

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

N775663314

FACILITY: CELLULOSE MATERIAL SOLUTIONS		SRN / ID: N7756
LOCATION: 2472 PORT SHELDON ST, JENISON		DISTRICT: Grand Rapids
CITY: JENISON		COUNTY: OTTAWA
CONTACT: Mike Steigenga , Director of Maintenance		ACTIVITY DATE: 06/22/2022
STAFF: Chris Robinson	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: FY'22 inspection to determine compliance status with respect to PTI 27-07 and other applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

I - Introduction

Chris Robinson (CR) from the Department of Environment, Great Lakes, and Energy's (EGLE) Air Quality Division (AQD) was on site to conduct inspections of Cellulose Materials Solutions Inc. and Nu-Wool Company Inc. on June 22, 2022. Both companies are located at 2472 Port Sheldon Street in Jenison, Michigan. Prior to entry CR surveyed the perimeter of the companies for odors and visible emissions. None were observed. Weather conditions were fair with a temperature of approximately 80°F and west-northwest winds at 10 mph (www.weatherunderground.com).

CR met with Mike Steigenga, Director of Maintenance. Proper identification was provided, and Mr. Steigenga was informed by CR that the purpose of the visit was to conduct a routine inspection. Mr. Steigenga provided a walkthrough of the facility and pertinent information regarding the process and process equipment.

II - Facility Description

The facility consists of two separate companies, Cellulose Material Solutions LLC. (CMS, SRN N7756) and Nu-Wool Company Inc. (SRN N7509). Since both companies are located in the same building, under common ownership and one receives raw material from the other, they are considered one stationary source. However, during the permitting process in 2007 the two facilities were incorrectly given their own separate SRN's. The two companies should be combined into SRN N7509 which is currently used for Nu-Wool. Since they are one stationary source applicability to all air quality rules and regulations MUST take into consideration both companies. If a Facility-wide Title V Opt-out permit is ever required, it must include both companies and emissions from both companies must be tracked as one.

CMS manufactures cellulose-based insulation panels by blending cellulose material from Nu-Wool, and synthetic fibers into a non-woven batting. The batting is form pressed and heated to produce a flexible or rigid insulation panel. Heat used in the forming press is generated by use of a Heatec 2,500 MBH (~2.5 MMBTU/hr.) natural gas-fired boiler. The process conveys raw materials from one process stage to another.

III - Compliance Evaluation

CMS operates under PTI 27-07. An inspection of Nu-Wool was conducted concurrently and is discussed in Activity Report CA_N750963315.

1) PTI No. 27-07

CMS now operates two (2) panel lines. PTI No. 27-07 is only for the existing panel line.

Panel line 1 (EUInsPanels) is subject to Particulate Matter (PM) emission limits of 0.01 lbs. per 1,000 lbs. of exhaust gas for PM and 1.8 pounds per hour for PM10. Compliance with these limits is demonstrated by properly maintaining and operating the baghouses. Cellulose material covered equipment and ductwork inside the boiler room where one of the baghouses (Pneumafill 50,000 cfm) is located and a small amount was observed outside (see pictures below). Based on these observations, it appears that this baghouse is not being operated and/or maintained properly which is a violation of Special Condition 1.4 of the PTI and Rule 910 of Michigan's Air Pollution Control Rules. No visible emissions were observed exiting the stack, therefore at this time improper operation/maintenance is not being considered a violation of the emission limit.

In addition, Rule 370 of Michigan's Air Pollution Control Rules requires the collection and disposal of a collected air contaminant be conducted in a manner that minimizes introduction to the outer air. The large amount of dust and debris covering the equipment, the ductwork, the baghouse, and observations of material outside on the ground represents a violation of Rule 370 of Michigan's Air Pollution Control Rules.

Special Condition (SC) 1.2 requires visible emissions from the baghouses to not exceed a six-minute average of 5%. No visible emissions were observed from the baghouse exiting the stack during the inspection. CR discussed the visible emission requirement with Mr. Steigenga, also asking if staff are routinely monitoring stacks for visible emissions, and they are not.

Special Condition 1.3 prohibits operation of EUInsPanels unless a Preventative Maintenance Plan (PMP) is implemented and maintained. The PMP requires daily observations and recording of the baghouse pressure drops while the process is in operation (SC 1.3(a)) and daily uncertified visual emission observations (SC 1.3(b)). Per Mr. Steigenga neither are being conducted, which is a violation of these conditions. In addition, since they are not being conducted this also represents a violation with the recordkeeping requirement specified in SC 1.5.

Since the baghouses do not appear to be properly maintained and/or operated it is possible that the facility is exceeding the PM emission limits specified in SC 1.1a and 1.1b of the PTI. However, since no testing has been conducted, it is unknown if there is an emission limit exceedance.

2) Rule 201 Permitting

Recently, Panel Line 2 was installed. Final setup of this line's natural gas fired 2,500 MBH (~2.5 MMBTU/hr.) boiler was taking place during the inspection. Line 2 is set up identically to the first line and is operated similarly, the main difference being that the synthetic fiber is the only raw ingredient. Mr. Steigenga provided a Rule 291 demonstration claiming the line is exempt from Rule 201 permitting for particulate (PM) emissions. Since the demonstration provided did not include calculations CR reached out to their consultant, with approval from Mr. Steigenga, on July 6, 2022, for clarification. Based on the calculations provided emissions are based on a "Dust Loading Rate" and "Fiber Process Rate" which, according to their consultant, was determined by testing conducted by the facility which is the "testing conducted on a similar line..." referenced in the determination. After further discussion with the facility's consultant, it was noted that the "similar line" was Panel Line 1. Although, the equipment is similar and the lines function in a similar manner, the raw materials used and the final product are different. Panel Line 1 uses both Cellulose and poly fibers where Panel Line 2 only uses poly fibers. Therefore, testing data for Panel Line 1 cannot be used for Panel Line 2.

In addition, under Rule 291, potential emissions must be determined without consideration of any control device. Therefore, the only restriction that can be used in this situation is Rule 331(1)'s Table 31(J) maximum PM emissions of 0.1 lbs. per 1,000 lbs. of exhaust gas. Using Rule 331, the potential PM emissions would be approximately 160 tons per year which is well over the 5-ton limit allowed by Rule 290. Therefore, installation of Panel Line 2 required a permit which is considered a Rule 201 violation.

Please note that although the boiler for Panel Line 2 appears to be part of the line (emission unit) it was not included in the Rule 291 demonstration nor has the facility claimed an exemption.

3) Sourcewide Issues

At CMS, Panel Line 1 utilizes one (1) older permitted 50,000 CFM baghouse (Pneumafil) and one (1) newer unpermitted 25,000 CFM baghouse (MACT brand) baghouse. The company has not provided an exemption for the newer MACT baghouse nor has the permit been modified to include it. Panel Line 2 utilizes three (3) new unpermitted 25,000 cfm MACT brand baghouses. Nu-wool utilizes one unpermitted baghouse and two permitted baghouses. The combined CFM for the five (5) unpermitted baghouses (1 at Nu-Wool and 4 at CMS) would be approximately 125,000 CFM (25,000 CFM each). Since these baghouses are not limited by a permit, the enforceable limit PM limits for the baghouses is Michigan's Rule 331(1) Table 31(J) of 0.1 lbs. PM per 1,000 pounds of exhaust gas. Based on this limit, the potential to emit would equal approximately 265 tons per year. The Title V applicability threshold for PM is 100 tons per year. Any source that has a PTE of greater than Title V Thresholds needs to either operate as a Title V

source or obtain an Opt-out permit with enforceable restrictions to limit the facility wide PTE. It is AQD's recommendation that Nu-Wool/CMS obtain a Title V Opt-out Permit.

IV - Compliance Determination

Based on the observations, discussions, and records review, Cellulose Materials Solutions is not operating in compliance with applicable air quality rules and regulations. Specifically, the installation of the new line without an appropriate exemption or a permit is a Rule 201 violation. Also, the facility is not complying with the Preventative Maintenance Plan requirements listed in SC 1.3(a) and 1.3(b) or the associated recordkeeping requirement specified in SC 1.5. Also, the baghouses are not being properly operated/maintained as required by SC 1.4. Failure to comply with proper operation and maintenance requirements is a Rule 910 violation and failure to properly collect and dispose of an air contaminant in a manner that minimizes its introduction to the outer air is a violation of Rule 370. A Violation Notice will be issued.

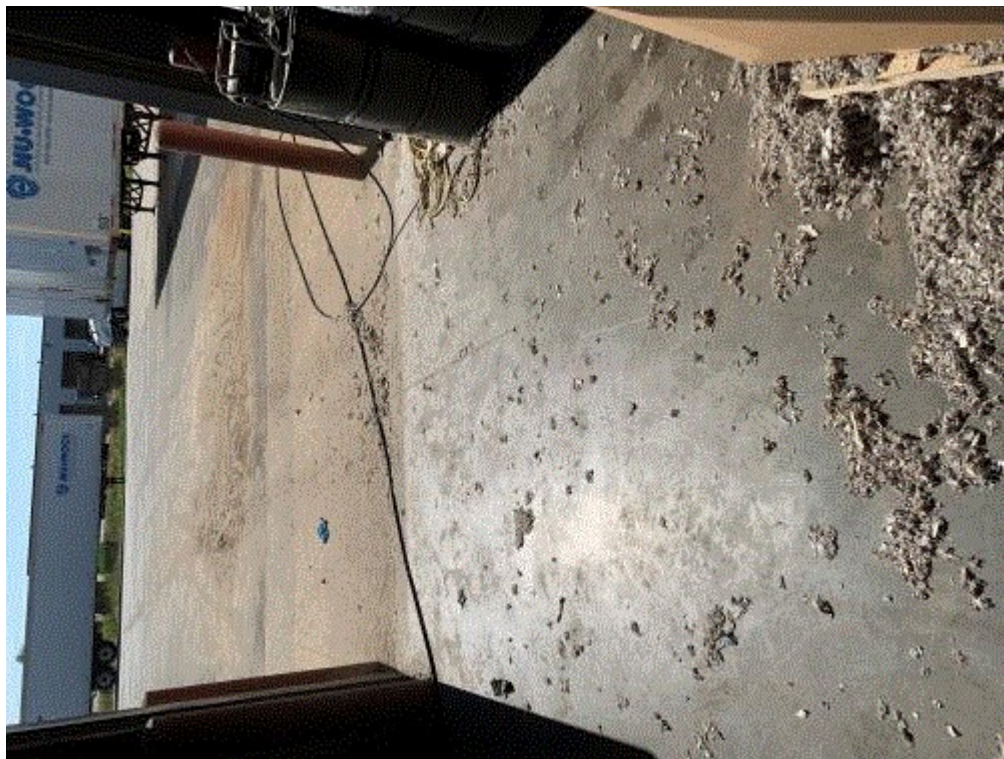


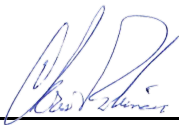
Image 1(Pneumafill Baghouse) : Looking East with boilers on the right and the baghouse on the left.




Image 2(Pneumafill Baghouse) : Dust/debris accumulating on the baghouse ductwork.



Image 3(Pneumafill Baghouse) : Dust/debris accumulating on other equipment near this baghouse.

NAME  _____

DATE 8/2/2022

SUPERVISOR  _____