

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N679848812

FACILITY: Magnum Coffee Roastery		SRN / ID: N6798
LOCATION: 1 Java Blvd, NUNICA		DISTRICT: Grand Rapids
CITY: NUNICA		COUNTY: OTTAWA
CONTACT: Tanner Hubert, Operations Manager		ACTIVITY DATE: 05/09/2019
STAFF: Chris Robinson	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: FY'19 on-site inspection to determine the facility's compliance status with respect to applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

On May 9, 2019 Chris Robinson (CR) from the AQD was onsite to conduct a scheduled unannounced inspection of Magnum Coffee Roastery (SRN N6798) to determine the facility's compliance status with respect to applicable air quality Rules and Regulations. The facility is located at 1 Java Boulevard in Nunica, Ottawa County, Michigan. CR met with Mr. Carl Cummings, Production Supervisor. Intent of the inspection was relayed, and identification provided. CR followed up with Mr. Tanner Hubert, Operations Manager by phone on 5/14/2019 as well as a second on-site visit on 5/15/2019.

On May 9, 2019, weather conditions were mostly cloudy with a temperature of approximately 43°F. Winds were coming out of the west south-west at approximately 13mph (www.weatherunderground.com). CR surveyed the perimeter of the facility along Power Drive and Cleveland Street. Visible Emissions (VE) and odors were observed along Power Drive, see pictures below. An official VE reading was not taken due to the high position of the sun relative to the observer (CR) and the lack of a proper background. In addition, the separation point between steam and moisture was difficult to determine based on the location of the observer.

Facility Description/Compliance Evaluation

Magnum Coffee Roastery (Magnum) 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. In the past, this facility has elected to operate the roasters under Rule 290, exempting the roasters from Rule 201 permitting requirements. The remaining equipment has been added since the last inspection conducted on May 12, 2011. The Hot melt adhesive system appears exempt from Rule 201 permitting requirements per Rule 287(2)(i). There are no active Permits for this facility.

CR met with Mr. Cummings on May 9, 2019 who asked if the AQD could return when Mr. Hubert was present and available. CR requested a walk through and discussion with follow-up with Mr. Hubert at a later date, if needed. CR discussed the process with Mr. Cummings and requirements for using Rule 290. Mr. Cummings is new to the facility and unaware of any Rule 290 records. A walk-through of the facility was provided and the VE observed prior to the inspection was discussed. Magnum is planning on replacing the three (3) remaining older roasters, which will be equipped with afterburners.

Mr. Cummings provided a tour of the facility but was unable to provide detailed information regarding the type of emission control equipment being used. Therefore, CR followed-up with Mr. Hubert later that week, by phone, and scheduled a follow-up onsite meeting for 5/15/2019, to discuss the equipment and short-term options for minimizing opacity until the new roasters are installed in July 2019. Mr. Hubert provided a detailed tour and per discussions and observations, the following equipment includes two (2) Jabez 450-pound units both equipped with heat recirculation and one of the two are equipped with an afterburner. There is also one (1) Probate, which is the newest of the four (4) roasters but was operational and observed during the previous inspection on May 12, 2011. The Probate is equipped with both heat recirculation and an afterburner. Finally, Magnum has 1 Barth unit that is only equipped with heat recirculation. For all of the units, heat for roasting is generated by direct flame at approximately 450°F which is recirculated throughout the unit with no stack exhaust.

The two units equipped with afterburners are operated with an afterburner temperature of approximately 1,000°F. CR informed Mr. Hubert that 1,400°F is typically required to meet a destruction efficiency required to eliminate visible emissions. CR asked that Magnum increase this temperature, which Magnum has noted in the past as corrective action to address VE issues observed by the previous AQD inspector. Mr. Hubert indicated that the temperature was fixed and could not be adjusted. In the past, the facility believed that the heat exchangers would act as afterburners. The heat being recirculated is only as hot as the roasters get, which is 450°F, therefore the heat exchangers cannot be used as an afterburner to control emissions. Recirculation does help reduce particulate matter by aiding in the removal of the chaff.

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. Chaff is the main source of Particulate Matter generated. The exhaust is passed through a cyclone and the chaff is separated and collected in a container adjacent to the roaster. The collected material is then disposed of. Although, emissions are not being exhausted through the stack, they are considered to be fugitive and still need to be tracked. Once the roasting period is done, which is dependent on product/customer specifications, the recirculation valve is switched allowing the roasters to vent through the stack to ambient air. A water mist is injected directly onto the coffee beans cooling them to prevent further roasting. It is during this time period that steam, and opacity can be observed outside exiting the exhaust stacks (see attached pictures below). Once cooled, the beans are transferred to a de-stoner to remove any stones collected during harvesting. The beans are then bagged and stored until further processing/packaging is required. This process is then repeated approximately every 30 minutes throughout the day.

Visible Emissions, odors, process and equipment specifications and required record keeping was discussed. CR informed Mr. Hubert that VE was observed but an official reading could not be taken at that time, as mentioned above. The process of how readings are taken, and the accuracy was discussed, and CR provided examples as well as a current EPA Method 9 certification. CR informed Mr. Hubert that VE readings consist of the average opacity taken over a 6-minute period. However, this does not mean that the equipment has to operate for six minutes. The 20% maximum can be exceeded in less than 6 minutes if the opacity being observed has a high enough concentration.

Rule 290 requirements were also discussed, and CR requested records demonstrating that Magnum is in compliance with the monthly emission limits. Per Mr. Hubert no records are being maintained nor are emissions being tracked. On May 16, 2019, CR provided, by email, an EPA document with applicable emission factors and process/pollutant information for the coffee industry as well as a Permit to Install Exemption Handbook and an example of what Magnum provided the AQD in the past for records. In that request CR provided a deadline for providing emission calculations by May 31st, because Mr. Hubert was going to be out of town the following week, but CR requested monthly batch records with a Friday May 17, 2019, deadline. The short notice seemed reasonable since Mr. Hubert indicated during the May 15, 2019, meeting that batch records are maintained and readily accessible on his computer. Nothing was received by this date, therefore CR contacted Mr. Hubert on May 24, 2019, who indicated that he was out of town and unable to work on it, but records would be provided by April 31, 2019.

The AQD has provided the facility with more than enough time and information than what is required of the AQD. It is the facility's responsibility to demonstrate compliance with applicable rules and regulations. As of June 4, 2019, the AQD had not received the requested records. This is considered a Rule 201 violation and a Violation Notice will be issued.

In addition, CR informed Mr. Hubert on May 15, 2019 and again by email on 5/16/2019, which is attached, that as Magnum moves forward with the new roasters, they will need to determine if the units need to be permitted or qualify for a Rule 201 permit exemption. If exempt, then Magnum Coffee will need to demonstrate such and maintain records as needed per the rule. If not exempt, then Rule 201 prevents the installation of the equipment without a permit as stated below:

Rule 201. (1) Except as allowed in R 336.1202, R 336.1277 to R 336.1291, or R 336.2823(15) a person shall not install, construct, reconstruct, relocate, or modify any process or process equipment, including control equipment pertaining thereto, which may emit any of the following, unless a permit to install that authorizes such action is issued by the department.

The June 24, 2010, AQD inspection report noted that formaldehyde and acetaldehyde, which are considered to be Hazardous Air Pollutants (HAPs), were missing from the facility's Rule 290 records and therefore needed to be added. On 5/31/2019 CR requested SDS's for the top two (2) flavors used. Neither a response nor acknowledgement of the request has yet to be received by the AQD.

Conclusion

As discussed above, Magnum Coffee Roastery does not appear to be in compliance with applicable Air Quality Rules and Regulations. Specifically, the operation of unpermitted equipment. A Violation Notice will be issued.



Image 1(Magnum Coffee (1)) : Looking West Towards Magnum Coffee



Image 2(Magnum Coffee (2)) : Looking West Towards Magnum Coffee

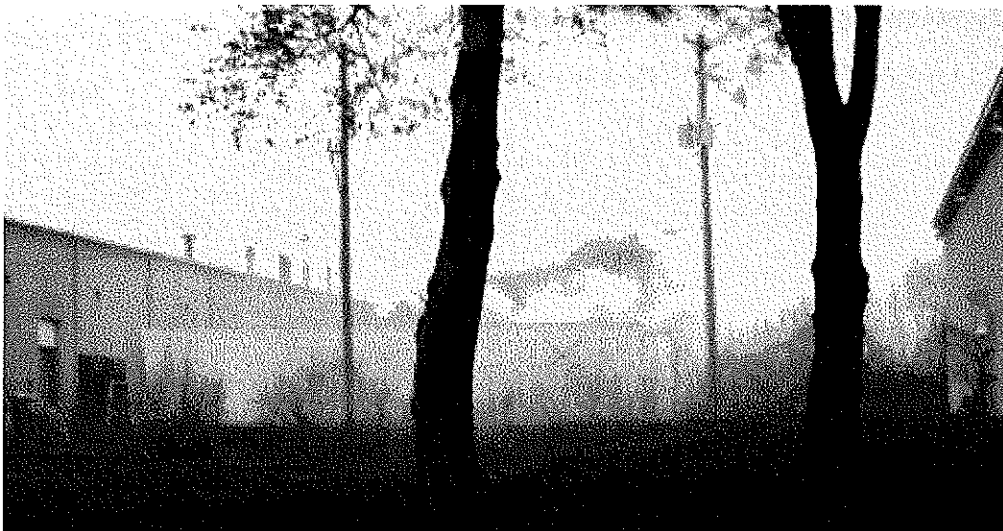


Image 3(Magnum Coffee (3)) : Looking West Towards Magnum Coffee



Image 4(Magnum coffee (4)) : Looking West Towards Magnum Coffee

NAME Chris Roberts

DATE 6/6/2019

SUPERVISOR [Signature]