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

N041630953

FACILITY: FIRE-RITE, INC		**SRN / ID:** N0416
LOCATION: 13801 LYNDON AVENUE, DETROIT		**DISTRICT:** Detroit
CITY: DETROIT		**COUNTY:** WAYNE
CONTACT: Roger Sexton , Plant Manager		**ACTIVITY DATE:** 09/01/2015
STAFF: Jonathan Lamb	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Compliance Inspection, FY 2015		
RESOLVED COMPLAINTS:		

INSPECTED BY: Jonathan Lamb, MDEQ-AQD
PERSONNEL PRESENT: Roger Sexton, Plant Manager
FACILITY PHONE NUMBER: (313) 273-3730
FACILITY FAX NUMBER: (313) 273-2494
CONTACT EMAIL: Fire-Rite@sbcglobal.net
FACILITY WEBSITE: www.fire-rite.com

FACILITY BACKGROUND:

Fire-Rite, Inc. performs heat treating and priming of metal industrial parts. The facility has operated in Detroit since 1974, and has 21 employees and operates 5 days per week, 24 hours per day.

COMPLAINT/COMPLIANCE HISTORY:

Fire-Rite was issued a Violation Notice on August 10, 2006, for open burning of scrap wood, with a second Violation Notice issued on September 14, 2006, for failing to respond to the initial Violation Notice. A response was received on October 10, 2006, stating the company has implemented a policy to prohibit open burning of scrap wood on the property, thus resolving the violation. No further open burning violations have been observed since that time.

PROCESS DESCRIPTION/EQUIPMENT:

Fire-Rite performs heat treating of metal industrial parts for various industries. Heat treating is performed to strengthen weak spots in the metal, such as welded areas.

There are six natural gas-fired heat treat ovens currently in use; a seventh oven is on site but has never been in use. The ovens range in size from 12 feet to 32 feet, giving the facility the capability to perform heat treating on larger metal pieces. Heat treating can be performed on both steel and aluminum parts – steel is treated at 1100-1200 F while aluminum is treated at 400-440 F. During heat treating, the metal part is placed into the oven and undergoes a "heat soak" for 5-6 hours to bring the metal up to temperature; once it reaches temperature, it is heated an additional hour for every inch of metal thickness to complete the heat treat process.

Once the heat treat process is complete, the part is allowed to cool. If the part needs to be straightened or flattened, it can be put into a press. If the part is to be primed, it is first shot blasted to remove any scale and oxidation from the surface before priming.

Priming is done at the paint booth, which is controlled by filters in the booth and an external baghouse. Approximately 25% of the parts that are heat treated are primed. Two types of primer are used, gray and white. The facility uses around three 55-gallon drums of primer per month, averaging about two drums of gray primer and one drum of white primer per month. The primer is applied with a manual sprayer straight from the drum. The facility has a permit for the paint booth.
The heat treat ovens do not use an oil quench, so they are exempt from permitting per R 282(a)(i).

There are three presses: PR1 (400-ton), PR2 (200-ton), and PR3 (100-ton). The presses are exempt per R 285

(l)(i).

There are two blast rooms, two blast tables, and one blast tumbler (for small parts). The two blast rooms and two blast tables are controlled by an externally-vented baghouse with a pre-cleaner. Any metal shot recovered by the pre-cleaner is collected and reused. This equipment is exempt per R 285(l)(vi)(C). The blast tumbler is a closed-loop system and is exempt per R 285(l)(vi)(B).

There is one 200-gallon and one 400-gallon diesel storage tank, which are used to fuel forklifts. Both tanks are exempt per R 284(d).

APPLICABLE RULES/ PERMIT CONDITIONS:

Fire-Rite operates under Wayne County Permit No. C-9717, issued on April 19, 1993, for the paint spray booth. Permit No. C-9717, Special Conditions:

17. IN COMPLIANCE. Particulate emissions testing from the baghouse stack has not been performed. This condition is assumed to be in compliance with proper operation of the baghouse and adherence to the maximum paint usage limits set in the permit. No evidence of paint was observed in the area outside the baghouse.
18. IN COMPLIANCE. Painting was not performed during the inspection, but no evidence of paint particulate emissions were seen in the area around the baghouse.
19. IN COMPLIANCE. Filters were installed in the paint booth, as required. Filters are generally changed every two weeks.
20. IN COMPLIANCE. It is assumed that the maximum air velocity through the exhaust filters does not exceed 200 feet per minute with proper operation of the baghouse.
21. IN COMPLIANCE. Based on paint usage being well below permit limits, it is assumed that the facility is in compliance with the permit limits of 17.5 pounds VOC per hour and 14.82 tons VOC per year.
22. IN COMPLIANCE. Per the safety data sheet, the white primer has a VOC content of 2.8 pounds per gallon. The VOC content of the gray primer was not listed on the safety data sheet, but I contacted the company, Specialty Coatings in Fraser, MI, and they said the VOC content is 3.81 pounds per gallon (minus water and exempt solvents). Assuming a paint ratio usage of 2:1 of gray primer to white primer, this roughly equates to an average of 3.47 pounds VOC per gallon, in compliance with the allowable emission rate of 3.5 pounds VOC per gallon based on a 24-hour averaging period. Data sheets for the primers can be found in the facility file.
23. IN COMPLIANCE. The facility generally uses about three 55-gallon drums of primer per month, which is around 2000 gallons per year, below the permit limit of 8,600 gallons per year. Assuming the facility operates 5 days per week/24 hours per day, this averages out to 0.35 gallons/hour on a monthly average, well below the permit limit of 5 gallons per hour.
24. IN COMPLIANCE. Facility uses xylene as a cleaning solvent. Approximately two 55-gallon drums are used per year, below the permit limit of 300 gallons per year. VOC content is approximately 7.2 pounds per gallon, below the permit limit of 7.8 pounds per gallon.
25. IN COMPLIANCE. Facility does not keep track of hours painting is performed, but per Mr. Sexton painting is performed approximately 10-14 hours per week, which works out to a maximum of 728 hours per year, well below the permit limit of 4800 hours per year.
26. IN COMPLIANCE. Baghouse stack dimensions appear to meet permit specifications.
27. IN COMPLIANCE. Odor testing has not been requested by AQD. No odor complaints have been received in the past 10 years.
28. IN COMPLIANCE. Manufacturer data sheets are used to determine VOC content of coatings.
29. IN COMPLIANCE. The facility keeps track of drums of paint used rather than daily records of paint usage. Due to the low volume of paint used at this facility, this is sufficient to determine compliance with the permit limits.

There are several older Wayne County permits which were issued without conditions for equipment that is now either exempt or covered by Permit C-9717. As a result, the following Wayne County permits will be voided:

C-4498: Issued on January 12, 1978, for a paintroom with filters (now covered by C-9717)
C-4499: Issued on January 12, 1978 for a paghorn rotoblast (now exempt)
C-4500: Issued on January 12, 1978, for a paghorn rotoblast (now exempt)
C-4566: Issued on January 12, 1978, for a blasting room with tank (now exempt)
C-5635: Issued on March 13, 1981, for a grit blasting machine with dust collector (now exempt)
C-5957: Issued on January 28, 1982, for a rotoblast machine (now exempt)

FINAL COMPLIANCE DETERMINATION:

At the time of inspection, Fire-Rite appeared to be in compliance with Wayne County Permit No. C-9717 and other applicable State and federal air regulations.

NAME _____ DATE 9-23-15 SUPERVISOR JK