

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

B154871303

FACILITY: Post Foods		SRN / ID: B1548
LOCATION: 275 Cliff Street, BATTLE CREEK		DISTRICT: Kalamazoo
CITY: BATTLE CREEK		COUNTY: CALHOUN
CONTACT: Rob Mason , Environmental Engineer		ACTIVITY DATE: 03/07/2024
STAFF: Michael Cox	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Unannounced Inspection		
RESOLVED COMPLAINTS:		

At approximately 8:30 A.M. on March 7, 2024, Air Quality Division (AQD) staff Michael Cox (MTC) as well as AQD Permitting Staff Chuku Oje, Nicholas Carlson, and Ed Schleusener conducted an on-site inspection of Post Foods (PF) located at 275 Cliff Street, Battle Creek, Michigan. The purpose of this inspection was to determine compliance with the facility’s renewable operating permit (ROP) MI-ROP-B1548-2020a, Permit to Install (PTI) #1-23, and PTI #10-24. Accompanying AQD staff on the inspection was Mr. Rob Mason, Environmental Health and Safety Manager and Cathy Sanford, the Environmental Compliance Specialist, who provided records following the inspection. Prior to arriving on site MTC observed the perimeter of the facility for any visible emissions and odors. Cereal production odors were present near the facility, but not out of the ordinary. Visible steam plumes were noted prior to entry coming from several stacks associated with the cereal production.

**Facility Description**

This facility produces various types of cereal and is currently operating under MI-ROP-B1548-2020a, PTI #1-23, and PTI #10-24. Grain and liquid sugar are hauled into the facility by truck and railcar and is stored in large silos. The grains go from the storage silos to Building 20 where they get milled into flour. This flour then gets distributed amongst the various production buildings by an “airveying” system that uses pneumatic pressure to push the flour to the desired location. The cereal-making process starts at the top of each building and works its way down each floor until it gets packaged at ground-level. This process could involve grain-handling, conveying, cleaning, milling, cooking, drying, and coating. There are various pick-up points for particulate matter and VOCs that send the emissions to rotoclones, baghouses, and/or the thermal oxidizer for emissions control before it is emitted to the ambient air. The cereal is then dried and packaged. They also use a hotmelt and inkjet printers and laser printers for the packaging process. hotmelt, exempt under Rule 287(2)(i) and inkjet printers, exempt under Rule 287(2)(c) during packaging, although much of the printing is now done by lasers.

Building 17 is used only for “mix and pack”, meaning that there is no cooking of cereals. Building 29 is dedicated to making only varieties of Honey Bunches of Oats (HBO). This process requires the use of an oxidizer due to the high alcohol content of the oatmeal flavoring they use in some of the HBO varieties. Building 20/32 is where they make Honeycomb, granola, and Grape-nuts. Building 4 produces the bran flakes and rice cereals, like Raisin Bran, Fruity Pebbles, and Cocoa Pebbles.

**Regulatory Analysis**

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PF is a major source for nitrogen oxides (NOx), particulate matter (PM) and volatile organic compounds (VOCs) and a minor source of hazardous air pollutants (HAP), sulfur oxides (SOx), carbon monoxide (CO) and lead (Pb). PF is currently operating under MI-ROP-B1548-2020a, PTI #1-23, and PTI #10-24. PF is subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The facility is also subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM).

### Compliance Evaluation

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#### MI-ROP-1548-2020a:

##### Source-Wide Conditions:

PF has a particulate matter (PM) limit of less than 225 tons per year (tpy) on a 12-consecutive month rolling basis and a PM-10 limit of less than 225 tpy on a 12-consecutive month rolling basis. PF also has a source-wide material limit of 527.6 million cubic feet (MCF) of natural gas usage excluding equipment in FGBOILERS. Records were requested and reviewed for the time period of February 2023 through January 2024. As of January 2024, the 12-consecutive month PM emissions were noted to be 73.91 tpy and the 12-consecutive month PM-10 emissions were noted to be 72.99 tpy. Source-wide natural gas usage records were requested and reviewed for the time period of February 2022 through January 2024. It should be noted that MI-ROP-1548-202a requires 12-month rolling records of fuel oil usage as well, but the facility no longer utilizes fuel oil. The highest 12-consecutive month natural gas usage occurred during the 12-consecutive month time period ending in February 2022, when 379 MCF of natural gas was consumed excluding equipment in FGBOILERS.

The facility is also required to maintain a source-wide Malfunction Abatement Plan (MAP). The facility has on file a Malfunction Abatement Plan and Preventative Maintenance Plan for their pollution control equipment as required. The facility appears to be maintaining records of all preventative maintenance done on equipment.

#### EU1725

This emission unit consists of coating, conveying, drying, weighing, packing, dumping, unloading, and bins for cereal production with wet scrubber control located in Building 17. The emission unit has a VOC limit of 1.6 tpy on a 12-month rolling basis. Building 17 is currently being used for only "mix-and-pack", therefore no VOCs are being emitted by this emission unit. MSDS or manufacturer's formulation data is available at the facility. The facility is maintaining records of each flavorant used and its VOC content as required. The facility last used a VOC flavorant in this process in 2014.

This emission unit also has PM and PM-10 emission limits of 0.01 lb/ 1000 lb of exhaust gas and 0.78 pound per hour (pph) respectively. Testing for PM/Pm-10 has not been required at this time.

EU1725 has an hours of operation limit of 8,160 hours per 12-month rolling time period. Records for the hours of operation of EU1725 were requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 2,928 hours, which is below the permitted limit. The wet scrubber was installed and appeared to be operating normally. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required.

One stack is listed in association with EU1725. The stack appears to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

**EUGasTank**

This emission unit consists of one 1,000 gallon, above-ground fuel storage tank for the storage and dispensing of gasoline. EUGasTank appears to be equipped with a vapor balance system or an equivalent control system as well as an interlocking system that ensures that the vapor-tight collection line is connected before any gasoline can be loaded. There also appears to be a device to ensure that the vapor-tight collection line shall close upon disconnection.

**FG-477 Coating**

This flexible group consists of an automatic spray application of flavorants onto cereal within any of two separate rotating coating reels controlled by Wet Rotoclone477 followed by two common dryers. The two dryers are controlled by Aerodyne430 and Aerodyne433.

The following emission limits apply to FG-477\_Coating and associated emission units within the flexible group along with their respective compliance determination:

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
VOC	25.0	12-month rolling time period as determined at the end of each production month	FG-477_Coating	Highest 12- consecutive month VOC emission occurred when 2.32 tons of VOC was emitted during the 12- consecutive month period ending in January 2024.

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
PM	0.01 lbs/ 1000 lbs. of exhaust gas <sup>2</sup>	Hourly	EU430, EU433, EU477	The facility is complying with this emission limit based on February 22, 2011, stack test results. Daily visible emissions inspections are being conducted.
PM-10	0.639 pph <sup>2</sup>	Hourly	EU430	The facility is complying with this emission limit based on February 22, 2011, stack test results. Daily visible emissions inspections are being conducted.
PM-2.5	0.639 pph <sup>2</sup>	Hourly	EU430	The facility is complying with this emission limit based on February 22, 2011, stack test results. Daily visible emissions inspections are being conducted.
PM-10	0.675 pph <sup>2</sup>	Hourly	EU433	The facility is complying with this emission limit based on February 22, 2011, stack test results. Daily visible emissions inspections are being conducted.
PM-10	0.675 pph <sup>2</sup>	Hourly	EU433	The facility is complying with this emission limit based on February 22, 2011, stack test results. Daily visible emissions

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
				inspections are being conducted.
PM-10	0.263 pph <sup>2</sup>	Hourly	EU477	The facility is complying with this emission limit based on February 22, 2011, stack test results. Daily visible emissions inspections are being conducted.
PM-10	0.263 pph <sup>2</sup>	Hourly	EU477	The facility is complying with this emission limit based on February 22, 2011, stack test results. Daily visible emissions inspections are being conducted.
Opacity	10 percent <sup>2</sup>	6-minute average	EU430, EU433, EU477 individually	No visible emissions were observed during the site visit.

Records of VOC emissions from FG-477\_Coating was requested and reviewed for the time period of February 2022 through January 2024. MSDS or manufacturer’s formulation data is available at the facility. The facility is maintaining records of each flavorant used and its VOC content as required. The facility is calculating the VOC emissions monthly and on 12-month rolling basis as required.

FG-477\_Coating is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 5,280 hours, which is below the permitted limit.

The wet rotoclones and Aerodyne collectors are installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required.

Three stacks are listed in association with FG-477\_Coating. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

**FG-488 Coating**

This flexible group consists of an automatic spray application of flavorants onto cereal in a rotating coating reel controlled by Wet Scrubber488 and followed by a dryer. The cooling zone of the dryer is controlled by Horiz Dust Sep495.

The following emission limits apply to FG-488\_Coating and associated emission units within the flexible group along with their respective compliance determination:

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
VOC	7.4 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each production month	FG-488_Coating	Highest 12-consecutive month VOC emission occurred when 2.67 tons of VOC was emitted during the 12-consecutive month period ending in January 2023.
PM	0.01 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	hourly	EU488	The facility is complying with this emission limit based on 2017 stack test results. Daily visible emissions inspections are being conducted.
PM	0.02 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	hourly	EU494, EU495	The facility is complying with this emission limit based on 2017 stack test results. Daily visible emissions inspections are being conducted.
PM10	0.284 pph <sup>2</sup>	hourly	EU488	The facility is complying with this emission limit based on 2017 stack test results. Daily visible emissions inspections are being conducted.

PM2.5	0.284 pph <sup>2</sup>	hourly	EU488	The facility is complying with this emission limit based on 2017 stack test results. Daily visible emissions inspections are being conducted.
PM10	0.260 pph <sup>2</sup>	hourly	EU494	The facility is complying with this emission limit based on 2017 stack test results. Daily visible emissions inspections are being conducted.
PM2.5	0.260 pph <sup>2</sup>	hourly	EU494	The facility is complying with this emission limit based on 2017 stack test results. Daily visible emissions inspections are being conducted.
PM10	0.788 pph <sup>2</sup>	hourly	EU495	The facility is complying with this emission limit based on 2017 stack test results. Daily visible emissions inspections are being conducted.
PM2.5	0.788 pph <sup>2</sup>	hourly	EU495	The facility is complying with this emission limit based on 2017 stack test results. Daily visible emissions inspections are being conducted.
Opacity	10 percent <sup>2</sup>	6-minute average	All stacks individually in FG-488_Coating	No visible emissions were observed during the site visit.

Records of VOC emissions from FG-488\_Coating was requested and reviewed for the time period of February 2022 through January 2024. MSDS or manufacturer’s formulation data is available at the facility. The facility is maintaining records of each flavorant used and its VOC content as required. The facility is calculating the VOC emissions monthly and on 12-month rolling basis as required.

FG-488\_Coating is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 4,944 hours, which is below the permitted limit.

The wet scrubber and horizontal dust separation unit are installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required.

Three stacks are listed in association with FG-488\_Coating. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

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**FG-2028 Coating**

This flexible group consists of an automatic spray application of flavorants onto cereal within any of six separate rotating coating reels followed by a common drying oven. Each coating reel is controlled by Wet Scrubber2028.

The following emission limits apply to FG-2028\_Coating and associated emission units within the flexible group along with their respective compliance determination:

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
VOC	25.0 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each production month	FG-2028_Coating	Highest 12- consecutive month VOC emission occurred when 24.12 tons of VOC was emitted during the 12- consecutive month period ending in January 2024.
PM	0.02 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	Hourly	EU2033, EU2034	Daily visible emissions inspections are



Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
				being conducted. Testing has not been required.
PM	0.01 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	Hourly	EU2028	Daily visible emissions inspections are being conducted. Testing has not been required.
PM-10	0.293 pph <sup>2</sup>	Hourly	EU2028	Daily visible emissions inspections are being conducted. Testing has not been required.
PM-2.5	0.293 pph <sup>2</sup>	Hourly	EU2028	Daily visible emissions inspections are being conducted. Testing has not been required.
PM-10	0.162 pph <sup>2</sup>	Hourly	EU2033	Daily visible emissions inspections are being conducted. Testing has not been required.
PM-2.5	0.162 pph <sup>2</sup>	Hourly	EU2033	Daily visible emissions inspections are being conducted. Testing has not been required.
PM-10	0.274 pph <sup>2</sup>	Hourly	EU2034	Daily visible emissions inspections are being conducted.

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
				Testing has not been required.
PM-2.5	0.274 pph <sup>2</sup>	Hourly	EU2034	Daily visible emissions inspections are being conducted. Testing has not been required.
Opacity	10 percent <sup>2</sup>	6-minute average	EU2033, EU2034 - individually	No visible emissions were observed during the site visit.
Opacity	5 percent <sup>2</sup>	6-minute average	EU2028	No visible emissions were observed during the site visit.

Records of VOC emissions from FG-2028\_Coating was requested and reviewed for the time period of February 2022 through January 2024. MSDS or manufacturer’s formulation data is available at the facility. The facility is maintaining records of each flavorant used and its VOC content as required. The facility is calculating the VOC emissions monthly and on 12-month rolling basis as required.

FG-2028\_Coating is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 4,368 hours, which is below the permitted limit.

The wet scrubber is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required.

Three stacks are listed in association with FG-2028\_Coating. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

**FG2983CoatOxdOn**

This flexible group consists of an automatic spray application of flavorants onto cereal within a rotating coating reel with associated sugar flash tank followed by a

drying oven. The coating reel is controlled by Wet Rotoclone2983 and then Catalytic Oxidizer29113. The drying oven is also controlled by Catalytic Oxidizer29113. VOC emissions controlled by Catalytic Oxidizer 29113 are subject to CAM.

The following emission limits apply to FG2983CoatOxdOn and associated emission units within the flexible group along with their respective compliance determination:

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
VOC	25.6 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each production month	FG2983CoatOxdOn	Highest 12-consecutive month VOC emission occurred when 6.83 tons of VOC was emitted during the 12-consecutive month period ending in January 2023.
PM-10	0.571 pph <sup>2</sup>	Hourly	FG2983CoatOxdOn measured from SV-29113	The facility is complying with this emission limit based on 2017 stack test results. Daily visible emissions inspections are being conducted.
Opacity	10 percent <sup>2</sup>	6-minute average	FG2983CoatOxdOn measured from SV-29113	No visible emissions were observed during the site visit.

Records of VOC emissions from FG2983CoatOxdOn was requested and reviewed for the time period of February 2022 through January 2024. MSDS or manufacturer’s formulation data is available at the facility. The facility is maintaining records of each flavorant used and its VOC content as required. The facility is calculating the VOC emissions monthly and on 12-month rolling basis as required.

FG2983CoatOxdOn is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 4,944 hours, which is below the permitted limit.

The catalytic oxidizer is installed and seems to be operating in a satisfactory manner. The facility appears to be maintaining the temperature monitoring device of the catalytic oxidizer in a satisfactory manner. The temperature log for the oxidizer

showed that temperatures were above the minimum 550°F except for malfunctions, which are documented thoroughly by the facility. When the temperatures were below this value, they reported this as a malfunction and deviation on their certifications. During each malfunction, the MAP/PM plan was implemented, and corrective actions were taken. It was noted during the site visit that the oxidizer was at an operating temperature of 709°F at the inlet and 693°F at the outlet. The facility’s most recent stack test for VOC combined capture and destruction efficiency was conducted on June 17, 2020, and was in compliance with the 85.5% minimum.

The wet rotoclone is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required.

One stack is listed in association with FG2983CoatOxdOn. The stack appears to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

**FG2983CoatOxdOff**

This flexible group consists of an automatic spray application of flavorants onto cereal within a rotating coating reel with associated sugar flash tank followed by a drying oven. The coating reel is controlled by Wet Rotoclone2983. (The Catalytic Oxidizer29113 is off during operation).

The following emission limits apply to FG2983CoatOxdOff and associated emission units within the flexible group along with their respective compliance determination:

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
VOCs	4.0 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each production month	FG2983CoatOxdOff	Highest 12- consecutive month VOC emission occurred when 0.65 tons of VOC was emitted during the 12- consecutive month period ending in January 2024.
PM	0.02 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	Hourly	EU2985, EU29119	Daily visible emissions inspections are being conducted. Testing has not been required.

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
PM	0.01 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	Hourly	EU2983	Daily visible emissions inspections are being conducted. Testing has not been required.
PM-10	0.144 pph <sup>2</sup>	Hourly	EU2983	Daily visible emissions inspections are being conducted. Testing has not been required.
PM-2.5	0.144 pph <sup>2</sup>	Hourly	EU2983	Daily visible emissions inspections are being conducted. Testing has not been required.
PM-10	0.135 pph <sup>2</sup>	Hourly	EU2985, EU29119 individually	Daily visible emissions inspections are being conducted. Testing has not been required.
PM-2.5	0.135 pph <sup>2</sup>	Hourly	EU2985, EU29119 individually	Daily visible emissions inspections are being conducted. Testing has not been required.
Opacity	10 percent <sup>2</sup>	6-minute average	EU2985, EU29119	No visible emissions were observed during the site visit. Catalytic Oxidizer was on.
Opacity	5 percent <sup>2</sup>	6-minute average	EU2983	No visible emissions were observed during the site visit. Catalytic Oxidizer was on.

Records of VOC emissions from FG2983CoatOxdOff was requested and reviewed for the time period of February 2022 through January 2024. MSDS or manufacturer's formulation data is available at the facility. The facility is maintaining records of each flavorant used and its VOC content as required. The facility is calculating the VOC emissions monthly and on 12-month rolling basis as required.

FG2983CoatOxdOff is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that this flexible group was well below the operating hours limit. The catalytic oxidizer is only shut off when a specific flavorant is being applied when PF's sister facility in Arkansas is shut down temporarily. This happens very infrequently, and it was stated by PF staff that this flexible group may only operate a week or two throughout the year.

The wet rotoclone is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required.

Three stacks are listed in association with FG2983CoatOxdOff. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

**FG-20108 Baking**

This flexible group consists of equipment used for handling, conveying, cleaning, mixing, baking, and drying cereal-based food products and ingredients in Building #20.

The following emission limits apply to FG-20108\_Baking and associated emission units within the flexible group along with their respective compliance determination:

**EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
VOC	25.8 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each production month	FG- 20108_Baking	Highest 12- consecutive month VOC emission occurred when 5.33 tons of VOC was emitted during the 12- consecutive month period

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
				ending in January 2023.
PM	0.02 lb / 1000 lb of exhaust gas <sup>2</sup>	Hourly	EU20108, EU20109, EU20110, EU20111	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
PM	0.01 lb / 1000 lb of exhaust gas <sup>2</sup>	Hourly	EU20112	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
PM10	0.214 pph <sup>2</sup>	Hourly	EU20108	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
PM2.5	0.214 pph <sup>2</sup>	Hourly	EU20108	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
PM10	0.538 pph <sup>2</sup>	Hourly	EU20109	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
				inspections are being conducted.
PM2.5	0.538 pph <sup>2</sup>	Hourly	EU20109	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
PM10	0.147 pph <sup>2</sup>	Hourly	EU20110	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
PM2.5	0.147 pph <sup>2</sup>	Hourly	EU20110	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
PM10	1.04 pph <sup>2</sup>	Hourly	EU20111	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
PM2.5	1.04 pph <sup>2</sup>	Hourly	EU20111	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions



Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
				inspections are being conducted.
PM10	0.081 pph <sup>2</sup>	Hourly	EU20112	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
PM2.5	0.081 pph <sup>2</sup>	Hourly	EU20112	The facility is complying with this emission limit based on April 2015 stack test results. Daily visible emissions inspections are being conducted.
1. Opacity	10 percent <sup>2</sup>	6-minute average	All stacks individually in FG-20108_Baking	No visible emissions were observed during the site visit.

Records of VOC emissions from FG-20108\_Baking was requested and reviewed for the time period of February 2022 through January 2024. MSDS or manufacturer’s formulation data is available at the facility. The facility is maintaining records of each flavorant used and its VOC content as required. The facility is calculating the VOC emissions monthly and on 12-month rolling basis as required.

FG-20108\_Baking is limited to 18,500 tons per year for the production of Base Grape Nuts based on a 12-month rolling time period. Records of Base Grape Nuts production was requested and reviewed for the time period of June 2022 through February 2024. The highest 12-consecutive month rolling Base Grape Nuts production occurred during the 12-consecutive month period ending in February 2023, when 10,326 tons of Base Grape Nuts was produced.

FG-20108\_Baking is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 3,000 hours, which is below the permitted limit.

The control equipment is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required.

Four stacks are listed in association with FG-20108\_Baking. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

**FG-3210 Coating**

This flexible group consists of an automatic application of flavorants onto cereal within three blenders/mixers followed by a drying oven. Each blender/mixer is controlled by Cyclone32113 and Wet Scrubber32113.

The following emission limits apply to FG-3210\_Coating and associated emission units within the flexible group along with their respective compliance determination:

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
VOCs	6.0 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each production month	FG-3210_Coating	Highest 12-consecutive month VOC emission occurred when 0.42 tons of VOC was emitted during the 12-consecutive month period ending in January 2023.
PM	0.02 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	Hourly	EU3210	Daily visible emissions inspections are being conducted.
PM	0.01 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	Hourly	EU32113	Daily visible emissions inspections are being conducted.
PM-10	0.215 pph <sup>2</sup>	Hourly	EU3210	Daily visible emissions

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
				inspections are being conducted.
PM-10	0.495 pph <sup>2</sup>	Hourly	EU32113	Daily visible emissions inspections are being conducted.
Opacity	10 percent <sup>2</sup>	6-minute average	EU3210	No visible emissions were observed during the site visit.
Opacity	5 percent <sup>2</sup>	6-minute average	EU32113	No visible emissions were observed during the site visit.

Records of VOC emissions from FG-3210\_Coating was requested and reviewed for the time period of February 2022 through January 2024. MSDS or manufacturer’s formulation data is available at the facility. The facility is maintaining records of each flavorant used and its VOC content as required. The facility is calculating the VOC emissions monthly and on 12-month rolling basis as required.

FG-3210\_Coating is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 2,952 hours, which is below the permitted limit.

The cyclone and wet scrubber are installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required.

Two stacks are listed in association with FG-3210\_Coating. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

**FG-32104 Coating**

This flexible group consists of an automatic application of flavorants onto cereal within any of three separate rotating coating reels followed by a common drying oven. Each coating reel is controlled by Wet Rotoclone32104.

The following emission limits apply to FG-32104\_Coating and associated emission units within the flexible group along with their respective compliance determination:

**. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
VOCs	18.0 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each production month	FG- 32104_Coating	Highest 12- consecutive month VOC emission occurred when 0.66 tons of VOC was emitted during the 12- consecutive month period ending in January 2024.
PM	0.02 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	Hourly	EU32107, EU32108	Daily visible emissions inspections are being conducted. Required to test during next ROP Renewal.
PM	0.01 lbs./ 1000 lbs. of exhaust gas <sup>2</sup>	Hourly	EU32104	Daily visible emissions inspections are being conducted. Required to test during next ROP Renewal.
PM-10	0.338 pph <sup>2</sup>	Hourly	EU32104	Daily visible emissions inspections are being conducted. Required to test during next ROP Renewal.
PM-2.5	0.338 pph <sup>2</sup>	Hourly	EU32104	Daily visible emissions inspections are being conducted. Required to

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
				test during next ROP Renewal.
PM-10	0.329 pph <sup>2</sup>	Hourly	EU32107	Daily visible emissions inspections are being conducted. Required to test during next ROP Renewal.
PM-2.5	0.329 pph <sup>2</sup>	Hourly	EU32107	Daily visible emissions inspections are being conducted. Required to test during next ROP Renewal.
PM-10	0.606 pph <sup>2</sup>	Hourly	EU32108	Daily visible emissions inspections are being conducted. Required to test during next ROP Renewal.
PM-2.5	0.606 pph <sup>2</sup>	Hourly	EU32108	Daily visible emissions inspections are being conducted. Required to test during next ROP Renewal.
Opacity	10 percent <sup>2</sup>	6-minute average	EU32107, EU32108 - individually	No visible emissions were observed during the site visit.
11. Opacity	5 percent <sup>2</sup>	6-minute average	EU32104	No visible emissions were observed during the site visit.

Records of VOC emissions from FG-32104\_Coating was requested and reviewed for the time period of February 2022 through January 2024. MSDS or manufacturer's formulation data is available at the facility. The facility is maintaining records of each flavorant used and its VOC content as required. The facility is calculating the VOC emissions monthly and on 12-month rolling basis as required.

FG-32104\_Coating is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 1,320 hours, which is below the permitted limit.

The wet rotoclone is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required.

Three stacks are listed in association with FG-32104\_Coating. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

#### FGBLD-4 Rice/Bran

This flexible group consists of equipment in Building 4 is used for handling, conveying, cleaning, milling, mixing, cooking, drying, coating, and packaging rice/bran-based food products and ingredients.

FGBLD-4 Rice/Bran and associated emission units within the flexible group are limited to various PM2.5/PM10 limits. The facility ensures compliance with the PM2.5/PM10 limits by conducting daily visible emissions observations. Testing for the PM2.5/PM10 limits has not been requested at this time. The control equipment is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required. No visible emissions were noted during the site visit.

FGBLD-4 Rice/Bran is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 5,280 hours, which is below the permitted limit.

Thirty stacks are listed in association with FGBLD-4 Rice/Bran. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

#### FG-17-20-32Cereal

This flexible group consists of equipment in buildings 17, 20, and 32 used for handling, conveying, cleaning, milling, mixing, cooking, drying, coating, and packaging cereal-based food products and ingredients.

FG-17-20-32Cereal and associated emission units within the flexible group are limited to various PM/PM2.5/PM10 limits. The facility ensures compliance with the PM/PM2.5/PM10 limits by conducting daily visible emissions observations. Testing has been conducted on EU32115 in July 2017 and EU2096 in November 2018. The results for both emission units showed compliance with their respective limits. Testing for the PM/PM2.5/PM10 limits has not been requested at this time for the remaining emission units within the flexible group. The control equipment is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required. No visible emissions were noted during the site visit.

FG-17-20-32Cereal is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 6,816 hours, which is below the permitted limit.

Thirty-eight stacks are listed in association with FG-17-20-32Cereal. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

#### FGBLD-29Cereal

This flexible group consists of equipment in Building 29 is used for handling, conveying, cleaning, milling, mixing, cooking, drying, coating, and packaging cereal-based food products and ingredients.

FGBLD-29Cereal and associated emission units within the flexible group are limited to various PM/PM2.5/PM10 limits. The facility ensures compliance with the PM/PM2.5/PM10 limits by conducting daily visible emissions observations. Testing has been conducted on EU2929 and EU2930 in July 2017. The results for both emission units showed compliance with their respective limits. Testing for the PM/PM2.5/PM10 limits for EU2928 and EU2984 will be conducted prior to the term of MI-ROP-B1548-2020a. Testing for the PM/PM2.5/PM10 limits has not been requested at this time for the remaining emission units within the flexible group. The control equipment is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required. No visible emissions were noted during the site visit.

FGBLD-29Cereal is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 4,944 hours, which is below the permitted limit.

Thirty-nine stacks are listed in association with FGBLD-29Cereal. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

### FG32BLD-CCP

This flexible group consists of equipment in Building 32 is used for handling, conveying, cleaning, milling, mixing, cooking, drying, coating, and packaging grain-based food products and ingredients.

FG32BLD-CCP and associated emission units within the flexible group are limited to various PM/PM2.5/PM10 limits. The facility ensures compliance with the PM/PM2.5/PM10 limits by conducting daily visible emissions observations. Testing for the PM/PM2.5/PM10 limits has not been requested at this time. The control equipment is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required. No visible emissions were noted during the site visit.

Ten stacks are listed in association with FG32BLD-CCP. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

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### FGGrainReceiving

This flexible group consists of equipment used for the handling, cleaning, sizing, blending, conveying, and unloading of agricultural grains and ingredients.

FGGrainReceiving and associated emission units within the flexible group are limited to various PM/PM2.5/PM10 limits. The facility ensures compliance with the PM/PM2.5/PM10 limits by conducting daily visible emissions observations. Testing for the PM/PM2.5/PM10 limits has not been requested at this time. The control equipment is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required. No visible emissions were noted during the site visit.

FGGrainReceiving is limited to 8,424 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 4,944 hours, which is below the permitted limit.

Five stacks are listed in association with FGGrainReceiving. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

### FG-Milling

This flexible group consists of equipment used for the handling, cleaning, sizing, blending, conveying, and unloading of agricultural grains and ingredients.



FG-Milling and associated emission units within the flexible group are limited to various PM/PM2.5/PM10 limits. The facility ensures compliance with the PM/PM2.5/PM10 limits by conducting daily visible emissions observations. Testing for the PM/PM2.5/PM10 limits has not been requested at this time. The control equipment is installed and appeared to be operating in a satisfactory manner. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily/weekly visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required. No visible emissions were noted during the site visit.

FG-Milling is limited to 8,160 hours of operation on a 12-month rolling basis. Records of the operating hours for this flexible group was requested and reviewed for the time period of February 2023 through January 2024. It was noted that as of January 2024 the 12-consecutive month hours of operation was 6,816 hours, which is below the permitted limit.

Twenty-seven stacks are listed in association with FG-Milling. The stacks appear to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

**FGBOILERS**

This flexible group consists of natural gas and fuel oil fired boilers used to generate steam for processes and space heating.

The following operational/process limits apply to FGBOILERS along with their respective compliance determination:

Material	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
Fuel Oil	1.0 million gallons <sup>2</sup>	12-month rolling time period	FGBOILERS	The facility no longer uses Fuel Oil. Last fuel oil was used in 2014.
Natural Gas	1,000 million cubic feet <sup>2</sup>	12-month rolling time period	FGBOILERS	Highest 12-consecutive month natural gas consumption occurred during the 12-consecutive month period ending in January 2024, when 382 MCF of natural gas was consumed.

During the facility tour, Boiler 1 was running at ~65,000 lbs steam/hour at the time of inspection. The facility has three boilers, Boiler 1, Boiler 3, and Boiler 4, however,

only Boiler 1 and Boiler 4 are operational. Boiler 3 has been disconnected from any previously available fuel line. They use only natural gas in Boilers 1 and 4 and have not used diesel in them for years. They still have the old diesel storage tanks, but they are empty and not functional. Boiler 1 is a Babcock and Wilcox unit that was installed in 1947 and has a rating of 125,000 lbs steam/hour, and Boiler 4 is also a Babcock and Wilcox unit, installed in 1937, with a rating of 115,000 lbs steam/hour. Rob mentioned that they may be thinking about replacing these two boilers with a number of smaller boilers in the future.

FGBOILERS natural gas consumption records were requested and reviewed for the time period of February 2023 through January 2024. The facility is keeping track natural gas usage as required. The fuel oil tanks on-site are empty and did not require a sulfur certification. Currently FGBOILERS only uses pipeline quality natural gas.

One stack is listed in association with FGBOILERS. The stack appears to be consistent with the dimensions listed in MI-ROP-B1548-2020a.

### FGCAM-UNITS

This flexible group consists of equipment with particulate emissions that are subject to CAM at the facility.

The facility ensures compliance with FGCAM-UNITS by conducting daily visible emissions observations. Visible emission inspections are being done by maintenance and are kept on file. Records of the daily visible emission inspection were requested and reviewed for the time period of January 2022 through December 2023. The facility is keeping track of corrective actions that are done if VEs are observed and are following the MAP/PM plan as required. No visible emissions were noted during the site visit. The facility appears to be complying with the requirements of CAM.

### FG-MACT4Z-EMERG

The fire pump engine (EU\_52\_Fire) is tested each week by the facility's Fire Marshal. PF contracts Michigan CAT to perform the preventative maintenance work which were last performed on June 30, 2022, and June 30, 2023. The facility appears to be complying with MACT ZZZZ requirements.

### FG-RULE 287(c)

The facility has some ink jet printers that are being operated under the Rule 287(2)(c) exemption. Records show that they are under the 200 gallon per month limit. The hot melt process appears to be exempt from Rule 201 permitting per Rule 287(2)(i) exemption. They are keeping the appropriate records and submitting the necessary reports as required by this flexible group.

### FGRULE290

There are two emission units under FGRULE290, EU20115 and EU-PB\_Coating. PM and VOC emissions calculations show that these emissions units are in compliance with the Rule 290 exemption.

### FGCOLDCLEANERS

Two of the ten cold cleaners at the facility were observed during the inspection. Staff observed the immersion cold cleaner, which is the only cold cleaner that is different from the rest, and also one of the cold cleaners in Building 4. The lids were closed, and the rules were posted. All of the units are maintained and serviced by Safety-Kleen. The cold cleaners seem to be in compliance with the conditions of this flexible group.

PTI #1-23:

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PTI #1-23 was issued to the facility to switch control equipment serving FGBLD-29Cereal from Wetscrubber2934 to Cartridge Filter2934 and Wet Rotoclone2921 to Wet Scrubber2921. The facility is required to notify AQD within 30 days of the changing the control equipment. On March 7, 2024, the AQD received notification that Wet Scrubber2934 was changed to Cartridge Filer2934 in February 2024, which was within the require timeframe. The facility is still undergoing the change from Wet Rotoclone2921 to Wet Scrubber2921. See above for further information on FGBLD-29Cereal.

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PTI #10-24:

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PTI #10-24 was issued on February 2, 2024, to the facility to upgrade from a catalytic oxidizer serving FG2983CoatOxdOn and FG2983CoatOxdOff to a regenerative thermal oxidizer. PTI #10-24 will change the name of flexible groups FG2983CoatOxdOn and FG2983CoatOxdOff to FG2983CoatRTOOn and FG2983CoatRTOff. The facility has not yet begun construction of this project as of this inspection. See above for further information on FG2983CoatOxdOn and FG2983CoatOxdOff.

Compliance Determination

Based on the observations made during the inspection and review of the required records and reports, Post Foods appears to be in compliance with MI-ROP-B1548-2020a, PTI No. 1-23, and PTI No. 10-24, as well as all other State and Federal Air Pollution rules and regulations.

NAME Michael T. Cox

DATE 4/4/2024

SUPERVISOR 