

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

A039448718

FACILITY: LECO CORP		SRN / ID: A0394
LOCATION: 3000 LAKEVIEW AVE, SAINT JOSEPH		DISTRICT: Kalamazoo
CITY: SAINT JOSEPH		COUNTY: BERRIEN
CONTACT: Tracy Tibbitts , Environmental Manager		ACTIVITY DATE: 04/24/2019
STAFF: Matthew Deskins	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced Scheduled Inspection		
RESOLVED COMPLAINTS:		

On April 24, 2019 AQD Staff (Matt Deskins) went to conduct an unannounced scheduled inspection of the LECO Corporation (Facility) located in St. Joseph, Berrien County. According to AQD file information, the facility has two air permits (PTI Nos. 103-07 and 82-07) that were issued to them by the AQD. PTI No. 103-07 was for Electroless Nickel Plating and Anodizing operations and PTI No. 82-07 is a general permit for a burn-off oven. The intent of staff's inspection was to determine compliance with the two permits as well as any other state and/or federal air regulations. Staff departed for the facility after conducting an inspection at LECO's other plant located in Benton Harbor and having lunch.

Staff arrived at the facility at approximately 12:55 p.m. Note: Staff had parked in a location where Tracy Tibbitts (Environmental Manager?) had told them to after finishing up the Benton Harbor facility inspection. Staff then proceeded to the door where they rang the buzzer for a few seconds as instructed. An employee came to the door and staff explained who they were and that they were supposed to meet with Tracy. The employee let staff in and said that she had seen Tracy and will try to find her. A few seconds later Tracy and Kim Dansfield (Metal Finishing Manager) came around to greet staff. Staff then explained to Tracy and Kim what the inspection would entail and asked if they could sit down somewhere to discuss facility operations. They then led staff to Kim's office. The following is a summary of staff's discussions with Tracy and Kim and it will be followed by the conditions and comments regarding both permits. During the inspection, staff also met with Bob Allen (Group Leader in Paint Shop) and Jim Bellanger (Title?) who came it at various times to answer specific questions.

According to Kim, the operations at the facility still include both electroless nickel plating and anodizing operations. The facility does not do any type of chrome plating. Kim said that business has been good. The plating and anodizing operations (Kim said that it is referred to as Metal Finishing) currently has 12 employees and there are employees at the facility from 4:00 a.m. until 4:30 p.m. Monday through Friday, although that's not the hours all employees work. They also work 6:00 a.m. until 12:00 noon on Saturdays. Kim said that all of their plating operations are still being done for laboratory equipment. The facility has two electroless nickel plating lines and one anodizing line that has a zinc line incorporated into it also. Kim then had copies made for staff of the bath sequences that are used depending on what process was being done and for what substrate (See Attached Process Procedures). The facility also has a powder coating line and associated curing oven along with a burn-off oven. The powder coating operations were still the same but now located in another building. It is a conveyerized system where the parts are place on hooks of the conveyor. Prior to viewing operations, staff reviewed the permits and the associated record keeping requirements. The following are the Special Conditions of their two air permits and what staff noted. Please note that Bob Allen and Jim Bellanger came in at various times to answer questions as was mentioned previously.

Special Conditions of PTI No. 82-07

1. There shall be no visible emissions from EU-BURNOFF. (R 336.1225, R 336.1901, R 336.1910)

AQD Comment: *Appears to be in COMPLIANCE. The oven was in use during staff's inspection and staff did not observe any VEs. Also, we have not received any complaints of VEs or fallout.*

II. MATERIAL LIMITS

1. The permittee shall burn only natural gas in EU-BURNOFF. (R 336.1901)

AQD Comment: *Appears to be in COMPLIANCE. Only natural gas is burned in the unit.*

2. The permittee shall not process any material in EU-BURNOFF other than cured paints, oil or grease on metal parts, racks and/or hangers. (R 336.1224, R 336.1225, R 336.1901)

AQD Comment: *Appears to be in COMPLIANCE. Staff was told that they only burn-off the powder coating on their racks and loading bars.*

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not use EU-BURNOFF for the thermal destruction or removal of rubber plastics, uncured paints, or any other materials containing sulfur or halogens (chlorine fluorine, bromine, etc.) such as plastisol, polyvinyl chloride (PVC), or Teflon. (R 336.1224, R 336.1225, R 336.1901)

AQD Comment: *Appears to be in COMPLIANCE. Staff was told and will assume that none of the above items are being removed/destroyed in the burn-off oven.*

2. The permittee shall not load any transformer cores, which may be contaminated with PCB-containing dielectric fluid, wire or parts coated with lead or rubber, or any waste materials such as paint sludge or waste powder coatings into EU-BURNOFF. (R 336.1224, R 336.1225, R 336.1901)

AQD Comment: *Appears to be in COMPLIANCE. Staff was told and will assume that none of the above items are being put in the burn-off oven.*

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EU-BURNOFF unless a secondary chamber or afterburner is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the secondary chamber or afterburner includes maintaining a minimum temperature of 1400°F and a minimum retention time of 0.5 seconds. (R 336.1224, R 336.1225, R 336.1301, R 336.1901, R 336.1910)

AQD Comment: *Appears to be in COMPLIANCE. The oven has an afterburner and the temperature controller is programmed/set at 1550 degrees F.*

2. The permittee shall not operate EU-BURNOFF unless an automatic temperature control system for the primary chamber and secondary chamber or afterburner is installed, maintained, and operated in a satisfactory manner. (R 336.1224, R 336.1225, R 336.1301, R 336.1901, R 336.1910)

AQD Comment: *Appears to be in COMPLIANCE. It is equipped with an automatic temperature controller.*

3. The permittee shall not operate EU-BURNOFF unless an interlock system that shuts down

the primary chamber burner when the secondary chamber or afterburner is not operating properly, is installed, maintained and operated in a satisfactory manner. (R 336.1224, R 336.1225, R 336.1301, R 336.1901, R 336.1910)

AQD Comment: Appears to be in COMPLIANCE. Although the oven is equipped with an interlock system that does the above and the facility appears to be maintaining it and operating it in a satisfactory manner.

4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to continuously monitor the temperature in the burnoff oven secondary chamber or afterburner and record the temperature at least once every 15 minutes. (R 336.1224, R 336.1225, R 336.1301, R 336.1901, R 336.1910)

AQD Comment: Appears to be in COMPLIANCE. The oven is equipped with a temperature monitoring and recording device (Chart Recorder).

V. TESTING/SAMPLING Not Applicable (N/A)

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall continuously monitor the temperature in the burnoff oven secondary chamber or afterburner and record the temperature at least once every 15 minutes. (R 336.1224, R 336.1225, R 336.1301, R 336.1901, R 336.1910)

AQD Comment: Appears to be in COMPLIANCE The oven is equipped with a temperature monitoring and recording device (Chart Recorder) that continuously records the temperature when in use.

2. The permittee shall calibrate the thermocouples associated with the primary and secondary chambers at least once per year. (R 336.1201(3), R 336.1224, R 336.1225, R 336.1901)

AQD Comment: Appears to be in COMPLIANCE. The facility is doing this through a company called Accu-Cal.

3. The permittee shall keep, in a satisfactory manner, temperature data records for the burnoff oven secondary chamber or afterburner. All records shall be kept on file and made available to the Department upon request. (R 336.1224, R 336.1225, R 336.1301, R 336.1901, R 336.1910)

AQD Comment: Appears to be in COMPLIANCE. Staff looked at several years of chart recorder data.

4. The permittee shall keep, in a satisfactory manner, records of the date, duration, and description of any malfunction of the control equipment, any maintenance performed and any testing results for EU-BURNOFF. All records shall be kept on file and made available to the Department upon request. (R 336.1910, R 336.1912)

AQD Comment: Appears to be in COMPLIANCE. Documentation of any malfunctions and/or maintenance on the oven is being done. The AQD has not requested any testing of the unit.

5. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material (cured coating, oil or grease) processed in EU-BURNOFF including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both. All records shall be kept on file and

made available to the Department upon request. (R 336.1224, R 336.1225, R 336.1901)

AQD Comment: Appears to be in COMPLIANCE. The facility has SDS information.

6. The permittee shall maintain current information from the manufacturer that EU-BURNOFF is equipped with a secondary chamber or afterburner, an automatic temperature control system for the primary chamber and secondary chamber or afterburner, and an interlock system that shuts down the primary chamber burner when the secondary chamber or afterburner is not operating properly. All records shall be kept on file and made available to the Department upon request. (R 336.1224, R 336.1225, R 336.1901)

AQD Comment: Appears to be in COMPLIANCE. Staff did not ask to see any manufacturers data but the system appears to have all the items mentioned above.

VII. REPORTING N/A

VIII. STACK/VENT RESTRICTIONS

1. The exhaust gases from EU-BURNOFF shall be discharged unobstructed vertically upwards to the ambient air from a stack with an exit point not less than one and one half times the building height (from ground level to point of discharge). (R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))

AQD Comment: Appears to be in COMPLIANCE.

IX. OTHER REQUIREMENTS

1. The permittee shall not replace or modify any portion of EU-BURNOFF, including control equipment, unless all of the following conditions are met: (R 336.1201)

a) The permittee shall update the general permit by submitting a new Process Information Form (EQP5784) to the Permit Section and District Supervisor, identifying the existing and new equipment a minimum of 10 days before the replacement or modification.

b) The permittee shall continue to meet all general permit to install applicability criteria after the replacement or modification is complete.

c) The permittee shall keep records of the date and description of the replacement or modification. All records shall be kept on file for a period of at least five years and made available to the Department upon request.

AQD Comment: Appears to be in COMPLIANCE. It doesn't appear that they've made any changes to the unit.

NOTE: The facility didn't have a copy of the above permit so staff e-mailed them one later.

The following are the special conditions of PTI No. 103-07 and what staff had noted.

SPECIAL CONDITIONS of PTI No. 103-07

Emission Unit Identification

Emission Unit ID	Emission Unit Description	Stack Identification
EUELECTROLESSNI	Electroless nickel plating line consisting of	SVELSNI

	13 process tanks and six rinse tanks. This line is controlled by a 2-stage wet scrubber system (502 2-stage COLAG – Contact of Liquid and Gas). The process tanks are as follows: tank 1 soak cleaner consisting of potassium hydroxide, tank 2 Elektoklean consisting of sodium hydroxide, tank 4 hydrochloric acid dip tank, tank 6 electroless nickel, tank 7 nitric acid dip tank, tank 8 electroless nickel, tank 10 liquid nickel chloride/hydrochloric acid, tank 12 electroless nickel, tank 13 copper sulfate, tank 14 zincate catalyst, tank 15 nitric acid dip tank, tank 18 super 425 ultra sonic cleaner and tank 19 gold NPD solution.	
EUANODIZE	Anodizing line consisting of nine process tanks and eight rinse tanks. This line is controlled by a 2-stage wet scrubber system (336 2-stage COLAG). The process tanks are as follows: tank 1 Alukleen 1157 cleaning tank, tank 3 sodium hydroxide aluminum etch, tank 5 aluminum deoxidizing, tank 8 and tank 9 sulfuric acid dip tanks, tank 11 black dye, tank 13 and tank 14 Anodal MS-1 New liquid seal and tank 16 chromic acid.	SVANODIZE
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

Flexible Group Identification

Flexible Group ID	Emission Units Included in Flexible Group	Stack Identification
FGNI&ANOD	EUELECTROLESSNI, EUANODIZE	SVELSNI, SVANODIZE

The following conditions apply to: FGNI&ANOD

Emission Limits

	Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
1.1a	Chrome	0.0003 lb/hr	Test Method	EUANODIZE (Tank 11 and Tank 16)	SC 1.5	R 336.1224, R 336.1225
1.1b	Sulfuric Acid	0.4 lb/hr	Test Method	EUANODIZE (Tank 5, Tank 8 and Tank 9)	SC 1.5	R 336.1224, R 336.1225

AQD Comment: *Appears to be in COMPLIANCE. The facility stack tested the two scrubbers back in 2008 and were well below the limits above.*

Process/Operational Limits

1.2 Within 30 calendar days of the date of permit approval, the permittee shall submit to the AQD District Supervisor, an approvable operation and maintenance plan. The plan shall

contain all of the following: (R 336.1225, R 336.1910)

- a) Operation and maintenance criteria for the COLAG wet scrubber systems in FGNI&ANOD and for the process and control device(s) monitoring equipment as well as a standardized checklist to document the operation and maintenance of the equipment;
- b) The work practice standards for the add-on control device(s) and monitoring equipment;
- c) Procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and
- d) A systematic procedure for identifying process equipment, add-on control device(s) and monitoring equipment malfunctions and for implementing corrective actions to address such malfunctions.

AQD Comment: Appears to be in COMPLIANCE. The facility submitted an O&M Plan within the required timeframe and it contained the appropriate information listed above.

- 1.3 The permittee shall not operate any process tank in FGNI&ANOD unless the associated COLAG wet scrubber systems are installed, maintained, and operated in a satisfactory manner. Satisfactory operation shall include but is not limited to maintaining the pressure drop across the scrubber systems per manufacturer specifications or as determined during compliance testing. (R 336.1224, R 336.1225, R 336.1910)

AQD Comment: Appears to be in COMPLIANCE. The facility appears to be maintaining the pressure drop systems on both scrubbers.

- 1.4 The permittee shall equip and maintain each COLAG wet scrubber system in FGNI&ANOD with a pressure drop monitoring device. (R 336.1224, R 336.1225, R 336.1910)

AQD Comment: Appears to be in COMPLIANCE. Both scrubbers are equipped with pressure drop devices (magnehelics).

Testing

- 1.5 Within 180 days after commencement of trial operation, verification of total chromium emission rates from tanks 11 and 16 and sulfuric acid emission rates from tanks 5, 8 and 9 in EUANODIZE, by testing at owner's expense, in accordance with Department requirements, will be 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 rates includes the submittal of a complete report of the test results to the AQD within 90 days following the last date of the test. (R 336.1225, R 336.2001, R 336.2003, R 336.2004)

AQD Comment: Appears to be in COMPLIANCE. The testing of the two scrubbers was performed within the required timeframes. They also submitted the test plan and submitted the results as required.

Monitoring

- 1.6 The permittee shall perform inspections of the COLAG wet scrubber systems in FGNI&ANOD as follows: (R 336.1224, R 336.1225, R 336.1910)

- a) Determine pressure drop across each scrubber system on a daily basis. If the pressure drop across the control varies by more than ± 1 inch of water column, from the

pressure drop determined during compliance testing or the pressure drop specified by the manufacturer, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action.

b) Visually inspect the scrubbers, on a quarterly basis, to ensure there is proper drainage no chromic acid build up on the EUANODIZE scrubber, and no evidence of chemical attack on the structural integrity of either of the scrubber systems.

c) Visually inspect the back portion of the mist eliminator, on a quarterly basis, to ensure that it is dry and there is no breakthrough of chromic acid mist on the EUANODIZE scrubber.

d) Visually inspect ductwork from tanks to the scrubbers, on a quarterly basis, to ensure there are no leaks.

e) Add fresh make-up water as needed.

AQD Comment: *Appears to be in NON-COMPLIANCE with A above and in COMPLIANCE with E through E. The facility wasn't taking readings to show compliance with A for approximately the past year. Items B through D are done monthly which is above and beyond the quarterly requirement and E is done as needed.*

NOTE: During the compliance test back in 2008, the average pressure drop that was established for the Electroless Nickel Plating scrubber was 3.5 inches of water column and for the Anodize Scrubber was 1.8. The requirement in A above means the pressure drop can range from 2.5 to 4.5 for the plating scrubber and 0.8 to 2.8 for the anodize scrubber before corrective actions need to be taken and documented.

Recordkeeping/Reporting/Notification

1.7 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 either line in FGNI&ANOD. (R 336.1216(1), R 336.1201 (7)(a))

AQD Comment: *N/A. The permitted equipment had already been installed.*

1.8 The permittee shall maintain records of the pressure drop readings taken for each scrubber on a daily basis and records of the inspections required to comply with the monitoring requirements as specified in SC 1.6. Each inspection record shall identify the device inspected, the date, approximate time of inspection, and a brief description of the working condition of the device during the inspection. The permittee shall also record any actions taken to correct the deficiencies found during the inspection. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. (R 336.1225, R 336.1910)

AQD Comment: *Appears to be in NON-COMPLIANCE. As mentioned for 1.6A above, the facility has not been monitoring and recording the pressure drop readings on each scrubber for approximately the past year.*

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
1.9a	SVELSNI	42	25	R 336.1225

1.9b	SVANODIZE	36	23	R 336.1225
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

AQD Comment: *Appears to be in COMPLIANCE.*

RULE 287(c) – The facility does do a little wet painting on occasion and records reviewed show they are well under 200 gallons per month as allowed.

After going over the conditions and reviewing the records for the two permits and the Rule 287 (c) exemption, staff asked Kim to look at the emission unit table to see if it accurately reflects current operations. Kim did so and noted that some tanks that she said had always been part of the Electroless Nickel Plating Lines had not been included in the permit. She also said that the chromic acid tank on the Anodizing Line was removed several years ago. Wightman Environmental had done the original permit application back in 2007 for them but she said she couldn't remember who from the company might have reviewed the draft permit and approved it prior to issuance. She later followed up with staff by e-mail with clarification on what tanks were on what lines (See Attached e-mail and spreadsheet(s)). Staff informed Kim and Tracy that they should look into modifying the permit so that the emission unit descriptions accurately reflect their operations.

Staff then went on a tour of the plant with Tracy and Kim. Our first stop was at what they refer to as the Large E-Nickel Line. This line can plate to steel, stainless steel, and copper. Staff verified that the tanks present were accurate as described in the Process Procedures that staff had been given for that. Our next stop was the what they refer to as the Small E-Nickel Line that is adjacent to the Large E-Nickel Line. On this line they plate to aluminum or brass. Staff also verified the various tanks on this line. Kim said the main difference between this line and the Large E-Nickel Line is that it has a Zincate bath. Staff checked the plating scrubber pressure drop and noted it was at 2.8 which was in the range previously mentioned. Our next stop was at the Zinc and Anodize Lines and again staff verified the tanks present were the same. Staff checked anodize plating scrubber pressure drop and noted it was at 1.8 which was within the range previously mentioned. Our last stop was at the Burn-Off Oven. It had been in use earlier and staff noted it was equipped with a temperature monitor and chart recorder. Staff then proceeded back to Kim's office.

Prior to departing, staff summarized their inspection findings by stating a violation notice will be sent for not monitoring and recording the pressure drop across the two scrubbers. Staff also said that they would follow up on what we would require if they were to add and/or replace tanks on any of the lines. Staff thanked Kim and Tracy for their times and departed the facility at approximately 3:40 p.m.

INSPECTION FOLLOW UP: Staff followed up with Kim and Tracy on April 26th by e-mail and stated that if they replaced existing tanks with ones of the same size and product to be stored that we would request that they just inform us of that. If they were to add additional tanks to any of the lines that would probably be considered a modification and would require a permit (See attached e-mail).

INSPECTION CONCLUSION: The facility is in Non-Compliance with PTI No. 103-07 for not conducting the daily monitoring and/or recording of the pressure drop across the two scrubbers and Staff will be sending a Violation Notice for that. The facility appears to be in Compliance with PTI No. 82-07 for their Burn-Off Oven and the AQD Rule 287(c) permit exemption at the present time.

NAME Matt Deak

DATE 5-1-19

SUPERVISOR RIL 5/2/19

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