

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

FY 2015 Insp

U63150276129302

|   |                               |
|---|-------------------------------|
| FACILITY: Action Impact, Inc.   | SRN / ID: U631502761          |
| LOCATION: 25992 W. 8 Mile Road  | DISTRICT: Southeast Michigan  |
| CITY: Southfield  | COUNTY: OAKLAND               |
| CONTACT:  | ACTIVITY DATE: 04/17/2015     |
| STAFF: Iranna Konanahalli   | COMPLIANCE STATUS: Compliance |
| SUBJECT: FY 2015 inspection of Action Impact, Inc. ("Action"). Gun shooting range lead (Pb) hazard. | SOURCE CLASS:                 |
| RESOLVED COMPLAINTS:  |                               |

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Action Impact, Inc. (U-63-15-02761)  
25992 W. 8 Mile Road  
Southfield, Michigan 48033-5915

Phone: (248) 799-7300  
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**Permit-to-Install: Rule 285 exempt process equipment. Gun shooting range lead (Pb) hazard.**

On April 17, 2015, I conducted a level 2 self-initiated inspection of Action Impact, Inc. ("Action"), a shooting gun range with lead (Pb) dust emissions, located at 25992 W. 8 Mile Road, Southfield, Michigan 48033. 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 2015 inspection, Mr. William J. Kucyk (Phone: 248-799-7300; Fax: 248-799-9960), Owner, and Mr. Sam Dalaly (Phone: 248-799-7300; Fax: 248-799-9960) assisted me. Mr. Dalaly is responsible for HEPA filters.

Action Impact, Inc. ("Action") operates gun shooting ranges in Southfield and Eastpointe.

Southfield gun shooting range is equipped with Donaldson Torit filter system. The filter system consists of primary flat filters (20 filters, APX 82424411, 24" L \* 24" W \* 2" D) and secondary HEPA filters (10 HEPA filters, HEPA-V-242412-MCG2, \$400 per filter, \$4,000 per set of 10 filters). Inexpensive primary filters (20 flat filters) trap large particles and reduce dust load on expensive HEPA filters and thus increasing longevity and saving costs.

Donaldson Torit filter system is equipped a hopper, 55-gallon drum, to collect lead (Pb) laden dust from the filters. I asked Mr. Dalaly to exercise tremendous caution to empty the 55-gallon drum owing to toxicity of lead dust. Mr. Dalaly stated that a qualified contractor empties the drum once per year. The drum can be extremely heavy considering lead is 11.34 (specific gravity = 11.34, density  $\rho$  = 11.34 kg / L) times heavier than water (specific gravity = 1, density  $\rho$  = 1.0 kg / L).

While inexpensive primary flat filters are replaced once a quarter (1 / 3 months), expensive (\$400 per filter, \$4,000 per set of 10 filters) HEPA filters are replaced once per year. All maintenance service is performed a qualified contractor.

The exhaust laden with lead (Pb) upon filtration with HEPA filters is released to outside ambient air. Intake air is filtered and climate controlled and brought to shooters area such that shooter never breathes lead contaminated air. I did not find any dust in shooting area.

The gun shooting range is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(cc). The range is equipped with an appropriately designed HEPA filter system to control lead and combustion dust. This exemption requires the use of High Efficiency Particulate Air (HEPA) filters to control emissions (especially lead). The efficiency of these HEPA filters is usually a minimum of 99.99%. The exemption rule does not specify type or class of HEPA filters (H13 = 99.95, H14 = 99.995, H15 = 99.9995, H16 = 99.99995 and so on).

Lead (Pb, Atomic Number = 82, Atomic Weight = 207, i.e., 11.34 times heavier than water) is a heavy metal. Lead is poisonous (both inhaled and swallowed) causing damage to nervous system resulting in brain disorders. Lead also causes nephropathy (kidney disorders). Lead in ambient air has reduced substantially upon phase out of leaded gasoline; in 1970s, tetra ethyl lead was used as an inexpensive octane booster (to required minimum Octane 87) of gasoline. Furthermore, lead is an automobile exhaust catalyst (containing noble metals such as Platinum, Palladium, Rhodium) poison and hence lead in gasoline was phased out in 1980s, when catalytic converters for passenger cars were mandated by US EPA.

Mr. Kucyk stated that the customers do not like no-lead ammunition. Besides, no-lead ammunition is expensive.

MIOSHA inspected Action about 2014 for worker safety. Worker breathing zone sampling was done and showed compliance according to Mr. Kucyk. Appropriate employees are monitored for hearing and health (bloodwork for lead). Worker exposure to toxic and hazardous substances is regulated by the federal Occupational Safety and Health Administration (OSHA), 29 CFR Section 1910. Sec. 1901.1025 applies specifically to all occupational exposure to lead.

MDEQ-RRD may inspect and sample soil in the area (especially in the vicinity of Torit filter) for lead contamination.

### Conclusion

The gun shooting range is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285. Lead (Pb) hazard. MDEQ-RRD may inspect and sample soil.

NAME Bill Kucyk DATE 6/4/2015 SUPERVISOR CJE