

N2709

FY 2018 Insp

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

N270943320

FACILITY: Fire Defense Research, LLC		SRN / ID: N2709
LOCATION: 4350 Delemere Blvd., ROYAL OAK		DISTRICT: Southeast Michigan
CITY: ROYAL OAK		COUNTY: OAKLAND
CONTACT: Robert Kelly, Owner		ACTIVITY DATE: 01/11/2018
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: FY 2018 inspection of Fire Defense Equipment Co, Inc. ("Fire Defense" or "Fire Defense Equip.")		
RESOLVED COMPLAINTS:		

**Fire Defense Equipment Co, Inc. (N2709)**  
4350 Delemere Blvd.  
Royal Oak, Michigan 48073

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

**Void: PTI No. 1132-90 (issued: 01/03/1991 and voided: 07/13/2017) issued to Continental Coachworks, Ltd. (N2709) for paint spray booth.**

**SRN reassign: Continental Coachworks, Ltd. (N2709, PTI No. 1132-90) → Fire Defense Equipment Co, Inc. (N2709)**

On January 11, 2018, I conducted a level-2 self-initiated **FY 2018 inspection** of Fire Defense Equipment Co, Inc. ("Fire Defense" or "Fire Defense Equip."), located at 4350 Delemere Blvd., Royal Oak, Michigan 48073-2523. 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. Robert H. Kelly (Phone: 248-549-8133; Fax: 248-549-6260; Cell: 313-618-6227; E-mail: bk1@FireDefense.com), President, assisted me.

The inspection was conducted to follow-up on October-November 2017 natural gas odor complaints (especially, irate and demanding complainant Ms. Dean Castilloux, who requested this inspection, as she alleged odors were due to propane storage tank). Yes, propane is odorized (brought odorized by tank trucks), just as pipeline quality natural gas, with methyl mercaptan (MeSH, CH<sub>3</sub>SH, CAS 74-93-1, odor threshold ≈1 ppb) for "fire & explosion" and safety purposes. Fire Defense fills 10-15 consumer propane cylinders per day in a peak summer BBQ season. November 3, 2017, odor survey showed no odor in the vicinity.

Fire Defense is a provider of services and equipment concerning fire and explosion technology. Fire Defense operates at two buildings:

1. Building 1 (N2709): Fire Defense Equipment Co, Inc., 4350 Delemere Blvd., Royal Oak, Michigan 48073. Fire Defense is a tenant of 4350 Delemere, LLC
2. Building 2: Fire Defense Research, LLC, 4535 Delemere Blvd., Royal Oak, Michigan 48073. No LLC for real-estate property. Building 2 is used for storage and hobby work.

Different legal entities, such as 4350 Delemere, LLC, are created to isolate and confine liabilities.

### **Building 1 (N2709)**

Fire Defense does NOT use PFAS (fluorinated hydrocarbons) based products. Fire Defense maintains, repairs, tests, refills, etc. fire extinguishers.

#### **Paint booth**

One small (W = 3 ft. \* D = 3 ft. \* H = 5 ft.) paint booth with a back-draft filter system (two filter panels) is present. Mostly paint is brushed onto the equipment under repair. Sometimes spray cans are used as well. Less than one gallon per month of paint is used. Exhaust gases are discharged outside with a horizontal stack.

I asked Mr. Kelly to install and inspect the filters such that they fit, at all times, snugly without gaps and holes.

The booth is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(2)(b) [spray cans] or 336.1285(2)(hh) [aerosol spray cans] or 336.1285(2)(ff) [fire extinguishers].

#### **Carbon dioxide filling room**

Fire Defense refills fire extinguishers with carbon dioxide (CO<sub>2</sub>) from a 4-ton carbon dioxide tank located inside the room. All filling operations occur in an enclosed room.

The fire extinguishers filling room (CO<sub>2</sub>) is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(ff) [fire extinguishers].

#### **Dry chemicals refilling room**

Fire Defense refills fire extinguishers with dry chemicals in an enclosed room. All filling operations occur in an enclosed room.

The dry chemicals particulate emissions are captured and ducted to an air pollution control device (APCD) located outside the building. Camfil Air Filter (APCD) consists of one cartridge filter system for air pollution control and one HEPA filter system for employees, comfort, health and safety; the filter systems are arranged in series, finally HEPA to remove smallest (< 2.5 µm) particles. APCD is equipped with eight (8) cartridges, which are cleaned once per day with a pulse-jet air. HEPA filtered air is released back into the room. Two 30-gallon drums as hoppers are present for collected dry chemical particles.

The fire extinguishers filling room (dry chemicals) is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(ff) [fire extinguishers].

#### **Propane tank**

One 800-gallon propane tank is present in the backyard. Fire Defense fills 10-15 consumer cylinders per day in a peak summer BBQ season. November 3, 2017, odor survey showed no odor in the vicinity.

### **Building 2 Fire Defense Research, LLC**

This building is primarily used for storage and hobby work (pipe threading, woodwork, ceramic coating, etc.). One non-road, portable, 5 HP gasoline engine present. The engine is used to power the power tools at various locations.

**Conclusion**

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

NAME *D. Penninghall*      DATE *2/14/2018*      SUPERVISOR *Joyce*

