

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

A428544736

FACILITY: LORIN INDUSTRIES	SRN / ID: A4285
LOCATION: 1960 S ROBERTS ST, MUSKEGON	DISTRICT: Grand Rapids
CITY: MUSKEGON	COUNTY: MUSKEGON
CONTACT: Rick DeCair, Environmental and Safety Manager	ACTIVITY DATE: 05/30/2018
STAFF: Chris Robinson	COMPLIANCE STATUS: Compliance
	SOURCE CLASS: SM OPT OUT
SUBJECT: FY '18 on-site inspection to determine the facility's compliance status with PTI No.'s 886-84, 589-93, 86-74, 127-85, 590-93, 363-95, 111-97 and other applicable air quality rules and regulations.	
RESOLVED COMPLAINTS:	

AQD staff, Chris Robinson (CR) conducted a scheduled unannounced on site, inspection of Lorin Industries (Lorin) on May 30, 2018, to determine compliance with Permits to Install (PTIs) No.'s 86-74, 886-84, 127-85, 589-93, 590-93, 363-95 and 111-97 and other applicable air rules and regulations. Lorin is located at 1960 South Roberts Street in Muskegon, Michigan. CR met with Mr. Rick DeCair, Environmental Health and Safety Manager at approximately 9:50 am, presenting proper AQD credentials and announcing AQD's intent to conduct an inspection of the facility.

Weather Conditions were overcast with a temperature of approximately 77°F and east south-east winds with a speed of approximately 10mph.

Facility Description

Lorin is a continuous roll aluminum anodizing facility. The process involves pulling large rolls of aluminum sheeting through a series of chemical treatment tanks. The aluminum is treated in a variety of ways depending on customer request. Lorin currently has four (4) active Lines (Lines 1, 4, 5 & 6) and two (2) inactive lines (Lines 7 & 8). Line two (2) and Line three (3) no longer exist. The deciding factors, on which line to use, are the gage of the metal required for the final product, the pulling power of the line and what chemicals are necessary to treat the aluminum. Each line chemically treats the aluminum differently. Once complete the entire aluminum roll can be slit into smaller sizes. The final product is loaded and secured to a pre-purchased skid for shipping. Although the skids are purchased, wood is cut and assembled to secure the product to the skid. This equipment appears to be exempt per rule 285(2)(l)(vi)(B).

Compliance Evaluation

During the May 30, 2018 inspection, Anodizing Line 4, both boilers and Cogeneration Engine one (1), three (3) and four (4) were operating. Line one (1) was shut down shortly before arrival.

PTI's 886-84, 127-85, 86-74, 589-93 and 590-93

PTI 886-84 - Anodizing Line 1 and Line 4

PTI 127-85 - Anodizing Line 6

PTI 86-74 - Scrubber for Anodizing Line 5

PTI 589-93 - Additional Scrubber for Anodizing Line 1

PTI 590-93 - Additional Scrubber for Anodizing Line 6 (Bright Dip)

The following requirements apply to each of the above listed permits:

- Visible emissions from the anodizing line shall not exceed a 6-minute average of 20% opacity.
- Shall not operate anodizing lines unless the wet scrubbers are installed and operating properly.
- Equip and maintain the wet scrubber with liquid flow indicators.
- Shall not substitute any raw materials which would result in an appreciable change in the quality or any appreciable increase in the quantity of emissions without approval.

CR visually inspected the wet scrubbers located on the roof of the building. The Line 1 Brite Dip Packed Bed Wet scrubber was operating, even though anodizing line 1 was offline, with steam exiting the stack. A Follow-up conversation with Mr. DeCair, concluded that the Line 1 scrubber was still operating due to high tank temperatures (~245 degrees). In addition, the Duall scrubber is equipped with a post packed bed, Chevron type droplet eliminator which are not designed to capture fine mist. The packed bed unit is what controls emissions, not the droplet eliminator, Therefore the observed steam appears to be normal.

Per Mr. DeCair and on-site observations, the anodizing lines are never operated without control and all scrubbers are equipped with liquid flow indicators. Anodizing Line 4 was operating with control during this inspection. No raw material substitutions have occurred. Line 1 was not operating, therefore flow rate was not taken. However, Line 1 typically operates with a flow of approximately 30 gpm. Line 1 is also equipped with a pH meter, which was reading approximately 13.11. The normal operating range for Line 4 is 42gpm. This line was operating with a flow rate of approximately 49gpm. All these readings appeared to be within the acceptable operating range.

PTI 886-84 also specifies exhaust stack dimensions with a maximum diameter of 26-inches for line 1 and 28-inches for line 4, and a minimum height of 32-feet for both lines. Although stack measurements were not explicitly measured during this inspection, they visually appeared to meet these requirements.

PTI 363-95 - Anodizing Line 8

Line 8 is subject to emission limits for sulfuric acid, phosphoric acid, nitric acid and sodium hydroxide. As well as testing requirements, daily and monthly inspections and record keeping requirements, and stack dimension requirements. Per Mr. DeCair, this equipment has not operated in the past seven (7) years. Mr. DeCair also indicated, which was visually confirmed, that some of the components and control system duct work have been removed/disconnected. There are no plans to begin operating this line in the near future. CR informed Mr. DeCair that if the line is operated in the future a new permit may be required.

PTI 111-97 - Cogeneration Engines

Lorin operates four non-emergency Caterpillar (model 3516) Reciprocating Internal Combustion Engines (RICE) that are used to generate electricity for the plant. No visible emissions were observed from any of the operating engines. This permit also serves as the Opt-out permit for the facility.

The Caterpillar engines are subject to VOC, NOX and CO emission limits as specified in the table below. Requested emission records were provided and are summarized below, indicating that Lorin is in compliance with the emission limits specified in this permit.

The following records were provided and are attached:

- Cogeneration natural gas meter readings and hours of operation
- Maintenance Logs
- VOC, CO & NOx emission calculations

Pollutant	1997 Stack Test Results	Permit Limit		AQD Calculated Maximum based on ton/mth records provided by Lorin ((Mthly tons*2000)/Operating hours)	Highest Facility Calculated Rolling 12 -month
	Lb/hr	lb/hr	Tn/year	Lb/hr	Tons
VOC's	0.96	4.8	21	1.54	6.58
CO	2.90	3.8	67	2.91	19.93
NOx	1.53	10.0	43.8	0.97	10.52

Note: Summary based on Data provided for May 2017 – April 2018

Special Condition 21 of the permit subjects Lorin to source-wide HAP emission limits of 9 ton/year individual and 22.5 ton/year aggregate. Records were provided which include monthly individual and aggregate HAP emissions for the engines, boilers and space heaters. Based on a 12-month rolling time period for May 2017 through April 2018, the highest individual HAP emitted was 3.99 tpy in May 2017 for formaldehyde and the highest aggregate HAPs emitted was 5.99 tpy, also for May 2017.

The 1997 permit application evaluation noted that as long as Lorin complies with the 21.2 tpy limitation on the total VOC emissions, the facility will demonstrate compliance with the HAP emission limits. In addition, the evaluation also noted that Lorin has the potential to emit HAPs only from the fuel combustion associated with the boilers and the engines. This evaluation is based on chemicals used at that time. Mr. DeCair indicate that there have not been any process or chemical changes since. Therefore, the HAP emission calculations provided are sufficient to demonstrate current compliance with the source-wide HAP emission limits.

All engine stacks exhaust unobstructed vertically. No visible emissions were observed from any of the three operating generators (1, 3 & 4). Stack testing was conducted in 1997, results are also summarized in the table above.

Lorin appears to be conducting and tracking maintenance as required in Special Condition 18(b) of this permit. This condition requires a maintenance log tracking periodic (every 750 hours) preventative maintenance and additional required maintenance. Each cogeneration engine is also required to be tuned by the manufacturer every 750 engine hours to maintain 8.5% oxygen in the exhaust. Based on discussions with Mr. DeCair and available records, the engines appear to be tuned as required.

New Source Performance Standards (NSPS)

All four (4) engines are natural gas fired and installed prior to 6/12/2006, which represents the date at which existing "modified" or "reconstructed" engines would become subject to the requirements of NSPS 40 CFR Part 60 Subpart JJJJ for "Stationary Spark Ignition Internal Combustion Engines". Per discussions with Mr. DeCair and maintenance records provided, these engines do not appear to have been "modified" or "reconstructed". Therefore, not subject to NSPS Subpart JJJJ requirements at this time.

National Emission Standards for Hazardous Air Pollutants (NESHAPs)

The existing generators appear to be subject to NESHAP 40CFR Part 63 Subpart ZZZZ for "*Stationary Reciprocating Internal Combustion Engines*" (RICE MACT). Although Lorin must comply with these requirements, at this time, the AQD does not have Area Source delegation of authority for this Standard.

EXEMPTIONS

Anodizing Line 7

In the past, Line 7 was operated under Rule 290. This line has not operated in approximately 10 years and some of the components have been removed. Records are only required to be maintained for two (2) years. Since the equipment has not operated in approximately 10 years, no records were available. Visual observations seemed to indicate that the line has not been operated in some time.

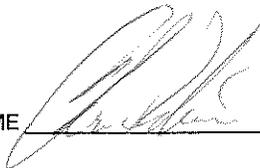
Boilers

Lorin operates two (2) Cleaver Brooks boilers, one with a nameplate date of 10/13/1966 and a capacity of 25,106,000 btu/hr and the other with a nameplate date of 9/6/1966 and a capacity of 20,922,000 btu/hr. Discussions with Mr. DeCair confirmed that the boilers were installed at this location in 1966. Assuming this is accurate, these units are not subject to permitting requirements because they were installed prior to August 15, 1967 and therefore considered grandfathered from permitting requirements. NSPS subpart Dc only applies to boilers installed after June 9, 1989. Therefore, the boilers are not subject to these requirements. NESHAP Subpart JJJJJJ does not apply to natural gas fired only boilers.

Compliance Determination

Based on the observations made at the time of this inspection and a subsequent review of records and equipment specifications, Lorin appears to be in compliance with the requirements of PTIs 86-74, 886-84, 127-85, 589-93, 590-93, 363-95, 111-97 and other applicable air rules and regulations.

NAME



DATE

8/14/2018

SUPERVISOR

