

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

B703868662

FACILITY: Continental Dairy Facilities, LLC		SRN / ID: B7038
LOCATION: 999 WEST RANDALL STREET, COOPERSVILLE		DISTRICT: Grand Rapids
CITY: COOPERSVILLE		COUNTY: OTTAWA
CONTACT: Derrick Scheldel , EH&S Supervisor		ACTIVITY DATE: 07/11/2023
STAFF: Chris Robinson	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY '23 on-site inspection to determine the facility's compliance status with PTI 101-09C, PTI 88-14A and any other applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

A) Introduction

Staff Chris Robinson (CR) from Michigan’s Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) conducted an inspection at Continental Dairy Facilities LLC. On July 11, 2023, and at Fairlife LLC. On July 13, 2023. Both companies share the same SRN (B7038) and are located at 999 West Randall Street, Coopersville, Michigan. The purpose of this inspection was to determine the facility’s compliance status with the requirements of the federal Clean Air Act; Part 55 (Michigan’s Air Pollution Control Rules) of Act 451 of the Natural Resources and Environmental Protection Act (NREPA); Permit to Install (PTI) 101-09C, 88-14A, and other applicable state and federal air quality rules and regulations.

Weather conditions were partly cloudy with a temperature of approximately 74 degrees Fahrenheit and southwest winds at approximately 14 mph on July 11, 2023 and cloudy with a temperature of approximately 63 degrees Fahrenheit and northeast winds at approximately 5 mph on July 13, 2023 (www.weatherunderground.com). No odors or visible emissions were observed.

B) Facility Description

Continental Dairy LLC and Fairlife are considered one stationary source since they are located on the same property and share infrastructure. Both companies are manufacturers of dairy products. With Continental Dairy manufacturing dry powder and some butter while Fairlife manufactures milk-based beverages.

Continental Dairy:

During the inspection AQD staff observed the facility’s processes which are as follows: Raw milk is unloaded from trucks in a designated receiving area. The milk is tested and then pumped to a storage silo. The milk can then be separated into skim and cream. The cream is then used to make butter while the separated skim is then sent to the evaporator. The evaporator concentrates the skim prior to processing in the spray dryer. The spray dryer process involves passing warm air past the milk droplets which in turn drives moisture off of the product. This moisture is then emitted out of the top of the building through an emission stack. The powder is then further dried and sent to the powder bin. The powder is packed into either 50lb bags or 3,000lb totes and shipped to customers.

Fairlife:

Fairlife forms plastic bottles starting with molded preforms. The preforms are small vial shaped plastic pieces which are used in the blow molding process to form full sized plastic bottles. Once the bottles are blown to shape, they are conveyed to the bottle sanitizing line. The sanitizing line uses warm water and a sanitizing spray to clean the bottles. The sanitizer is composed of peroxyacetic

acid and hydrogen peroxide. Some of the acid is emitted and is controlled by wet scrubbers. After the bottles are cleaned, they are filled and labeled. The facility labels the bottles with pre-printed plastic. There did not appear to be any significant emissions from the bottling or the labeling. Once bottled and labeled the milk is packed and made ready for shipping.

C) Regulatory Evaluation

Continental Dairy Facilities, LLC would be a major source but has taken opt out limits for Carbon Monoxide (CO). PTI No. 101-09B establishes the facility wide (FG-Facility) limits for the air contaminants listed above. Since the two companies are considered one stationary source, they have shared facility wide emission limits as defined in Continental Dairy's PTI (PTI 101-09B), which is referenced in the Fairlife's PTI (PTI 88-14A).

The facility has two NSPS Dc subject boilers at 46 MMBtu. The facility had in the past provided notice of the boilers and indicated that they comply with the NSPS through the usage of pipeline quality natural gas. Fairlife is in the process of completing installation of one new boiler and will be installing a second. The new boiler observed onsite was a Cleaver Brooks boiler with a max input capacity of 47.95 Btus/hour. All three boilers appear to be exempt from air permitting under Rule 282(2)(b)(i). The second boiler being installed is expected to be identical. Therefore, since these boilers have a max heat rating of greater than or equal to 10,000,000 BTUs/hr. and were installed after June 9, 1980, they will also be subject to the NSPS Dc regulations. An initial notification and fuel monitoring will be required.

The facility has two (2) Detroit Diesel fire pump engines with a rating of 181 HP and one 400 HP GM emergency generator. All were installed by the previous owner of the facility, Delphi. Delphi ceased operations in 2006. Engines ordered, modified, or reconstructed after 7/11/2005 may be subject to Standards of Performance (NSPS) for Stationary Compression Ignition Internal Combustion Engines as promulgated in 40 CFR, Part 60, Subpart IIII. Although a manufacture date could not be located, based on the engine appearances it did not seem likely that they were installed between 7/11/2005 and the date Delphi closed in 2006. Therefore, these engines do not appear to be subject to 40 CFR Part 60 Subpart IIII. Nor do they appear to be subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) for Stationary Reciprocating Internal Combustion Engines as promulgated in 40 CFR Part 63, Subpart ZZZZ since it is not likely that they were constructed on or after 6/12/2006. As noted in the table below the facility is claiming the engines to be exempt from Rule 201 permitting requirements per Rule 285 (2)(g), which appears appropriate for the size of the engines.

D) Compliance Evaluation

Each facility's logic system prevents operation of any process equipment without its associated control device. No stacks were explicitly measured but appeared to meet the PTI requirements. In addition, Both Derrick and Todd indicated that no changes have been made.

1) PTI No. 101-09C (Continental Dairy)

This PTI was issued to Continental Dairy but includes the Title V Opt-out component (FGFACILITY) for the entire stationary source. Therefore, it includes facility wide limits that pertain to both Continental Dairy and Fairlife.

EU-DRYER

This emission unit consists of a multistage milk dryer and a 22.8 MMBTU/hr. natural gas-fired heater used to convert milk to a powder. The heater is exhausted through the same exhaust stack as the dryer. A cleaning process is also associated with this process that uses sodium hydroxide, nitric acid, and water. Any emissions generated during cleaning are exhausted through two separate stacks.

Particulate Matter (PM) from the dryer is controlled by two baghouses which are limited to 0.01867 lbs. of PM per hour per 1,000 lbs. of exhaust gas and 6.048 lbs. per hour of PM10. The facility demonstrates compliance with these emission limits through the implementation of a Malfunction Abatement Plan (MAP) in combination with pressure drop monitoring. The facility may also be required to conduct periodic testing if needed (SC V.1). At this time no testing is being requested. An updated MAP was provided (SC III.1) and it appears as though the baghouses are being operated in accordance with those requirements. The MAP specified DP for Dryers 1 and 2 are 1.8 – 4.0wg and the baghouses were operating during the inspection with pressure drops of approximately 2.62 wg and 2.26 wg. Pressure drop is being recorded and the facility maintains safety data sheets (SC VI.1) for each cleaning solution used (SC VI.2).

EU-TRANSPORT

This emission unit consists of a series of air transport pipes exhausted to bin vent filters and one stack used to transport powder to the storage and filling operations. The transport system is limited to 0.01867 lbs. of PM per hour per 1000 pounds of exhaust gas and 0.09 pounds per hour of PM10. The facility demonstrates compliance with these emission limits through the implementation of a Malfunction Abatement Plan (MAP), which the facility appears to be doing. The bin vents are installed and appear to be operating properly.

EU-STORAGE&FILL

Consists of a storage and filling operation for dry milk powder controlled by a baghouse and exhausted through one stack. The storage and fill system is limited to 0.01867 lbs. of PM per hour per 1000 pounds of exhaust gas and 0.11 pounds per hour of PM10. The facility demonstrates compliance with this emission limits through the implementation of a Malfunction Abatement Plan (MAP) in combination with baghouse pressure drop monitoring, which they appear to be doing. The proper operating range of 1.0 - 6.0 wg is identified in the MAP and the system was operating with a DP of 1.6 wg during the inspection.

FGFACILITY

This includes all process equipment source-wide including equipment covered by other permits, grand-fathered equipment, and exempt equipment at both Continental Dairy and Fairlife. Emission calculations as required by SC VI were provided and reviewed for the time period of January 1, 2022, through June 30, 2023. The facility applied for and received a permit modification that removed the requirement to track NOx, PM and CO2e but added the requirement to track CO emissions and fuel usage.

The facility is now limited to 89.9 tons per year (tpy) of Carbon Monoxide (CO) per 12 month rolling time period. The maximum emitted during this time period was 36.66 tons for February 2023.

Natural gas usage is limited to 2,110.0 MMscf per year based on a 12-month rolling time period and fuel oil is limited to 20,550 gallons per year, also based on a 12-month rolling time period. The highest 12-month rolling total of natural gas used was 872.20 MMScf (February 2023) and the highest 12-month rolling total of fuel oil used was 444 gallons (November 2022 – June 2023). Both are within the usage limits specified in the PTI.

PTI No. 88-14A (Fairlife)

FGDIB

This Flexible Group consists of five (5) dry ingredient blending (DIB) processes that are vented to the in-plant environment as required by Special Condition VIII.1. Each emission unit is equipped with its own fabric filter which were operating and observed during the inspection. Visually they appeared to be well maintained and no visible emissions were exiting the outlet. Per discussions with Todd Coone the systems logic prevents the process equipment from operating without the fabric filters (SC IV.1).

Per SC IV.2 the facility is required to install, calibrate, maintain, and operate in a satisfactory manner a device to monitor the pressure drop from each fabric filter system portion of FGDIB on a continuous basis and monthly recordkeeping is required per SC VI.2. Equipment to monitor DP was never installed, therefore records are not available. Mr. Coone indicated that he had discussed this with the previous inspector who had indicated that DP was not necessary since the equipment is vented to the in-plant environment only. The permit requires that the equipment not exhaust to ambient air under SC VIII.1. Therefore, this was taken into consideration during permitting. Also, the current MAP for FGDIB which provides a proper operating DP range of 2.4 - 19.7 "H₂O and that DP should be used for detecting a malfunction. CR discussed this with Mr. Coone, and he informed CR that two (2) of the three (3), possibly all three stations are going to be removed. Mr. Coone has committed to either installing a system to measure DP or modifying the PTI. CR will follow-up with them in a few months.

FGSANITIZE

FGSANITIZE includes three (3) bottle sanitizing lines (EUSANITIZE1, EUSANITIZE2 and EUSANITIZE3) with associated wet scrubbers and stacks. PTI 88-14A does not have emission or material limits for these lines but does require each line to be equipped with a wet scrubber system, which they are. The wet scrubbers are designed to control acid gases from the sanitizer by contacting the peroxyacetic acid and hydrogen peroxide mixture with an alkaline solution. This is intended to neutralize the exhaust gases before they are emitted to the ambient air. The DP across the liquid is required to be monitored and recorded to demonstrate proper operation of the scrubber. The permit requires that the facility monitor DP continuously and record it weekly. It also requires that they develop and follow their MAP which establishes a proper operating range for DP. The MAP provided only indicates a single value for DP of 4" H₂O, which is not a range. Table 2 of the MAP lists a possible malfunction as being a "Pressure drop across the scrubber is outside of the normal range". That range has not been established as required by the PTI under SC IV.1 of FGSANITIZE. This was discussed with Mr. Coone, and he will revise the MAP to include a lower operating range.

Per SC VI.2 the facility is required to monitor and record differential pressure weekly. Monitoring is being conducted bi-weekly by staff and continuously by the facility's HMI system. The HMI system records data continuously by graph.

DP was observed during the inspection. Scrubber 1 was at 0.8” H2O and scrubber 3 was at 0.1 “H2O. The gauge was not functioning for scrubber 2 but maintenance had already initiated repairs and the system was repaired shortly after the inspection.

3) Rule 201 Permitting Exemptions

The company is claiming the following equipment exempt per Rule 201 permitting requirements.

Facility	Emission Unit	Capacity		Controls	Exemption Claimed
		Quantity	Units		
Continental Dairy	EU-CDF-BOILER-01	49.9	MMBtu/hr.	Low NOx Burners	Rule 282(2)(b)(i)
	EU-CDF-BOILER-02	49.9			
	EU-CDF-BOILER-03	2.23			
	EU-Heaters Air Handling	2.065		NA	
	EUFIREPUMP1	281	HP	NSPS	Rule 285(2)(g)
	EUFIREPUMP2	281			
	EUGEN	400			
Fairlife	EU-FL-BOILER-01	46	MMBtu/hr.	Low NOx Burners	Rule 282(2)(b)(i)
	EU-FL-BOILER-02	46			
	EU800HPBOILER	33.9			
	EUCBEXBoiler1	47.95			
	EUCBEXBoiler2 (not installed yet - 2023)	47.95			

4) MAERS

Report submittal certification form was received on time (March 10, 2023) and was reviewed by AQD on April 5, 2023. Initially the submission was failed to lack of supporting documentation and for not including Fairlifes’ emission units. The missing information was added and the AQD accepted the submission with no changes on April 17, 2023. Source-wide emissions as reported are listed below.

Pollutant	Amount (tons)
Ammonia	1.19
CO	31.32
Lead	0.0002
NOx	16.99
PM10	10.03
PM2.5	2.83
SO2	0.22
VOC	2.05

E) Conclusion

Based on observations, discussions, and records review Continental Dairy is operating in compliance with PTI 101-09C and applicable air rules and regulations. Fairlife LLC. is not operating in compliance with all requirements of PTI 88-14A. Specifically, SC IV.2 of FGDIB for failure to install a device to monitor the DP from each fabric filter system portion of FGDIB on a continuous basis. However, a violation notice will not be issued at this time.

NAME 

DATE 8/18/2023

SUPERVISOR 