records were sent to SE for more detailed review.

The facility contains six oven lines, each producing a specific baked good product. During the visit some of the products being produced included cereal bars, pop-tarts, crackers, and cookies. Not all lines are used at all times as each line produces products as needed. Finished products are sent through cooling tunnels in some cases, and all products are packaged on site for shipment. The packaging is not produced on site. The facility is permitted under opt-out Permit to Install (PTI) No. 206-08H.

PTI No. 206-08H

Walkthrough:

The facility has six oven lines, all of which are permitted under PTI 206-08H. Each oven line is preceded by a mixing station in which ingredients are mixed in large vats. These large vats are largely enclosed, with any openings venting into the internal facility atmosphere. The mixed doughs are automatically fed to the oven lines and run through the ovens for baking. Each oven is natural gas fired as below:

- EUOVEN1B – 11.58 MMBtu/hr
- EUOVEN2 – 9.6 MMBtu/hr
- EUOVEN4 – 15 MMBtu/hr
- EUOVEN5 – 15 MMBtu/hr
- EUOVEN6 – 15.7 MMBtu/hr
- EUOVEN7 – 11 MMBtu/hr

During the walkthrough inspection it was verified that the ovens matched the permit information and that no changes had occurred to any oven since the last inspection. All ovens vent externally through stacks on the roof of the facility. These stacks have not been altered since the last inspection.

After baking, the products are run through cooling tunnels as needed. These cooling tunnels utilize refrigerant to create the cool environment, but these are closed systems with no emissions. The products are then sent to the packaging line. The packaging material used at the facility is not produced at the facility, therefore there are no pieces of equipment involved in packaging that give off emissions that need permitting.

A desiccant air dryer with a 0.4 mmBTU/hr natural gas burner for use with the compressed air supply is also included in the permit. During the inspection it was verified that this dryer was the permitted piece of equipment.

Records:

After the inspection was completed, a list of required records were requested from the facility. Between March 5 and March 16 of 2020, all necessary records were provided to the Air Quality Department via email by DP.

Ammonia is required to be recorded on a monthly and 12-month rolling time period for oven lines 4, 5, and 6. Both sets of required data were provided in an acceptable fashion to the department. Lines 4 and 5 have a limit

of 9.3 TPY of ammonia for each line, while line 6 has a limit of 21.0 TPY. As line 5 is currently not in use, within the past 12 months it has not had any ammonia emissions. All emissions were calculated using a 22% emission factor of lbs of Ammonium Bicarbonate used during production. Annual emissions for line 4 were 1.36 TPY for 2019, and annual emissions for line 6 were 2.96 TPY for 2019. Both levels are well within the required limits as stipulated by the permit.

VOC records were required to be kept as follows:

- VOC Records for all individual oven lines
 - VOC content of each material used
 - Amounts of VOC containing material used
 - Monthly and 12-month rolling VOC mass emissions

All records were provided to the department in an acceptable fashion. VOC emission limits per 12 month rolling time period are established by the permit as follows:

- Line 1B = 25.0 tons
- Line 2 = 25.0 TPY
- Line 4 = 5.0 TPY
- Line 5 = 20.0 TPY
- Line 6 = 5.0 TPY
- Line 7 = 25.0 TPY
- Facility Wide = 90.0 TPY and 2090 lbs/day

Based on the records reviewed, the 12-month rolling time period VOC emissions for each line indicate the following highest values in 2019:

- Line 1B = 20.25 tons in December 2019
- Line 2 = 48.72 TPY in December 2019
- Line 4 = 4.94 TPY in December 2019
- Line 5 = 0.00 TPY through 2019 due to inactivity
- Line 6 = 0.46 TPY in January, February, and March 2019
- Line 7 = 4.91 TPY in February 2019
- Facility Wide = 82.70 TPY in December 2019 and 1993.55 lbs/day on 6/27/2019.

All data was calculated using a 100% emission factor with VOC content data provided by ingredient manufacturers. It should be noted that line 2 far exceeded its emission limit of 25.0 TPY. A Violation Notice will be issued to the facility for this violation. A letter has been provided to the department by Keebler discussing this exceedance. It is suspected that a change from using a Propylene Glycol emission factor of 20% VOC for calculations to 100% VOC as approved in a permit modification on 2/20/2019 is the cause of the exceedance as recipe and ingredient use has not significantly changed. The facility has expressed that it is already moving forward with stack testing efforts to attain a more accurate emission factor.

Source-wide Limits (FGFacility)

Benzaldehyde records showing material content of Benzaldehyde, totals of such materials used, monthly totals, and 12-month-rolling time period emissions are required to be kept by the facility sourcewide. These records were provided to the department in acceptable fashion. For the entire facility, Benzaldehyde emissions are limited 3.46 TPY per a 12-month rolling time period. The records demonstrate that the facility released 0.01 tons of Benzaldehyde in the year of 2019 with the highest emissions occurring in April of 2019, during which 12 lbs of Benzaldehyde were emitted. These emissions were calculated utilizing emission factors for each ingredient used as provided by manufacturers of these ingredients. This data demonstrates that Benzaldehyde emissions were well below the required limit in the permit.

Source wide VOC limits are required to be kept as follows:

- Daily
 - VOC Material Used
 - VOC material Reclaimed
 - VOC emissions calculations
- Monthly
 - VOC from flavorings

- o VOC from non-flavorings
- o VOC in total
- o 12-month rolling VOC emissions

All required records were demonstrated as being properly maintained. Facility wide, the VOC emissions in December 2019 were measured at 82.70 TPY per 12 month rolling time period with the highest individual day reaching 1993.55 lbs/day on 6/27/2019. This includes all sources of VOC emissions at the facility, both permitted and not permitted. These meet facility wide limits, which are set at 90 TPY and 2090 lbs/day.

Other Items

Within the facility are three boilers. Each boiler was installed in 1978 and is rated at 12,553,000 Btu/hr. These boilers are exempt from air permitting requirements per Rule 282(2)(b)(i). As these were installed prior to June 9, 1989 and have not been modified since, they are not subject to the New Source Performance Standards (NSPS) for industrial-commercial-institutional steam generating units. The boilers may be subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for area source boilers, but EGLE – AQD is not delegated to enforce this area source standard.

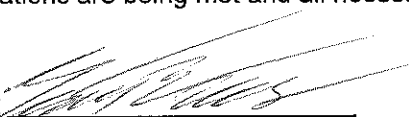
The facility had one parts washer located on site in the maintenance room. This was a small parts washer that is exempt from air permitting requirements per Rule 281(2)(h).

The facility has two emergency generators on site. Both generators are natural gas fired. One was installed on 11/17/2005 and has an output of 33 HP. The other was installed on 4/23/2007 and has an output of 107 HP. Neither of these generators are subject to NSPS regulations as they were manufactured prior to January 1, 2009. These generators may be subject to the NESHAP for Reciprocating Internal Combustion Engines, but EGLE – AQD is not delegated to enforce this standard for area sources.

Conclusions

Due to the VOC annual emission exceedance from Oven Line 2, the facility is not in compliance with Permit to Install No. 206-08H. A Violation Notice will be issued. It appears that all other permit requirements and air quality regulations are being met and all necessary demonstrations of air permitting exemptions have been made.

NAME



DATE

4/28/2020

SUPERVISOR



