

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

B287358143

| | | |
|------------------------------------------------------|-------------------------------|---------------------------|
| FACILITY: Michigan Sugar Company - Sebewaing Factory | | SRN / ID: B2873 |
| LOCATION: 763 N Beck St, SEBEWAING | | DISTRICT: Bay City |
| CITY: SEBEWAING | | COUNTY: HURON |
| CONTACT: Steven Smock, Environmental Engineer | | ACTIVITY DATE: 03/16/2021 |
| STAFF: Benjamin Witkopp | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MAJOR |
| SUBJECT: Facility inspection | | |
| RESOLVED COMPLAINTS: | | |

Ben Witkopp of the Michigan Department of Environment Great Lakes and Energy - Air Quality Division (AQD) met with Mr. Steve Smock of Michigan Sugar Company (MSC) on Tuesday, March 16, 2021. The facility is covered by a Renewable Operating Permit (ROP) MI-ROP-B2873-2019. The facility extracts sugar produced by sugar beets. Molasses and beet pulp, both pressed and pelletized, are additional products. Spent lime is another item, which is sold as a soil enhancement.

Operations at the MSC are truly seasonal, with sugar beet processing conducted during "campaigns." The day of the inspection turned out to be the last day of slicing beets and the end of the campaign. The final step is the "juice campaign" in which remaining unprocessed juice is processed into sugar. Sugar packaging can occur anytime of the year.

EUSUMBOILER (summer boiler) is a small natural gas fired exempt unit that is basically used as a standby source if more process steam is needed.

EUCEPACKAGEBOIL has dual fuel capability in that it can burn either natural gas or fuel oil. Fuel oil has not been used therefore visible emission reading requirements do not apply.

EUDRYER#3 is one of three pulp dryers. None of the pulp dryers were in operation. It should be noted there is an increased amount of wet pulp being sold for animal feed. Therefore, there may be an overall lessening for pulp to be dried, pelletized, etc. totally dependent upon customer needs. It has an hours restriction of 6,240 hours per campaign year and 1,032 hours during ozone season which is defined as May 1 through September 30. Actual hours of usage were 2,286.8 hours total and 494.5 hours during ozone season. It has VOC limits of 245 tons per year (tpy) and CO limits of 442 tpy. Both the VOC and CO limits are based on a 12 month rolling time period. Actual highest amounts were reported as 31.5 and 123.2 tpy respectively. Dryer 3 can be fired by natural gas or fuel oil. Fuel oil has not been used. Its particulate emissions are controlled by a multi cyclonic collector. The Malfunction Abatement Plan (MAP) and Compliance Assurance Monitoring (CAM) plan have one to nine inches of pressure drop as acceptable. Readings are recorded three times per shift. Typical readings were in the three to six inch range.

EULIMEKILN uses coke or anthracite coal as fuel to heat limestone rock. The kiln produces carbon dioxide and calcium oxide. Both gases are subsequently used in beet processing. The fuel has a percent sulfur limit of 0.7% by weight and a usage limit of 5,000 tons per 12 month rolling time period. The highest sulfur content as received was 0.68% for anthracite while 0.69% was the sulfur content for the small amount of coke used. The highest 12 month rolling usage of anthracite was reported as 274 tons and only 1.7 tons of coke. However, those values are incorrect as they represent a 12 month average and not a rolling 12 month total. Nevertheless, when the calculations are performed correctly the true highest tonnage on a 12 month rolling time period was 3,290.6 tons of anthracite. Adding in a one time use of 21 tons of

coke still results in overall usage well below the 5,000 ton limit. The company was informed of the incorrect record keeping.

FGBOILERS consists of the grouping of the east and west Wickes boilers. Control equipment consists of multiclones, high efficiency venturi scrubber, followed by a wet electrostatic precipitator (ESP). It should be noted the venturi and wet ESP were installed to meet the Boiler National Emission Standards for Hazardous Air Pollutants (NESHAP) maximum Achievable Control Technology (MACT) requirements. Readings of pressure drop across the multiclone are to be taken a minimum of one time per shift per day. The company incorporated air pollution control device readings directly into the operational logs kept for the boilers. The information is logged each hour. Pressure drops across the multiclones were typically in the range of two to four inches which are within the acceptable range of one to six inches. Pressure drop across the venturi scrubber ranged from 20 to 40 inches.

There is a requirement to calculate the acceptable sulfur content when adjusting the coal being used to the standard of 12,000 BTU per pound. The reason is complaint coal has a heat content of 12,000 BTU per pound at 1.5 % sulfur content. If the heat value of the coal being used is other than 12,000 BTU per pound then an equation found in Appendix 7 of the ROP must be used to determine the maximum allowable sulfur content. The heat value of the coal being used was 13,895 BTU per pound which equates to an acceptable sulfur content of 1.7 %. The coal actually had 0.55% sulfur. Though the records were available, they just took some time to acquire due to a transitioning period and subsequent appointment of a new environmental contact.

FGSTOKERBLRS-5D The control devices used to comply with the provisions of the boiler MACT consist of a venturi scrubber and wet electrostatic precipitator. Pressure drop across the venturi scrubber ranged from 20 to 40 inches. Water flow in the center was 300 to 400 gpm while at the ring it was 30 to 70. The wet ESP was running at 5.6 KW instantaneously and had been as high as 7 to 8 earlier in the year. The water flow rate for the membrane irrigation was 24 gallons per minute.

FGPULPDRYERS (EUDRYER#1 and #2) are capable of burning natural gas or being fired by fuel oil. Natural gas is the fuel of choice for the company and fuel oil has not been used. The units were not in use at the time. The units use multi cyclonic collector to control particulate emissions. Pressure drop readings are used to monitor the control device. The permit states one to nine inches of pressure drop is an acceptable range. Readings are recorded three times per shift. Typical readings were in the three to six inch range. The Malfunction Abatement Plan (MAP) and Compliance Assurance Monitoring (CAM) plan have 1-9 inches of pressure drop as acceptable.

In the pellet production area, dried pulp is transferred to pellet mills (FGRULE290, EUPULPDUSTCOLL), where the semi-dry pulp is pressed into pellets and cooled in a pellet cooler (FGRULE290, EUPELLETCOOLER). Pellets exiting the mills are cooled in a pellet cooler which uses a fan to draw ambient air through the moving bed of pellets. Cooled pellets are transferred by conveyors for storage onsite. The portion of Rule 290 applicable to the processes is found as 290 (2)(a)(iii). That provision basically concerns particulate sources controlled by fabric filter collectors handling less than 30,000 cubic feet per minute of exhaust.

Rule 285(DD) Exempt Equipment - In addition to the above process equipment, the facility has a number of pieces of equipment that MSC determined to meet the referenced rule exemption prior to the time of ROP existence. The equipment associated with sugar production and packaging activities are the granulator, powder mill, sugar cooler, and sugar dust collector.

Exhaust for the referenced units are reported to be controlled by bag houses. MSC checks pressure drops and visible emissions (VE). Checks are conducted and recorded on a log once per shift to confirm that the equipment is operating properly.

FGRULE290 Emission units associated with this flexible group include the pellet mills, pellet handling and pellet cooler. The referenced units are controlled by dust collectors/baghouses and are reported to be exempt under Rule 290. VE are monitored and recorded by the operator once per shift.

MSC staff have previously found that based on ACFM and pollution control capacities the emission units in the flexible group are at or below the 500 lb/month limit. Additionally, the units are said to rarely run a full month and thereby do not exceed the emission limit. This is consistent with the explanatory language previously stated for the pulp dryers. That is, a large amount of pressed pulp is sold for cattle feed and therefore does not get dried and pelletized.

The site does have a fugitive dust plan. The person responsible for records was not available at the time. Eventually the records were furnished. The records indicated the days of sweeping and / or dust suppressant application. The records also indicated where such actions were taken and the type of suppressant used, if any. Records also showed the purchase of mineral well brine. It should be noted the plan was originally required as the result of complaints along Rose Island Rd. Since then MSC has purchased all properties along the road with the exception of one parcel where a house sits far back from the road. MSC staff wondered if the fugitive dust plan requirement could be abandoned. Though a total abandonment of the requirement is unlikely due to MSC high truck traffic use along M-25 there is always the opportunity to propose a modification. At this point, Rose Island Rd continues to cross through the sites piling grounds thereby having traffic potential. MSC did indicate there is a likelihood of the company pursuing a legal road abandonment for a large portion of Rose Island Rd.

Lastly, the existing ROP is being contested. At this point, two subjects are under particular scrutiny. The subject of visible emissions requirements is under consideration as well as boiler MACT requirements. As such, requirements involving these topics were not part of the inspection focus.

NAME

B. Litzkeff

DATE

7-2-21

SUPERVISOR

Chris Hare