

February 15, 2023

Certified Mail

EGLE, Air Quality Division  
Bay City District  
401 Ketchum St., Suite B  
Bay City, MI 48708

Certified Mail

Jenine Camilleri  
Enforcement Unit Supervisor  
EGLE, AQD  
P.O. Box 30260  
Lansing, Michigan 48909-7760

Subject: Response to VN 20230125 – Michigan Sugar Company – Caro Factory SRN B2875

Dear Mr. Gentle & Ms. Camilleri:

Michigan Sugar Company (MSC) respectfully submits this response to the January 25, 2023, Violation Notice issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

On December 1, 2022, a stack test was conducted which indicated that emissions from the EUPULPDRYER emission unit exceeded the allowable emission rates specified in Rule 331 of the administrative rules promulgated under Act 451, Table 31 (and Special Conditions (SC) I.1 and I.2 of MI-ROP-B2875-2019a).

The allowed maximum emission rates of particulate matter is 0.10 pounds particulate per 1,000 pounds of exhaust gas and 27.7 pounds per hour. However, actual emissions were recorded to be 0.149 pounds particulate per 1,000 pounds of exhaust gas and 37.70 pounds per hour.

Based on the testing report received on 1/3/2023, MSC immediately made the decision to keep the dryer shutdown (shutdown on 1/1/2023 due to other factory maintenance activities). The dryer was not run again until the engineering test which took place on 1/17/2023 and was promptly shutdown at the end of testing that day.

Prior to completing the engineering test, MSC personnel completed the following activities to determine the cause or causes of the elevated particulate emission rate.:

- Inspection of multi-clones and housing.
- Removed and replaced flighting within the drum of the dryer. Flighting aids in the distribution of the pulp (less large clumps). This task occurs on an as needed basis.
- Evaluated operating conditions during the 12/1/2022 stack testing.
- Discussion and review of proper operating procedures with both newer and tenured pulp dryer operators regarding best operating practices and emissions minimization best practices

As noted above, an engineering test was performed on January 17, 2023. During this testing, 4 sets of dryer operating conditions were evaluated to aid in setting operating parameter bounds for continued compliant operation of the pulp dryer. The results of the engineering test indicate that the dryer was operating in compliance during the informal emissions testing.

MSC Personnel have completed the following activities to investigate the root cause and to aid in the prevention of recurrence.

- Pulp Dryer Control Log has been updated to include operating boundaries based on engineering test. A copy of the updated form is included with this submittal.
- Creation of a map documenting the (internal) cyclone location within the multicclone control equipment which identifies cones have been replaced during annual inspection. This practice will aid in identifying unusual wear patterns within the innerworkings of the multicclone control equipment.
- Detailed Pulp Dryer Operation Standard Operating Procedures (SOPs) are in process. This includes learned experience and general operating knowledge from the dryer operators.

Additionally, the VN states that MSC failed to verify PM10 emission rates. MSC acknowledges that this testing was not completed; however, we also note the Company followed the Michigan EGLE-AQD approved test plan which did not include testing for particulates beyond U.S. EPA Method 17 (in-stack filtration method). Please note that the Caro Factory Pulp Dryer Emission Testing letter received from EGLE on 11/28/22 did not include reference to PM10 emission rate verification, or the updated ROP number MI-ROP-B2875-2019a. We have included a copy of the testing protocol approval letter from EGLE-AQD with this submittal.

During follow-up pulp dryer stack testing, MSC proposes to include EPA Method 202, for condensable particulate determination that may be used to interpret and evaluate PM10 emission rates in addition to the Method 17 filtration as a component of the testing protocol. The testing plan will be submitted to the AQD for review and comment/approval in keeping with the testing provisions of the ROP.

If you have any questions or require additional information, please contact me.

Sincerely,



Meaghan Martuch  
Air Compliance Manager  
Michigan Sugar Company  
Office: 989-686-0161, ext. 2236  
Cell: 989-780-2550

Enclosures

# Pulp Dryer Control Log

**Section 1:** Document required data in each column. Normal operating parameters are listed under each parameter.

**Section 2:** Any readings outside of listed ranges require an explanation and any actions taken to correct range exceedance shall be documented.

Note: low Dp readings may be due to shut-down or very recent start.

**Section 3:** Document total hours of operation for each shift as required.

Section 1: Operating Parameters										
Date	Time	Recirculation Flow (FGR)	Multiclone Differential Pressure (Dp)	ID FAN	Drum Exit Temp	Stack Exit Temp	Natural Gas Flow	Dried Pulp Moisture	Operator Initials	Natural Gas Meter Reading
		Min: 10,000 Max: 13,000	Min: 2 Max: 11 Target: 8-10	Min: 50 Max: 60	Min: 280 Max: 310	Min: NA Max: NA	Min: NA Max: NA	Target 10%		
		SCFM	Inches H2O	Hertz (Hz)	°F	°F	Ft <sup>3</sup>	% Moisture		
	7:00 AM									
	8:00 AM									
	9:00 AM									
	10:00 AM									
	11:00 AM									
	12:00 PM									
	1:00 PM									
	2:00 PM									
	3:00 PM									
	4:00 PM									
	5:00 PM									
	6:00 PM									
	7:00 PM									
	8:00 PM									
	9:00 PM									
	10:00 PM									
	11:00 PM									
	12:00 AM									
	1:00 AM									
	2:00 AM									
	3:00 AM									
	4:00 AM									
	5:00 AM									
	6:00 AM									

Section 2: Cause of range exceedance and corrective actions taken:

Section 3: Total Operating Hours			
	Shift 1	Shift 2	Shift 3
Operating			
Standby			



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
LANSING



LIESL EICHLER CLARK  
DIRECTOR

November 28, 2022

Meaghan Martuch  
Michigan Sugar Company  
122 Uptown Drive, Suite 300  
Bay City, Michigan 48708

SRN: B2875; Tuscola County

Dear Meaghan Martuch:

SUBJECT: Michigan Sugar – Caro Factory, Pulp Dryer Emission Testing, Permit: MI-ROP-B2875-2019; SRN: B2875

The Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) has reviewed the protocol for emission testing of the rotary kiln beet pulp dryer (EUPULPDRYER) at the Michigan Sugar – Caro Factory located on Peninsular Street in Caro. EUPULPDRYER will be tested for emissions of particulate matter (PM). This testing is required by Permit No. MI-ROP-B2875-2019.

Testing will be performed in accordance with Title 40 of the Code of Federal Regulations (40 CFR), Part 60, Appendix A, USEPA Methods 1, 2, 3A or 3B, 4, and 17 (Michigan Method 5B) and the Michigan Air Pollution Control Rules:

- Triplicate 60-minute runs will be performed for each pollutant;
- The absence of cyclonic flow will be documented on-site prior to starting a test;
- The Method 17 train will collect a minimum sample volume of 30 dscf per run;
- O<sub>2</sub>/CO<sub>2</sub> will be performed concurrently with the PM tests; and
- Emissions will be calculated as pounds per thousand pounds exhaust gas for PM, and pound per hour.

All requirements and specifications of the above methods apply; any modifications of the test methods on-site must be approved by the AQD.

Nathanael Gentle of the Bay City District office will coordinate process operation and the collection of operating parameter data during testing. Please contact 989-778-0025 or [GentleN@Michigan.gov](mailto:GentleN@Michigan.gov) with process and/or compliance related questions.

The pulp dryer will operate at maximum routine operating conditions during testing. Additional process requirements and/or the acceptability of operations is determined by the district.

The following operating parameter data will be recorded at 5-minute intervals during testing:

- Pulp dryer drum temperature;
- Primary and auxiliary recirculation air flow in ACFM;
- Differential pressure on multiclone;
- Feed screw speed;
- Fuel use; and
- Pulp dryer motor Hz.

The following operational parameters will be recorded:

- Press Pulp Moisture Content (%) each triplicate run;
- Dried Pulp Moisture Content (%) each triplicate run;
- Amount of dried pulp produced (weight) each triplicate run; and
- Density of dried pulp each triplicate run.

The test report will include:

- All pre-test and post-test meter box calibration, pitot tube calibration, and all handwritten field data sheets;
- The gas analyzer calibration error, system bias, zero and calibration drift data, and run data, all in tabular format;
- Complete laboratory reports that include all laboratory data;
- The production data listed above; and
- All aborted or failed runs must be included in the report.

**The report cover letter will include:** the permit holder name, permit number, facility SRN, emission unit(s), testing dates, and my name (Lindsey Wells).

**The first page executive summary will include:** in tabular format, the emissions results and emission limits expressed in the units of the permit limits.

Complete copies of the test report will be sent to the following locations:

Chris Hare  
EGLE, Air Quality Division  
401 Ketchum Street, Suite B  
Bay City, Michigan 48708

Technical Programs Unit  
EGLE, Air Quality Division  
Constitution Hall, 2<sup>nd</sup> Floor South  
525 West Allegan Street  
Lansing, Michigan 48933

Testing is scheduled for December 1, 2022. Please include a daily test schedule with the specific unit to be tested and test start times with the required 7-day test notification. Please provide notification of any change in the test date to Nathanael Gentle of the Bay City District Office at 989-778-0025 or [GentleN@Michigan.gov](mailto:GentleN@Michigan.gov), and to me. If you have any questions regarding this letter, please contact me at 517-282-2345 or e-mail at [WellsL8@Michigan.gov](mailto:WellsL8@Michigan.gov).

Sincerely,



Lindsey Wells  
Technical Programs Unit  
Field Operations Section  
Air Quality Division

cc: Stephan Byrd, Network  
Chris Hare, EGLE  
Jeremiah Brown, EGLE  
Nathanael Gentle, EGLE