

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

N679873095

FACILITY: Magnum Coffee Roastery		SRN / ID: N6798
LOCATION: 1 Java Blvd, NUNICA		DISTRICT: Grand Rapids
CITY: NUNICA		COUNTY: OTTAWA
CONTACT: Mark Stedman , General Manager		ACTIVITY DATE: 08/13/2024
STAFF: Chris Robinson	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: FY '24 onsite inspection to determine this facility's compliance status with respect to applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

Introduction

Staff Chris Robinson (CR) from Michigan's Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) conducted an onsite inspection at Magnum Coffee (SRN N6798) located at 1 Java Boulevard in Nunica on August 13, 2024. Prior to entry CR surveyed the perimeter of the facility along Power Drive and Cleveland Street for odors and visible emissions, none were observed. Weather conditions were approximately 75°F, fair conditions with southeast winds at approximately 5 mph (www.weatherunderground.com).

CR met with Mark Stedman, General Manager. The purpose of the inspection was relayed, which was to determine this facility's compliance status with respect to applicable state and federal air quality rules and regulations and to follow up on the status of the afterburners being installed to address the May 9, 2022, violation notice. Mr. Stedman provided a walk-through of the facility, noting that one of the three afterburners was installed recently but there was not enough room behind the roaster due to minimum piping dimensions required. The facility has decided to remove one of the old roasters that has been decommissioned. That space will be used to locate the three new afterburners. The installed afterburner was sent back to the manufacturer and readjusted to account for its new location. Per conversations with Mr. Stedman on September 19, 2024, the afterburner manufacturer attempted to install the afterburners on September 17, 2024, but due to clearance issues the facility filled up with smoke and could not continue. The facility is working with the manufacturer to determine how to proceed but still intends on installing the afterburners.

Facility/Process Description

Magnum Coffee roasts green coffee beans which are then either packaged whole or ground and then packaged. This facility has four (4) coffee roasters, seven (7) packaging lines which include two (2) K-cup lines, five (5) bag lines and two (2) hot melt systems for box assembly.

The general coffee roasting process is conducted in the following manner:

Green coffee beans are added to an elevator that loads the roasters where the beans are heated by direct flame to approximately 450°F. The exhaust stack is closed off allowing the heat to recirculate through the roaster, aiding in the removal of the coffee bean chaff. The exhaust is passed through a cyclone where the chaff is separated and collected in a container adjacent to the roaster. Once the roasting period is complete the recirculation valve is switched allowing the roasters to vent through the exhaust stack to ambient air. A water mist is injected directly onto the coffee beans cooling them to prevent further roasting. Once the beans are cooled, they are transferred to a de-stoner to remove any stones collected during harvesting, bagged, and then stored until further processing/packaging is required where packaging is sealed closed with a hot melt adhesive. This process is then repeated approximately every 30 minutes throughout the day.

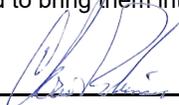
Rule 201 Permitting Evaluation

The facility claimed the hot melt adhesive application exempt from Rule 201 permitting requirements per Rule 287(2)(i) for hot melt adhesives and the roasters under Rule 290. Rule 290 limits emissions of Volatile Organic Compounds (VOCs) from individual emission units (each roaster) to 1,000 lbs./month uncontrolled and 500 lbs./month controlled. Since the control device is not yet installed each emission unit is limited to 1,000 lbs./month. Based on an AP42 emission factor of 0.86 pounds of VOC emissions per ton of beans roasted the month with the highest VOC emissions thus far in 2024 was July at 137.93 pounds for Roaster M-JS3. Since the roaster also has Particulate Matter (PM) emissions, Rule 290 requires those emissions to be controlled by a control system (<30,000 cfm) that is designed to control PM to a concentration of less than or equal to 0.01 pounds of particulate per 1,000 pounds of exhaust gas and have an opacity of less than 5%. Although VOC emissions are within Rule 290 limits, the facility is not operating a control device for PM emissions as required by the exemption. Therefore, Rule 290 cannot be used, which is considered a Rule 201 violation for operating without a Permit to Install (PTI). A PTI would also require control.

Although a Rule 201 Violation was not issued for this, the facility was issued a Rule 301 violation on May 9, 2022, for having opacity greater than 20%. The facility has committed to installing afterburners to control PM emissions and they have been working with companies and suppliers to make the retrofits.

Conclusion

Based on observations, discussions, and a records review, Magnum Coffee is not operating in compliance with applicable air quality rules and regulations. However, the facility is in the process of installing appropriate control technology that is expected to bring them into compliance. Therefore, no additional violation notices are being issued at this time.

NAME DATE 9/24/2024SUPERVISOR 