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

B191232186

FACILITY: L-3 Communications Corp: Combat Propulsion Systems		**SRN / ID:** B1912
LOCATION: 76 GETTY STREET, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Cammie Heatherington , Sr. Environmental Engineer		**ACTIVITY DATE:** 11/05/2015
STAFF: Kaitlyn DeVries	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: The purpose of this inspection was to determine compliance with Permit to Install Number (PTI) 161-08 and all other applicable Air Pollution Rules and Regulations.		
RESOLVED COMPLAINTS:		

On Thursday November 5, 2015 AQD Staff Kaitlyn DeVries (KD) conducted an unannounced, scheduled inspection of L-3 Communications Corp: Combat Propulsion Systems (L-3), located at 76 Getty Street, Muskegon Michigan. The purpose of this inspection was to determine compliance with Permit to Install Number (PTI) 161-08 and all other applicable Air Pollution Rules and Regulations.

KD arrived at the facility at approximately 9:30 am and observed the area for odors, fugitive emissions, and opacity, prior to entry. None were observed. Upon entering the facility, KD met with Ms. Cammie Heatherington, Sr. Environmental Engineer. The Environmental Inspections Rights and Responsibilities pamphlet was presented and briefly discussed.

Prior to touring the facility, Ms. Heatherington and KD discussed some changes and potential changes to the facility since the last time AQD visited. L-3 is considering moving some pieces of equipment to different locations within the facility, specifically, the surface treatment line. KD told Ms. Heatherington that there may be implications for changes to the permit, due to the re-location of this equipment; however, KD would need to consult with the AQD's permit section to determine what, if anything would be required of L-3 in order to move this equipment. KD will follow up with Ms. Heatherington in regards to this once further information is available.

Facility Description

L-3 machines, assembles, and tests parts such as engines, transmissions, and suspensions for the military tank industry. L-3 typically operates one (1) shift per day, five (5) days per week, and employs approximately 300 – 325 employees.

Regulatory Analysis

Currently, the facility has an Opt-out permit for the test cells and the surface treatment line. L-3 is also subject to National Emissions Standard for Hazardous Air Pollution (NESHAP) 40 CFR Part 63 Subpart WWWWWW (6W) for plating and polishing operations, 40 CFR Part 63 Subpart HHHHHH (6H) for paint stripping and miscellaneous coating operations, 40 CFR Part 63 Subpart ZZZZ (4Z) for Reciprocating Internal Combustion Engines, and New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart IIII (4I). Details regarding compliance with each applicable requirement will be discussed in greater detail below.

Compliance Evaluation

L-3 utilizes various Rule 201 permitting exemptions throughout the facility. L-3 is currently in the process of dismantling a large portion of their machining operations, which are exempt from Rule 201 Permitting under Rule 285 (l)(vi). Other operations located throughout the facility include welding and shot-blasting. The welding operations are exempt from Rule 201 permitting under Rule 285 (i), and the shot-blasting operations, which four (4) stations are controlled by a common baghouse (10,000 cfm) and then externally vented, are exempt from Rule 201 permitting under Rule 285 (l)(vi). Other smaller shotblasting stations are located in other parts of the facility, and are controlled individually by small baghouses.

L-3 also has three (3) surface coating lines/booths, which were not in operation during the time of the inspection. According to Ms. Heatherington, these coating lines/booths have not been used at all during 2015. Records indicate that these coating booths were last used in July, 2013. KD was able to observe fabric filters installed in each of the three booths.

L-3 is subject to 40 CFR Part 63 Subpart HHHHHH (6H) for paint stripping and miscellaneous coating

operations. AQD received the Initial Notification in 2010. While Michigan is not a delegated state for enforcing 6H, it appears as if all applicable requirements are being met, including the attached training records.

L-3 utilizes three (3) different types of heat treating machines – oil quench, stress relief ovens, and a salt pot. Temperatures for these operations are variable, depending on treatment and part. The oil quench machine is a large pot containing the hot oil. Historical records indicate this machine as being installed in the 1940's or 1950's and is thus grandfathered and not required to have an air permit. The stress relief ovens are exempt from Rule 201 permitting under Rule 282 (a) (i), since they do not treat any part that has been treated with oil, or quenched. L-3 utilizes Rule 290 for the salt bath process. Rule 290 records indicate emissions from the salt bath, are below 500 pounds. Other operations in the facility also utilize Rule 290, for example various ovens. The attached records indicate emissions below 500 pounds for all units utilizing this exemption.

There are approximately 48 cold cleaners of various sizes located within the building. Many of these units are maintained by Safety Kleen, and contain mineral spirits, while a few others are maintained by L-3 and contain isopropyl alcohol. An MSDS of the mineral spirits solvent is attached. Most of the units are exempt from Rule 201 permitting under Rule 281 (h). However, a couple of the 48 cold cleaners are larger, conveyorized cleaners. Since these units are too large to be exempt using Rule 281 (h), these units utilize Rule 290. Per the attached records, the units appear to be compliant. KD was able to observe many of these units at various parts of the inspection; each unit observed was closed, properly labeled, and appeared to be in compliance.

There is one (1) batch vapor degreasing unit located on site. This unit used to be subject to 40 CFR Part 63 Subpart T for Halogenated Solvent Cleaning, however, this unit is no longer using any solvent containing any of the specified halogenated solvents, thus is no longer subject to this regulation. Per Ms. Heatherington, the solvent that is used is n-propyl-bromide (see attached MSDS). At the time of the inspection this unit was closed, and not in use. Appropriate Rule 290 records are being kept for this unit.

L-3 has two (2) Natural Gas emergency generators, which are 102,400 BTUH and 547,000BTUH, respectively. Both of these units are exempt from Rule 201 permitting under Rule 285 (g). L-3 conducts quarterly inspections of these units, and the inspection reports are attached and appear to be compliant with 40 CFR Part 63 Subpart ZZZZ. There are also two (2) diesel engines located in the pump house on the southwest side of the facility. One (1) of the engines is old, installed in 1979, while the other is newer, installed in 2007. These units are 270,000 BTUH and 377,000 BTUH, respectively. Both of these units are exempt from Rule 201 permitting under Rule 285 (g). Only the newer engine, installed in 2007 is subject to New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart IIII (4I). L-3 conducts weekly inspections of both units, and records the total running hours for each. All applicable requirements appear to be satisfied for 4I.

PTI No. 161-08

This permit covers the entire facility, with the exception of the air-stripping unit located on the premises. The air stripping unit is maintained by Teledyne. The permitted portion of the facility encompasses, engine test cells, and two surface treatment lines. Each will be discussed in detail below.

EU-PRODUCTIONCELLS and EU-EXPERIMENTALCELLS

Both of these areas of the facility are used for testing of various engines to ensure proper assembly and performance specifications. The facility doesn't use all of the test cells at one time. Both EU-PRODUCTIONCELLS and EU-EXPERIMENTALCELLS are individually limited to 0.10 pounds per 1000 pounds of exhaust cases, based on test protocol. The facility currently has two (2) Regenerative Thermal Oxidizers (RTO), but only uses one (1) of them. All emissions from these areas are sent to the RTO prior to exiting to the atmosphere. KD did not explicitly measure the stack dimensions; however, there appeared to be no changes. The RTO has a minimum operating temperature of 1100°F, and was running at a temperature of 1517°F at the time of the inspection. The temperature is monitored via the LCD temperature monitor, and is instantaneously recorded to a digital recording device, which is downloaded once per month. Attached records indicate that the unit consistently runs at temperatures at or exceeding 1500°F, which is above the permitted minimum temperature. The unit is also equipped with audible alarms, and will alarm at 1400°F.

FG-SURFACETREAT

The surface treatment room contains two (2) coating lines: an aluminum/chromate conversion line (EU-ALUMINUMLINE), and an iron phosphate line (EU-FERROUSLINE). At the time of the inspection, neither line was in use, and only the aluminum/chromate (EU-ALUMINUMLINE) contained any product associated with

production in the tanks. The entire iron phosphate line was empty, and per Ms. Heatherington, has not been used in quite a while. Both lines have hexavalent chromium limits. EU-ALUMINUMLINE is limited to 4.19 $\mu g/m^3$ and EU-FERROUSLINE is limited to 3.22 $\mu g/m^3$, both being based on test protocol and corrected to 70°F and 29.92 inches of Hg. Both lines are controlled by wet scrubbers, and are required to maintain a minimum pH of 9. At the time of the inspection, the pH for the EU-ALUMINUMLINE scrubber was 10.2. Per Ms. Heatherington, the scrubber is equipped with an alarm system if the pH drops below 9. In addition to the digital read-out of the pH, staff records the pH at least once per shift, and records the rotameter reading to ensure adequate flow to the scrubbers. Upon review of the records, one record (May 1, 2015) indicates the pH of the aluminum line dipping to 8.73, however, the circular chart indicates otherwise. Upon verification with Ms. Heatherington (see attached), the operator noted this discrepancy as well. The operator sampled the scrubber water to test the pH, and verified the pH to be 9.59, which was similar to the circular chart recording. Due to this discrepancy, maintenance was done on the scrubber to correct the problem. No apparent changes to the stacks were evident; however, KD did not explicitly measure them.

Per the attached records, chromic acid usage appears to be properly being tracked. A total of 240 pounds was used in 2014, and as of October 31, 2015 a total of 240 pounds have been used in 2015.
This portion of the facility is subject to National Emissions Standard for Hazardous Air Pollution (NESHAP) 40 CFR Part 63 Subpart WWWWWW (6W) for plating and polishing. Initial notification was received in June, 2010. While Michigan is not a delegated state for enforcing 6W, it appears as if all applicable requirements are being met, including the attached training records.

FG-FACILITY

The facility has facility wide emissions limits for the pollutants listed in Table 1, below. All limits are 12-Month rolling tons per year (tpy), unless otherwise noted. All recordkeeping requirements were acceptable.

Table 1: FG-FACILITY Emissions Summary

Pollutant	**Limit**	**September 2015 Emissions**	**Highest 12-month rolling average, in the last months**
Individual HAP's	9.0 tpy	9.19 E-02 tons (Hexane[1])	9.50 E-02 tons (Hexane[1])
Aggregate HAP's	22.5 tpy	0.15 tons	0.17 tons (February 2015)
NOx	90 tpy	29.20 tons	21.69 tons (October 2014)
CO	90 tpy	8.71 tons	9.67 tons (October 2014)
VOC	90 tpy	10.04 tons	11.70 tons (October 2014)

[1] Per the attached records, Hexane is the highest emitted HAP.

Compliance Determination

Based on the observations made at the time of the inspection and a subsequent records review, L-3 appears to be in compliance with all applicable Air Quality Rules and Regulation and Opt-Out Permit No. 161-08.

NAME Kaitlyn Haire DATE 11/18/15 SUPERVISOR PMB