

U-63-16-11144

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

FY 2018 Insp

U63161114443269

FACILITY: Kern-Liebers USA, Inc.		SRN / ID: U631611144
LOCATION: 24505 Indoplex Circle, Farmington Hills		DISTRICT: Southeast Michigan
CITY: Farmington Hills		COUNTY: OAKLAND
CONTACT:		ACTIVITY DATE: 01/05/2018
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS:
SUBJECT: FY 2018 inspection of Kern-Liebers USA, Inc. ("Kern" or "Kern-Liebers")		
RESOLVED COMPLAINTS:		

Kern-Liebers USA, Inc. (U-63-16-11144)
A Kern-Liebers Group Company
24505 Indoplex Circle
Farmington Hills, Michigan 48335-2523

Permit-to-Install: Rules 285, 287 exempt process equipment

On January 05, 2018, I conducted a level-2 self-initiated **FY 2018 inspection** of Kern-Liebers USA, Inc. ("Kern" or "Kern-Liebers"), a Kern-Liebers Group Company, located at 24505 Indoplex Circle, Farmington Hills, Michigan 48335-2523. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

During the FY 2018 inspection, Mr. Stefan Rauch (Phone: 248-427-1100-ext. NA; Fax: NA; Cell: 956-270-1274; E-mail: Stefan.Rauch@KL-usa.com), Purchasing Manager, and Mr. Nasrat Hammoud (Phone: 248-427-1100-ext. NA; Fax: NA; Cell: 313-575-5212; E-mail: Nasrat.Hammoud@KL-usa.com), Floor Supervisor, assisted me.

Mr. Ryan Kiblawi (Phone: 248-427-1100-ext. 406; Fax: NA; Cell: 419-490-4914; E-mail: Ryan.Kiblawi@KL-usa.com), Vice President, separated about July 217.

The inspection was conducted to follow-up an incident of August 05, 2016, smoke (up to 60% opacity, lasting nearly an hour).

Kern-Liebers, headquartered (HQ) in Germany, is in a business of manufacturing precision springs of variety of sizes (0.1 – 4.0 mm) for predominantly automotive industry. The products and services include rings, stamping and bending, induction coils, plastic composite parts, torsion springs, compression strings, tension springs, bent wire parts, etc.

Spring making machines (25)

About twenty-five (25) spring making machines are present. The machines are imported from Germany. Each (except a couple of machines) machine is equipped with its own dedicated electrically heated stress relieving oven. The wires (SS, carbon steel) are fed into the machines. The particulate emissions are ducted one common exhaust manifold that is in turn ducted to an air pollution control device (APCD) consisting of one corrugated metal baffle system for large particles and one cartridge filter system (two cartridges) for fine particles. The filtered air is released to outside ambient air. APCD is located on the mezzanine. Make-up air unit is present. Most painting is outsourced.

The machines are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(I).

Shot peening

One OMSG shot peening machine is present. Shot peening increases strength of springs. The machine is equipped with an enclosure such that all steel shot is captured. Thus captured shot is reused. The machine is NOT equipped with an exhaust system to outside ambient air.

The shot peening machine is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(l).

Dip spin painting

One dip spin painting machine is present. It consists of one ≈80-gallon tank, which is also used as a paint mixer, and a perforated basket to hold springs to be painted. Water based paint is diluted with water: 1 part concentrated paint : 3 parts diluent water. The paint and water are mixed in the ≈80-gallon tank such that paint is homogeneous. The springs-containing perforated basket is immersed in the paint and raised above the paint liquid level and spun to remove excess paint from thus painted springs such that paint is captured using centrifugal forces due to spinning and reused. The ≈80-gallon tank is equipped with a mechanically-assisted lid that is used to prevent spill (s) while operating the spinner.

The painted springs are baked at ≈300 °F using one of two natural gas fired ovens (Precision Quincy Corp.; Model No. 72-1,000; Serial No. 14,449; Mfg Date: June 27, 2001). Each oven is equipped with its own dedicated exhaust stack. The ovens are also used for springs stress relieving purposes (up to 500-900 °F).

About 5 gallons of undiluted water based paint per month are used; as stated above, diluent is water. The dip spin paint machine is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(2)(c). As transfer efficiency of the machine is practically 100 percent (no overspray), a filter system is not needed; not spray painting.

One tumbler is present to separate sticking springs due to painting. Neither dip spin machine nor tumbler is equipped with an exhaust system. Most painting is outsourced.

August 05, 2016, smoke incident

From Grand River and Drake intersection, I observed up to 60 percent opacity smoke on August 05, 2016. Smoke was continuous for over 20 minutes from 11:25 am. The smoke was coming from one of two natural gas fired ovens based upon September 27, 2016, inspection. I asked Mr. Kiblawi to investigate the incident. Neither Mr. Hammoud nor Mr. Rauch has proper explanation for this incident. Reason could be either baking oily springs or baking painted springs accidentally at tension relieving temperature (500-900 °F). AQD never again observed similar smoke indicating no such malfunction occurred again.

Conclusion

The machines are exempt from Rule 336.1201 (Permit-to-Install) per Rules 336.1285, 336.1287.

NAME Blenmanhall DATE 03/07/2018 SUPERVISOR Joye