

PTI 04-1158
0448011240 K002 - Industrial Printing Co.

Fees

1 process at 1000#/hr = \$200.

AIR EMISSION SUMMARY

The air contaminant sources listed below comprise the Permit to Install for Industrial Printing Company, Inc. located in Lucas County. The sources listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

Ohio EPA Source Number	Source Identification/Description	BAT Determination	Applicable Federal and OAC Rules	Permit Allowable Mass Emissions and/or Control & Usage Requirements
K002	Heatset web offset printing press and ovens with catalytic incinerator	No visible emissions from the stack. Limitations on ink and fountain solution composition and clean-up material throughput. Non-photochemically reactive material. 95% destruction efficiency for incinerator.	3745-31-05	no visible emissions from the stack. CO - 0.07 pounds per hour CO - 0.32 tons per year NOx - 0.09 pounds per hour NOx - 0.38 tons per year PM - 0.01 pounds per hour PM - 0.03 tons per year SO2 - 0.0005 lbs per hour SO2 - 0.002 tons per year OC - 0.91 pounds per hour OC - 3.9 tons per year
			*3745-17-07 (A)(1)	See below
			*3745-17-10 (B)(1)	See below
			*3745-18-06 (A)	See below
			*3745-21-07 (G), (G)(3), (G)(6)(a)	See below
			*3745-21-08 (B)	See below
			*3745-23-06 (B)	See below

* The emission limitations established through this applicable rule are equal to, or less stringent than, the best available technology determination of OAC rule 3745-31-05.

**SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons/Year</u>
CO	0.32
NOx	0.38
PM	0.03

OC	3.9
SO2	0.002

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Additional Terms and Conditions

1. Operational Restrictions

- A. OAC rule 3745-21-07 (G)(3) limits organic compound (OC) emissions to 3 pounds per hour and 15 pounds per day or requires an minimum 85% reduction in OC emissions. A catalytic oxidizer shall be employed to comply with the requirement and shall achieve an 85% reduction (overall capture and control efficiency) and a 95% control efficiency for OC emissions instead of complying with the OC emission limits of 3 pounds per hour and 15 pounds per day.
- B. The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.
- C. The permittee shall be restricted to the employment of materials in this emissions unit as specified below:
 - i. printing inks - a maximum 45% OC by weight as a monthly volume-weighted average.
 - ii. fountain solution - a maximum 9% OC by volume as applied as a monthly volume-weighted average.
 - iii. clean-up materials - 1,650 gallons per rolling 12-month period.
 - iv. all materials used shall be non-photochemically reactive.
- D. The permittee shall burn only natural gas in this emissions unit.

2. Monitoring and/or Record keeping Requirements

- A. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
- B. The permittee shall collect and record the following information each day:
- i. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
 - ii. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.
 - iii. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
- C. The permittee shall collect and record the following information for each month for this emissions unit:
- i. The company identification for each material employed (i.e., printing inks, fountain solution or clean-up material).
 - ii. The number of gallons or pounds of each material employed.
 - iii. The organic compound content of each material, in percent by volume or percent by weight as required by Section 1.C..
 - iv. A determination of the reactivity of each material used in this emissions unit, i.e., photochemically reactive or non-photochemically reactive.
- D. For each day during which the permittee burns a fuel other than natural

gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

3. Reporting Requirements

- A. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during which the average temperature of the exhaust gases immediately before the catalyst bed or the average temperature difference across the catalyst bed does not comply with the temperature limitations specified above.
- B. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted on the same time schedule as the deviation reports.
- C. The permittee shall submit quarterly deviation (excursion) reports identifying any monthly record which shows that the material usage or OC content exceeds the limitations specified in Section 1.C..
- D. The permittee shall submit quarterly deviation (excursion) reports that identify each day when photochemically reactive material(s) was used in this emissions unit.
- E. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
- F. Each report shall be submitted within 30 days after the end of the calendar quarter.

4. Testing Requirements

- A. Compliance with the emission limitation(s) of these terms and conditions shall be determined in accordance with the following methods(s):

- i. Emission Limitation:
no visible emissions from the stack.

Applicable Compliance Method:

Compliance shall be demonstrated by the exclusive combustion of natural gas as determined through Section 2.D.. If required, the permittee shall also demonstrate compliance through the methods and procedures of OAC rule 3745-17-03(B)(1).

- ii. Emission Limitation:
CO - 0.07 pounds per hour, 0.32 tons per year.
NOx - 0.09 pounds per year, 0.38 tons per year.
PM - 0.01 pounds per year, 0.03 tons per year.
SO2 - 0.0005 lbs per hour, 0.002 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by the exclusive combustion of natural gas as demonstrated through Section 2.D., a maximum combustion rate of 0.875 million Btus per hour and AP-42 emissions factors from Table 1.4-1 (2/98): CO = 84 pounds per million cubic feet of gas, NOx = 100 pounds per million cubic feet of gas and SO2 = 0.6 pounds per million cubic feet of gas with a heat content of 1,020 Btus per standard cubic foot, and from Table 1.4-2 (3/98): PM = 7.6 pounds per million cubic feet with a heat content of 1,020 Btus per standard cubic foot.

- iii. Emission Limitation:
OC - 0.91 pounds per hour, 3.9 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated through a summation of the respective contributions of OC emissions from the printing ink, fountain solution, clean-up materials and combustion gasses and determined through the record keeping requirements of Sections 2.B., 2.C. and 2.D.. Formulation data or USEPA Method 24 shall be used to determine the organic compound contents of the coatings and cleanup materials employed in the emissions unit. The following emission factors from Ohio EPA Engineering Guide 56 may be used: for the printing ink emissions, 20% retention in the substrate, 80% to the control device, for the fountain solution 30% fugitive and 70% to the control device, and for clean-up materials 50% fugitive and 50% retained in the cleaning rags. The control efficiency utilized shall be that established during the most recent stack test. Also, a maximum combustion rate of 0.875 million Btus per hour may be assumed and AP-42 emissions factors from Table 1.4-2 (3/98) utilized, i.e., OC = 5.5 pounds per million cubic feet with a heat content of 1,020 Btus per standard cubic foot.

- iv. Emission Limitation:
85% reduction (overall capture and control efficiency) and a 95% control efficiency for OC emissions

Applicable Compliance Method:

Compliance shall be demonstrated through the stack testing requirements of Section 4.B..

- v. Emission Limitation:
The permittee shall employ only non-photochemically reactive materials in this emissions unit.

Applicable Compliance Method:

Compliance shall be demonstrated through the record keeping requirements of Section 2.C.iv. using the definition of photochemically reactive material stated in OAC rule 3745-21-01(C)(5).

- B. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The emission testing shall be conducted within 90 days after equipment start-up.
- ii. The emission testing shall be conducted to demonstrate compliance with the 85% overall control efficiency (capture and control efficiency) and the 95% control efficiency for organic compounds.
- iii. The capture efficiency shall be assumed to be 100% provided that the press dryer maintains a negative pressure within the pressroom and the dryer exhausts to a control device. The negative dryer pressure shall be demonstrated with either a differential pressure gauge or a smoke test(s). The pressure gauge shall be installed using the criteria in USEPA's Test Method 204. The smoke test shall indicate air flow into the dryer at all openings excluding the exhaust stack. If required, the capture efficiency shall also be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods in 40 CFR Part

60, Appendix A, Method 5 and Method 25. The procedures selected shall be based on guidance in Ohio EPA's Engineering Guide 56 and shall combine the Method 5 front-half measurements with the Method 25 results to determine the OC concentrations.

- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

5. Miscellaneous Requirements

None