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

N722147896

FACILITY: R L Adams Plastics, Inc.		**SRN / ID:** N7221
LOCATION: 5955 Crossroads Commerce, WYOMING		**DISTRICT:** Grand Rapids
CITY: WYOMING		**COUNTY:** KENT
CONTACT: Anette Arrieta , Industrial Engineer		**ACTIVITY DATE:** 02/20/2019
STAFF: Adam Shaffer	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled unannounced inspection.		
RESOLVED COMPLAINTS:		

Air Quality Division (AQD) staff Adam Shaffer (AS) arrived at the R.L. Adams Plastics, Inc. (RL) facility located in Wyoming, MI at 9:48am on February 20, 2019 to complete a scheduled unannounced inspection. The weather conditions at the time of the inspection were cloudy, mid 20's °F and winds from the east at 15-20mph. Prior to entering the facility offsite odors and visible emissions readings were completed. A slight, unidentifiable odor was noted to the west of the facility. The odor was brief in nature and no recent odor complaints have been received from surrounding sites for RL. Emissions observed were steam from the cooling tower on site.

Facility Description

RL is a foam product production facility. Products produced at the facility are mainly for food services, building products and arts, and crafts. The site currently is in operation with three shifts seven days a week. The facility is a major source of volatile organic compounds (VOCs) and is subject to the Title V program. The facility is in operation with Renewable Operating Permit (ROP) No. MI-ROP-N7221-2015a. Since the previous inspection, permit to install (PTI) No. 247-02E for increasing the VOC (isopentane) usages and adding 1,1 difluoroethane emissions to be monitored at the site was approved on 08/08/2017. The PTI No. 247-02E has since then been rolled into ROP No. MI-ROP-N7221-2015a, and PTI No. 247-02E has been voided. No additional significant changes have occurred to the site since the last inspection.

Offsite Compliance Review

- RL is required to submit semi-annual and annual compliance reports per Part A General Conditions 19-23 of MI-ROP-N7221-2015a. Semi-annual and annual compliance reports were reviewed since the previous inspection on 11/29/2016. No deviations have been reported in all semi-annual and annual compliance reports received since then.
- Based on the timing of the inspection, the 2018 Michigan Air Emissions Reporting System (MAERS) Report has been received by the AQD and was reviewed. Upon review, RL had reported 115.734 tons of VOCs; however, records provided following the site inspection showed 135.7 tons of VOCs reported. This discrepancy was brought to the attention of RL staff in a phone conversation on March 4, 2019. The approximate 20 tons of VOCs were concluded to be "missing rolls" or rolls that had been extruded and sent to the warehouse for aging but were unable to be later found. RL had assumed the missing rolls were sent to EUREGRIND and an over assumption of VOCs was made so as not to potentially go over their emission limit. After further discussion, it was concluded that RL would correct their 2018 MAERS Report so as to be consistent with emission records provided following the site inspection. The 2018 MAERS Report was resubmitted by RL, and after further review, was concluded to be acceptable.

Compliance Evaluation

Upon entering the site, AQD staff AS met with Ms. Anette Arrieta, Industrial Engineer, who provided a tour of the facility, answered site specific questions and provided requested documents.

MI-ROP-N7221-2015a

FGPROD&REGRIND

This flexible group is for all equipment used to manufacture the laminate and plate stock; extruders to produce the foam, laminators, and thermoformers; and the scrap removal system for the laminators, thermoformers, and central grinder.

The various stages of operations for FGPROD&REGRIND were observed during the course of the inspection. At

the start of the process, plastic polystyrene pellets are transferred from four storage silos to one of three extrusion lines. Additionally, re-grinded material from the thermoforming process is also used here. During the extrusion process one of three blowing agents are used, which are isopentane, hydrofluorocarbon 152a and/or carbon dioxide. Isopentane is a VOC, and hydrofluorocarbon 152a is 1,1 difluoroethane, but is not a VOC. After the extrusion process, the sheets are aged 5-7 days depending on the product and customer demands. Once appropriately aged, the sheets are sent to either the thermoforming or lamination process areas.

During the course of the inspection monitoring gauges were observed on all three extrusion machines. Each screen displayed the current lbs/hr of isopentane, hydrofluorocarbon 152a and carbon dioxide for that particular batch. This number is also imputed for each new batch of material being created. Based on the observations made, RL appears to be adequately monitoring the isopentane and 1,1 difluoroethane usages.

The thermoforming process area consists of five thermoforming lines. Products produced here include items such as plates and bowls. All waste material from the thermoforming process is grinded before being sent to the reclaim line. The reclaim line was observed during the course of the site inspection. Large amounts of grinded waste from the thermoforming lines was observed around the reclaim line. Maintenance was observed cleaning up the grinded waste, which is done as needed. In the reclaim line the grinded material from the thermoforming lines is made back into pellets before being reused in the extruders at the start of the site process.

The laminator process consisted of two laminator lines. Laminator # 1 is used for producing building products and laminator # 2 is used for producing arts and crafts materials. Waste materials from this area are collected and sent to the EUREGRIND area before being shipped offsite. Once the finished products from the laminator or thermoforming lines are completed, they are packaged and sent off site.

FGPROD&REGRIND has emission limits for VOCs and 1,1 difluoroethane of 170 tons per year (tpy) each, respectively, per a 12-month rolling total. These emission limits are calculated by using the following equations and require that RL keeps track of the components associated with each equation in order to demonstrate compliance with the limits.

Isopentane

$(BA_P*S_P) + (BA_L*S_L) + ((BA_P - BG_P) * G_P) + ((BA_L - BG_L) * G_L) \leq 340{,}000$ pounds (170 tons) of isopentane per 12-month rolling time period.

Where:

BA_P = percent isopentane in plate stock at extrusion, in lbs/100 lbs of stock produced

S_P = scrap from plate production in lbs/month

BA_L = percent isopentane in laminate stock at extrusion, in lbs/100 lbs of stock produced

S_L = scrap from laminate production in lbs/month

BG_P = percent isopentane in plate stock finished goods, in lbs/100 lbs of stock produced

G_P = plate stock finished goods production in lbs/month

BG_L = percent isopentane in laminate stock finished goods, in lbs/100 lbs of stock produced

G_L = laminate stock finished goods production in lbs/month

1,1 difluoroethane

$(HA_L * X_L) + ((HA_L - HG_L) * Y_L) \leq 340{,}000$ pounds (170 tons) of 1,1 difluoroethane per 12-month rolling time period.

Where:

HA_L = percent 1,1 difluoroethane in laminate stock at extrusion, in lbs/100 lbs of stock produced

X_L = scrap from laminate production in lbs/month

HG_L = percent 1,1 difluoroethane in laminate stock finished goods, in lbs/100 lbs of stock produced

Y_L = laminate stock finished goods production in lbs/month

For the month of January 2019, 11.4 tons of VOCs were emitted. As of January 2019, the 12-month rolling total of VOCs was 135.8 tons per year (tpy), which is well within the permitted limit. Previous 12-month rolling totals were reviewed back to January 2018 and also within the permitted limit. For the month of January 2019, 0.8 tons of 1,1 difluoroethane emissions were emitted. As of January 2019, the 12-month rolling total of 1,1 difluoroethane emissions was 16.8 tpy, which is well within the permitted limit. Previous 12-month rolling totals were reviewed and also well within permitted limits.

Monthly and 12-month rolling total usages of isopentane were requested as well as select daily usages. For January 2019, the amount of isopentane used was 62,503 lbs. As of January 2019, the 12-month rolling total of isopentane used was 748,585 lbs. Based on the records reviewed, RL appears to be keeping track of their daily, monthly and 12-month rolling total isopentane usages.

Monthly and 12-month rolling total usages of 1,1 difluoroethane were requested as well as select daily usages. For January 2019, the amount of 1,1 difluoroethane used was 14,780 lbs. As of January 2019, the 12-month rolling total of 1,1 difluoroethane used was 292,826 lbs. Based on the records reviewed, RL appears to be keeping track of their daily, monthly and 12-month rolling total 1,1 difluoroethane usages.

Monthly and 12-month rolling total production records for EUPRODUCTION were requested and reviewed from January 2018 through January 2019. For January 2019, 1,630,711 lbs of foam was produced with 1,398,407 lbs of foam being produced with isopentane and 232,304 lbs of foam being produced with hydrofluorocarbon 152a. As of January 2019, the 12-month rolling total of foam produced containing isopentane and hydrofluorocarbon 152a was 16,259,626 lbs and 4,414,114 lbs respectively. Based on the records reviewed, RL appears to be keeping track of their monthly and 12-month rolling total production records for EUPRODUCTION.

Records of daily and monthly average isopentane content for plate stock at extrusion, of plate stock finished goods, of laminate stock at extrusion, and of laminate stock finished goods were requested and reviewed. Based on the records provided, RL appears to be keeping track of the isopentane contents in each product.

Records of monthly and 12-month rolling totals of isopentane containing scrap processed by EUREGRIND were requested and reviewed from January 2018 through January 2019. For January 2019, 517,017 lbs of scrap containing isopentane was processed. As of January 2019, the 12-month rolling total of scrap processed by EUREGRIND was 6,345,146 lbs. Previous monthly and 12-month rolling totals were reviewed, and RL is adequately keeping track of records of scrap containing isopentane processed.

Records of daily and monthly average 1,1 difluoroethane content for laminate stock at extrusion and laminate stock finished goods were requested and reviewed. Based on the records provided, RL appears to be keeping track of the various 1,1 difluoroethane content necessary.

Based on the records provided, testing shall not be requested to verify the VOC and 1,1 difluoroethane contents of plate stock and/or laminate stock finished goods.

Records of monthly and 12-month rolling totals of 1,1 difluoroethane containing scrap processed by EUREGRIND were requested and reviewed from January 2018 through January 2019. For January 2019, 25,822 lbs of scrap containing 1,1 difluoroethane was processed. As of January 2019, the 12-month rolling total of scrap processed by EUREGRIND was 501,538 lbs. Previous monthly and 12-month rolling totals were reviewed, and it was concluded that RL is adequately keeping track of records of scrap containing 1,1 difluoroethane processed.

FGPROD&REGRIND is subject to a particulate matter (PM) hourly emission limit of 0.01 lbs per 1,000 lbs of exhaust gases, on a dry gas basis. This emission limit is for each of the associated baghouses and is met through satisfactory operation of each baghouse. Onsite observations and review of records demonstrating satisfactory operation of the baghouses are discussed further below.

During the course of the inspection the EUREGRIND area was observed. This area is for waste materials from the thermoforming, laminator and reclaim lines. Five dust collectors (baghouses) were observed and additional

information regarding each dust collector is listed below.

Dust Collector ID	Online / Offline (At time of inspection)	Operation Description	Magnehelic Range	Magnehelic Number Observed
Dust Collector # 1	Online	Laminator #1 and #2	0"–2.2"	1.0"
Dust Collector # 2	Online	Reclaim line grinder	0.1"-2.5"	0.4"
Dust Collector #3	Offline	Brown #1 and #2	0.5" – 6.0"	-
Dust Collector #4	Offline	Brown # 3 and #4	0.5" – 6.0"	1.4"
Dust Collector #5	Offline	Brown #5	0.5" – 6.0"	-

Brown = Thermoforming Line

It was noted that Dust Collector # 4 was offline, but still had a high magnehelic reading. This was brought to the attention of RL staff. RL staff looked further into the operation of Dust Collector # 4 and stated it was operating satisfactorily with photo verification provided when the unit was offline and read zero inch of water column. This was concluded to be acceptable. Minor amounts of dust were observed around one dust collector in the regrind area, however, it appears that the five dust collectors observed were operating in a satisfactory manner at the time of the inspection. Additionally, based on observations made at the time of the inspection, testing will not be requested to verify PM emission rates from the five dust collectors.

Daily pressure drop readings were requested for all five dust collectors from January 2018 through January 2019. Upon review, numerous daily pressure drop reading entries were missing from the records. Also, the pressure drop logs for Dust Collector # 3 had readings of zero from 12/21/2018 through 01/08/2019. Both of these potential issues were discussed with RL staff on March 4, 2019. It was concluded that the blank entries were operators failing to log the entries. Regarding the zero magnehelic gauge readings, RL staff did not know the exact reasoning and if it was a potential error. Following 01/08/2019, Dust Collector #3 pressure drop readings were observed to increase. RL staff are working on addressing both of these issues moving forward. The lack of daily pressure drop readings is a violation of ROP No. MI-ROP-N7221-2015a, FGPROD&REGRIND, Special Condition (SC).VI.13. Despite the missing entries, the pressure drop readings, overall, appeared to show satisfactory operation of the five dust collectors. RL staff had also stated they intended to lengthen the timing of pulses to clean each dust collector, so pressure drop readings are not as low.

Based on the pressure drop records reviewed and the observations made during the inspection, the five baghouses appear to be operating satisfactorily, thus meeting the PM hourly emission limit of 0.01 lbs per 1,000 lbs of exhaust gases, on a dry gas basis.

During the course of the site inspection the rooftop was accessed, and the ten stacks listed in MI-ROP-N7221-2015a were observed. Initially, four stacks were observed venting horizontally that appeared to be associated with MI-ROP-N7221-2015a. Debris was also noted to be around one stack. Following the site inspection, it was verified in a phone conversation on February 22, 2019, between RL staff, their representative consultant and AQD staff AS, that three of the stacks observed venting horizontally are identified as Stack ID #'s SVLRGBAG, SVSMLBAG and SVRECLAIM. After further review, no violation will be issued; however, the horizontal elbow attachments for the three stacks in question are to be removed in order to vent unobstructed vertically by May 1, 2019. The fourth stack in question was not listed in the permit.

It was also noted that Stack ID # SVEXTR1 had historically been abandoned, replaced and was never renamed. AQD staff AS requested dimensions of the current stack from RL staff. The minimum height above the ground dimensions of the current stack when compared to the SVEXTR1 permitted dimensions was correct. However, the maximum exhaust dimensions are 42 inches for the current stack, while SVEXTR1 is permitted for only up to 24 inches. This is a violation of ROP No. MI-ROP-N7221-2015a, FGPROD&REGRIND, SC.VIII.1.

Additional Observations

- During the inspection it was noted that ink is used for labeling for Laminator #1. Open containers were observed adjacent to the laminator line. It was discussed with RL staff to limit open containers not being used in order to prevent fugitive emissions.
- During the site inspection it was concluded that RL staff are completing the previous months records by approximately the 15th day of the current month. Additionally, RL staff said they were behind on January 2019 records at the time of the site inspection. Moving forward, it was discussed with RL staff on having up to date records completed in a timelier fashion.

Conclusion

Based on the facility walkthrough, observations made, and records received, RL appears to not be in compliance with MI-ROP-N7221-2015a and applicable air quality rules. A violation notice (VN) will be sent for the following violations:

- Upon review of requested daily pressure drop reading records for the five dust collectors, numerous daily records were missing. In a phone conversation on March 4, 2019 between RL staff and AQD staff AS, this was concluded to be an operator error. This is a violation of ROP No. MI-ROP-N7221-2015a, FGPROD&REGRIND, SC.VI.13.
- The maximum exhaust dimensions for the stack that replaced SVEXTR1 was concluded to be 42 inches in diameter and is permitted to be only up to 24 inches. This is a violation of ROP No. MI-ROP-N7221-2015a, FGPROD&REGRIND, SC.VIII.1.

NAME Adam J. Shaffer DATE 04/08/19 SUPERVISOR