

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

N572269567

FACILITY: DuBois Chemicals		SRN / ID: N5722
LOCATION: 50725 RICHARD WEST BLVD., CHESTERFIELD		DISTRICT: Warren
CITY: CHESTERFIELD		COUNTY: MACOMB
CONTACT: Scott Bernard ,		ACTIVITY DATE: 10/11/2023
STAFF: Kerry Kelly	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: FY 2024 Targeted Inspection. Based on the information gathered during this inspection, DuBois Chemicals is in violation of Rule 910 and PTI 127-16, SC IV.1.		
RESOLVED COMPLAINTS:		

On October 11, 2023, I (Kerry Kelly, EGLE, AQD) conducted a targeted inspection of DuBois Chemicals located at 50725 Richard West Blvd, Chesterfield, Michigan. The purpose of the inspection was to verify the facility's compliance with requirements of the Federal Clean Air Act; Article II, Air Pollution Control, Part 55 of Act 451 of 1994; and Permit to Install (PTI) number 127-16.

I entered the lobby at DuBois at about 11 AM. At the facility, I met Scott Bernard, Manager, Coatings Removal. I introduced myself to Scott, stated the purpose of the inspection, and showed him my photo credentials. Scott answered questions, provided records, and showed me around the facility.

DuBois Chemicals operates a metal cleaning process located in eastern Macomb County. DuBois Chemicals is bordered immediately by industrial properties to the east, north and south, and residential to the west. The closest residential area is located approximately two-tenths of a mile west of DuBois Chemicals. Equipment at DuBois Chemicals includes five controlled pyrolysis furnaces, one drying oven, and several tanks used for stripping/cleaning parts/applying rust preventative (one tank containing Rust Erase 220, eight tanks containing Stripping 9905, two tanks containing Power Clean 399 and one tank containing GF Strip 4420). The facility was formerly owned and operated by Chemico Systems. Currently, Chemico Systems operates a warehouse and batch cleaning product mixing process in a separate building abutting the southwest corner of DuBois Chemicals. Chemico Systems owned and operated the paint stripping business at what is now DuBois Chemicals until March 2020. Based on discussions with the contacts for the two facilities, Chemico Systems and DuBois Chemicals are not under common control. Chemico Systems operates and controls the batch chemical mixing process and DuBois Chemicals operates and controls the paint stripping process.

On March 12, 2020, I received an email from Christopher Dickson, General Manager Chemico Systems, that stated the paint stripping division of Chemico Systems was being sold on March 13, 2020 to a company called DuBois Chemicals. Christopher also stated in the email that the facility will be at the same location and all of the stacks for the burn-off ovens are staying the same.

COMPLIANCE EVALUATION

PTI 127-16 was issued to Chemico Systems on September 9, 2016. DuBois Chemicals sent a letter to AQD Permit Section requesting the name of the facility for PTI 127-16 be changed to DuBois Chemicals. PTI 127-16 includes four burn-off ovens (EUOVEN1, EUOVEN2, EUOVEN3, EUOVEN4) used to remove cured paint from metal parts. The table below contains the size and fuel descriptions from PTI 127-16 for these ovens. Also included in the table below is the current operational status based on my observations during this inspection and records provided. Details regarding the operational status are included after the table.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Current Operational Status
EUOVEN1	A 1.45 MMBTU/hr, natural gas (NG) fired burn-off oven equipped with an afterburner.	January 5, 2011	Permanently shut-down. Last operated November 2022.
EUOVEN2	A 0.95 MMBTU/hr, natural gas (NG) fired burn-off oven equipped with an afterburner.	January 1, 2000	Fuel line disconnected. Last operated July 2019.
EUOVEN3	A 0.95 MMBTU/hr, natural gas (NG) fired burn-off oven equipped with an afterburner.	January 1, 2000	Removed from facility. Last operated February 2019.
EUOVEN4	A 2.0 MMBTU/hr, natural gas (NG) fired burn-off oven equipped with an afterburner.	January 9, 2013	Operational

On March 13, 2020, in response to my request for burn-off oven temperature records for a complaint investigation, Christopher Dickson, Chemico Systems/DuBois, sent an email stating that I will only see ovens #4 and #5 on the temperature logs because DuBois has not been using Oven #2, Oven #3 had been decommissioned, and Oven #1 wire was disconnected in preparation to relocate that oven to another area of the shop (Attachment 1).

During my inspection on 10/11/2023, I observed that the fuel lines for Oven #1 and Oven #2 had been disconnected. The fuel supply line for Oven #1 was cut and capped at a location that is not easily accessible (about 20 feet away from the nearest wall and about 20 feet or more above the plant floor), indicating the oven is permanently shut down. About 4 to 5 feet of fuel line for Oven #2 was disconnected in an easily accessible location (about 5-6 feet above the plant floor). Based on my observations, Oven #2 could be made operational relatively easily and therefore is not considered permanently shut down at this time. I did not see Oven #3 at DuBois during the inspection. Scott stated that Oven #3 had been removed from the facility. Oven #4 was not operating during the inspection.

Based on temperature records provided by Scott for this inspection, Oven #1 was not operated November 2019 - February 2020, April 2020, June 2021 - December 2021, and October 2022 - October 2023. DuBois did not operate Oven #2 between August 2019 - October 2023 according to the records. The records also indicate that Oven #3 was not operated between March 2019 - October 2023.

I also inspected two Steelman Industries, Inc burn-off ovens not included in PTI 127-16. DuBois refers to one of these ovens as Oven #5. No name was given for the other oven. The Steelman nameplate on Oven #5 states the oven is natural gas-fired with a heat input capacity of 4 MMBtu/hour. According to the nameplates on the primary and afterburner for Oven #5 and the other Steelman oven, the burners are manufactured by Selas Heat Technology Co. LLC and the fuel is natural gas. The primary burner for Oven #5 has a heat input capacity of 5 MMBtu/hour and the afterburner has a max fuel flow of 4,600 cfh (approximately 4.83 MMBtu/hour heat input based on 1,050 Btu/scf natural gas). The primary burner for the other Steelman oven has a max fuel flow of 5,118 cfh (approximately 5.74 MMBtu/hour heat input based on 1,050 Btu/scf natural gas) and the afterburner has a max fuel flow of 3,700 cfh (approximately 3.89 MMBtu/hour heat input based on 1,050 Btu/scf natural gas). Oven #5 was being operated during the inspection. The other Steelman oven was not fully installed (no fuel lines, electrical, or stacks connected). According to Scott, DuBois does not have any plans to fully install and use the other Steelman oven that is currently not fully installed.

Scott provided records indicating that DuBois is monitoring the afterburner temperature and opacity required in PTI 127-16 for Oven #5.

Since the stack for Oven #5 is in a different location than Oven #3, and may have different stack dimensions, DuBois will need to apply to have PTI 127-16 updated to replace Oven #3 with Oven #5. In addition, the heat input listed on the Steelman nameplate for Oven #5 (4 MMBtu/hour) is more than four times higher than the heat input listed in the PTI for Oven #3 (0.95 MMBtu/hour). I, along with the AQD Warren District Supervisor, Joyce Zhu, decided we will not issue a Rule 201 violation to DuBois for failure to obtain a permit to install before installing Oven #5, for the following reasons, if a PTI application is submitted by November 10, 2023;

- DuBois is following the monitoring and recordkeeping requirements in the facility's current permit to install (PTI 127-16) for Oven #5
- DuBois removed one permitted oven (Oven #3) and stopped operating another permitted oven (Oven #2) prior to the installation of Oven #5 in October 2019, based on records and statements from DuBois;
 - Oven #3 removed in early 2019
 - Oven #2 has not been operated since July 2019
- Oven #1, also included in PTI 127-16, has not been operated since about October 2022 according to records provided. In addition, on October 11, 2023, I observed the fuel line for Oven #1 was cut and capped.

On October 10, 2023, I called Scott and sent him an email requesting DuBois submit a PTI application for the installation of Oven #5 no later November 10, 2023.

PTI 127-16

SC I.1 states there shall be no visible emissions from any emission unit in FGBURNOFFOVENS. Scott provided records of visible emissions readings for the ovens in FGBURNOFFOVENS, and Oven #5, for August 2021 through October 2023 (Attachment 2). The records include the information required in SC VI.8. According to the records, no visible emissions were detected during the observations. During the inspection, I observed the stack for Oven #5 from the south side of the building, while it was being operated, and did not observe any opacity.

DuBois is required to burn only natural gas in FGBURNOFFOVENS according to SC II.1. Each of the nameplates for the ovens that I observed, including Oven #5 and the other Steelman oven, stated the burners are fired by natural gas.

In SC II.2, DuBois is prohibited from processing any material in FGBURNOFFOVENS other than cured paints, oil or grease on metal parts, racks and/or hangers. Per SC III.1 and III. 2, DuBois is prohibited from using the ovens for the thermal destruction or removal of rubber, plastics, uncured paints, or any other materials containing sulfur or halogens (chlorine, fluorine, bromine, etc.) such as plastisol, polyvinyl chloride (PVC), or Teflon and from loading into FGBURNOFFOVENS, any transformer cores, which may be contaminated with PCB-containing dielectric fluid, wire or parts coated with lead or rubber, or any waste materials such as paint sludge or waste powder coatings. According to an email from Scott dated 10/12/2023, current records state only automotive paint is on the parts being cleaned in the burn-off ovens. Scott also stated in the same email that DuBois does not use any of the ovens to remove rubber, plastics, uncured paints, or any other materials containing sulfur or halogens (chlorine, fluorine, bromine, etc.) such as plastisol, polyvinyl chloride (PVC), or Teflon and does not load cores, which may be contaminated with PCB-containing dielectric fluid, wire or parts coated with lead or rubber, or any waste materials such as paint sludge or waste powder coatings. I did not see any transformer cores, wires, parts coated with rubber, uncured paints, or Teflon while inspecting DuBois.

DuBois, according to SC IV.1, shall not operate any emission unit in FGBURNOFFOVENS unless the respective secondary chamber or afterburner is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the secondary chamber or afterburner includes maintaining a minimum temperature of 1400°F and a minimum retention time of 0.5 seconds. In addition, Rule 910 requires an air-cleaning device be installed, maintained, and operated in a satisfactory manner and in accordance with these rules and existing law.

Scott provided temperature data records for January 2018 - October 2023 for each emission unit in FGBURNOFFOVENS as required in SC VI.3, as well as for Oven #5 (S:\Air Quality Division\STAFF\Kerry Kelly\FY 2024 Inspections\N5722_DuBois). There is no temperature data recorded for any of the ovens for all of May 2021 and November 2022 and for parts of April 2021, June 2021, July 2021, December 2021, May 2022, June 2022, July 2022, and August 2022. The records include primary chamber and afterburner readings recorded every 15 minutes for each oven. Temperature readings through October 2023 are included for EUOVEN1, EUOVEN2, and EUOVEN3, though the ovens have not been operated since November 2022, August 2019, and February 2019 respectively. According to Scott, DuBois continues to monitor the temperatures for EUOVEN1 and EUOVEN2 because the ovens are still at the facility. In addition, Scott stated Oven 3 was removed in early 2019 and the Oven 3 thermocouple wire was left attached to the chart and is reading inside the box that chart recorder is in.

I reviewed the temperature records, primarily for Oven #4 and Oven #5, provided by Scott. These records indicate DuBois starts the primary burner for Oven #5 before the afterburner temperature reaches 1400 degrees Fahrenheit. According to the records, for nearly every load, the primary chamber temperature starts increasing (indicating the start of the primary burner) and reaches more than 600 degrees Fahrenheit while the corresponding afterburner temperatures are less than 1400 degrees Fahrenheit. After reaching about 850 degrees Fahrenheit, the primary chamber remains at about 850 degrees Fahrenheit ("soak" cycle) and the afterburner temperature remains above 1400 degrees Fahrenheit until both temperatures start decreasing at the end of the cycle. Based on the information in SC IV.2, and discussions with other AQD staff, the oven is considered to be in operation when the primary chamber burners are on and material is loaded in the oven for processing. According to the website for another burn off oven manufacturer (Pollution Control Products), "When the furnace is loaded the material begins to decompose once the furnace reaches a temperature of 600-700°F."

According to the records provided, the primary chamber for Oven #5 is started, and often reaches reaches more than 600 degrees Fahrenheit, when the afterburner temperature is less than 1400 degrees Fahrenheit. Operating Oven #5 when the afterburner temperature is less than 1400 degrees Fahrenheit is a violation of Rule 910.

According to manufacturer's information for Oven #5, provided by Scott, the oven uses an Automatic Process Control system (Attachment 3). The Automatic Process Control system, according to a page from the Steelman manual provided by Scott, continuously monitors the heat up rate of both the oven and afterburner. Steelman's website (<https://www.steelman.com/resources/guides/buyers-guide/selecting-an-oven/>) states that if the oven or afterburner heats up too rapidly, indicating excessive combustible vapor, the load is cooled until the heat-up rate is acceptable.

I called Scott on October 20, 2023 and informed of my findings regarding Oven #5 and that I will be issuing a notice of violation to DuBois for operating the burn-off oven when the afterburner temperature is less than 1400 degrees Fahrenheit. Scott stated he would contact Steelman Industries, Inc. to determine how to program the oven so the afterburner reaches a minimum of 1400 degrees Fahrenheit before the primary burner is started.

Regarding Oven #4 temperatures, there were several occasions between 2019-2023 when the afterburner temperature dropped to about 600-1,000 degrees Fahrenheit while the primary chamber temperature was between about 500 - 800 degrees Fahrenheit. In addition, there were dates in June 2019, September 2020, June 2021, September 2022, October

2022, and June 2023 when, records indicate, Oven #4 was operated for up to the entire cycle while the afterburner temperature was less than 1400 degrees Fahrenheit. During these cycles, the primary chamber temperature recorded was at about 750-800 degrees Fahrenheit for 1.5 to 3 hours while the afterburner chamber temperatures recorded were between about 500 and 600 degrees Fahrenheit. Operating Oven #4 while the afterburner temperature is less than 1400 degrees Fahrenheit is a violation of SC IV.1. A notice of violation will be issued to DuBois for operating Oven #4 while the afterburner temperature is less than 1400 degrees Fahrenheit.

During the inspection I saw temperature control systems and monitors on each oven in FGBURNOFFOVENS, as required in SC IV.2 and VI.1, as well as on Oven #5. Only Oven #5 was being operated during the inspection. I noted the primary chamber temperature monitor displayed a temperature of 847 degrees Fahrenheit and the secondary chamber monitor displayed a temperature of 1523 - 1526 degrees Fahrenheit during the inspection. Scott stated that the thermocouple for the primary chamber for Oven #5 is located in the upper northwest corner of the oven. I saw that the thermocouple for the secondary chamber for Oven #5 is located about 2-3 feet above the base of the stack, inside the building, on the south-central side of the oven. The thermocouple for the primary burner for Oven #4 is located near the exhaust to the afterburner and the afterburner thermocouple is located at the base of the stack, inside the building.

SC VI.2 requires that the thermocouples associated with the primary and secondary chambers of each emission unit in FGBURNOFFOVENS be calibrated at least once per year, records of the calibrations be kept. Scott provided records stating 3 ovens were calibrated in December 2021 and two ovens were calibrated in February 2023 (Attachment 4). During the inspection, I saw stickers on the circuit board covers for the temperature monitor for Oven #5 that stated calibrated 2-28-23.

Dubois is prohibited from operating any unit in FGBURNOFFOVENS unless the respective interlock system that shuts down the primary chamber burner when the secondary chamber or afterburner is not operating properly, is installed, maintained and operated in a satisfactory manner. As required in SC VI.6. Scott provided information from the manufacturer for Oven #4 stating that gas to the respective burner will shut-off if there is an afterburner flame failure. (Attachment 5) Information from the manufacturer for Oven #5, provided by Scott, states that if the afterburner fails during a cycle, or if the stop switch is activated, the primary water sprays will come "on" to cool the oven to 400 degrees Fahrenheit to prevent smoke from leaving the oven. Scott said the primary burner for Oven #5 shuts down if there is an afterburner failure. He is waiting on an email from the manufacturer to corroborate the information.

TANKS

The tanks containing Rust Erase 220, Stripping 9905, Power Clean 399 and GF Strip 4420, used for stripping/cleaning/applying rust preventative to parts, were all vented to the general in-plant environment during the inspection. The tanks containing Power Clean 399 and GF Strip 4420 were covered. After being dipped in the tanks the parts are washed with water using a 300 psi power washer. During the inspection, I observed a person spraying parts off using a hand-held wand. Equipment used for the surface treatment, pickling, acid dipping, cleaning, etching, electropolishing, and electrolytic stripping or electrolytic polishing of metals are exempt from PTI per Rule 285(r).

DRYING OVEN

During the inspection I observed a 500,000 BTU/hr, natural gas-fired oven manufactured by Gehrich. Scott stated the Gehrich oven is used to dry metal parts treated with Perkote rust preventative. The VOC content of Perkote is 0%, according to the SDS Scott provided for Perkote (Attachment 6). Ovens used to dry materials, where the material itself cannot become an air contaminant, are exempt from the requirement to have a PTI if no volatile organic compounds that have a vapor pressure greater than 0.1 mmHg at standard conditions are used in the process, and no oil or solid fuel is burned.

BOILER - REMOVED

During a self-initiated inspection of Chemico/DuBois in 2016, I observed a Cleaver Brooks model CB200-125 boiler with a serial number of L-79398, manufactured on March 3, 1985, and with a rated capacity of 5,230,000 Btu/hr according to the nameplate. During my inspection on 10/11/2023, Scott stated the boiler had been removed and showed me the area where this boiler had been located. In the area, I saw on the ceiling where the boiler stack had been. I did not see any boilers during my inspection on 10/11/2023.

SAND BLAST UNITS

In the same area of the plant where the boiler had been, I saw two fully enclosed sand blast units, vented to the general in-plant environment. The sand blast units did not appear to be in working order. According to Scott, DuBois does not use the sand blast units. I did not see any dust near the sand blast units. Equipment for sand blast cleaning ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper board, wood, wood products, stone, glass, fiberglass, or fabric which has emissions that are released only into the general in-plant environment are exempt from the

requirement to have a PTI per Rule 285(2)(l)(vi)(B).

CONCLUSION

Based on the information gathered during this inspection, DuBois Chemicals is in violation of Rule 910 and PTI 127-16, SC IV.1 for operating Oven #5 and Oven #4, respectively, while the corresponding afterburner temperature was less than 1400 degrees Fahrenheit.

NAME K Kelly

DATE 11/6/2023

SUPERVISOR Joyce