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

N083051441

FACILITY: QG Printing II LLC		**SRN / ID:** N0830
LOCATION: 1321 Van Deinse Street, GREENVILLE		**DISTRICT:** Grand Rapids
CITY: GREENVILLE		**COUNTY:** MONTCALM
CONTACT: Dan Nichols , Maintenance Manager		**ACTIVITY DATE:** 11/20/2019
STAFF: Adam Shaffer	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled unannounced inspection.		
RESOLVED COMPLAINTS:		

Air Quality Division (AQD) staff Adam Shaffer (AS) arrived at the QG Printing II LLC (QG) facility located in Greenville, MI at 10:07am on November 20, 2019 to complete a scheduled unannounced inspection.

Facility Description

QG is a printing company. The facility is an opt out source for hazardous air pollutants (HAPs) and volatile organic compounds (VOCs) and is in operation with Opt Out Permit to Install (PTI) No. 598-96. The site currently operates twenty-fours a day with multiple shifts.

Offsite Compliance Evaluation

Due to the timing of the inspection, the 2018 Michigan Air Emissions Reporting System (MAERS) Report was reviewed. Initially, errors were noted for HAP emissions in the 2018 MAERS Report when compared to the records received. When this was discussed with QG staff it was determined that the reported emissions in the 2018 MAERS Report were more conservative based. Additional minor errors were noted in the remainder of the MAERS Report; however, it was determined that overall, the 2018 MAERS Report appeared to be acceptable.

Compliance Evaluation

Prior to entering the facility, offsite odor and visible emission observations were completed. Weather conditions at the time of the inspection were cloudy skies, temperatures in the high 30's°F, and winds from the south/southwest at 0-5 mph. Odors consisting of plastic, paper and burnt material were noted in areas to the east and northeast of the site, however, no recent odor complaints have been received regarding QG. No emissions were observed.

Upon entering the site, AQD staff AS met with Mr. Daniel Nichols, Production Support Manager, and Mr. Joe Howard, Manufacturing Manager, who provided a tour of the facility and answered site specific questions. Additionally, AQD staff AS spoke with Ms. Lacey Schucht, QG Regional Compliance Manager, via a teleconference call at the start of and the end of the inspection regarding various record specifics. Records were provided during and after the inspection.

Opt Out PTI No. 598-96

QG has in operation eight presses at the site currently with additional details for each press discussed below

EU400 –This is for the 400-press line. The line is two 400-presses that can operate separately or together depending on the job being completed. Each 400-press consists of eight units and has their own respective dryer. These two 400-presses are controlled by one catalytic oxidizer

(CO). PTI No. 598-96 states an 85% VOC control for this line.

EUABC – This is for the three C-450 vertical presses A, B, and C. The three separate vertical presses are controlled by one dryer and one CO. PTI No. 598-96 states a 95% VOC control for this line.

EUDEF – This is for the three C-450 vertical presses, D, E, and F. The three separate vertical presses are controlled by one dryer and one CO. PTI No. 598-96 states a 95% VOC control for this line.

Each printing press was observed during the site inspection. The printing presses are web offset printers that use heat set inks. The offset printing process is when ink adheres to a plate before being transferred to a blanket. The blanket then transfers the ink to the paper. Since the inks are heat set, they require heat to set the ink onto paper. This is completed by sending the product briefly through ovens operating at a high heat. When cleaning the blankets for the printing process only one blanket wash is used. While inspecting the printing presses it was concluded that, overall, QG appeared to be limiting open containers not in use which prevent fugitive emissions. During operation the pressure of each dryer shall be maintained to be lower than the press room pressure so that air flows are always into the dryers. This was discussed with QG staff and concluded that fans for the ovens are hardwired to create a negative pressure to pull emissions to the CO.

Each CO was observed in operation. Satisfactory operation of each CO includes maintaining a minimum temperature of 650°F and a minimum VOC destruction efficiency of 95% by weight for press lines EUABC and EUDEF and a minimum VOC destruction efficiency of 85% for EU400. At the time of the inspection the following specifics were noted.

EU400 – The CO for EU400 was operating at 660°F at the time of the inspection. The setpoint for this CO is 660°F in order to offset any brief dips in temperature to still maintain compliance. A circle chart was noted recording temperatures for the CO, however, the circle charts appeared to be off and were reading 680°F.

EUABC – The CO for EUABC was operating at 662°F at the time of the inspection. The setpoint for this CO is 660°F in order to offset any brief dips in temperature to still maintain compliance. A circle chart was noted recording temperatures for the CO.

EUDEF – The CO for EUDEF was operating at 657°F at the time of the inspection. The setpoint for this CO is 660°F in order to offset any brief dips in temperature to still maintain compliance. A circle chart was noted recording temperatures for the CO, however, the readings appeared to be slightly off than the values observed.

Calibrating the circle chart recordings was discussed with QG staff moving forward to reflect temperatures accurately at the time of operation for each CO. QG staff also stated that if the CO goes below temperature, it is in place that the dryers for each applicable line shut down which halts the printing process.

Historically, QG has not been requested to test the destruction efficiency of the three CO's onsite due to the pro-active maintenance completed for each machine. Annual maintenance is completed by Durr Megtec with a maintenance report provided and any necessary recommendations noted. Records were requested and reviewed at the time of the inspection. The most recent maintenance completed for the three CO's was in early October 2019. The maintenance reports appeared to indicate that the CO's for EU400 and EUDEF were operating properly. However, the catalyst for the CO for EUABC was noted to be at <50%

conversion efficiency for the top, middle and bottom layers. When this was brought to the attention of QG staff, it was concluded that they were in the process of scheduling a direct replacement of the CO in the first quarter of 2020. Previous inspections of the CO for EUABC were in June 2018 and December 2017 and showed low conversion efficiencies of the catalyst indicating potential problems. Additionally, the catalyst had also been replaced in March 2018 with used catalyst that was later verified to be unstable with additional catalyst appearing to be added in 2018. Based on the inspection reports completed for the CO, there appeared to be potential problems with the conversion efficiency of the catalyst. This in turn could affect the destruction efficiency of the CO. However, since QG intends to do a direct replacement of the CO, which will include fresh catalyst, the potential issue will be addressed. This was concluded to be acceptable, and it was stated to QG staff the importance of completing the replacement of the CO as soon as possible.

The VOC contents for each coating, reducer, cleanup solvent or any other material applied and as received for each printing press shall be determined by using Test Method 24. Records were requested and provided. QG staff verified that for all ink materials used, a worst-case VOC content of 44% is used when calculating emissions. Additionally, it appears that VOC contents for the solvents are determined from manufacturers formulation data or Test Method 24.

QG is subject to a FGFACILITY VOC emission limit of 90 tons per year (tpy) per a 12-month rolling time period. Records were requested and reviewed for select months. For the month of October 2019, the total amount of VOCs emitted was approximately 2.47 tons. As of October 2019, 23.01 tpy of VOCs were emitted per a 12-month rolling time period. Previous 12-month rolling time periods of total VOCs emitted were reviewed and also appeared to be within the permitted limit.

QG is subject to FGFACILITY individual and aggregate HAP emission limits of less than 9 tpy and 22.5 tpy respectively per a 12-month rolling time period. Records were requested and reviewed back select months. Upon review, errors were noted in the monthly/12-month rolling total emissions. This was brought to the attention of QG staff with records being resubmitted. For the month of October 2019, 0.33 tons of aggregate HAPs were emitted. As of October 2019, 2.98 tons of aggregate HAPs were emitted per a 12-month rolling time period, which is well within the permitted limits for both individual and aggregate HAPs. Previous 12-month rolling time periods reviewed of HAPs emitted also appeared to be within permitted limits. The most emitted individual HAP observed was Glycol Ether DB – 112-34-5.

Per SC.18.A-D, records consisting of usage rates, VOC/HAP contents, hours of operation for each printing press, monthly waste solvent disposal rates, monthly/12-month rolling time periods of aggregate/individual HAP emissions and monthly/12-month rolling time periods of VOC emissions shall be kept. Records were requested and reviewed from October 2018 to the present. Based on the records reviewed, QG appears to be keeping track of all applicable items.

The rooftop was accessed during the inspection. QG staff stated that the stack for the 300 Press Line with afterburner/incinerator was not in operation. The three remaining stacks associated with PTI No. 598-96 were observed venting unobstructed vertically. Though the dimensions for each stack were not measured they appeared to be consistent with what is listed in PTI No. 598-96. While on the rooftop odors were noted.

Additional Observations

- The ink storage area was observed for the printing presses with various containers containing red, blue, black and yellow ink.
- Two parts washers were observed that each have an air vapor interface area of eight square feet. The parts washers were closed at the time of the inspection and maintained by Safety Kleen. The two parts washers appear to be exempt per Rule 281(2)(h).
- One emergency generator was observed during the site inspection and was installed as stated by QG staff in 1994. The emergency generator is only used for emergency lighting and for severs in the event of a power failure. Based on the date of installation, the emergency generator does not appear to be subject to the New Source Performance Standards (NSPS) Subpart JJJJ for Stationary Spark Ignition Internal Combustion Engines. The emergency generator is potentially subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ – Reciprocating Internal Combustion Engines, however, the AQD does not have delegation from the EPA to enforce this NESHAP, and an applicability determination was not completed during this inspection.
- A finishing area was observed where printed products are finished such as trimming prior to being sent offsite. Trimmings are collected by one dust collection system that was observed. Emissions from the dust collection system are vented outside. While speaking with QG staff, it was determined that bags for the dust collection system are changed on a yearly basis with the last bag change occurring this past fall. The dust collection system does not utilize a magnehelic gauge system to demonstrate satisfactory operation, but instead has a pressure transmitter at two readouts that is used to identify a problem. While speaking with QG staff it appears that if one of the transmitters fails the system automatically shuts down. At the time of the inspection the dust collection system appeared to be operating satisfactorily. The cutting operations and associated dust collection system appeared to be exempt per Rule 285(2)(l)(vi)(c).
- QG has in operation one cartridge and two reservoir-based ink jet printers. Safety Data Sheets were requested and provided for the ink jet printers. For 2019 so far, 88 lbs of VOCs combined have been emitted for all three units and there are no HAPs. Monthly solvent usages for the ink jet printers were also reviewed. It was determined that the three ink jet printers appear to be exempt per Rule 290.

Conclusion

Based on the review of the records provided and the facility walk through, QG appears to be in compliance with PTI No. 598-96 and applicable air pollution control rules.

NAME _____ DATE 12/23/19 SUPERVISOR _____