

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

A797262813

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: 05/05/2022
STAFF: Katherine Koster	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY2022 Self Initiated Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection

INSPECTED BY: Katie Koster, AQD

PERSONNEL PRESENT: 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 Michigan Nut Products (MNP). Plating and coating are 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 May 5, 2022, at approximately 10:00 a.m. I entered the facility and met with the plant manager, Mr. Keith Miller. 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.

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

Mechanical Plating Line – This line is being phased out in the next several months.

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 is now running at “full speed”. During the prior inspection, it had not been put into full production as they were still waiting for customer approval. It uses HCl and nitric acid. If no rust is a customer requirement, this line is used. Parts from this line go to Paint Line 1.

For the Brian line, parts to be plated undergo the following treatment steps: caustic cleaning, rinse, acid pickling (HCl and nitric), rinse, electroplating, rinse, chromate 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 chromate dip tanks are vented internally. This line provides decent corrosion control according to Mr. Miller. Chromate still in service. For zinc, chromate can be applied after the oven whereas for the zinc nickel line, chromate is applied before the oven.

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.

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. While this does provide a base for paint, the part is going to rust without some other treatment. This is essentially a primer and everything has to pass through this line before getting coated.

Automatic Dip Spin Lines (#2, #3, #4) and Regenerative Thermal Oxidizer (controlling Line #2 and #3 and #4)

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 and #4, 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. Line #4 is a twin to Line #2. Production started on November 12, 2021 and PTI 252-00D was issued for this project.

The control panel for the RTO is inside of the facility. I recorded the following parameters from the screen:

Afterburner temp – 1531F (prior 1493F)

Inlet temp – 193F (prior 145F)

Outlet temp – 340F (prior 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. The company partially demonstrated the system for storing historical temperature records but the expert in the system, Mike Galazka, was not on site at the time.

There was a stand-alone basket washer in this area but it has been removed. It was for Line6/GEOMET coating.

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 – BEING PHASED OUT. NO USAGE IN 2022

This was for a GEOMET water based coating. Ford stopped using it in 2007 and FCA stopped using it fairly recently. Now Magni coating is used instead at Paint Line #4.

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

There are seven ovens and no new ovens have been installed since last inspection. 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.

APPLICABLE RULES/PERMIT CONDITIONS

Facility is operating under Permit to Install 252-00D (Title V opt out permit for VOC's and HAP's). The D version was issued to cover a new dip spin line. There is also PTI No. 229-08 that covers Line 6.

PTI 252-00D

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	
1. VOCs	38.1 tpy	12-month rolling time period as determined at the end of each calendar month	FG-RTO	SC VI.4	IN COMPLIANCE. From January 2020 through March 2022, the highest 12 month rolling emissions were 25.94 tpy in Feb 2020.

IV.

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	
2. VOCs	14.1 tpy	12-month rolling time period as determined at the end of each calendar month	EU-LINE4	SC VI.4	NOT APPLICABLE. 12 month rolling time period has not yet elapsed as line started operation in November 2021.

DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate FG-RTO unless the thermal oxidizer is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the thermal oxidizer includes all of the following:

- a) A minimum VOC capture efficiency of 80 percent by weight for EU-LINE2. **IN COMPLIANCE.** Based on panels and plastic sheeting installed.
- b) A minimum VOC capture efficiency of 90 percent by weight for EU-LINE3. **IN COMPLIANCE.** Based on panels and plastic sheeting installed.
- c) A minimum VOC capture efficiency of 80 percent by weight for EU-LINE4. **PENDING.** Testing is going to occur in May 2022.
- d) A minimum VOC destruction efficiency of 95 percent by weight in the RTO. **PENDING.** Testing is going to occur in May 2022.
- e) Maintaining a minimum temperature of 1400°F in the RTO. **IN COMPLIANCE.** Temperature was observed to be above this value during the inspection.
- f) Maintaining a minimum retention time of 0.35 seconds in the RTO. **IN COMPLIANCE.** Retention time calculation demonstrating compliance was provided by Cadon during most recent permitting. See attached.

2. The permittee shall not operate any EU in FG-RTO unless the respective fume hood enclosure panels are installed and maintained in a manner acceptable to the AQD District Supervisor and as required in the MAP. **IN COMPLIANCE.** Installed and observed during the inspection.

V. TESTING/SAMPLING

1. The permittee shall determine the VOC content, water content and density of any coating or solvent as applied and as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. **IN COMPLIANCE.** As there are a number of coatings, facility performed a Method 24 analysis of the most heavily used coatings as agreed to by AQD. Results are in the facility file.

2. Within 180 days after commencement of trial operation of EU-LINE4, the permittee shall verify the capture efficiency of EU-LINE4 and the destruction efficiency of the RTO by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR 51, Appendix M and 40 CFR 60, Appendix A. An

alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.

PENDING. Test has not occurred at time of inspection. Company requested a small extension to the deadline by approximately two weeks which was granted by AQD. See facility file.

3. After an acceptable stack test has been performed as required in SC V.2, and upon written request by the AQD District Supervisor, verification of the capture and control efficiency of the collection system and/or the regenerative thermal oxidizer, by testing at owner's expense, in accordance with Department requirements shall be required. Capture efficiency may be qualitatively evaluated using a smoke tube assessment to determine if additional, more formal capture efficiency testing is required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission limits includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test.

NOT APPLICABLE. Test has not occurred at time of inspection.

VI. MONITORING/RECORDKEEPING

2. The permittee shall monitor, in a satisfactory manner, the temperature in the thermal oxidizer during operation of any portion of FG-RTO on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. **IN COMPLIANCE.** Continuous monitoring is in place and observed during inspection.

3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each coating, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **IN COMPLIANCE.** Records are maintained.

4. The permittee shall keep the following information on a calendar month basis for EU-LINE2, EU-LINE3, and EU-LINE4, each separately, and for FG-RTO:

- a) Identity and gallons (with water) of each VOC-containing material (coating, solvent, etc.) used.
- b) VOC content (with water) of each VOC-containing material (coating, solvent, etc.) used.
- c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
- 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.

The permittee shall keep the records using mass balance or an alternate method and format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **IN COMPLIANCE.** See attached example.

5. The permittee shall keep, in a satisfactory manner, continuous records of the temperature in the thermal oxidizer during operation of any portion of FG-RTO. Continuous temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15

minutes per interval. The permittee shall keep all records on file and make them available to the Department upon request. **PENDING.** A recording system is in place. However, there have been some glitches with the recording function as no data was available while spot checking several dates. At the time of the inspection, a replacement system was on order. Facility presented the purchase order. As corrective action has already been initiated, enforcement discretion is in use. Need to follow up to ensure it was installed.

6. The permittee shall maintain daily records of the presence of the fume hood enclosure panels for EU-LINE2, EU-LINE3, and EU-LINE4 in a format acceptable to the AQD District Supervisor. **DID NOT EVALUATE.** Panels were in place during the inspection. Will verify the presence of daily records during the next inspection.

7. The permittee shall maintain current information from the manufacturer that the RTO was designed to achieve a minimum retention time of 0.35 seconds. All records shall be kept on file and made available to the Department upon request. **IN COMPLIANCE.** Demonstration was provided and is attached.

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EU-LINE4. **IN COMPLIANCE.** Letter was received.

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted. **DID NOT EVALUATE stack height. IN COMPLIANCE** as it relates to discharged unobstructed vertically upwards.

IX. OTHER REQUIREMENT(S)

NA

FGFACILITY

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	IN COMPLIANCE
1. Each individual HAP	Less than 9.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	Aggregate value is approximately 2 TPY which is the highest 12 month rolling from Jan 2020 through Mar 2022
2. Aggregate HAPs	Less than 22.5 tpy	12-month rolling time period as determined	FGFACILITY	Aggregate value is approximately 2 TPY which is the

Pollutant	Limit	Time Period / Operating Scenario	Equipment	IN COMPLIANCE
		at the end of each calendar month		highest 12 month rolling from Jan 2020 through Mar 2022

PTI 229-08 for the Paint Line #6 - The line has not been used in 2022.

MACT/NSPS

I previously 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. Facility does not have a fugitive dust plan and it has not been identified as a concern. Parking lots in the front of the building are paved. Property behind the building next to the railroad tracks in unpaved.

MAERS REPORT REVIEW

MAERS report was submitted on time and a spot check of the report was conducted by AQD staff.

FINAL COMPLIANCE DETERMINATION

Facility appears to be in compliance with conditions that were evaluated in this report.

Next inspection cycle:

- Follow up regarding replacement of RTO temperature recording function
- Does 229-08 need to be voided

NAME KATHERINE KOSTER

DATE 11/29/2022

SUPERVISOR APRIL L WENDLING 12/1/2022