P0344

MANUAL

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

P034468772

FACILITY: GROUND EFFECTS, LLC		**SRN / ID:** P0344
LOCATION: 15200 COMMERCE DR NORTH, DEARBORN		**DISTRICT:** Detroit
CITY: DEARBORN		**COUNTY:** WAYNE
CONTACT:		**ACTIVITY DATE:** 08/18/2023
STAFF: Stephen Weis	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Compliance inspection of the Ground Effects facility on Commerce Drive in Dearborn.. The Ground Effects facility is scheduled for inspection in FY 2023.		
RESOLVED COMPLAINTS:		

Location:
Ground Effects. LLC
(SRN P0344)
15200 Commerce Drive North
Dearborn 48120

Date of Activity:
Friday, August 18, 2023

Personnel Present:
Steve Weis, EGLE-AQD Detroit Office
Allen Kinsler, Environmental Engineer, Ground Effects, LLC
Kayla Sizemore, Environmental Coordinator, Ground Effects, LLC

Purpose of Activity
A self-initiated inspection of the Ground Effects, LLC facility (hereinafter "Ground Effects") located on Commerce Drive in Dearborn was conducted on Friday, August 18, 2023. The Ground Effects facility was on my list of sources targeted for an inspection during FY 2023. The purpose of this inspection was to determine compliance of operations at the Ground Effects facility with applicable rules, regulations and standards as promulgated by Public Act 451 of 1994 (NREPA, Part 55 Air Pollution Control), and with applicable Federal standards. The facility is also subject to the terms and conditions of EGLE-AQD Permit to Install (PTI) No. 59-12A.

Facility Site Description
The Ground Effects facility is an automotive coating operation that applies spray-on bedliners for Ford Motor Company pick-up trucks that has been in operation at this location since 2011.
The Ground Effects facility is located in the Fairlane Commerce Park North area, which is bounded by Greenfield Road to the west, Rotunda Drive to the south, and railroad tracks and their associated rights of way to the north and east. The neighboring properties are a mix of commercial, light industrial and institutional/government operations, including a US Post Office and a Dearborn Fire Station on Greenfield, just to the west of the facility. The closest residential areas to the Ground Effects facility are located on the west side of Greenfield approximately 300 yards away, and to the north of the facility, north of the railroad right of way less than 200 yards away.

Facility Operations

The Ground Effects facility is part of Ground Effects LTD, a Windsor, Ontario based company. According to the company website (www.gfxltd.com), the company is a leading producer of OEM-level automotive accessories and has nearly 40 locations worldwide.

The Dearborn Commerce facility serves to apply spray-on bedliners to pick-up trucks produced by Ford Motor Company, specifically the electric Raptor pick-ups currently produced by Ford. The facility serves as the electric vehicle production center for Ford trucks produced in the area.

The facility currently utilizes three booths to apply the spray-on bedliners. Vehicles are staged in the parking lot on the west side of the building, and they enter the building at the north end of the coating area. The bed surfaces are prepped for the coating process with manual wiping of the surfaces with isopropyl alcohol (IPA) and rags to remove surface oils. Used rags are collected in sealed cans. The surfaces of the vehicle outside of the bed area that is to receive the bedliner are masked in the masking lane of each coating line. In each of the booths, a bonding agent is applied via a HVLP robotic spray applicator, after which a two-component polyurethane coating is spray-applied to the bed surface. The coating air dries, and any overspray is cleaned from the vehicle with IPA rags (which are collected in a closed can) when the masking is removed from the vehicle. The coating booths are equipped with filters to catch overspray.

The current AQD permit for this Ground Effects facility, PTI No. 59-12A, addresses four bedliner coating lines at the facility. The fourth booth was not installed, and Ground Effects notified AQD of this via correspondence dated November 19, 2019 (a copy is attached to this report for reference). The Emission Unit description for each of the booths describes them as a "Coating line with a heated spray booth for polyurethane coating of truck beds. Inside the booth, a bonding agent followed by a two component coating is applied by an automated spray process. The trucks are air-dried before transporting to the customer. The spray booth is equipped with particulate control filters." The Flexible Group description for FG-CoatingLns, which addresses the requirements for all of the spray booths at the facility, adds that the truck beds are manually cleaned outside the spray booths using isopropyl alcohol, the bonding agent and polyurethane coating are applied in the spray booths, and upon exiting the booths, the trucks are cleaned for overspray (if necessary) with IPA.

The facility is currently operating one 10-hour shift, 4 days per week. The facility is set up to operate 3 shifts.

Inspection Narrative

I arrived at the facility just at around 10am. I entered the main lobby, where I was met by Allen Kinsler. We went to a conference room in the facility's office area and were met by Kayla and another compliance staff person from the company.

We started the site visit by discussing the facility. We discussed the operations at the facility (there was no production taking place on the day of my visit). I was told that the facility has been in operation since 2011-12. It was clarified that there are three coating lines in operation at the facility, and that the fourth coating line that was included in PTI No. 59-12A was never installed. I was told that the facility recently completed an ISO 14001 audit. I went over the conditions in the PTI, and Allen showed me some records, which he also emailed to me.

We then walked through the facility. We started at the west side of the building where we saw some of the Ford trucks in que for the bedliner application. We walked through the prep area where the truck beds are wiped with IPA, then through the masking area where the trucks are covered and taped to protect the surfaces not being coated from overspray. I was shown the coating booths. We looked at the filters in the booths. I was told that the lower filters are changed once every shift as they take more of the flow from the booths, and the upper filters are changed at least once a week. We looked at the area where the coating materials are stored, and the day tanks that hold the coatings to be applied in the booths. I was told that the two-component polyurethane coating tank circulates the coating at 93° F.

After walking through the facility, we had a brief conversation summarizing the site visit and the needed records. I left the facility at 10:55am.

Permits/Regulations/Orders/Other

Permits

The Ground Effects facility currently has an active EGLE-AQD Permit to Install (PTI), PTI No. 59-12A, that was approved on November 22, 2017. This permit addresses the installation and operation of four coating lines for the polyurethane coating of truck beds. As mentioned earlier in this report, the fourth coating line was not installed.

The following provides a description of the Ground Effects facility's compliance with the Special Conditions put forth by Permit to Install No. 59-12A. The requirements are put forth in two Flexible Group tables.

FG-CoatingLns

This Flexible Group table addresses the requirements associated with the coating lines.

I. Emission Limits

Special Condition (SC) I.1 limits the VOC emissions from the coating lines to 52.2 tons per year on a 12-month rolling time period basis. I was provided with records for 2016 through 2023. The highest 12-month rolling total during that time period was 22.5 tons of VOC in April 2018. It was explained that the company has been trakcing VOCs to have less VOC emissions per vehicle coated, and I was provided with a graph (that is attached to this report for reference) showing how the pounds of VOC emitted per 1,000 vehicles coated has gone down over recent years. For the most recent month, July 2023, the recorded total is 3.3 tons of VOC. A copy of the VOC emission records is attached to this report. Compliance.

II. Material Limits

There are no material limits put forth for this Emission Unit in this PTI.

III. Process/Operational Restrictions

SCs III.1 through 4 address requirements as to the facility's handling (i.e. recovery, recycling, disposal) of waste coatings and materials, and filters. SC III.1 addresses recovery and reclaiming, recycling, or disposal of coatings, thinners, and/or purge and cleanup solvent materials. The facility has a waste and hazardous waste collection area, and I was told that the facility is classified as a small quantity generator. There are drums with funnels to collect waste liquids, and when the drums are full, they are picked up by Vesco and taken to US Ecology. I was told that the facility has

not had an outbound load in over a year. The facility revised their cleaning process to avoid using excess amounts of solvents, and to avoid contaminating the solvent so it can be reused and does not need to be reclaimed, thereby reducing solvent usage. The waste materials are kept in closed drums, as required in SC III.2. Spent coating booth filters are collected and put into closed bags, which go into a compactor. I was told that the filters have been tested, and the results show them as non-hazardous waste. The facility is in compliance with the requirements of SCs III.1-4.

IV. Design/Equipment Parameters

SC IV.1 requires that the coating lines in FG-CoatingLns not operate unless their respective exhaust filters are installed, maintained and operated in a satisfactory manner. I was told that this is a strict requirement at all of the Ground Effects facilities. If the filter is not in place or is malfunctioning, the associated coating booth automatically shuts down. SC IV.2 requires that the coating lines be equipped with HVLP applicators or comparable technology. Ground Effects uses HVLP rated spray guns to apply the adhesion promotor/bonding agent, and the bedliner material is applied using an airless applicator. In a past communication for another Ground Effects facility in the Detroit District, Allen provided that Graco Probler P2 airless spray guns are used to apply the bedliner material, and that guidance documents, such as EPA 560/4-88-004d ("Estimating Chemical Releases from Spray Application of Organic Coatings") show that this type of applicator has a transfer efficiency range of 75-80%, better than HVLP. Compliance.

V. Testing/Sampling

SC V.1 requires that the VOC content of the coating material be determined using Method 24, or manufacturer's formulation data with approval from AQD. Allen has provided communications in the past for the two-component urethane coating showing that Method 24 cannot be used to determine the VOC content for this coating due to its fast and exothermic reactions. It was determined that using a VOC content derived from manufacturer's coating data is the most appropriate way to determine the VOC content. AQD agrees with this approach. A copy of correspondence submitted by Allen for another Ground Effects facility in the Detroit District is attached for reference.

VI. Monitoring/Recordkeeping

The facility is **in compliance** with the special conditions (VI.1 through VI.3) in this section. Per SC VI.1, Ground Effects maintains the required records in the required timeframes.

SC VI.2 requires that the facility maintain a current listing of the chemical composition of each materials used; this information is maintained by the company.

SC VI.3 requires that monthly records be kept for the amount of material used and reclaimed, the VOC content, and VOC calculations on a monthly and 12 month rolling total basis. I was provided with these records, which are attached to this report for reference.

VII. Reporting

SC VII.1 requires that AQD be notified upon completion of the installation, construction, reconstruction, or modification of the equipment addressed in the PTI. Ground Effects seems to have notified when coating lines were installed, and they notified AQD that the fourth coating line would not be installed.

VIII. Stack/Vent Restrictions

The stack parameters in this section were no discussed during this compliance activity.

IX. Other Requirements
There are no conditions in this section of the PTI.

FGFACILITY
This Flexible Group puts forth source-wide HAP opt-out emission limits for the Ground Effects facility.

I. Emission Limits
Special Conditions (SC) I.1 and I.2 limit the individual HAP emissions for the facility to less than 9.0 tons per year, SC I.2 limits the aggregate HAP emissions from the facility to less than 22.5 tons per year, respectively. Ground Effects provided a copy of their recordkeeping spreadsheet that shows individual and total HAP emissions for the facility, a copy of which is attached for reference. The 12 month rolling totals for July 2023 show 0.22 tons of total HAPs. Compliance.

II. Material Limits
There are no material limits put forth for this Flexible Group in this PTI.

III. Process/Operational Restrictions
There are no process/operational restrictions for this Flexible Group.

IV. Design/Equipment Parameters
There are no design/equipment parameter permit conditions for this Flexible Group.

V. Testing/Sampling
SC V.1 requires that the HAP content of the materials used at the facility be determined using manufacturer's formulation data. The company maintains the SDS for the coatings and materials used at the facility. Compliance.

VI. Monitoring/Recordkeeping
The facility is **in compliance** with the special conditions (VI.1 through VI.3) in this section. Per SC VI.1, Ground Effects maintains the required records in the required timeframes.

SC VI.2 requires that the facility maintain a current listing of the chemical composition of each coating-related material. As described in the write up for FG-CoatingLns, the facility maintains Safety Data Sheets for the materials used at the facility that contains this information.

SC VI.3 requires the monthly records be kept for the amount of HAP containing materials used at the facility, the HAP content of these materials, the individual and aggregate HAP mass emissions, and the 12-month rolling individual and aggregate HAP emissions. This information is tracked and recorded via the recordkeeping spreadsheet for the facility. The information is attached to this report for reference.

VII. Reporting
There are no reporting requirements put forth for this Flexible Group in the PTI.

VIII. Stack/Vent Restrictions
There are no stack parameters specified in the PTI for FGFACILITY.

IX. Other Requirements

There are no conditions in this section of the PTI.

Regulations

The terms and conditions of PTI No. 59-12A serve to limit potential emissions of VOC and HAPs to below major source thresholds. For the purposes of HAP emissions, the Ground Effects facility is an area source.

Compliance Determination

Based upon the results of the August 18, 2023 site visit and a review of the facility's compliance records, the Ground Effects facility on Commerce Drive in Dearborn appears to be **in compliance** with applicable rules and regulations, including with the terms and conditions of Permit to Install No. 59-12A.

NAME Steve Wells DATE 9/12/24 SUPERVISOR JK