



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Lazarus Gov.
Center

RE: **FINAL PERMIT TO INSTALL MODIFICATION**
LICKING COUNTY
Application No: 01-08161

CERTIFIED MAIL

DATE: 11/2/2000

Communicolor RRD Direct
Phil Koontz
PO Box 400
Newark, OH 43058

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

CDO



Permit To Install
Terms and Conditions

Issue Date: 11/2/2000
Effective Date: 11/2/2000

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 01-08161

Application Number: **01-08161**
APS Premise Number: **0145020179**
Permit Fee: **\$0**
Name of Facility: **Communicolor RRD Direct**
Person to Contact: **Phil Koontz**
Address: **PO Box400**
Newark, OH 43058

Location of proposed air contaminant source(s) [emissions unit(s)]:
190 Milliken Dr SE
Hebron, OHIO

Description of modification:
Modification of PTI 01-08161 issued 05-03-00; printing presses.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or

revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit to Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

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15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

| <u>Pollutant</u> | <u>Tons Per Year</u> |
|-------------------------|-----------------------------|
| VOC | 70.9 |
| CO | 5.0 |
| NOx | 6.2 |
| PM | 0.6 |

Modification Issued: 11/2/2000

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|---|--------------------------------------|---|
| K015 - 10 12-printing unit, heatset web offset lithographic printing press with natural gas fired dryer (N15), modification | OAC rule 3745-31-05(A)(3) | Volatile organic compound emissions shall not exceed 4.70 pounds per hour and 12.8 tons per year. |
| | | Carbon monoxide emissions shall not exceed 0.20 pound per hour and 0.9 ton per year. |
| | | Nitrogen oxide emissions shall not exceed 0.24 pound per hour and 1.1 tons per year. |
| | | Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year. |
| | OAC rule 21-07 (G)(9) | See B.1 below. |

2. Additional Terms and Conditions

- 2.a None

B. Operational Restrictions

- 1. This facility shall employ only non-photochemically reactive materials as defined by Ohio Administrative Code (OAC) 3745-21-01 (C)(5).

2. The permittee shall burn only natural gas in this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a facility wide basis:
 - a. The company identification for each coating and cleanup material employed.
 - b. The number of gallons of each coating and cleanup material employed.
 - c. The organic compound content of each coating and cleanup material, in pounds per gallon.
 - d. The total monthly organic compound emission rate for all coatings and cleanup materials in pounds and tons.
 - e. The cumulative rolling 12-month summation of the organic compound emission rate for all coatings and cleanup materials in pounds and tons.

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit. Also, the definitions of "photochemically reactive" and "nonphotochemically reactive" are based upon OAC rule 3745-21-01(C)(5).]

2. The permit to install for this emissions unit (K015) was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Isopropyl Alcohol

TLV (mg/m³): 983,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 23,405

Pollutant: 2-Butoxyethanol

TLV (mg/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 2.65

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 423

MAGLC (ug/m3): 2889

Pollutant: Stoddard Solvent

TLV (mg/m3): 525,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 12,500

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.
3. 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.

D. Reporting Requirements

1. The permittee shall notify the Director (Central District Office) in writing of any monthly record showing the use of photochemically reactive materials. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

1. Emission Limitation:

Volatile organic compound emissions shall not exceed 4.7 pounds per hour and 12.8 tons per year.

Applicable Compliance Method:

Compliance with the long term emission rate was calculated by dividing the actual annual press OC emissions (16,127 lbs) by 2000 lbs per ton. Then multiplying that number by the maximum hours of operation per year (8760) divided by the actual hours of operation (5500). (ENVIROPRINT Ohio, 1995) This supplies the maximum tons per year that this unit can emit

Compliance with the short term emission rate was calculated by multiplying the tons per year maximum emissions of 12.8 tons per year by 2000 pounds per ton and dividing by the actual hours of operation (5500 hr/yr.)

2. Emission Limitation:

Carbon monoxide emissions shall not exceed 0.20 pound per hour and 0.9 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (2.25 mmBTU/hour) by the emission factor of 84 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Emissions Unit ID: **K015**

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

3. Emission Limitation:

Nitrogen oxide emissions shall not exceed 0.24 pound per hour and 1.1 tons per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (2.25 mmBTU/hour) by the emission factor of 100 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

4. Emission Limitation:

Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (2.25 mmBTU/hour) by the emission factor of 7.6 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|--|--------------------------------------|---|
| K018 - 12-printing unit, heatset web offset lithographic printing press with natural gas fired dryer (N18) | OAC rule 3745-31-05(A)(3) | Volatile organic compound emissions shall not exceed 4.80 pounds per hour and 13.3 tons per year. Carbon monoxide emissions shall not exceed 0.17 pound per hour and 0.7 ton per year. Nitrogen oxide emissions shall not exceed 0.20 pound per hour and 0.9 ton per year. Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year. |
| | OAC rule 21-07 (G)(9) | See B.1 below. |

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. This facility shall employ only non-photochemically reactive materials as defined by Ohio Administrative Code (OAC) 3745-21-01 (C)(5).

2. The permittee shall burn only natural gas in this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a facility wide basis:
 - a. The company identification for each coating and cleanup material employed.
 - b. The number of gallons of each coating and cleanup material employed.
 - c. The organic compound content of each coating and cleanup material, in pounds per gallon.
 - d. The total monthly organic compound emission rate for all coatings and cleanup materials in pounds and tons.
 - e. The cumulative rolling 12-month summation of the organic compound emission rate for all coatings and cleanup materials in pounds and tons.

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit. Also, the definitions of "photochemically reactive" and "nonphotochemically reactive" are based upon OAC rule 3745-21-01(C)(5).]

2. The permit to install for this emissions unit (K018) was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Isopropyl Alcohol

TLV (mg/m³): 983,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 4152

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Modif

Facility ID: 0145020179

Emissions Unit ID: K018

MAGLC (ug/m3): 23,405

Pollutant: 2-Butoxyethanol

TLV (mg/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 2.65

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 423

MAGLC (ug/m3): 2889

Pollutant: Stoddard Solvent

TLV (mg/m3): 525,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 12,500

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

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- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.
3. 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.

D. Reporting Requirements

1. The permittee shall notify the Director (Central District Office) in writing of any monthly record showing the use of photochemically reactive materials. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

E. Testing Requirements

2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:
Volatile organic compound emissions shall not exceed 4.80 pounds per hour and 13.3 tons per year.

Applicable Compliance Method:

Compliance with the long term emission rate was calculated by dividing the actual annual press OC emissions (16,753 lbs) by 2000 lbs per ton. Then multiplying that number by the maximum hours of operation per year (8760) divided by the actual hours of operation (5500). (ENVIROPRINT Ohio, 1995) This supplies the maximum tons per year that this unit can emit

Compliance with the short term emission rate was calculated by multiplying the tons per year maximum emissions of 13.3 tons per year by 2000 pounds per ton and dividing by the actual hours of operation (5500 hr/yr.)

- b. Emission Limitation:
Carbon monoxide emissions shall not exceed 0.17 pound per hour and 0.7 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (1.94 mmBTU/hour) by the emission factor of 84 pounds/mm scf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

- c. Emission Limitation:
Nitrogen oxide emissions shall not exceed 0.20 pound per hour and 0.9 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (1.94 mmBTU/hour) by the emission factor of 100 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

- d. Emission Limitation:
Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (1.94 mmBTU/hour) by the emission factor of 7.6 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

F. Miscellaneous Requirements

None

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|---|--------------------------------------|--|
| K021 - 10-printing unit, heatset web offset lithographic printing press with natural gas fired dryer (N021) | OAC rule 3745-31-05(A)(3) | Volatile organic compound emissions shall not exceed 4.10 pounds per hour and 11.2 tons per year. Carbon monoxide emissions shall not exceed 0.23 pound per hour and 1.0 ton per year. Nitrogen oxide emissions shall not exceed 0.27 pound per hour and 1.2 tons per year. Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year. |
| | OAC rule 21-07 (G)(9) | See B.1 below. |

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. This facility shall employ only non-photochemically reactive materials as defined by Ohio Administrative Code (OAC) 3745-21-01 (C)(5).

2. The permittee shall burn only natural gas in this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a facility wide basis:
 - a. The company identification for each coating and cleanup material employed.
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 - f. The cumulative rolling 12-month summation of the organic compound emission rate for all coatings and cleanup materials in pounds and tons.

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit. Also, the definitions of "photochemically reactive" and "nonphotochemically reactive" are based upon OAC rule 3745-21-01(C)(5).]

2. The permit to install for this emissions unit (K021) was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Isopropyl Alcohol

TLV (mg/m3): 983,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 23,405

Pollutant: 2-Butoxyethanol

TLV (mg/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 2.65

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 423

MAGLC (ug/m3): 2889

Pollutant: Stoddard Solvent

TLV (mg/m3): 525,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 12,500

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.
3. 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.

D. Reporting Requirements

1. The permittee shall notify the Director (Central District Office) in writing of any monthly record showing the use of photochemically reactive materials. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

Volatile organic compound emissions shall not exceed 4.10 pounds per hour and 11.2 tons per year.

Applicable Compliance Method:

Compliance with the long term emission rate was calculated by dividing the actual annual press OC emissions (14,092 lbs) by 2000 lbs per ton. Then multiplying that number by the maximum hours of operation per year (8760) divided by the actual hours of operation (5500). (ENVIROPRINT Ohio, 1995) This supplies the maximum tons per year that this unit can emit

Compliance with the short term emission rate was calculated by multiplying the tons per year maximum emissions of 11.2 tons per year by 2000 pounds per ton and dividing by the actual hours of operation (5500 hr/yr).

b. Emission Limitation:

Carbon monoxide emissions shall not exceed 0.23 pound per hour and 1.0 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (2.56 mmBTU/hour) by the emission factor of 84 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

c. Emission Limitation:

Nitrogen oxide emissions shall not exceed 0.27 pound per hour and 1.2 tons per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (2.56 mmBTU/hour) by the emission factor of 100 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the

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short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

- d. Emission Limitation:
Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (2.56 mmBTU/hour) by the emission factor of 7.6 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|---|--------------------------------------|---|
| K022 - 10-printing unit, heatset web offset lithographic printing press with natural gas fired dryer (N022) | OAC rule 3745-31-05(A)(3) | Volatile organic compound emissions shall not exceed 4.10 pounds per hour and 11.2 tons per year. |
| | | Carbon monoxide emissions shall not exceed 0.23 pound per hour and 1.0 ton per year. |
| | | Nitrogen oxide emissions shall not exceed 0.27 pound per hour and 1.2 tons per year. |
| | | Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year. |
| | OAC rule 21-07 (G)(9) | See B.1 below. |

2. Additional Terms and Conditions

- 2.a None

B. Operational Restrictions

1. This facility shall employ only non-photochemically reactive materials as defined by Ohio Administrative Code (OAC) 3745-21-01 (C)(5).

2. The permittee shall burn only natural gas in this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a facility wide basis:
 - a. The company identification for each coating and cleanup material employed.
 - c. The number of gallons of each coating and cleanup material employed.
 - d. The organic compound content of each coating and cleanup material, in pounds per gallon.
 - e. The total monthly organic compound emission rate for all coatings and cleanup materials in pounds and tons.
 - f. The cumulative rolling 12-month summation of the organic compound emission rate for all coatings and cleanup materials in pounds and tons.

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit. Also, the definitions of "photochemically reactive" and "nonphotochemically reactive" are based upon OAC rule 3745-21-01(C)(5).]

2. The permit to install for this emissions unit (K022) was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Isopropyl Alcohol

TLV (mg/m³): 983,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 23,405

Pollutant: 2-Butoxyethanol

TLV (mg/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 2.65

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 423

MAGLC (ug/m3): 2889

Pollutant: Stoddard Solvent

TLV (mg/m3): 525,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 12,500

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.
3. 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.

D. Reporting Requirements

1. The permittee shall notify the Director (Central District Office) in writing of any monthly record showing the use of photochemically reactive materials. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:
Volatile organic compound emissions shall not exceed 4.10 pounds per hour and 11.2 tons per year.

Applicable Compliance Method:

Compliance with the long term emission rate was calculated by dividing the actual annual press OC emissions (14,092 lbs) by 2000 lbs per ton. Then multiplying that number by the maximum hours of operation per year (8760) divided by the actual hours of operation (5500). (ENVIROPRINT Ohio, 1995) This supplies the maximum tons per year that this unit can emit

Compliance with the short term emission rate was calculated by multiplying the tons per year maximum emissions of 11.2 tons per year by 2000 pounds per ton and dividing by the actual hours of operation (5500 hr/yr).

- b. Emission Limitation:
Carbon monoxide emissions shall not exceed 0.23 pound per hour and 1.0 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (2.56 mmBTU/hour) by the emission factor of 84 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

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Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

- c. Emission Limitation:
Nitrogen oxide emissions shall not exceed 0.27 pound per hour and 1.2 tons per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (2.56 mmBTU/hour) by the emission factor of 100 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

- d. Emission Limitation:
Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (2.56 mmBTU/hour) by the emission factor of 7.6 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|---|--------------------------------------|---|
| K023 - 10-printing unit, heatset web offset lithographic printing press with natural gas fired dryer (N023) | OAC rule 3745-31-05(A)(3) | Volatile organic compound emissions shall not exceed 4.10 pounds per hour and 11.2 tons per year. Carbon monoxide emissions shall not exceed 0.17 pound per hour and 0.7 ton per year. Nitrogen oxide emissions shall not exceed 0.20 pound per hour and 0.9 ton per year. Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year. |
| | OAC rule 21-07 (G)(9) | See B.1 below. |

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

- a. This facility shall employ only non-photochemically reactive materials as defined by Ohio Administrative Code (OAC) 3745-21-01 (C)(5).

- b. The permittee shall burn only natural gas in this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a facility wide basis:
 - a. The company identification for each coating and cleanup material employed.
 - e. The number of gallons of each coating and cleanup material employed.
 - f. The organic compound content of each coating and cleanup material, in pounds per gallon.
 - g. The total monthly organic compound emission rate for all coatings and cleanup materials in pounds and tons.
 - h. The cumulative rolling 12-month summation of the organic compound emission rate for all coatings and cleanup materials in pounds and tons.

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit. Also, the definitions of "photochemically reactive" and "nonphotochemically reactive" are based upon OAC rule 3745-21-01(C)(5).]

2. The permit to install for this emissions unit (K023) was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Isopropyl Alcohol

TLV (mg/m³): 983,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 23,405

Pollutant: 2-Butoxyethanol

TLV (mg/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 2.65

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 423

MAGLC (ug/m3): 2889

Pollutant: Stoddard Solvent

TLV (mg/m3): 525,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 12,500

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.
3. 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.

D. Reporting Requirements

1. The permittee shall notify the Director (Central District Office) in writing of any monthly record showing the use of photochemically reactive materials. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:
Volatile organic compound emissions shall not exceed 4.10 pounds per hour and 11.2 tons per year.

Applicable Compliance Method:

Compliance with the long term emission rate was calculated by dividing the actual annual press OC emissions (14,092 lbs) by 2000 lbs per ton. Then multiplying that number by the maximum hours of operation per year (8760) divided by the actual hours of operation (5500). (ENVIROPRINT Ohio, 1995) This supplies the maximum tons per year that this unit can emit

Compliance with the short term emission rate was calculated by multiplying the tons per year maximum emissions of 11.2 tons per year by 2000 pounds per ton and dividing by the actual hours of operation (5500 hr/yr).

- b. Emission Limitation:
Carbon monoxide emissions shall not exceed 0.17 pound per hour and 0.7 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (1.94 mmBTU/hour) by the emission factor of 84 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

- c. Emission Limitation:
Nitrogen oxide emissions shall not exceed 0.20 pound per hour and 0.9 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (1.94 mmBTU/hour) by the emission factor of 100 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

- d. Emission Limitation:
Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (1.94 mmBTU/hour) by the emission factor of 7.6 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|---|--------------------------------------|---|
| K024 - 10-printing unit, heatset web offset lithographic printing press with natural gas fired dryer (N024) | OAC rule 3745-31-05(A)(3) | Volatile organic compound emissions shall not exceed 4.10 pounds per hour and 11.2 tons per year. |
| | | Carbon monoxide emissions shall not exceed 0.17 pound per hour and 0.7 ton per year. |
| | | Nitrogen oxide emissions shall not exceed 0.20 pound per hour and 0.9 ton per year. |
| | | Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year. |
| | OAC rule 21-07 (G)(9) | See B.1 below. |

2. Additional Terms and Conditions

- 2.a None

B. Operational Restrictions

1. This facility shall employ only non-photochemically reactive materials as defined by Ohio Administrative Code (OAC) 3745-21-01 (C)(5).

2. The permittee shall burn only natural gas in this emissions unit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a facility wide basis:
 - a. The company identification for each coating and cleanup material employed.
 - b. The number of gallons of each coating and cleanup material employed.
 - c. The organic compound content of each coating and cleanup material, in pounds per gallon.
 - d. The total monthly organic compound emission rate for all coatings and cleanup materials in pounds and tons.
 - e. The cumulative rolling 12-month summation of the organic compound emission rate for all coatings and cleanup materials in pounds and tons.

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit. Also, the definitions of "photochemically reactive" and "nonphotochemically reactive" are based upon OAC rule 3745-21-01(C)(5).]

2. The permit to install for this emissions unit (K024) was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Isopropyl Alcohol

TLV (mg/m³): 983,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 4152

MAGLC (ug/m3): 23,405

Pollutant: 2-Butoxyethanol

TLV (mg/m3): 121,000

Maximum Hourly Emission Rate (lbs/hr): 2.65

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 423

MAGLC (ug/m3): 2889

Pollutant: Stoddard Solvent

TLV (mg/m3): 525,000

Maximum Hourly Emission Rate (lbs/hr): 26

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4152

MAGLC (ug/m3): 12,500

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.
3. 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.

D. Reporting Requirements

1. The permittee shall notify the Director (Central District Office) in writing of any monthly record showing the use of photochemically reactive materials. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(1).
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

Volatile organic compound emissions shall not exceed 4.10 pounds per hour and 11.2 tons per year.

Applicable Compliance Method:

Compliance with the long term emission rate was calculated by dividing the actual annual press OC emissions (14,092 lbs) by 2000 lbs per ton. Then multiplying that number by the maximum hours of operation per year (8760) divided by the actual hours of operation (5500). (ENVIROPRINT Ohio, 1995) This supplies the maximum tons per year that this unit can emit

Compliance with the short term emission rate was calculated by multiplying the tons per year maximum emissions of 11.2 tons per year by 2000 pounds per ton and dividing by the actual hours of operation (5500 hr/yr).

b. Emission Limitation:

Carbon monoxide emissions shall not exceed 0.17 pound per hour and 0.7 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (1.94 mmBTU/hour) by the emission factor of 84 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

- c. Emission Limitation:
Nitrogen oxide emissions shall not exceed 0.20 pound per hour and 0.9 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (1.94 mmBTU/hour) by the emission factor of 100 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

- d. Emission Limitation:
Particulate matter emissions shall not exceed 0.02 pound per hour and 0.1 ton per year.

Applicable Compliance Method:

Compliance with the short term emission limitation shall be determined by multiplying the maximum rated capacity of the emissions unit (1.94 mmBTU/hour) by the emission factor of 7.6 pounds/mmscf (AP-42, 1998) and dividing by the conversion factor of 950 BTU/scf.

Compliance with the long term emission limitation shall be determined by multiplying the short term maximum emission rate (pounds/hour) by 8760 hours/year and dividing by 2000 pounds/ton.

F. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 01-08161 Facility ID: 0145020179

FACILITY NAME Communicolor RRD Direct

FACILITY DESCRIPTION New printing presses N21 through N24, modification to presses N15 and N18. CITY/TWP Hebron

SIC CODE 2752 SCC CODE 40290101 EMISSIONS UNIT ID K015

EMISSIONS UNIT DESCRIPTION 10-printing unit, heatset web offset lithographic printing press (N15)

DATE INSTALLED 6/00

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---------------|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | | 0.02 | 0.1 | 0.02 | 0.1 |
| PM ₁₀ | | | | | |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | 4.70 | 12.8 | 4.70 | 12.8 |
| Nitrogen Oxides | | 0.24 | 1.1 | 0.24 | 1.1 |
| Carbon Monoxide | | 0.20 | 0.9 | 0.20 | 0.9 |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

See additional terms and conditions.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Isopropyl Alcohol, 2-Butoxyethanol, Stoddard Solvent

NEW SOURCE REVIEW FORM B

PTI Number: 01-08161

Facility ID: 0145020179

FACILITY NAME Communicolor RRD Direct

FACILITY DESCRIPTION New printing presses N21 through N24. CITY/TWP Hebron

Emissions Unit ID: **K024**SIC CODE 2752SCC CODE 40290101EMISSIONS UNIT ID K022EMISSIONS UNIT DESCRIPTION 10-printing unit, heatset web offset lithographic printing press (N022)DATE INSTALLED 6/00

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---------------|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | | 0.02 | 1.0 | 0.02 | 1.0 |
| PM ₁₀ | | | | | |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | 4.10 | 11.2 | 4.10 | 11.2 |
| Nitrogen Oxides | | 0.27 | 1.2 | 0.27 | 1.2 |
| Carbon Monoxide | | 0.23 | 1.0 | 0.23 | 1.0 |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

See additional terms and conditions.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS:

Isopropyl Alcohol, 2-Butoxyethanol, Stoddard Solvent

NEW SC

PTI Num

FACILITY

Emissions Unit ID: **K024**

FACILITY DESCRIPTION New printing presses N21 through N24, modification to presses N15 and N18.

CITY/TWP Hebron

SIC CODE 2752 SCC CODE 40290101 EMISSIONS UNIT ID K023

EMISSIONS UNIT DESCRIPTION 10-printing unit, heatset web offset lithographic printing press (N023)

DATE INSTALLED 6/00

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---------------|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | | 0.02 | 0.1 | 0.02 | 0.1 |
| PM ₁₀ | | | | | |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | 4.10 | 11.2 | 4.10 | 11.2 |
| Nitrogen Oxides | | 0.20 | 0.9 | 0.20 | 0.9 |
| Carbon Monoxide | | 1.17 | 0.7 | 1.17 | 0.7 |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

See additional terms and conditions.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes
OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NO

IDENTIFY THE AIR CONTAMINANTS: Isopropyl Alcohol, 2-Butoxyethanol, Stoddard Solvent

NEW SOURCE REVIEW FORM B

PTI Number: 01-08161

Facility ID: 0145020179

FACILITY NAME Communicolor RRD Direct

FACILITY DESCRIPTION New printing presses N21 through N24. CITY/TWP Hebron

Emissions Unit ID: **K024**SIC CODE 2752SCC CODE 40290101EMISSIONS UNIT ID K024

EMISSIONS UNIT DESCRIPTION 10-printing unit, heatset web offset lithographic printing press with natural gas dryer (N024)

DATE INSTALLED 6/00

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

| Pollutants | Air Quality Description | Actual Emissions Rate | | PTI Allowable | |
|--------------------|-------------------------|-----------------------|---------------|-----------------|---------------|
| | | Short Term Rate | Tons Per Year | Short Term Rate | Tons Per Year |
| Particulate Matter | | 0.02 | 0.1 | 0.02 | 0.1 |
| PM ₁₀ | | | | | |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | 4.10 | 11.2 | 4.10 | 11.2 |
| Nitrogen Oxides | | 0.20 | 0.9 | 0.20 | 0.9 |
| Carbon Monoxide | | 0.17 | 0.7 | 0.17 | 0.7 |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

See additional terms and conditions.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*?

X

YES

NO

IDENTIFY THE AIR CONTAMINANTS:

Isopropyl Alcohol, 2-Butoxyethanol, Stoddard Solvent

NEW SOURCE REVIEW FORM B

PTI Number: 01-08161

Facility ID: 0145020179

FACILITY NAME Communicolor RRD Direct

FACILITY DESCRIPTION New printing presses N21 through N24. CITY/TWP Hebron

Emissions Unit ID: **K024**

Please describe any hard copy information is being submitted with this recommendation (Please send hard copy information to Pam McGraner, DAPC Central Office - Air Quality Modeling and Planning):

Modeling

Please provide any additional permit specific notes as you deem necessary:

Introduction:

Communicolor RRD Direct is located at 190 Milliken Drive, Hebron in Licking County. The facility recently received a Synthetic Minor PTI for multiple existing units at the facility. This permit will modify two of the previously permitted presses and allow installation of four new presses. The facility wants to receive federally enforceable limitations in a FESOP after issuance of this permit.

Rules:

The six printing presses in this permit are not subject to any limitations specified under 3745-21-07 or 3745-21-09. The exemption found under 3745-21-07 (G)(9)(c) applies to the facility because they do not use any photochemically reactive solvents, the volatile content of their materials consists of only water and liquid organic materials, and the liquid organic materials comprise of not more than twenty per cent volatile content. The other rule applicable to these units is 3745-31-05 (A)(3).

Calculations:

The calculations performed to estimate the potential emissions for these printing presses is identical to the Synthetic Minor PTI 01-08041 issued on 2/2/00.

The calculations performed to estimate the potential emissions for these printing presses were based on the Enviroprint manual. This manual was created by a partnership between the printing industry and the Ohio EPA. It was designed to assist companies in complying with Ohio’s environmental regulations. This manual describes a method of calculating the potential emissions from printing presses that is accepted by both the Ohio EPA and private companies. The calculations performed by Communicolor accurately follow the Enviroprint manual to arrive at their facility’s potential ton per year emissions for each press.

Unfortunately, the Enviroprint manual, Engineering Guide #56, and Engineering Guide #68 do not specify how to calculate the potential press emissions on a short term basis. The Ohio EPA has not developed guidance of any sort that specifies a logical or reasonable method of calculating the short term emissions of printing presses.

I spoke with Safaa ElOraby and a permit writer from SEDO about a method of calculating short term potential emissions for these types of emissions units. Their proposal was to assume the following:

NEW SC

PTI Num

FACILITY

Emissions Unit ID: **K024**

FACILITY DESCRIPTION New printing presses N21 through N24, modification to presses N15 and N18.

CITY/TWP Hebron

- a) Only one unit on a press was operating.
- b) This one unit covered the entire substrate in ink. (This supposedly is the maximum amount of ink that can be applied.)
- c) The web was moving at maximum speed.

This method ignores multiple variables involved with printing presses and the printing process. For example:

- a) Rarely, if ever, does only one unit apply ink to a web if a press has nine units.
- b) Web speed is dependent upon multiple variables. For example as web speed increases, ink coverage decreases. Also, as ink drying time increases, web speed decreases.
- c) Different inks can be applied by each press.
- d) Inks can be applied on top of one another.
- e) Inks have diverse physical characteristics.(ie. drying time, application rate, VOC content, ability to be layered on other inks, etc...)

The PTI application submitted by Communicolor proposes to calculate their maximum short term emissions by incorporating the Enviroprint results. The Enviroprint manual takes the above referenced variables into consideration by helping a facility calculate each press’s actual emissions on a ton per year basis and then assume each press operates 8760 hours per year. The short term emissions for Communicolor were calculated by taking the maximum potential tons per year, multiplying by 2000 pounds per ton and dividing by the unit’s actual hours of operation. This results in a pound per hour emission rate amount that is more than double the actual pound per hour emissions and based on a known and accepted method of calculating emissions (Enviroprint).

CDO feels that this method of calculating short term emissions from this type of emissions unit is adequate and accurately represents the short term maximum potential emissions.

K015

Hours per year the press is expected to be manned = 5500 hr/yr

| Product | Annual product OC emissions (lb) | Press allocation factor | Annual actual press OC emissions (lb) |
|-------------------|----------------------------------|-------------------------|---------------------------------------|
| Ink | 94,097 | 0.103 | 9692 |
| SK150 | 24,636 | 0.103 | 2537 |
| IPA | 20,392 | 0.103 | 2100 |
| Fountain Solution | 17,452 | 0.103 | 1797 |

$$\frac{16,127}{16,127} \text{ lb/yr} \times \frac{16,127}{\text{ton}/2000 \text{ lb}} = \frac{8.06}{8.06} \text{ tons/yr}$$

NEW SOURCE REVIEW FORM B

PTI Number: 01-08161

Facility ID: 0145020179

FACILITY NAME Communicolor RRD Direct

FACILITY DESCRIPTION New printing presses N21 through N24. CITY/TWP Hebron

Emissions Unit ID: **K024**

$$\underline{8.06} \text{ tons/yr} \times 8760 \text{ hr/yr} \times \text{yr}/\underline{5500} \text{ hr} = \underline{12.8} \text{ tons VOC/yr}$$

$$\underline{12.8} \text{ ton/yr} \times 2000 \text{ lb/ton} \times \text{yr}/\underline{5500} \text{ hr} = \underline{4.7} \text{ lbVOC/hr}$$

K018Hours per year the press is expected to be manned = 5500 hr/yr

| Product | Annual product OC emissions (lb) | Press allocation factor | Annual actual press OC emissions (lb) |
|-------------------|----------------------------------|-------------------------|---------------------------------------|
| Ink | 94,097 | 0.107 | 10,068 |
| SK150 | 24,636 | 0.107 | 2636 |
| IPA | 20,392 | 0.107 | 2182 |
| Fountain Solution | 17,452 | 0.107 | 1867 |

$$\underline{16,753} \text{ lb/yr} \times \frac{\underline{16,753} \text{ lb/yr}}{\text{ton}/2000 \text{ lb}} = \underline{8.38} \text{ tons/yr}$$

$$\underline{8.38} \text{ tons/yr} \times 8760 \text{ hr/yr} \times \text{yr}/\underline{5500} \text{ hr} = \underline{13.3} \text{ tons VOC/yr}$$

$$\underline{13.3} \text{ ton/yr} \times 2000 \text{ lb/ton} \times \text{yr}/\underline{5500} \text{ hr} = \underline{4.8} \text{ lbs VOC/hr}$$

K021Hours per year the press is expected to be manned = 5500 hr/yr

| Product | Annual product OC emissions (lb) | Press allocation factor | Annual actual press OC emissions (lb) |
|-------------------|----------------------------------|-------------------------|---------------------------------------|
| Ink | 94,097 | 0.09 | 8469 |
| SK150 | 24,636 | 0.09 | 2217 |
| IPA | 20,392 | 0.09 | 1835 |
| Fountain Solution | 17,452 | 0.09 | 1571 |

$$\underline{14,092} \text{ lb/yr} \times \frac{\underline{14,092} \text{ lb/yr}}{\text{ton}/2000 \text{ lb}} = \underline{7.05} \text{ tons/yr}$$

NEW SC

PTI Num

FACILITY

FACILITY DESCRIPTION

New printing presses N21 through N24,
modification to presses N15 and N18.

Emissions Unit ID: **K024**

CITY/TWP Hebron

$$\underline{7.05} \text{ tons/yr} \times 8760 \text{ hr/yr} \times \text{yr}/\underline{5500} \text{ hr} = \underline{11.2} \text{ tons VOC/yr}$$

$$\underline{11.2} \text{ ton/yr} \times 2000 \text{ lb/ton} \times \text{yr}/\underline{5500} \text{ hr} = \underline{4.1} \text{ lbs VOC/hr}$$

K022

Hours per year the press is expected to be manned = 5500 hr/yr

| Product | Annual product OC emissions (lb) | Press allocation factor | Annual actual press OC emissions (lb) |
|-------------------|----------------------------------|-------------------------|---------------------------------------|
| Ink | 94,097 | 0.09 | 8469 |
| SK150 | 24,636 | 0.09 | 2217 |
| IPA | 20,392 | 0.09 | 1835 |
| Fountain Solution | 17,452 | 0.09 | 1571 |

$$\underline{14,092} \text{ lb/yr} \times \frac{\underline{14,092}}{\text{ton}/2000 \text{ lb}} = \underline{7.05} \text{ tons/yr}$$

$$\underline{7.05} \text{ tons/yr} \times 8760 \text{ hr/yr} \times \text{yr}/\underline{5500} \text{ hr} = \underline{11.2} \text{ tons VOC/yr}$$

$$\underline{11.2} \text{ ton/yr} \times 2000 \text{ lb/ton} \times \text{yr}/\underline{5500} \text{ hr} = \underline{4.1} \text{ lbs VOC/hr}$$

K023

Hours per year the press is expected to be manned = 5500 hr/yr

| Product | Annual product OC emissions (lb) | Press allocation factor | Annual actual press OC emissions (lb) |
|-------------------|----------------------------------|-------------------------|---------------------------------------|
| Ink | 94,097 | 0.09 | 8469 |
| SK150 | 24,636 | 0.09 | 2217 |
| IPA | 20,392 | 0.09 | 1835 |
| Fountain Solution | 17,452 | 0.09 | 1571 |

$$\underline{14,092} \text{ lb/yr} \times \frac{\underline{14,092}}{\text{ton}/2000 \text{ lb}} = \underline{7.05} \text{ tons/yr}$$

NEW SC

PTI Num

FACILITY

FACILITY DESCRIPTION

New printing presses N21 through N24,
modification to presses N15 and N18.

Emissions Unit ID: **K024**

CITY/TWP Hebron

$7.05 \text{ tons/yr} \times 8760 \text{ hr/yr} \times \text{yr}/5500 \text{ hr} = 11.2 \text{ tons VOC/yr}$

$11.2 \text{ ton/yr} \times 2000 \text{ lb/ton} \times \text{yr}/5500 \text{ hr} = 4.1 \text{ lbs VOC/hr}$

K024

Hours per year the press is expected to be manned = 5500 hr/yr

| Product | Annual product OC emissions (lb) | Press allocation factor | Annual actual press OC emissions (lb) |
|-------------------|----------------------------------|-------------------------|---------------------------------------|
| Ink | 94,097 | 0.09 | 8469 |
| SK150 | 24,636 | 0.09 | 2217 |
| IPA | 20,392 | 0.09 | 1835 |
| Fountain Solution | 17,452 | 0.09 | 1571 |

$14,092 \text{ lb/yr} \times \frac{14,092}{\text{ton}/2000 \text{ lb}} = 7.05 \text{ tons/yr}$

$7.05 \text{ tons/yr} \times 8760 \text{ hr/yr} \times \text{yr}/5500 \text{ hr} = 11.2 \text{ tons VOC/yr}$

$11.2 \text{ ton/yr} \times 2000 \text{ lb/ton} \times \text{yr}/5500 \text{ hr} = 4.1 \text{ lbs VOC/hr}$

The dryers are gas fired and will emit CO, NOx and PM. Each dryer's respective BTU value was inserted into the following calculations to calculate the maximum emissions for each unit. All emission factors were derived from AP-42, 2000.

- BTU values:K015 = 2.25 mmBTU/hr
- K018 = 1.94 mmBTU/hr
- K021 = 2.56 mmBTU/hr
- K022 = 2.56 mmBTU/hr
- K023 = 1.94 mmBTU/hr
- K024 = 1.94 mmBTU/hr

CO:

NEW SOURCE REVIEW FORM B

PTI Number: 01-08161

Facility ID: 0145020179

FACILITY NAME Communicolor RRD Direct

FACILITY DESCRIPTION New printing presses N21 through N24. CITY/TWP Hebron

Emissions Unit ID: **K024**

_____ mmBTU/hr * scf/950 BTU * 84 lb/ mmscf = _____ lb CO/hr

_____ lb CO/hr * 8760 hr/yr * ton/2000 lb = _____ ton CO/yr

NOx:

_____ mmBTU/hr * scf/950 BTU * 100 lb/ mmscf = _____ lb NOx/hr

_____ lb NOx/hr * 8760 hr/yr * ton/2000 lb = _____ ton NOx/yr

PM:

_____ mmBTU/hr * scf/950 BTU * 7.6 lb/ mmscf = _____ lb PM/hr

_____ lb PM/hr * 8760 hr/yr * ton/2000 lb = _____ ton PM/yr

Modeling:

The maximum pound per hour emission rate for each emission unit was added together and modeled as if it were emitted from one stack. Modeling was performed assuming an emission rate of 1 gr/sec. The result represents a number that can be multiplied by the gr/sec emission rate of each pollutant to get a predicted ground level concentration. The emission rates of Isopropyl Alcohol and Stoddard Solvent were assumed to be equivalent to the emissions of all VOCs in this permit. The emission rate of 2-Butoxyethanol was determined by multiplying the maximum VOC emission rate of 26 lbs/hr by the maximum 2-Butoxyethanol content of 10.2%.

None of the predicted ground level concentrations exceeded the MAGLC. The results of the modeling are attached.

Misc.:

The recordkeeping requirements are written to be consistent with the terms and conditions in the Synthetic Minor PTI.

If you have any questions please feel free to give me a call at (614) 728-3811.

Thanks,

Adam

Permit To Install Synthetic Minor Write-Up

NEW SC

PTI Num

FACILITY

FACILITY DESCRIPTION

New printing presses N21 through N24,
modification to presses N15 and N18.

Emissions Unit ID: **K024** _____
CITY/TWP Hebron

NONE

Please fill in the following for this permit:

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

| <u>Pollutant</u> | <u>Tons Per Year</u> |
|------------------|----------------------|
| VOC | 70.9 |
| CO | 5.0 |
| NOx | 6.2 |
| PM | 0.6 |