

N8040

Mawila

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

N804042632

FACILITY: AUNT MILLIE'S BAKERIES, PLYMOUTH		SRN / ID: N8040
LOCATION: 45789 PORT ST, PLYMOUTH		DISTRICT: Detroit
CITY: PLYMOUTH		COUNTY: WAYNE
CONTACT: Kevin Deming , Director of Manufacturing		ACTIVITY DATE: 12/05/2017
STAFF: Jill Zimmerman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Target Inspection		
RESOLVED COMPLAINTS:		

DATE OF INSPECTION : 12/5/2017
TIME OF INSPECTION : 10:45 am
NAICS CODE : 311812
EPA POLLUTANT CLASS : CO, CO₂, NO_x, VOC
INSPECTED BY : Jill Zimmerman
PERSONNEL PRESENT : Kevin Deming, Director of Manufacturing
FACILITY PHONE NUMBER : 734-354-9520
EMAIL : KDerming@AuntMillies.com

FACILITY BACKGROUND

Aunt Millie's Bakeries began operation at the Plymouth Michigan facility on 5/1/2005. The facility is bordered by Five Mile Road to the north, Sheldon Road to the east, M-14 Highway to the south and Beck Road to the west. The facility operates 3 shifts per day, six days per week, running both the bread line and the bun line based on demand. Neither line runs on Fridays so that the facility can perform maintenance and cleaning on all the equipment.

At this location of Aunt Millie's Bakery, buns are made for grocery stores under the Aunt Millie name as well as for most fast food chains. Loaves of bread are also made on a second line that was added about seven years ago.

PERSONAL PROTECTION EQUIPMENT

During this onsite inspection, I wore steel toed shoes and safety glasses. I was given a hairnet from the company to be worn while walking through the facility. Also, I was asked not to wear any jewelry with stones to ensure that no foreign objects could fall into the dough. No gum chewing is allowed on the plant floor as well.

COMPLAINT/COMPLIANCE HISTORY

No complaints have been received regarding this facility. During past inspections, no areas of noncompliance have been discovered.

OUTSTANDING VNs

No Violation Notices (VN) have been issued regarding this facility.

PROCESS EQUIPMENT AND CONTROLS

Raw materials are brought in and stored on racks in the basement of the facility. There is an elevator near the rear of the facility that is used to move the raw materials. In the basement there are also six 750-gallon storage tanks in a temperature controlled room. There are four tanks holding corn syrup and two tanks holding liquid shortening. There are 2 boilers used for heating the proofing boxes and there are 2 ovens, one for each baking line. The heat input for boiler #1 is 2.052 MMBTU/hr and for boiler #2 is 1.26 MMBTU/hr, and therefore these boilers are exempt from Permit To Install by Rule 282. All hilos and other vehicles at the plant are

electric.

This facility operates two nearly identical process lines; the bread line, which produces loaves of bread and the bun line, which produces buns. The process begins when the flour enters a shifter. Next, water and yeast are added to the flour; this mixture is called sponge. The sponge is allowed to rise for about 4 hours. There is one sponge mixer for the bun line and there are two sponge mixers for the bread line. Then, the shortening is added, and the mixture is placed in a bin. There is one mixer bin for the bread line and one mixer bin for the bun line. From there it enters a pipe and moves to a hopper, where it passes through an extruder. The dough balls then pass through flour so that they do not stick and are placed in a pan to be shaped properly as either buns or loaves of bread. The dough enters the proof box, where it rises again, as heat and humidity is added at a temperature of about 130 F.

After rising for about an hour, the dough is transported to one of two ovens. Along this path, sesame seeds are added to the product as needed. The dough moves on a conveyor and is unloaded on the bottom. The product bakes in the natural gas fired oven at approximately 440 F. The baking time varies based on the product. Using a vacuum process, the bread or buns are de-panned, and all crumbs are sucked away. A robot arm pulls the pans away after the bread or buns are removed. The bread or buns travel on a conveyor system to cool. Again, the cooling time varies based on the product. During this time, the bread or buns pass through two metal detectors and then move to the packaging area. The bread or buns pass through a slicer and are manually checked for quality control. A puff of air is blown into the bags to open them. Then the product enters the bag. The sell by date is printed on the bag, a metal twist tie is mechanically added, and the buns or bread loaves are placed on pallets to be shipped to the customer. Mr. Dave Kent is currently not tracking VOC emissions from the ink jet printer or the storage tanks. He is working to update his recordkeeping spreadsheet to include this information in the future. Generally, the process for baking buns from dough to final product is about 1.5 hours and the process for baking loaves of bread from dough to final product is about 2.5 hours.

INSPECTION NARRATIVE

I arrived at 10:45 am to begin this unannounced inspection. Fresh baked bread odors were detected inside the facility. I met with Kevin Deming, Director of Manufacturing. Initially, we discussed the process at the facility. Mr. Deming said that no changes have been made to the process since the last inspection, about a year ago. Mr. Deming explained that all records were kept electronically offsite by Mr. Dave Kent.

After discussing the required records, we walked through the facility. Sesame seed buns were being made in the bun line and white loaves were being made on the bread line.

APPLICABLE RULES/PERMIT CONDITIONS

This facility appears to have a potential to emit (PTE) greater than the threshold for a true minor source. This facility had chosen to operate with the emission limiting rule of 208a. Rule 208a has been rescinded. The company received an opt-out permit in March of 2017 and was revised on June 8, 2017. The permit conditions for 5-17A were evaluated below based on the records that were emailed to me by Mr. Dave Kent on December 5, 2017:

FGOVENS: Two natural gas fired ovens for baking bread and buns. Emission units EU002 and EU003

I. Emission Limits

1. Compliance – The highest VOC emissions for the combined bread oven and

bun oven was 46.30 tons in August 2017 based on tons per 12-month rolling average. This is less than the permit limit of 89.73 tpy. This value is based on the formation process. All natural gas combustion emissions is calculated together.

II. Material Limit:

1. Compliance – The highest amount of bread was 31,306.61 tpy in April 2017, based on a 12-month rolling average, which is lower than the permitted limit of 43,406 tpy.
2. Compliance – The highest amount of bun was 17,545.54 tpy in August 2017 based on a 12-month rolling average, which is lower than the permitted limit of 23,651 tpy.
3. Compliance – The highest weighted emission factor for the bread line was 1.67 pounds of VOC per ton of bread produced in both January 2017 and February 2017, which is less than the permitted limit of 2.32 pounds of VOC per ton of bread produced.
4. Compliance – The highest weighted emission factor for the bun line was 2.46 pounds of VOC per ton of bun produced in July 2017, which is less than the permitted limit of 3.33 pounds of VOC per ton of buns produced.

III. Process/Operational Restrictions – NA

IV. Design/Equipment Parameters – NA

V. Testing/Sampling – NA

VI. Monitoring/Recordkeeping

1. Compliance – Production and emission records were collected for a time period between January 2017 and October 2017.
2. a. Compliance – A list of all emission factors for each bread or bun product was collected.
- b. Compliance – The amount of each product type in tons is recorded monthly and was included with the records.
- c. Compliance – The mass emission calculations for all products baked are recorded monthly and were included with the records.
- d. Compliance – The monthly weighted emission factor is calculated each month and was included with the records.
- e. Compliance – The total amount of bread produced, in tons per calendar month and per 12-month rolling time period is determined monthly and included with the records.
- f. Compliance – The total amount of buns produced, in tons per calendar month and per 12-month rolling time period is determined monthly and included with the records.
- g. Compliance – The monthly emission factors are determined monthly based on production and were included with the records.
- h. Compliance – The total VOC mass emission calculations for the bread and bun production is determined at the end of the calendar month for an annual emission rate in tons per 12-month rolling time period.

VII. Reporting – NA

VIII. Stack/Vent Restrictions

1. Compliance – Stack SV002 was installed prior to the permit being issued and has not been changed.
2. Compliance – Stack SV003 was installed prior to the permit being issued and has not been changed.

IX. Other Requirements – NA

FGFACILITY

- I. Emission Limits
 - 1. Compliance – The facility reported emitting a total of 45.6 tons VOC during 2016, which is below permit limit of 89.9 tons per year based on a 12-month rolling time period. The facility will calculate the natural gas emissions based on the natural gas usage on the next gas bill.
- II. Material Limits – NA
- III. Process/Operational Restrictions – NA
- IV. Design/Equipment Parameters – NA
- V. Testing/Sampling – NA
- VI. Monitoring/Recordkeeping
 - 1. Compliance – All calculations for the facility wide emissions were completed timely. All calculations were completed through October 2017.
 - 2. Compliance – Monthly and annual natural gas records are maintained through October 2017.
 - 3. Compliance – Monthly and annual VOC emission records were maintained through October 2017.
- VII. Reporting – NA
- VIII. Stack/Vent Restrictions – NA
- IX. Other Requirements – NA

On Tuesday December 19, 2017 I sent Mr. Dave Kent an email asking for some clarification regarding the source wide recordkeeping. Mr. Kent will begin including the natural gas combustion emissions in the facility wide calculations. A copy of this email is attached to this report.

The four storage tanks for high fructose corn syrup are exempt from permitting by Rule 284(2) (i) based on the size of the tank and the vapor pressure. Based on typical room temperature of about 70 F, the vapor pressure would be less than 1.5 psia, no matter the concentration of the fructose in solution. The two storage tanks for liquid shortening are stored in a temperature controlled room, most likely between 65 F and 85 F. At these temperatures, the vapor pressure would be less than 1.5 psia.

MAERS REPORT REVIEW

The MAERS for reporting year 2016 was received on January 31, 2017 and was audited on May 8, 2017. The report appeared to have been completed accurately and no errors were discovered. Based on the information reported in MAERS, the emissions for the facility for 2016 were:

CO	0.701 tons
NOx	3.07 tons
PM ₁₀	0.063 tons
PM _{2.5}	0.063 tons
SO ₂	0.015 tons
VOC	45.6 tons (19.83 tons in the Bun Oven and 25.7 tons in the Bread

Oven)

FINAL COMPLIANCE DETERMINATION

This facility appears to be in compliance with all applicable state and federal rules at the time of this inspection. The facility was issued an opt-out permit on June 8, 2017. The facility

appears to be operating in compliance with all permit conditions. Natural gas combustion emission calculations will be incorporated into the facility spreadsheet.

NAME Jill ZimmermanDATE 6/25/18SUPERVISOR JK