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

A797244088

FACILITY: CADON ACQUISITIONS LLC		**SRN / ID:** A7972
LOCATION: 3715 ELEVENTH ST, WYANDOTTE		**DISTRICT:** Detroit
CITY: WYANDOTTE		**COUNTY:** WAYNE
CONTACT: Mike Galazka , Environmental Manager		**ACTIVITY DATE:** 04/04/2018
STAFF: Katherine Koster	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: FY2018 Targeted Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection
INSPECTED BY: Katie Koster, AQD
PERSONNEL PRESENT: Mike Galazka, Environmental Manager; Keith Miller, Plant Manager
FACILITY PHONE NUMBER: 313-386-5400
FACILITY FAX NUMBER: 734-282-8100

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FACILITY BACKGROUND

Cadon Plating and Coatings, LLC ("Cadon" hereafter) performs plating and coating services on miscellaneous metal parts; mainly for Tier I automotive suppliers. Parts are mainly bolts, nuts, and fasteners. Facility has been at the current 97,000 sq. ft. location since the 1950's and presently employs about 75 people. Hours of operation are 24 hours per day, Monday through Friday, and at least one shift every Saturday. Facility is owned by MMP. Plating and coating is performed on every shift.

COMPLAINT/COMPLIANCE HISTORY

No complaints have been received recently.

OUTSTANDING CONSENT ORDERS

None

OUTSTANDING LOVs

None

INSPECTION NARRATIVE

AQD staff, Katie Koster, arrived at Cadon Plating on 4/4/18 at approximately 9:00 a.m. I entered the facility and met with the new environmental manager, Mr. Mike Galazka, and the new plant manager, Mr. Keith Miller. Both of these individuals already worked at Cadon before assuming these roles. The former contacts have retired.

We started the inspection in the conference room. I stated the purpose and authority for the inspection. Mr. Miller explained that the operations and the coatings in use have not changed. He explained that the process to gain approval from the automotive industry to use a certain coating is so cumbersome that once coatings are approved, they are not likely to change. Approximately 20 different coatings are used in the dip spin operation, although Magni B06 and B18 are the most heavily used solvent-based coatings. The facility uses both solvent and water-based coatings. The only item of note was that they

raised the stack height by eight feet to be "good neighbors" as a resident in the area was complaining about noise.

Next, Mr. Galazka and Mr. Miller accompanied me about the facility on a plant tour.

Mechanical Plating Line

We walked out onto the production floor near the mechanical plating line. Water, zinc powder, glass beads, and parts are added to an open rotating barrel. Mechanical impact of the materials with the parts results in zinc plating and is used when harder parts are required; like a hood latch. There is an exhaust hood above the opening of the barrel with associated duct work which vents to atmosphere. After plating, parts are sent to a dryer. Then, if necessary, parts are dipped into a wax seal or super seal tank located near the line. One advantage of this type of plating is that it does not cause hydrogen embrittlement.

Zinc Nickel and Brian Zinc Electroplating Lines (2 lines total)

A zinc nickel line recently replaced the Jessup line. The zinc nickel line has not been put into full production as they are still waiting for customer approval. It uses HCl and nitric acid. Flow diagram attached (A).

For the Brian line, parts to be plated undergo the following treatment steps: caustic cleaning, rinse, acid pickling (HCl and nitric), rinse, electroplating, rinse, chromite conversion dip, rinse. Electroplating tanks contain a zinc chloride solution. Acid pickling tanks, nitric and hydrochloric, are vented uncontrolled through the push pull ventilation system to atmosphere. Electroplating and chromite dip tanks are vented internally. Flow diagram attached (A).

According to Mr. Miller, there is a difference in cost between the two plating methods; it depends on the intended use of the part as to which plating method is chosen.

The wastewater treatment plant is in this area; it had to be modified due to the new zinc nickel line.

HCl is stored in a 12,000 gallon tank. Nitric acid is kept in stainless steel drums.

Zinc Phosphating Line

Parts in this line undergo the following treatment steps: presoak, soak clean, descaling, sulfuric acid dip, and a zinc phosphate bath with numerous rinses in between stages. There is no electrode used in this process. The sulfuric acid tank is equipped with a hood and ductwork leading to a scrubber which vents to atmosphere. Afterwards, parts are either painted or dipped into an oil tank for protection. If parts are to be painted, they are placed in an 180F oven to evaporate any residual water. Flow diagram attached (A).

Automatic Dip Spin Lines (#2, #3) and Regenerative Thermal Oxidizer (controlling Line #2 and #3)

Parts are fed from a hopper to a chute and magnetic conveyor and then weighed and loaded into a basket. The basket is immersed into the reservoir containing the coating. After the basket is lifted from the coating bath, but is still below the walls of the reservoir, it is spun to remove excess coating. Coating is returned to the reservoir tank for reuse. The basket is emptied onto a conveyor and parts are raked into a single layer by an operator. This area contains a hood and ductwork leading to the RTO. Coated parts are then conveyed to a natural gas fired preheat and curing oven operated between 200 and 600 F.

For lines #2 and #3, I observed the exhaust ductwork leading to the RTO that is visible inside of the facility. It appeared to be in good condition. Several years ago, the facility installed metal panels at both lines to improve capture efficiency based on a qualitative smoke testing that was performed. However, line #2 was recently rebuilt and Cadon installed a different type of enclosure made of transparent heavy industrial plastic. It appears to be at least as good or better than the metal panels. PTI 252-00C was issued for this project.

The control panel for the RTO is inside of the facility. I recorded the following parameters on the screen:
Afterburner temp – 1493F
Inlet temp – 145F
Outlet temp – 247F
We also checked the panel on the way out and the afterburner temperature was above the required minimum of 1400F. A downtime report is completed every shift. If the RTO is idled, for a three day weekend for example, the idle temp is 1000F and the hi alarm is 1800F. Reports that contain downtime information are the downtime report and the FastTrack report. See attached examples.

There is a stand-alone basket washer in this area. Previously, baskets were sent offsite to a separate vendor for cleaning of paint build up via shot blasting. However, this method didn't clean as well as the new basket washer and grit could get stuck in areas and dislodged onto the part. The washer is heated with natural gas and the burner vents to atmosphere. The actual washer vents to the existing scrubber. The cleaning solution is the same as what is used in the phosphating line.

Dip spin Line #1
Process is the same as described above except that this is a manual line where the operator has to initiate the spin cycle. According to facility, this line was installed in the 1950's and is grandfathered from permitting. This line is uncontrolled.

Dip spin Line #6/WMV line
Line 6 uses Geomet and Geomet 320 coatings which are water based coatings. This line is uncontrolled. It was acquired from Alpha Coatings. Parts receive two coats of paint on this line. There are three basket dip stations; baskets travel along the line and are dumped onto a tray. The tray is conveyed to the entrance of a pre heat oven and then into the curing oven.

Shot Blasting Line/Wash Line
The process for treating parts is cleaning, rinsing, and shot blasting controlled by a fabric filter then vented to atmosphere. Cleaning and rinsing steps are vented internally.

Hydrogen embrittlement ovens
Each oven has two chambers and operates at 425F. Ovens are used to remove hydrogen build up in certain parts depending on the Rockwell hardness number. There are seven total ovens.

Next, we proceeded to Mr. Galazka's office. We reviewed the RTO temperature records. They are not in a user friendly format.

EQUIPMENT AND PROCESS CONTROLS
2 zinc electroplating lines - 1 zinc nickel line – Push/Pull ventilation system on the HCL tanks, electrocleaner tanks, soak cleaner, and generator tanks – Uncontrolled; 1 Brian Line – Push/Pull ventilation system on the HCL tanks - Uncontrolled

1 zinc phosphating line – Sulfuric acid tank controlled by an acid scrubber, vented to atmosphere
1 mechanical plating line – Hood and associated stack vents uncontrolled to atmosphere
1 chromate line – All vented internally
1 shot blasting/wash line – Controlled by a fabric filter and emissions vented to atmosphere
Manual Dip spin paint Line #1 – Uncontrolled, oven vented to atmosphere
Automatic Dip spin paint Line #2 (90 gal. capacity) and #3 (150 gal. capacity) – Controlled by an RTO
Dip spin paint Line #6/GEOMET line – Uncontrolled; oven vented to atmosphere
7 Hydrogen Embrittlement Relief Ovens – Highest individual maximum heat input is 1.5MMBTU/hr
Basket washer – Combustion chamber vented to atmosphere; washer vented to existing scrubber
Two Boilers for providing low pressure steam to treatment tanks
WWTP
12,000 gallon HCl storage tank

APPLICABLE RULES/PERMIT CONDITIONS
Facility is operating under Permit to Install 252-00C issued on July 6, 2016 (Title V opt out permit for VOC's and HAP's). The C version was issued because the facility wanted to modify the capacity of Line 2 and reduce the capture efficiency from 90% to 80% The B version was issued because facility wanted to remove daily VOC limit. There is also PTI No. 229-08 that covers Line 6.

PTE for VOC's:
LINE 2 and 3: 38.1 tons per year (permit limit)
LINE 1: 10 tons per year (max PTE in permit application information)
LINE 6: 10 tons per year (Permit 229-08)
Total: 58.1 tons VOC per year

PTI 252-00C
FG-RTO (EU-LINE2, EU-LINE3, and one regenerative thermal oxidizer)
S.C. I.1 IN COMPLIANCE. VOC emissions limited to 38.1 tpy on a 12 month rolling time period. For the time period of January 2017 – July 2018, the highest 12 month rolling VOC emissions were 18.12 tons for the 12 month rolling period in July 2017. (Appendix B).

S.C. IV.1 IN COMPLIANCE. Shall not operate FG-RTO unless thermal oxidizer is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes minimum VOC capture efficiency of 80% for Line 2 and 90% for Line 3 and minimum VOC destruction efficiency of 95%, minimum temperature of 1400F, and minimum retention time of 0.5 seconds. The afterburner was above the required temperature during the inspection. The RTO was tested in March 2009 and the control efficiency was above 95%. Based on a visit by AQD in May 2016 and during my inspection, the capture hoods/system appear to be achieving the required capture. The heavy plastic sheeting was still in place and fully intact. Also, preventive maintenance is performed. I requested records for the last year and records are attached (A). Also, I reviewed the downtime reports to determine if there are recurring operating issues that are not being addressed and/or determine if company is operating the lines without the RTO working properly. This information is in the "downtime report" and "FastTrack". I did not observe any recurrent issues.

S.C. V.1 DID NOT EVALUATE.

S.C. V.2 IN COMPLIANCE. Upon written request from AQD, permittee shall verify the capture and control efficiency of the collection system and RTO. Testing of the RTO control efficiency was conducted March 2009 and demonstrated compliance. Capture efficiency was demonstrated qualitatively with a smoke tube assessment. AQD has not requested another test at this time.

S.C. VI. 2 IN COMPLIANCE. Temperature of the thermal oxidizer shall be monitored on a continuous basis with equipment acceptable to the department. AQD staff viewed the RTO control panel which fluctuated every second indicating that temperature readings were being taken continuously. Continuous temperature monitoring records were demonstrated by Mr. Galazka during the inspection and records for random days chosen by AQD were provided and are attached (D).

S.C. VI.3 IN COMPLIANCE. Facility maintains MSDS's for coatings and solvent used. See attached for AQD requested MSDS's (E).

S.C. VI.4 Facility shall maintain the following on a monthly basis:
a. Identity and gallons of each coating used. Log of type and amount of each coating removed from the storage area was presented during the inspection. IN COMPLIANCE.
b. VOC content of each coating, as applied. NOT APPLICABLE. As product usage is tracked separately for coatings and solvents, emissions are calculated on an "as received" basis. The "as applied" VOC content is not necessary for emissions calculations. Therefore, VOC content of each coating as purchased is sufficient at this time. See attached spreadsheet submitted with the 2017 MAERS (F).
c. VOC mass emission calculations determining the monthly emission rate in tons per calendar month separately for EU-LINE2, EU-LINE3, and FG-RTO. See attached (F). IN COMPLIANCE.
d. VOC mass emissions calculations determining 12 month rolling emissions. See attached (A). IN COMPLIANCE.

S.C. VI.5 IN COMPLIANCE. Continuous records of the temperature in the thermal oxidizer shall be kept. Temperature is recorded electronically and maintained which was demonstrated by Mr. Galazka in his office. He also submitted several random dates of records chosen by AQD. See attached (D).

S.C. VI.6 IN COMPLIANCE – Fume hood enclosure "panels" were in place during the inspection. Previously they were metal panels; now it is heavy industrial plastic sheeting.

S.C. VIII. 1 IN COMPLIANCE. Facility provided information that the stack height is 56 feet. The minimum required height is 49 feet.

<u>FGFACILITY – All equipment, including equipment covered by other permits, grandfathered equipment, and exempt equipment</u>
S.C. I.1 IN COMPLIANCE. Emissions of each individual HAP are limited to less than 9 tons per year on a 12 month rolling time period. For the time period of January 2017 – July 2018, the highest 12 month rolling aggregate HAP emissions were 7216 pounds (3.61 tons) in May 2017 according to attached records (A). This indicates compliance with the individual HAP limit of 9 tons.

S.C. I.2 IN COMPLIANCE. Emission of aggregate HAP's are limited to less than 22.5 tons per year on a 12 month rolling time period. For the time period of January 2017 – July 2018, the highest 12 month rolling aggregate HAP emissions were 7216 pounds (3.61 tons) in May 2017 according to attached records (A).

S.C. V.1 IN COMPLIANCE. HAP content of each material as applied and as received shall be determined using manufacturers formulation data. Manufacturers data is maintained for materials as received. This is contained in the SDS's. See discussion for S.C. 1.8 regarding "as applied" tracking.

S.C. VI. 2 Shall keep the following information on a monthly basis:
a. IN COMPLIANCE. Gallons of each material used. (F)
b. NOT APPLICABLE. Gallons reclaimed.
c. IN COMPLIANCE. HAP content of each material used is maintained "as received." (F)
d. IN COMPLIANCE. Individual and aggregate HAP emissions per calendar month (F).
e. IN COMPLIANCE. Individual and aggregate HAP emissions per 12 month rolling time period (A).

PTI 229-08 for the Paint Line #6
S.C. 1 and 2 – IN COMPLIANCE. VOC emissions are limited to 10 tpy on a 12 month rolling time period and 2000 pounds per month. According to 2017 MAERS, 8.48 tons of VOC's were emitted from the coating usage. 1.86 tons of xylene is listed in error (once again). See attached note from the company. (F)
S.C. V.1 - DID NOT EVALUATE.
S.C. VI.3 – IN COMPLIANCE (a,b,c and d). Shall keep the following information of a monthly basis:
a. Gallons (with water) of each coating, reducer, thinner, additive, catalyst, and solvent used. (F)
b. VOC content (with water) of each coating as applied (F).
c. VOC mass emission calculations determining the monthly emission rate in tons per calendar month. (F)
d. VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month (A).
e. Hours of operation – DID NOT EVALUATE
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EXEMPT EQUIPMENT - IN COMPLIANCE

- Brian and Zinc Nickel Lines – See Rule 290 records (G)
- Chromate Line - See Rule 290 records (G)
- Mechanical Line - See Rule 290 records (G)
- Phosphate Line - See Rule 290 records (G)
- Wax dipping tanks – Rule 284(2)(a)
- Boilers - Rule 282(2)(b)(i)
- Hydrogen Embrittlement ovens – Rule 282(2)(a)(i)
- Basket cleaner - Rule 285(2)(l)(iii)
- Wastewater Treatment Process – Rule 285(2)(m)
- HCL storage – Rule 284(2)

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Rule 621 – NOT IN COMPLIANCE Facility appears to be subject to Rule 621(1)(g), 3.0 lbs VOC/gal coating. In Rule 621(7), it states that compliance shall be determined through test methods specified in Rule 336.2040(12)(a). Per the permit eval form, the use of the existing RTO far exceeds the requirements of Rule 621 for Line 2 and 3. The RTO control efficiency was tested in 2009 and was above 95%. Line 6 uses a water based coating (Geomet 321) and the lb/gal VOC is 1.41. Line 1, reportedly installed in the 1950's, appears to be using coatings above the 3.0 lbs/gal limit, and the line is uncontrolled. See attached spreadsheet (F). As such, non compliance was chosen.

Additionally, for Paint Line #1, the facility claims the emission unit is grandfathered. However, a demonstration that the EU has never been modified to trigger permitting requirements needs to be submitted.

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MACT/NSPS

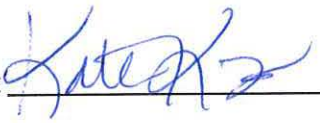
I informed the facility that they may be subject to MACT 6W, Area Source Standards for Plating and Polishing Operations but that AQD does not have delegation of this regulation.

They do not appear subject to MACT 6H, Area Source Standards for Paint Stripping and Miscellaneous Surface Coating, as the applicability requires "spray application" of coating and a dip spin process is not a spray application.

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS
N/A. All lots are paved.

MAERS REPORT REVIEW
MAERS report was submitted on time and a spot check of the report was conducted by AQD staff. I revised the emissions calculation for Paint Line 1 as there is no control device.

FINAL COMPLIANCE DETERMINATION
At the time of the inspection, this facility appears to be in non compliance with Rule 621 based on the information reviewed. A violation notice will be issued.

NAME  DATE 9/27/18 SUPERVISOR W.M.