

**CONSTRUCTION PERMIT
OFFICE OF AIR MANAGEMENT**

**Multi-Color Corporation
2281 South U.S. 31
Scottsburg, IN 47170**

is hereby authorized to construct

- (a) one (1), eight (8) station packaging rotogravure printing press identified as Press #4 with a maximum line speed of 600 feet per minute (ft/min) when printing with ink and 500 ft/min when printing with ink and adhesive, and one (1) natural gas fired press dryer with a heat input rate of three (3) million (MM) British thermal units (Btu) per hour, with volatile organic compound (VOC) emissions controlled by a system consisting of a total capture enclosure vented to thermal and catalytic oxidizing incinerators configured in parallel, respectively identified as OXD#3 and OXD#4, with each incinerator exhausting through one (1) stack respectively identified as stack S001 and S002;
- (b) one (1), eight (8) station packaging rotogravure printing press identified as Press #3 with a maximum line speed of 550 ft/min when printing with ink and 450 ft/min when printing with ink and adhesive, with VOC emissions controlled by a system consisting of a total capture enclosure vented to either a single catalytic oxidizing incinerator identified as OXD#2 to exhaust through one (1) stack identified as S003, or thermal and catalytic oxidizing incinerators configured in parallel, respectively identified as OXD#3 and OXD#4, with each incinerator exhausting through one (1) stack respectively identified as stack S001 and S002; and
- (c) one (1) natural gas fired hot oil boiler identified as TH1 used to heat Press #3, rated at 6 MMBtu per hour and exhausting through one (1) stack identified as S004.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP-143-8004-00007	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

Construction Conditions

General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
 - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
 - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
 - (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees)

- (e) Pursuant to 326 IAC 2-7-4, the Permittee shall apply for a Title V operating permit within forty-five (45) days after issuance of this permit. The operation permit issued shall contain as a minimum the conditions in the Operating Conditions section of this permit.
7. That when the facility is constructed and placed into operation the following operation conditions shall be met:

Operation Conditions

General Operation Conditions

1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
2. That the permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder.

Preventive Maintenance Plan

3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
- (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
- (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
- (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

Transfer of Permit

4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):
- (a) In the event that ownership of this packaging rotogravure printing operation is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
- (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
- (c) The OAM shall reserve the right to issue a new permit.

Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a) (Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:
- (a) Violation of any conditions of this permit.
 - (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
 - (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
 - (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
 - (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM, (local agency if applicable) or other public official having jurisdiction.

Performance Testing

7. Pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements), Operation Condition 14, and 40 CFR 63 Subpart KK (§63.827) and Operation Condition 15, compliance stack tests shall be performed on the Press #3 and Press #4 capture systems, catalytic oxidizing incinerator OXD#2 (if constructed, pursuant to Page 1 of this permit), thermal oxidizing incinerator OXD#3, and catalytic oxidizing incinerator OXD#4, to monitor the incinerator's chamber temperatures and the capture, destruction and overall efficiencies of the Press #3 and #4 control systems, to demonstrate compliance with the limits and emission standards of Operation Conditions 9 and 14, and 40 CFR 63 Subpart KK (§63.825) and Operation Condition 15. Initial testing shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after startup, and repeated every thirty (30) months thereafter. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.
- (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 30 days in advance of the test.
 - (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.
 - (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.

- (d) Whenever the results of the stack test performed exceed any level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM. The Permittee shall minimize emissions while the corrective actions are being implemented.
- (e) Whenever the results of the stack test performed exceed any level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

Malfunction Condition

8. That pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

PSD Minor Source Limit

- 9. (a) The total volatile organic compounds (VOC) input to Press #3 and Press #4, including solvent usage, shall be limited to 1,281 tons per 365 consecutive day period, rolled on a daily basis. This input limitation is equivalent to VOC emissions of 39.0 tons per 365 consecutive day period, rolled on a daily basis, based on control system efficiencies as required in Operation Condition 14.
- (b) Compliance shall be demonstrated at the end of each day, based on the total VOC input for the most recent 365 day period, and as determined from the daily record keeping requirement of Operation Condition 14.

- (c) During the first 365 days of operation, the VOC input shall be limited such that the total VOC input divided by the accumulated days of operation shall not exceed the specified input limit.

Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40CFR 52.21, will not apply to this source.

Annual Emission Reporting

- 10. That pursuant to 326 IAC 2-6 (Emission Reporting), the Permittee must annually submit an emission statement for the source. This statement must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31.

Opacity Limitations

- 11. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
 - (a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
 - (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

12. Particulate Matter Limitation

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect heating), particulate matter (PM) emissions from hot oil boiler TH1 shall be limited to 0.6 pounds per million British Thermal Units (MMBtu) of heat input.

Volatile Organic Compound (VOC) Limitations

- 13. Pursuant to 326 IAC 8-5-5 (Graphics Arts Operations):

- (a) an incineration system with a minimum 90 percent VOC destruction efficiency shall be installed and operated,
- (b) a capture system shall be installed and operated such that, when used in conjunction with the incineration system, a minimum overall system control efficiency of 65 percent shall be attained.

Thermal and Catalytic Oxidizer Operation

14. The Permittee shall:

- (a) Comply with the applicable requirements for control device maintenance, compliance testing, parameter monitoring and daily record keeping pursuant to 326 IAC 8-1-12 (Compliance Certification, Record Keeping, and Reporting Requirements for Certain Coating Facilities Using Control Systems).
- (b) Maintain the Press #3 VOC control system at an overall minimum efficiency of 97 percent. This shall include using an 100 percent capture enclosure and either a single catalytic oxidizer OXD#2, or the thermal oxidizer OXD#3 and catalytic oxidizer OXD#4 configured in parallel and used for Press #4 VOC control. The control system shall operate at all times that the printing facility is in operation and, when operating, the incinerator(s) shall maintain a minimum operating temperature as determined in the compliance tests (described in Operation Condition 7) to maintain at least 97 percent destruction of VOC captured. In addition, the catalyst shall be tested quarterly for efficiency using a method approved by the Commissioner.
- (c) Maintain the Press #4 VOC control system at an overall minimum efficiency of 97 percent using a 100 percent capture enclosure and thermal oxidizer OXD#3 and catalytic oxidizer OXD#4 configured in parallel. The control system shall operate at all times that the printing facility is in operation and, when operating, the incinerators shall each maintain a minimum operating temperature as determined in the compliance tests (described in Operation Condition 7) to maintain at least 97 percent destruction of VOC captured. In addition, the catalyst shall be tested quarterly for efficiency using a method approved by the Commissioner.
- (d) Report any recorded noncompliance with the applicable requirements for control devices by submitting a copy of the record, inclusive of the minimum information specified, to the Office of Air Management (OAM) within thirty (30) days following noncompliance; such record shall also be submitted with the quarterly compliance report required by Operation Condition 16.

Compliance with this condition shall fulfill the requirements of Operation Condition 13, result in compliance with the VOC emission limit established in Operation Condition 9, and make the requirements of 326 IAC 2-2 and 40 CFR 52.21 (PSD) not applicable to this source.

A copy of 326 IAC 8-1-12 is enclosed.

Printing and Publishing Industry NESHAP

15. (a) This packaging rotogravure printing source, inclusive of Press #3 and Press #4 plus the two (2) existing packaging rotogravure printing presses, is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 20-1, (40 CFR 63, Subpart KK). A compliance date of May 30, 1999 is applicable to the two (2) existing packaging rotogravure printing presses; the startup date for Press #3 and Press #4 will be the compliance date for Press #3 and Press #4.

- (b) Pursuant to 40 CFR 63, Subpart KK, the packaging rotogravure printing source, inclusive of Press #3 and Press #4 plus existing packaging rotogravure printing presses, shall:
- (1) Limit the organic Hazardous Air Pollutant (HAP) emissions to:
 - (i) no more than 5 percent of the organic HAP applied for the month; or
 - (ii) no more than 4 percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month; or
 - (iii) no more than 20 percent of the mass of solids applied for the month; or
 - (iv) a calculated equivalent allowable mass based on the organic HAP and solids contents of the inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month.
 - (2) Demonstrate compliance with the organic HAP limit by following one of the procedures listed at §63.825(b)(7) through §63.825(b)(10) for the operation of each VOC capture system and control device.
- (c) Pursuant to 40 CFR 63, Subpart KK, the packaging rotogravure printing source, inclusive of Press #3 and Press #4 plus existing packaging rotogravure printing presses, shall
- (1) Conduct initial performance testing using the test methods specified at §63.827.
 - (2) Ensure continuing compliance with the applicable emission standard following the date on which the initial performance test of a control device is completed by monitoring and inspecting the control devices according to the applicable requirements of §63.828, including the following:
 - (A) All temperature monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturers specifications. The calibration of the chart recorder, data logger, or temperature indicator shall be verified every three months; or the chart recorder, data logger, or temperature indicator shall be replaced. The replacement shall be done either if the owner or operator chooses not to perform the calibration, or if the equipment cannot be calibrated properly.
 - (B) For an oxidizer other than a catalytic oxidizer, the Permittee shall install, calibrate, operate and maintain a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 (one) percent of the temperature being monitored in degrees Celsius, or ± 1 (one) degree Celsius, whichever is greater. The

- thermocouple or temperature sensor shall be installed in the combustion chamber at a location in the combustion zone.
- (C) For a catalytic oxidizer, the Permittee shall install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 (one) percent of the temperature being monitored in degrees Celsius, or ± 1 (one) degree Celsius, whichever is greater. The thermocouple or temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet.
- (D) When using a control device and demonstrating continuous compliance by monitoring an operating parameter to ensure that the capture efficiency measured during the initial compliance test is maintained, the Permittee shall:
- (i) Submit to IDEM, OAM at the address listed in Operation Condition 16 with the compliance status report required by §63.9(h), a plan that:
 - (1) Identifies the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained,
 - (2) Discusses why this parameter is appropriate for demonstrating ongoing compliance, and
 - (3) Identifies the specific monitoring procedures.
 - (ii) Set the operating parameter value, or range of values, that demonstrate compliance with the applicable emission standard of §63.825.
 - (iii) Conduct monitoring in accordance with the plan submitted to IDEM, OAM, unless comments received from IDEM, OAM require an alternate monitoring scheme.
- (E) Any excursion from the required operating parameters which are monitored in accordance with (A) through (D), unless otherwise excused, shall be considered a violation of the applicable emission standard.
- (3) Comply with the applicable record keeping requirements specified at §63.829.
- (4) Submit an initial notification report and compliance reports according to the schedule specified at §63.830.

The Permittee shall not be required to conduct duplicative performance testing, monitoring, record keeping or reporting when the same, or more stringent, facility

compliance requirements are made by Operation Condition 14 or other conditions of this permit.

A copy of 40 CFR 63 Subpart KK is enclosed.

16. Reporting Requirements

That a log of information necessary to document compliance with Operation Permit Conditions 9 and 14, and 40 CFR 63 Subpart KK (§63.829) and Operation Condition 15, shall be maintained. These records shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location and available within one (1) hour upon verbal request of an IDEM, OAM representative, for a minimum of three (3) years. They may be stored elsewhere for the remaining two (2) years providing they are made available within thirty (30) days after written request.

(a) A quarterly summary shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within thirty (30) calendar days after the end of the quarter being reported in the format attached. These reports shall include the daily amount of VOC input to Presses #3 and #4, as well as the total VOC input to both presses during the previous 365 consecutive day period. These records shall include the daily coating, thinner and clean up solvent usage, corresponding material safety data sheet (MSDS), and the dates of material usage.

(b) Unless otherwise specified in this permit, any notice, report, or other submissions required by this permit shall be timely if:

(i) Postmarked on or before the date it is due; or

(ii) Delivered by any other method if it is received and stamped by IDEM, OAM (and local agency if applicable), on or before the date it is due.

(c) All instances of deviations from any requirements of this permit must be clearly identified in such reports. Pursuant to 40 CFR §63.830(b)(6), Reporting Requirements, this shall include exceedances of any monitored operating parameter, emission standard, or other applicable limit of 40 CFR 63 Subpart KK.

(d) Any corrective actions taken as a result of an exceedance of a limit, an excursion from the parametric values, or a malfunction that may have caused excess emissions must be clearly identified in such reports.

(e) The first report shall cover the period commencing the postmarked submission date of the Affidavit of Construction.

Open Burning

17. That the permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

Emergency Reduction Plans

18. Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within 180 calendar days from the issuance date of this permit.

(c) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAM, shall supply such a plan.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate level. [326 IAC 1-5-3]

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT COMPLIANCE DATA SECTION

Source Name: Multi-Color Corporation
 Source Address: 2281 South U.S. 31 Scottsburg, IN 47170
 Permit No.: CP-143-8004-00007
 Facility: Packaging rotogravure printing Press #3 and Press #4
 Parameter: Volatile organic compounds (VOC) input to both presses
 Limit: (a) 1,281 tons per 365 consecutive day period, rolled on a daily basis (equivalent to 39.0 tons VOC emitted, based on control efficiencies required in Operation Condition 14).
 (b) During the first 365 days of operation, the total VOC input divided by the accumulated days of operation shall not exceed the specified input limit.

Month: _____ Year: _____

Day	Press 3 Input this day (ton/day)	Press 4 Input this day (ton/day)	Total Input last 365 day period (ton/day)	Day	Press 3 Input this day (ton/day)	Press 4 Input this day (ton/day)	Total Input last 365 day period (ton/day)
1				17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16				number of deviations			

9 No deviation occurred in this month.
 9 Deviation/s occurred in this month.
 Deviation has been reported on: _____

Submitted by: _____
 Title/Position: _____
 Signature: _____
 Date: _____
 Phone: _____

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - (317) 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE: IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATES ? _____, 100 LBS/HR VOC ? _____, 100 LBS/HR SULFUR DIOXIDE ? _____ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ? _____ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON THE NEXT PAGE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: Multi-Color Corporation PHONE NO. (812)752-3187

LOCATION: (CITY AND COUNTY) Scottsburg, Indiana / Scott County

PERMIT NO. CP143-8004 AFS PLANT ID: _____ AFS POINT ID: _____ INSP: Joe Fovst
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/19____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/19____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name:	Multi-Color Corporation
Source Location:	2281 South U.S. 31, Scottsburg, IN 47170
County:	Scott
Construction Permit No.:	CP-143-8004-00007
SIC Code:	2754
Permit Reviewer:	Michael Hirtler / EVP

The Office of Air Management (OAM) has reviewed an application from Multi-Color Corporation relating to the construction and operation of two Packaging Rotogravure printing presses as part of a modification to an existing major source consisting of the following equipment:

- (a) one (1), nine (9) station packaging rotogravure printing press identified as Press #4 with a maximum line speed of 600 feet per minute (ft/min) when printing with ink and 500 ft/min when printing with ink and adhesive, and one (1) natural gas fired press dryer with a heat input rate of three (3) million (MM) British thermal units (Btu) per hour, with volatile organic compounds (VOC) controlled by a system consisting of a total capture enclosure vented to thermal and catalytic oxidizing incinerators configured in parallel, respectively identified as OXD#3 and OXD#4, with each incinerator exhausting through one (1) stack respectively identified as stack S001 and S002;
- (b) one (1), eight (8) station packaging rotogravure printing press identified as Press #3 with a maximum line speed of 550 ft/min when printing with ink and 450 ft/min when printing with ink and adhesive, with VOC controlled by a system consisting of a total capture enclosure vented to a catalytic oxidizing incinerator identified as OXD#2, exhausting through one (1) stack identified as S003; and
- (c) one (1) natural gas fired hot oil boiler identified as TH1 used to heat Press #3, rated at 6 MMBtu per hour and exhausting through one (1) stack identified as S004.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S001	Press #4	30.0	2.17	8,000	300-400
S002	Press #4	30.0	1.75	6,000	200-300
S003	Press #3	27.0	3.58	20,000	285
S004	Boiler #3	27.5	1.5	5,300 est	300 est

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 8, 1997, with additional information received on July 21, 1997 and October 1, 1997.

Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations, four (4) pages.

Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	-	0.5
Particulate Matter (PM10)	-	0.5
Sulfur Dioxide (SO ₂)	-	0.0
Volatile Organic Compounds (VOC)	-	2407.8
Carbon Monoxide (CO)	-	0.8
Nitrogen Oxides (NO _x)	-	3.9
Single Hazardous Air Pollutant (HAP)	-	969.1
Combination of HAPs	-	971.6

- (a) Allowable emissions (as defined in the Indiana Rule) are determined as the potential emissions before control, therefore, the potential emissions before control are used for the permitting determination. See attached spreadsheets for detailed calculations.
- (b) Allowable emissions (as defined in the Indiana Rule) of VOC are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Scott County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Scott County has been classified as attainment or unclassifiable for PM, SO₂, and CO.

Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD Definition (emissions after controls, based on the limits in Permit 72-02-94-0038, issued July 2, 1990, and the limits in Permit CP143-1904-0038, issued December 28, 1993):

Pollutant	Emissions (ton/yr)
PM	0.4
PM10	0.4
SO ₂	0.06
VOC	498.0
CO	1.8
NO _x	8.8

- (a) This existing source is a major stationary source because at least one attainment regulated pollutant, as VOC, is emitted at a rate of 250 tons per year.
- (b) These emissions were based on the limits in Permit 72-02-94-0038, issued July 2, 1990, and the limits in Permit CP143-1904-0038, issued December 28, 1993.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission controls and production limit):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Proposed Modification	1.2	1.2	0.1	39.0	2.0	9.6
PSD or Offset Significant Level	25	15	40	40	100	40

- (a) This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.
- (b) The VOC emissions are limited to 39.0 tons/year, therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply. See Appendix A for detailed calculations (four (4) pages).

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is greater than or equal to 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, or
- (c) any combination of HAPs is greater than or equal to 25 tons/year.

Based on existing permits issued to the source, even prior to the proposed modification, the source has been determined to be subject to the Part 70 Permit Program, but the source has not submitted the appropriate application. The OAM has informed the source to submit a Part 70 permit application.

Federal Rule Applicability

40 CFR Part 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units)

The natural gas fired hot oil boiler is not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.40c through 60.48c, Subpart Dc) because it is not a steam generating unit.

40 CFR Part 60, Subpart QQ (Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing)

This facility is not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.430 through 60.435, Subpart QQ) because it is a packaging rotogravure printing press, not a publication rotogravure printing press to which Subpart QQ applies.

40 CFR Part 63, Subpart KK (National Emissions Standards for Printing and Publishing Industry)

This packaging rotogravure printing source, inclusive of proposed Press #3 and #4, is subject to the NESHAP (National Emission Standards for Hazardous Air Pollutants), 40 CFR 63, and 326 IAC 20-18. This rule requires major sources of hazardous air pollutants (HAPs), as defined in 40 CFR 63.2, to comply with the following:

- (a) Limit the organic Hazardous Air Pollutant (HAP) emissions to:
 - (1) no more than 5 percent of the organic HAP applied for the month; or
 - (2) no more than 4 percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month; or
 - (3) no more than 20 percent of the mass of solids applied for the month; or
 - (4) a calculated equivalent allowable mass based on the organic HAP and solids contents of the inks, coatings, varnishes, adhesives, primers, solvents, reducers,

thinners, and other materials applied for the month.

- (b) Demonstrate compliance with the organic HAP limit by following one of the procedures listed at §63.825(b)(7) through §63.825(b)(10) for the operation of each VOC capture system and control device.
- (c) Pursuant to 40 CFR 63, Subpart KK, the packaging rotogravure printing source, inclusive of Press Nos. 3 and 4 plus existing packaging rotogravure printing presses, shall:
 - (1) Conduct initial performance testing using the test methods specified at §63.827.
 - (2) Monitor and inspect the control devices according to the applicable requirements of §63.828.
 - (3) Comply with the applicable record keeping requirements specified at §63.829.
 - (4) Submit an initial notification report and compliance reports according to the schedule specified at §63.830.

The two (2) packaging rotogravure printing Presses #3 and #4 shall comply with the organic HAP limit of Subpart KK by utilizing thermal and catalytic oxidizing incinerators, in conjunction with a total VOC capture system, such that a minimum overall control efficiency of 97 percent is attained on each press. Compliance with the organic HAP emission limit is not required by Subpart KK until May 30, 1999.

Based on existing permits issued to the source, catalytic oxidizer OXD#2 has already been installed at the source.

State Rule Applicability

326 IAC 1-5-2 (Emergency Reduction Plans)

The packaging rotogravure printing presses are subject to the requirements of 326 IAC 1-5-2 (Emergency Reduction Plans) because they have source wide potential emissions of a pollutant VOC greater than 100 tons per year. Pursuant to this rule, Multi-Color Corporation shall prepare and submit an Emergency Reduction Plan (ERP) to the Indiana Department of Environmental Management (IDEM) for approval.

326 IAC 2-1-3.4 (New Source Toxics Control)

Pursuant to 326 IAC 2-1-3.4 (New Source Toxics Control), any new process or production unit

which in and of itself emits or has the potential to emit (PTE) 10 tons per year of any HAP or 25 tons per year of the combination of HAPs, and is constructed or reconstructed after July 27, 1997, must be controlled using technologies consistent with Maximum Achievable Control Technology (MACT). Exempt from this requirement are those major sources regulated by a standard issued pursuant to Section 112(d) of the Clean Air Act of 1990. 40 CFR Part 63, Subpart KK (National Emissions Standards for Printing and Publishing Industry), which has been issued by USEPA pursuant to Section 112(d) of the Clean Air Act of 1990, applies to this source. Therefore, 326 IAC 2-1-3.4 does not apply to proposed printing presses.

326 IAC 2-1-3.1 (Interim Construction Permit)

Multi-Color Corporation has been granted an interim construction permit by the commissioner which allows construction to commence while the permit application is being reviewed. The applicant must follow the rules and guidelines for interim construction permits outlined in IAC 2-1-3, Interim Construction Permit I-143-8004-00007 issued February 12, 1997, and Interim Construction Permit I-143-8583-00007 issued July 14, 1997.

326 IAC 2-2 (Prevention of Significant Deterioration)

Multi-Color Corporation is an existing major stationary source in an attainment area for criteria pollutants, and the proposed modification was reviewed pursuant to 326 IAC 2-2, and 40 CFR 52.21, Prevention of Significant Deterioration (PSD).

- (a) The total volatile organic compounds (VOC) input to Press #3 and Press #4, including solvent usage, shall be limited to 1,281 tons per 365 consecutive day period, rolled on a daily basis. This input limitation is equivalent to VOC emissions of 39.0 tons per 365 consecutive day period, rolled on a daily basis, based on control system efficiencies as required in (d).
- (b) Compliance shall be demonstrated at the end of each day, based on the total VOC input for the most recent 365 day period, and as determined from daily record keeping.
- (c) During the first 365 days of operation, the VOC input shall be limited such that the total VOC input divided by the accumulated days of operation shall not exceed the specified input limit.
- (d) The Permittee shall:
 - (1) Maintain the Press #3 VOC control system at an overall minimum efficiency of 97 percent using a 100 percent capture enclosure and catalytic oxidizer OXD#2. The control system shall operate at all times that the printing facility is in operation and, when operating, the incinerator shall maintain a minimum operating temperature as determined in the compliance tests (described in Operation Condition 7) to maintain at least 97 percent destruction of VOC captured. In addition, the catalyst shall be tested quarterly for efficiency using a method approved by the Commissioner.
 - (2) Maintain the Press #4 VOC control system at an overall minimum efficiency of 97

percent using a 100 percent capture enclosure and thermal oxidizer OXD#3 and catalytic oxidizer OXD#4 configured in parallel. The control system shall operate at all times that the printing facility is in operation and, when operating, the incinerators shall each maintain a minimum operating as determined in the compliance tests (described in Operation Condition 7) to maintain at least 97 percent destruction of VOC captured. In addition, the catalyst shall be tested quarterly for efficiency using a method approved by the Commissioner.

See Appendix A for detailed calculations (four (4) pages).

Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40CFR 52.21, will not apply to this source.

326 IAC 2-6 (Emission Reporting)

This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source has the potential to emit more than 100 tons per year of volatile organic compounds. Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)

The 6.0 million Btu per hour (MMBtu/hr) natural gas fired hot oil boiler TH1 is subject 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating). Pursuant to 326 IAC 6-2-4, particulate matter (PM) emissions from indirect heating facilities constructed after September 21, 1983 shall be limited by the following equation:

$$Pt = 1.09 / Q^{0.26} \quad \text{where: } Pt = \text{pounds of PM emitted per MMBtu heat input (lb/MMBtu)}$$
$$Q = \text{total source operating capacity (MMBtu/hr)}$$

$$Pt = 1.09 / 6.0^{0.26} = 0.68 \text{ lb/MMBtu} \quad \text{however, pursuant to 326 IAC 6-2-4, for } Q \text{ less than } 10 \text{ MMBtu/hr, } Pt \text{ shall not exceed } 0.6 \text{ lb/MMBtu.}$$

The 6.0 MMBtu/hr natural gas fired hot oil boiler TH1 shall comply with the allowable PM emission limit of 0.6 lb/MMBtu as follows:

$$\text{Allowable PM emissions (tons per year)} = (0.6 \text{ lb/MMBtu}) * (6.0 \text{ MMBtu/hr}) * (8760 \text{ hr/yr}) * (1 \text{ ton}/2000 \text{ lbs}) = 15.8 \text{ tons/year}$$

The potential PM emissions for the boiler of 0.31 tons per year (see Appendix A , page 4 of 4, for detailed calculations) are less than the 15.8 tons per year allowable emission rate; therefore, this boiler complies with the rule.

Coating Facilities Using Control Devices)

This rule applies to any source that uses a control device to comply with a VOC emission limit, and which also meets the applicability of criteria of 326 IAC 8-5-5(a)(1), (a)(2), or (a)(3) for Graphics Arts Operations. This source meets the applicability criteria of 326 IAC 8-5-5(a)(2). The source also proposes to use control devices to meet the requirements of 326 IAC 8-5-5, therefore, the requirements of 326 IAC 8-1-12 apply to this source. The source shall comply with the applicable requirements for control device maintenance, compliance testing, parameter monitoring and daily record keeping.

326 IAC 8-5-5 (Graphic Arts Operations)

Proposed packaging rotogravure printing Presses #3 and #4 are subject to 326 IAC 8-5-5. This rule requires the use of compliant type inks or the installation and operation of a control system, and a VOC capture system which, when combined with the control system, has an overall control efficiency of 65 percent. This source will comply with 326 IAC 8-5-5 by utilizing a totally enclosed capture system (100% efficiency) and thermal and catalytic incinerators configured in parallel on Press #4, and a totally enclosed capture system (100% efficiency) and catalytic incinerator on Press #3. Minimum overall control efficiencies of 97 percent shall be attained for both presses (see Appendix A emission calculations, four (4) pages).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This proposed modification will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the Clean Air Act. The concentrations of these air toxics were modeled and found to be (in worst case possible) as follows: The concentrations of these air toxics were compared to the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA). The Office of Air Management (OAM) does not have at this time any specific statutory or regulatory authority over these substances.

Air Toxics Analysis

Pollutant	Limited/ Controlled Rate (lb/hr)	Limited/ Controlled Rate (ton/yr)	Modeled Concentration (Fg/m ³)	OSHA PEL (Fg/m ³)	% OSHA PEL
Toluene	3.5	15.5	297	752,000	0.04

Methodology:

Rate ton/yr = (rate lb/hr)*(hr/yr of operation)*(ton/2000 lbs)

- (b) See attached spreadsheets for detailed air toxic calculations.
- (c) Requirements pursuant to 326 IAC 2-1-3.4 (New Source Toxics Control) do not apply to the proposed printing presses because the source is regulated by standards issued

pursuant to Section 112(d) of the Clean Air Act of 1990 (326 IAC 20-18 and 40 CFR Part 63, Subpart KK, National Emissions Standards for Printing and Publishing Industry).

Conclusion

The construction of packaging rotogravure printing Presses #3 and #4 will be subject to the conditions of the attached proposed Construction Permit No. CP-143-8004-00007.

**Appendix A: Emission Calculations
Natural Gas Combustion
MM Btu/hr 0.3 - < 10**

Company Name: Multi-Color Corporation
Address City IN Zip: 2281 South U.S. 31, Scottsburg, Indiana 47170
CP: CP-8004-00007
Plt ID: 143-00007
Reviewer: Michael Hirtler/EVP
Date: October 1, 1997

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

22.0

192.7

Heat Input Capacity includes:

One (1) 3 MMBtu/hr press dryer (ID No. Press #4 Dryer); one (1) 6 MMBtu/hr hot oil heater (ID No. Press #3 Hot Oil Heater); one (1) 4 MMBtu/hr supplementary fuel fired thermal oxidizer (OXD#3); one (1) 5 MMBtu/hr supplementary fuel fired catalytic oxidizer (OXD#4); and one (1) 4 MMBtu/hr supplementary fuel fired catalytic oxidizer (OXD#2).

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	11.9	11.9	0.6	100.0	5.8	21.0
Potential Emission in tons/yr	1.15	1.15	0.06	9.64	0.56	2.02

Methodology:

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low Nox Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 21, Low NOx Burner = 27, Flue gas recirculation = ND

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-03-006-03

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emission Calculations
HAPs From Printing Press Operations**

Company Name: Multi-Color Corporation
Address City IN Zip: 2281 South U.S. 31, Scottsburg, Indiana 47170
Construction Permit: CP-8004-00007
Plt ID: 143-00007
Reviewer: Michael Hirtler/EVP
Date: October 1, 1997

Potential Uncontrolled Emissions:							
Coating Name	Maximum Coverage lbs/ MMin ²	Potential MMin ² /Year	Weight % Toluene (as applied)	Weight % Carbon Tetrachloride (as applied)	Toluene Emissions (tons/yr)	Carbon Tetrachloride Emissions (tons/yr)	TOTAL HAP Emissions (tons/yr)
Press #3 - Adcote Adhesive	10.8	111,543	67.8%	0.2%	408.38	1.20	409.59
Press #3 - Lysol Blue Ink	8.5	111,543	0.0%	0.0%	0.00	0.00	0.00
Press #3 - Minute Maid Yellow Ink	8.5	111,543	0.0%	0.0%	0.00	0.00	0.00
Press #3 - Tide Red Ink	8.5	111,543	0.0%	0.0%	0.00	0.00	0.00
Press #3 - Tide Yellow Ink	8.5	111,543	0.0%	0.0%	0.00	0.00	0.00
Press #3 - House Black Ink	8.5	111,543	10.9%	0.0%	51.67	0.00	51.67
Press #3 - TF IML 2D Topcoat Varnish	8.5	111,543	0.0%	0.0%	0.00	0.00	0.00
Press #3 - TF I/D IML Topcoat Varnish	8.5	111,543	0.0%	0.0%	0.00	0.00	0.00
Press #4 - Adcote Adhesive	9.6	138,758	67.8%	0.2%	451.57	1.33	452.91
Press #4 - Lysol Blue Ink	7.6	138,758	0.0%	0.0%	0.00	0.00	0.00
Press #4 - Minute Maid Yellow Ink	7.6	138,758	0.0%	0.0%	0.00	0.00	0.00
Press #4 - Tide Red Ink	7.6	138,758	0.0%	0.0%	0.00	0.00	0.00
Press #4 - Tide Yellow Ink	7.6	138,758	0.0%	0.0%	0.00	0.00	0.00
Press #4 - House Black Ink	7.6	138,758	10.9%	0.0%	57.47	0.00	57.47
Press #4 - TF IML 2D Topcoat Varnish	7.6	138,758	0.0%	0.0%	0.00	0.00	0.00
Press #4 - TF I/D IML Topcoat Varnish	7.6	138,758	0.0%	0.0%	0.00	0.00	0.00
Total Potential Uncontrolled Emissions:					969.10	2.54	971.64
Potential Controlled Emissions:							
Press I.D.	Control Device	Capture System Capture Efficiency	Thermal/Catalytic Oxidizer Destruction Efficiency	Controlled/Limited Toluene Tons per Year	Controlled/limited Carbon Tetra. Tons per Year	Controlled/Limited TOTAL HAPs Tons per Year	
Press #3	catalytic oxidizer #2	100.0%	97.0%	13.80	0.04	13.84	
Press #4	catalytic oxidizer #3 / thermal oxidizer #4	100.0%	97.0%	15.27	0.04	15.31	
Total Controlled/Limited Emissions:				29.07	0.08	29.15	
Total Limited Emissions:		VOC Input Limit as % of potential input:		15.47	0.04	15.51	

Note:

All of the coatings within one category (adhesive, ink, or varnish) are mutually exclusive with the other coatings within that category (adhesive, ink or varnish).
 Press #3 has a maximum line speed of 550 ft/min (printing only) or 450 ft/min (printing and adhesive). Emission calculations are based on the worst case scenario of 450 ft/min of printing and adhesive.
 Press #4 has a maximum line speed of 600 ft/min (printing only) or 500 ft/min (printing and adhesive). Emission calculations are based on the worst case scenario of 500 ft/min of printing and adhesive.
 Heatset offset printing has an assumed flash off of 80%. Other types of printers have a flash off of 100%
 There are negligible emissions from clean-up operations.
 At a press VOC usage limitation of 53.22% of potential usage, toluene emissions will be limited to (29.1 * 0.5322) = 15.5 tons/yr, carbon tetrachloride to 0.04 tons/yr, and total HAPs to 15.5 tons/yr.

Methodology:

HAPs = Maximum Coverage pounds per MMin² * Weight percentage HAPs * Throughput * (1 ton/2,000 lbs) = Tons per Year
 Controlled/Limited Emissions = Uncontrolled Emissions * (1 - (Capture Efficiency * Destruction Efficiency)) * VOC Input Limit (%)

Appendix A: Emission Calculations

Company Name: Multi-Color Corporation
Address City IN Zip: 2281 South U.S. 31, Scottsburg, Indiana 47170
CP: CP-8004-00007
Plt ID: 143-00007
Reviewer: Michael Hirtler/EVP
Date: October 1, 1997

Uncontrolled Potential Emissions (tons/year)			
Emissions Generating Activity			
Pollutant	Press #3 and Press #4	Natural Gas Combustion	TOTAL
PM	0.00	1.15	1.2
PM10	0.00	1.15	1.2
SO2	0.00	0.06	0.1
NOx	0.00	9.64	9.6
VOC	2,407.57	0.56	2,408.1
CO	0.00	2.02	2.0
total HAPs	971.64	0.00	971.6
worst case single HAP	969.10	0.00	969.1
Total emissions based on rated capacity at 8,760 hours/year.			
Controlled and Limited Emissions (tons/year)			
Emissions Generating Activity			
Pollutant	Press #3 and Press #4	Natural Gas Combustion	TOTAL
PM	0.00	1.15	1.2
PM10	0.00	1.15	1.2
SO2	0.00	0.06	0.1
NOx	0.00	9.64	9.6
VOC*	38.44	0.56	39.0
CO	0.00	2.02	2.0
total HAPs**	15.51	0.00	15.5
worst case single HAP***	15.47	0.00	15.5
Note:			
*Multi-Color will limit Press #3 and #4 total VOC usage to 53.22% of potential usage (equivalent to 38.4 tons VOC/yr).			
38.4 tons VOC/yr from the presses + 0.6 tons VOC/yr from natural gas combustion equal a modification total of 39.0 tons VOC/yr, therefore the PSD requirements under 326 IAC 2-2 and 40 CFR 52.21 do not apply.			
**At a 53.22% VOC usage limitation, total HAPs are limited to 15.5 tons/yr.			
***At a 53.22% VOC usage limitation, worst case single HAP emissions are limited to 15.5 tons/yr.			
Total emissions based on rated capacity at 8,760 hours/year, after control.			

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for New Construction and Operation

Source Name: Multi-Color Corporation
Source Location: 2281 South U.S. 31, Scottsburg, IN 47170
County: Scott
Construction Permit No.: CP-143-8004-00007
SIC Code: 2754
Permit Reviewer: Michael Hirtler / EVP

On December 20, 1997, the Office of Air Management (OAM) had a notice published in the Scott County Journal, Scottsburg, Indiana, stating that Multi-Color Corporation had applied for a construction permit to construct and operate two (2) packaging rotogravure printing presses and one (1) natural gas fired 6 million British thermal units per hour hot oil boiler, with thermal and catalytic oxidizing incineration as air pollution control on the printing facilities. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On January 12, 1998 and January 20, 1998, Multi-Color Corporation submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows:

Comment #1:

It may be more economically and operationally advantageous to exhaust the Press #3 emissions to the Press #4 control equipment, rather than to install an additional oxidizing incinerator dedicated solely to the control of Press #3. Therefore, we wish to revise the equipment listed for Press #3 on Page 1 of the Construction Permit. This revision will state that the volatile organic compound (VOC) emissions exhausted from Press #3 will be controlled either by the Press #4 VOC control equipment or a separate catalytic oxidizing incinerator to be identified as OXD#2.

Comment #2:

On Page 1 of the Construction Permit, Press #4 should be listed as an eight (8) station press, not a nine (9) station press.

Comment #3:

In Operation Condition 14(c), Page 7 of 13, insert the word "temperature" after the word "operating" in line 5.

Response to Comment #1 - #3:

Operation Condition 14 of Draft Construction Permit CP-143-8004-0007 requires that the proposed VOC control systems for both Press #3 and Press #4 each achieve an overall minimum efficiency of 97 percent. To accomplish this, the source proposed to use a 100 percent capture enclosure in conjunction with a catalytic oxidizing incinerator identified as OXD#2 for Press #3, and a 100 percent capture enclosure in conjunction with thermal and catalytic oxidizing incinerators configured in parallel, respectively identified as OXD#3 and OXD#4, for Press #4. Because Operation Condition 14 requires both presses to maintain the same control system efficiencies, exhausting the Press #3 VOC emissions to a dedicated incinerator, or to the Press #4 control system, will not affect the 39 ton per year VOC emission limitation of Operation Condition 9. Therefore, the equipment listed under Page 1 of this permit, and Operation Condition 14, are revised as follows:

- (a) one (1), ~~nine (9)~~ **eight (8)** station packaging rotogravure printing press identified as Press #4 with a maximum line speed of 600 feet per minute (ft/min) when printing with ink and 500 ft/min when printing with ink and adhesive, and one (1) natural gas fired press dryer with a heat input rate of three (3) million (MM) British thermal units (Btu) per hour, with volatile organic compound (VOC) **emissions** controlled by a system consisting of a total capture enclosure vented to thermal and catalytic oxidizing incinerators configured in parallel, respectively identified as OXD#3 and OXD#4, with each incinerator exhausting through one (1) stack respectively identified as stack S001 and S002;
- (b) one (1), eight (8) station packaging rotogravure printing press identified as Press #3 with a maximum line speed of 550 ft/min when printing with ink and 450 ft/min when printing with ink and adhesive, with VOC **emissions** controlled by a system consisting of a total capture enclosure vented to **either a single** catalytic oxidizing incinerator identified as OXD#2 ~~to exhausting~~ through one (1) stack identified as S003, or **thermal and catalytic oxidizing incinerators configured in parallel, respectively identified as OXD#3 and OXD#4, with each incinerator exhausting through one (1) stack respectively identified as stack S001 and S002;** and
- (c) one (1) natural gas fired hot oil boiler identified as TH1 used to heat Press #3, rated at 6 MMBtu per hour and exhausting through one (1) stack identified as S004.

Thermal and Catalytic Oxidizer Operation

14. The Permittee shall:

- (a) Comply with the applicable requirements for control device maintenance, compliance testing, parameter monitoring and daily record keeping pursuant to 326 IAC 8-1-12 (Compliance Certification, Record Keeping, and Reporting Requirements for Certain Coating Facilities Using Control Systems).
- (b) Maintain the Press #3 VOC control system at an overall minimum efficiency of 97 percent. **This shall include** using an 100 percent capture enclosure and **either a single** catalytic oxidizer OXD#2, **or the thermal oxidizer OXD#3 and catalytic oxidizer OXD#4 configured in parallel and used for Press #4 VOC control.** The control system shall operate at all times that the printing facility is in operation and, when operating, the incinerator(s) shall maintain a minimum operating temperature as determined in the compliance tests (described in Operation Condition 7) to maintain at least 97 percent destruction of VOC captured. In addition, the catalyst shall be tested quarterly for efficiency using a method approved by the Commissioner.
- (c) Maintain the Press #4 VOC control system at an overall minimum efficiency of 97 percent using a 100 percent capture enclosure and thermal oxidizer OXD#3 and catalytic oxidizer OXD#4 configured in parallel. The control system shall operate at all times that the printing facility is in operation and, when operating, the incinerators shall each maintain a minimum operating **temperature** as determined in the compliance tests (described in Operation Condition 7) to maintain at least 97 percent destruction of VOC captured. In addition, the catalyst shall be tested quarterly for efficiency using a method approved by the Commissioner.
- (d) Report any recorded noncompliance with the applicable requirements for control

devices by submitting a copy of the record, inclusive of the minimum information specified, to the Office of Air Management (OAM) within thirty (30) days following noncompliance; such record shall also be submitted with the quarterly compliance report required by Operation Condition 16.

Compliance with this condition shall fulfill the requirements of Operation Condition 13, result in compliance with the VOC emission limit established in Operation Condition 9, and make the requirements of 326 IAC 2-2 and 40 CFR 52.21 (PSD) not applicable to this source.

A copy of 326 IAC 8-1-12 is enclosed.

Comment #4:

On Page 4 of the Construction Permit, Operation Condition 7(d), change the word "acceptable" to "unacceptable."

Response to Comment #4:

A revision to the language in Operation Condition 7(d) has been made to provide greater clarity. Additionally, the OAM has revised Operation Condition 7 in order to specify the affected equipment covered under this condition, and to update the regulatory citation and other permit conditions that necessitate the performance testing. The condition is revised as follows:

Performance Testing

7. ~~That Pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements), and Operation Conditions 14 and 15, and 40 CFR 63 Subpart KK (§63.827) and Operation Condition 15,~~ compliance stack tests shall be performed **on the Press #3 and Press #4 capture systems, catalytic oxidizing incinerator OXD#2 (if constructed, pursuant to Page 1 of this permit), thermal oxidizing incinerator OXD#3, and catalytic oxidizing incinerator OXD#4,** to monitor **the incinerator's chamber temperatures and the capture, destruction and overall control efficiencies of the coating facility Press #3 and #4 control systems, the coating facility VOC emissions, and incinerator chamber temperatures, to comply demonstrate compliance with the limits and emission standards of** Operation Conditions ~~Nos. 9 and 14,~~ **and 40 CFR 63 Subpart KK (§63.825) and Operation Condition 15.** Initial testing shall be conducted within ~~90~~ **60** days after achieving maximum production rate, **but no later than 180 days after startup,** and repeated every thirty (30) months thereafter. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.
 - (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 30 days in advance of the test.
 - (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.
 - (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.
 - (d) Whenever the results of the stack test performed exceed any level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM ~~that they are unacceptable.~~ The Permittee shall minimize emissions while the corrective actions are being implemented.
 - (e) Whenever the results of the stack test performed exceed any level specified in

this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

Comment #5:

On Page 9 of the Construction Permit, Operation Condition 16, it is felt that a one (1) hour response time to a verbal request to produce records kept on-site is too short a time period and, instead, a response time of four (4) business hours is requested.

Response to Comment #5:

Operation Condition 16 requires that records necessary to document compliance with Operation Conditions 9, 14 and 15 be kept at the source for a period of three (3) years, and then stored elsewhere for the next two (2) years provided the records can be made available within thirty (30) days after written request. Because the most recent three years worth of records must be kept at the source, it is reasonable to assume that such records can be produced within a short time frame when OAM staff requests such data. In OAM's experience, practical requests for compliance related records can be made available within one (1) hour.

Upon further review, the OAM has decided to make additional changes Operation Condition 16. First, Operation Condition 16 is revised to clarify that reference to Operation Condition 15 concurrently refers to 40 CFR 63 Subpart KK (National Emissions Standards for Printing and Publishing Industry). Second, reference to May 29, 1999 as a reporting date, pursuant to 40 CFR 63 Subpart KK and Operation Condition 15, has been eliminated. As discussed below for Operation Condition 15, the 40 CFR §63.826 (b) compliance date for a new affected source (i.e., Press #3 & #4) is immediately upon start-up of the affected source. Operation Condition 16 is therefore revised as follows:

16. Reporting Requirements

That a log of information necessary to document compliance with Operation Permit Conditions ~~9, 14 and 15~~ **9 and 14, and 40 CFR 63 Subpart KK (§63.829) and Operation Condition 15**, shall be maintained. These records shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location and available within one (1) hour upon verbal request of an IDEM, OAM representative, for a minimum of three (3) years. They may be stored elsewhere for the remaining two (2) years providing they are made available within thirty (30) days after written request.

- (a) A quarterly summary shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within thirty (30) calendar days after the end of the quarter being reported in the format attached. These reports shall include the daily amount of VOC input to Presses #3 and #4, as well as the total VOC input to both presses during the previous 365 consecutive day period. ~~After May 29, 1999, these reports shall be augmented to summarize information documenting compliance with the applicable emission limit of Operation Condition 15.~~ These records shall include the daily coating, thinner and clean up solvent usage, corresponding material safety data sheet (MSDS), and the dates of material usage.

- (b) Unless otherwise specified in this permit, any notice, report, or other submissions

required by this permit shall be timely if:

- (i) Postmarked on or before the date it is due; or
 - (ii) Delivered by any other method if it is received and stamped by IDEM, OAM (and local agency if applicable), on or before the date it is due.
- (c) All instances of deviations from any requirements of this permit must be clearly identified in such reports. **Pursuant to 40 CFR §63.830(b)(6), Reporting Requirements, this shall include exceedances of any monitored operating parameter, emission standard, or other applicable limit of 40 CFR 63 Subpart KK.**
- (d) Any corrective actions taken as a result of an exceedance of a limit, an excursion from the parametric values, or a malfunction that may have caused excess emissions must be clearly identified in such reports.
- (e) The first report shall cover the period commencing the postmarked submission date of the Affidavit of Construction.

In addition to the comments received and addressed above, the OAM, upon further review, has decided to make the following changes to Operation Condition 15. Operation Condition 15 is revised to correct the applicable compliance date to be consistent with 40 CFR 63 Subpart KK (§63.826, Compliance Dates). While the two (2) existing rotogravure printing presses at this source were installed prior to the May 30, 1996 rule effective date, Press #3 and Press #4 will be installed after this date. As such, the compliance date of May 30, 1999 is correct for the two existing presses. However, Press #3 and Press #4 are considered as “new affected sources” and, pursuant to 40 CFR §63.826(b), the compliance date for these presses is “immediately upon start-up”. Further, Operation Condition 15(c)(2) has been augmented to provide more detail on the continuous monitoring and compliance requirements applicable to Press #3 and Press #4, pursuant to 40 CFR §63.828. No additional permit requirements have been added due to this augmentation, as these requirements were already implied in the draft permit.

Printing and Publishing Industry NESHAP

15. (a) This packaging rotogravure printing source, inclusive of Press #3 and **Press #4** plus **the two (2)** existing packaging rotogravure printing presses, is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 20-1, (40 CFR 63, Subpart KK). ~~A with a~~ compliance date of May 30, 1999 **is applicable to the two (2) existing packaging rotogravure printing presses; the startup date for Press #3 and Press #4 will be the compliance date for Press #3 and Press #4.**
- (b) Pursuant to 40 CFR 63, Subpart KK, the packaging rotogravure printing source, inclusive of Press ~~No. #3~~ and **Press #4** plus existing packaging rotogravure printing presses, shall:
- (1) Limit the organic Hazardous Air Pollutant (HAP) emissions to:
 - (i) no more than 5 percent of the organic HAP applied for the month; or
 - (ii) no more than 4 percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other

- materials applied for the month; or
- (iii) no more than 20 percent of the mass of solids applied for the month; or
 - (iv) a calculated equivalent allowable mass based on the organic HAP and solids contents of the inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month.
- (2) Demonstrate compliance with the organic HAP limit by following one of the procedures listed at §63.825(b)(7) through §63.825(b)(10) for the operation of each VOC capture system and control device.
- (c) Pursuant to 40 CFR 63, Subpart KK, the packaging rotogravure printing source, inclusive of Press #3 and Press #4 plus existing packaging rotogravure printing presses, shall
- (1) Conduct initial performance testing using the test methods specified at §63.827.
 - (2) **Ensure continuing compliance with the applicable emission standard following the date on which the initial performance test of a control device is completed by monitoring and inspecting the control devices according to the applicable requirements of §63.828, including the following:**
 - (A) **All temperature monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturers specifications. The calibration of the chart recorder, data logger, or temperature indicator shall be verified every three months; or the chart recorder, data logger, or temperature indicator shall be replaced. The replacement shall be done either if the owner or operator chooses not to perform the calibration, or if the equipment cannot be calibrated properly.**
 - (B) **For an oxidizer other than a catalytic oxidizer, the Permittee shall install, calibrate, operate and maintain a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 (one) percent of the temperature being monitored in degrees Celsius, or ±1 (one) degree Celsius, whichever is greater. The thermocouple or temperature sensor shall be installed in the combustion chamber at a location in the combustion zone.**
 - (C) **For a catalytic oxidizer, the Permittee shall install,**

calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 (one) percent of the temperature being monitored in degrees Celsius, or ± 1 (one) degree Celsius, whichever is greater. The thermocouple or temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet.

- (D) When using a control device and demonstrating continuous compliance by monitoring an operating parameter to ensure that the capture efficiency measured during the initial compliance test is maintained, the Permittee shall:**
- (i) Submit to IDEM, OAM at the address listed in Operation Condition 16 with the compliance status report required by §63.9(h), a plan that:**
 - (1) Identifies the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained,**
 - (2) Discusses why this parameter is appropriate for demonstrating ongoing compliance, and**
 - (3) Identifies the specific monitoring procedures.**
 - (ii) Set the operating parameter value, or range of values, that demonstrate compliance with the applicable emission standard of §63.825.**
 - (iii) Conduct monitoring in accordance with the plan submitted to IDEM, OAM, unless comments received from IDEM, OAM require an alternate monitoring scheme.**
- (E) Any excursion from the required operating parameters which are monitored in accordance with (A) through (D), unless otherwise excused, shall be considered a violation of the applicable emission standard.**
- (3) Comply with the applicable record keeping requirements specified at §63.829.**
 - (4) Submit an initial notification report and compliance reports according to the schedule specified at §63.830.**

The Permittee shall not be required to conduct duplicative performance testing, monitoring, record keeping ~~or and~~ reporting when the same, or more stringent, facility compliance requirements are made by Operation Condition 14 **or other conditions of this permit.**

Multi-Color Corporation
Scottsburg, Indiana
Permit Reviewer: MH/EVP

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A copy of 40 CFR 63 Subpart KK is enclosed.