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

N506735247

FACILITY: AMERICAN MSC INC		**SRN / ID:** N5067
LOCATION: 2451 ELLIOT DR, TROY		**DISTRICT:** Southeast Michigan
CITY: TROY		**COUNTY:** OAKLAND
CONTACT: Norimoto Usui , Executive Vice President		**ACTIVITY DATE:** 06/24/2016
STAFF: Francis Lim	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** Minor
SUBJECT:		
RESOLVED COMPLAINTS:		

On June 24, 2016, I conducted an inspection at American MSC, Inc. located at 2401 Elliott Drive, Troy, MI. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Administrative Rules; and Permit-to-Install No. 219-92 and No. 220-92. During the inspection, Richard Severn, Maintenance Overseer, and Dakota Barrow represented the facility. Ken Barrow is the Plant Manager for this facility.

This facility occupies 3 buildings: 2401 Elliott Dr., 2451 Elliott Dr., and 570 Executive Dr. The buildings are adjacent to one another. American MSC manufactures precision compression springs of various sizes for the automotive industry. Springs are mainly for transmission and clutch assemblies. This facility operates 24 hours/day, 6 days/week. American MSC is an affiliate of Murata Spring Co., Ltd. of Utsunomiya, Japan.

The springs are made from coils of steel wire. Process starts by uncoiling the wire and cutting/coiling it into a spring shape in a mechanical machine or servo machine. The cutting/coiling machine does not use any oil coolant. The steel wires are coated with a lubricant in the cutting/coiling machine. The springs are then sent to an electric oven for heat treating (tempering, approx. 450 F) – this process is also called stress relieving. If the springs need further heat treating (hardening or annealing), the springs are sent to a heat treating facility. The springs are then processed in the grinding machine (grinds the top and bottom part of spring) and chamfering machine (a cut that is made in the bottom or top of the spring, usually at a 45° angle). Some parts are processed in the shot peen machine where small pellets are fired into the part for surface treatment. The purpose of shot peening is for stress relief and surface conditioning to improve fatigue limits of the springs. Shot peen pellets are replenished as they become depleted. The springs are then bulk packaged for delivery. Some springs are marked with a coating for color identification. This is done in the roller marking machines. Ink coating usage is very small, 1 to 2 gallons per month (Rule 290 exempt). Some springs are painted in the small seldom-used paint spray booth. Usage is likewise very small. The small booth was not operating during the inspection (Rule 287(c) exempt).

American MSC operates two stations each consisting of a small mineral spirits immersion tank and an oil protection immersion tank. Some springs, depending on client specifications are cleaned by immersing in the mineral spirits tank, and then immersed in an oil tank for rust protection. Total of (5) 55-gallon drums are used each month for both stations. (2) 55-gallon drums of used mineral spirits are recycled per month. Mineral spirits are supplied and recycled by VESCO. Staff noted that the cleaner cover was not in place. Richard responded that the cleaner was being used at that time. I reminded them to close the cover if the solvent cleaner will not be used for an extended period, to prevent any unnecessary vaporization of the solvent. Each of the 2 stations is exempt under Rule 290. The operations are also exempt under Rule 285(r), surface treatment operations emitting in-plant. Although oil is applied onsite, the oil is carried away offsite when the oil containing springs are shipped out.

(3) cold solvent cleaners using mineral spirits are used by maintenance to clean and maintain machine parts. These cold solvent cleaners are serviced by VESCO. The cold cleaner is equipped with sprays and mechanically-assisted covers. Solvent is collected in a drum at the bottom of the cold cleaner.

(4) cold solvent cleaners using mineral spirts are used in the quality Lab. This is serviced in-house and has mechanically assisted covers. All cold solvent cleaners are exempt under Rule 285(r).

The grinding, chamfering and shot peen machines are ducted to (5) large high performing dust collectors controlled by primary pleated filters and secondary HEPA filters. A pressure drop indicator is installed for the

pleated filters and a magnehelic pressure gage is installed for the HEPA filter. The filters are replaced approximately twice a year. A log is maintained where an operator checks and logs the pressure readings at least once a week. NOTE: A magnehelic gage is a pressure gage incorporating the magnehelic principle developed by Dwyer. The magnehelic principle eliminates excessive wear and tear resulting in a more accurate and durable gage. The magnehelic principle is the patented method of transmitting the effects that air pressure has on a thin diaphragm to an indicator needle using magnetic linkage.

The rectangular exhaust stacks of the dust collectors are vented horizontally. But due to the high performing pleated and HEPA filters, I do not see this as a concern.

In addition to the large dust collectors, facility also has several smaller dust collectors using a baghouse that emit in-plant. These smaller baghouse dust collectors have a cyclone mechanical precleaner .

Facility obtained a permit, PTI 219-92 for two shot peen systems with high performance dust collector control that emit outdoors. The dust collector appears to be working properly. A pressure gage and magnehelic gage is installed to monitor pressure drop across the pleated filters and HEPA filters. No VEs were observed.

Facility also has a permit, PTI 220-92 for ten grinding systems with a high performance dust collector control that emit outdoors. The dust collector appears to be working properly. A pressure gage and magnehelic gage is installed to monitor pressure drop across the pleated filters and HEPA filters. No VEs were observed.

Spring manufacturing at both buildings are identical, except larger springs are manufactured at 2451 Elliott Dr.

The following equipment are located at 2451 Elliott Dr., 2401 Elliott Dr. and 570 Executive Drive:

1. Cutting/coiling mechanical and servo machines, exempt, Rule 285(l)(i)
2. Heat treating ovens, exempt, Rule 282(a)(i)
3. grinding machines, PTI No. 220-92, and Rule 285(l)(vi)/Rule 290 exempt
4. shot peen machines, PTI No. 219-92, and Rule 285(l)(vi)/Rule 290 exempt
5. chamfering machines, PTI-220-92, and Rule 285(l)(vi)/Rule 290 exempt
6. marking machine, exempt, Rule 290

Majority of the machines are located on Elliott Dr. Executive Drive is also used as a warehouse. The facility looks very clean.

NAME _____ DATE 06-29-16 SUPERVISOR CTE