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

P100073899

FACILITY: Quality Roasting, LLC		**SRN / ID:** P1000
LOCATION: 135 S. Bradleyville Road, REESE		**DISTRICT:** Bay City
CITY: REESE		**COUNTY:** TUSCOLA
CONTACT: Jason Kain , Plant Manager		**ACTIVITY DATE:** 09/05/2024
STAFF: Benjamin Witkopp	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Facility inspection		
RESOLVED COMPLAINTS:		

On September 5, 2024, Ben Witkopp of the Michigan Department of Environment, Great Lakes, and Energy - Air Quality Division (EGLE-AQD) inspected Quality Roasting (QR), located at 135 South Bradleyville Road in Reese Michigan. New AQD staff Haley Willman and Erin Sheridan were also present. Jeff Laverty was the factory manager for QR but had left to take another position. Jason Kain was the new manager. Jason said he was previously the manager for Michigan Sugar Company's Bay City factory. Jason was in a meeting but stepped out to introduce himself and allowed me to start giving a facility tour to the new AQD staff. He would catch up later.

The facility processes soybeans into oil and meal. The facility is covered by air use permit 61-20B. The facility receives and stores both conventional and organic soybeans. The soybeans are screened, cracked, roasted, oil is extruded, and the remains then pressed. The end products are soybean oil and soybean meal. The products are not food grade. No solvent is used in production so the facility should not be considered a solvent extraction process. The process relies on heat, friction, and pressure to produce the soybean oil and meal.

The changes that resulted in issuance of permit 61-20B included the addition of a second larger roaster, a fourth press, an additional cyclone and stack for the meal cooler, and a 10 silo addition to the meal load out. Other points to note are there are still three extruders, however rather than using two of them, with one in reserve, all three are being used. Two extruders can feed 4 presses with one extruder held in reserve. However, they run all three extruders to lessen the overall burden and they also found out the extruders have maintenance issues no matter how they run them.

The additional press debottlenecked the facility production, though there aren't recognized emissions coming from the presses. The debottlenecking of the operation increased production which in turn created the need for an additional cyclone and fan to be iinstalled on the meal cooler to allow for more cooling.

The second roaster that was added was an Eagle 4 which has a greater capacity than the Eagle 3 that was original to the facility. It is equipped with 2 cyclones similar to the Eagle 3. The annular zone of the burner was modified in the Eagle 4 too. The change helped prevent maintenance issues and also dramatically cut fuel use and corresponding emissions. The straightening vanes in the stacks for the Eagle 3 remained in place and similar vanes were added to the stacks of the Eagle 4 to prevent cyclonic flow for future stack testing. It should be noted the current permit has added limits on the daily tons of soybeans processed by each roaster. Previous engineering testing correlated process weights to the hz from the individual roasters. Setpoints were subsequently established for the roaster and locked into the controls in the operations room. The maximum hz for roaster one is 22 hz while roaster two is 46. At the time roaster one was running at 15 hz while roaster two was fluctuating between 27 and 30 hz. The hz are recorded and used to determine production levels for each roaster.

The facility had 6 silos for meal load out. An additional 10 were installed. Each silo can hold 100 tons of meal. Due to dispersion modeling issues during permitting, there were additional requirements placed on the meal load out area. The open area between the two sets of silos was enclosed with large garage style doors on either end. Only one door must be closed during truck loading to eliminate the wind tunnel on the east - west facing load out area. Meal from overhead

silos was to be trasferred into trucks via a telescoping loading spout. The use of such a spout which collects dust emissions directly at the point of generation dramatically cuts down on emissions. The captured dust is routed to a baghouse dust collector. In reality the collector is a combination unit. The unit uses a cyclone on top of a baghouse. However, the company failed to contain the resulting captured material. It was openly pouring into a wheelbarrow and the grassy area surrounding was covered. This was discussed with Jason since the entire purpose of the loading spout, doors, enclosure between the load outs, and the dust collector was to keep the dust contained. Jason understood and agreed it needed correcting whether or not it was required by the permit. It should be recognized the material is product. Jason and I agreed the collected material could be directly augered up from the dust collector and placed into a silo. However, it should go into a silo designated for conventional meal. The current situation is a violation of permit conditions as it can not be rectified in short order. FG-PROCESS IV 10 is involved as well as AQD Rules 910 and 370..

Jason went back to finish up his meeting while AQD staff finished walking the site. Dust was readily visible from the receiving pit while beans were being unloaded. The collection point of material from the screener was an open hopper while the permit says the screener should be totally enclosed. That is a violation of FG-PROCESS IV 1. Another day bin had been installed as well as another larger storage bin. The bins were going to be used for high oleic soybeans which have a higher protein content. An exemption determination for the bins had been provided by Bruce Connell of Environmental Partners Inc (EPI). Bruce is QR's consultant. QR is exploring various means of controlling or eliminating the generation of dust when the bins are being filled. If the means do not work, either the bins must be permitted or other control measures used for a new exemption determination.

Jason and I agreed to discuss AQD in general, go over the permit in detail, talk about fugitive dust control on roadways, and review records the next day. On Friday, September 6, 2024 those items were addressed. The files of fugitve dust records were scanned but were too big to send so I created a shared file folder for him to use. We agreed that production records were best acquired by dealing with Erin Davis, the CEO of QR. Erin held various positions in the company before becoming the CEO in the late spring of 2024.

Jason also provided a brief tour of the the soybean oil purification plant / refinery being constructed on the south east portion of the parcel. The facility is designed to bring soybean oil up to human food grade. Bruce had provided an exemption determination prior to commencement of construction. Jason said the facility could purify the soybean oil on site as well as oil produced by others. We discussed the means to differentiate between the two sources since QR's production side has limits on the amount of oil it can produce.

Records of visible emissions (VEs) and subsequent actions were reviewed. Clearly there were difficulties early on due to improper positioning of the observer in relation to the sun, describing the action, if any that were taken when dust was observed etc. Observations are required for the two large storage bins, and roadways. Later records tended to correct observation points but actions taken were sometimes unclear or completely missing. Though improved and correctable the miscues are considered violations of FG-STORAGE VI 1 and FG-DUST VI 1,2, and 3. QR uses a soybean oil / water mixture for dust control on roadways.

Records were requested from Erin but not received. Another request was made a week later and records were received. The records did not appear to be corrected to 13% moisture content as required; if they were, it was not evident. The records also used an average tons per day for a given month rather than daily. These errors as well as some terminology uses were pointed out with corrections being made in short order.

Roaster one has a daily production limit of 168 tons per day (tpd). The highest was 161 tpd. Roaster two is larger and has a limit of 351.5 tpd. The highest production level was 341 tpd.

There is a limit of 379,234,000 pounds of soybeans received on a 12 month rolling time period. 253,369,953 were received. Soybean oil has a production limit of 49,300,554 pounds on a 12 month rolling time period. 35,003,940 pounds of soybean oil were produced.

CONCLUSION

The facility hasbeen involved with AQD enforcement and is agreeing to the terms of an administrative consent order. The noted failure to fully enclose the screener discharge as well collect the dust captured from meal load out are permit violations. The deficiencies in fugitive dust observation and control are also permit violations. However, due to the time frame in which the violations were discovered they would NOT be included in, or subject to, the terms of the consent order.

NAME B. Luttrell DATE 9-30-24 SUPERVISOR Gina L. McCann