



Department of Environmental Protection

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December 14, 2011

Stephen Hultquist
Vertis, Inc.
250 West Pratt Street, 18th floor
Baltimore, MD 21201

Re: PVAPCD – East Longmeadow
Regulation 310 CMR 7.02
Appl. # 1-P-11-017; Trans. #X240215
New Presses 705 & MRK22

Final Approval

Dear Mr. Hultquist:

The Department of Environmental Protection, Western Region (“MassDEP”) on October 7, 2011 received a Limited Plan Approval (“LPA”) application from Vertis, Inc. (“Vertis”) located at 245 Benton Drive in East Longmeadow, Massachusetts for the installation and operation of 2 new lithographic printing presses, Press 705 (a Goss Model #C-700 printing press) and Press MRK22. ***This Final Approval replaces in-full previous MassDEP approvals for the facility and reflects the existing plant configuration and the facility's intent to install two new lithographic printing presses designated as 705 (C-700) and MRK22.***

Introduction

Vertis, Inc. is a provider of targeted advertising and marketing solutions to retail and consumer services companies. The Vertis facility located in East Longmeadow prints a variety of products, including newspaper inserts and advertising flyers using web offset lithographic printing presses. The facility operates 24 hours per day seven days a week.

The majority of the VOC emissions are generated when the heatset inks are dried in the oven on a heatset printing line and the vapors are ducted to either an integrated oxidizer or a stand-alone Langbein & Englebracht thermal oxidizer (“L&E oxidizer”) before being exhausted to the atmosphere. Dryer emissions from presses 701 (700-1), 902 (900-2), and 954-1 are routed to the L&E oxidizer as well as emissions from the new lithographic printing press, Press 705.

The East Longmeadow facility is a minor stationary air emission source and is currently limited to less than 10 tons per year (tpy) for any single Hazardous Air Pollutant (“HAP”) and less than 25 tpy for any combination of HAPs. With this application, Veritis is revising downward the facility's calculated VOC and HAP annual emission limit, incorporating a 50% VOC retention factor for manually applied blanket wash, which more accurately reflects the actual operation at the facility. Veritis is proposing to decrease the facility wide VOC emissions by 4.64 tpy to 42.98 tpy and the total facility wide HAP emissions by 0.06 tpy to 12.19 tpy.

Process

Current operations consist of seven (7) heatset web offset lithographic printing presses with emissions of VOC and HAPs controlled by five (5) thermal oxidizers. Table 1 summarizes the existing approved presses and emission controls:

Table 1				
Press #	Process Description	Stack #	Pollution Control Device (PCD)	PCD Stack #
701 (700-1)	4 unit (color print stations) heatset and dryer	P-1	Langbein & Englebracht (L&E) Thermal Oxidizer	P-4
902 (900-2)	4 unit (color print stations) heatset and dryer	P-2		
954-1	4 unit (color print stations) heatset and dryer	P-3		
702 (700-2)	4 unit (color print stations) heatset and integrated dryer/oxidizer	–	Integrated oxidizer	P-7
954-2	4 unit (color print stations) heatset and integrated dryer/oxidizer	–	Integrated oxidizer	P-6
703 (700-3)	4 unit (color print stations) heatset and integrated dryer/oxidizer	–	Integrated oxidizer	P-8
704 (700-4)	4 unit (color print stations) heatset and integrated dryer/oxidizer	–	Integrated oxidizer	P-9

Two new presses will be added to the existing facility, as detailed in Table 2 below:

Table 2				
Press #	Process Description	Stack #	Pollution Control Device (PCD)	PCD Stack #
705 (C-700)	4 unit (color print stations) heatset and dryer	P-11	Langbein & Englebracht (L&E) Thermal Oxidizer	P-4
MRK22	4 unit (color print stations) heatset and integrated dryer/oxidizer	–	Integrated oxidizer	P-10

New Press 705 (C-700)

This new press will consist of a 4-unit (color print station) heatset web offset lithographic printing press with a MEGTEC Coanda Plus dryer or similar. The press has a maximum web width of 66 inches and a maximum operating speed of 3000 feet per minute. Emissions from the dryer are exhausted to the L&E oxidizer for destruction. After the printed web passes through the dryer, it proceeds to the automatic folding machines to be folded, cut, sorted and bound. Cleaning solutions are used to wash blankets, rollers,

and exterior surfaces of the press. Blankets and rollers are cleaned manually when the press is shut down, or automatically when the press is operating. Potential emissions from Press 705 (C-700) after 99% control by the oxidizer will be 6.45 tpy VOC, 1.99 tpy single HAP, and 1.99 tpy total HAP.

Some presses utilize automatic blanket washing systems. An estimated forty percent (40%) of the VOC in automatic blanket washers will be captured and vented to the oxidizers.

New Press MRK22

Press MRK22 will consist of a 4-unit (color print station) heatset web offset lithographic printing press with a MEGTEC Dual-Dry TNV-80 dryer and integrated thermal oxidizer. The thermal oxidizer is designed to achieve a VOC destruction removal efficiency (“DRE”) of 99% with a maximum rated capacity of 2429 scfm. The press is equipped with audible and visual alarms. The alarms alert operators when the thermal oxidizer approaches the minimum operating temperature of 1400°F during press operation, except during start-up when the temperature may fall below 1400°F for periods of 10-minute duration or less. Press MRK22 has a 36 inch web and a maximum web speed of 2,000 feet per minute. Heatset inks are dried in the oven and the VOC vapors are destroyed in the oxidizer before being discharged to the atmosphere.

The capture efficiency (“CE”) of the integrated dryer/oxidizer will be 100% of the ink VOC emissions. Twenty percent (20%) of the VOC in the heatset ink remains on the paper and does not volatilize. One hundred percent (100%) of the remaining VOC in the heatset ink (80% of the total) is captured and vented to the oxidizer.

Seventy percent (70%) of the VOC in the fountain solution will be captured and vented to the oxidizer. Blanket wash will be used to manually clean the rollers, blankets, and press exteriors. All VOC emissions from the use of manual blanket wash will be fugitive. Potential emissions from Press MRK22 and dryer after 99% control by the oxidizer will be 3.18 tpy VOC, 0.99 tpy single HAP, and 0.99 tpy total HAP.

Existing Langbein & Englebracht (L&E) thermal oxidizer

The existing oxidizer is a Langbein & Englebracht Model 1018-07 regenerative thermal oxidizer with a maximum rated capacity of 16,000 scfm. It is equipped with a Maxon 5M KDZER burner that has a maximum heat input of 3.5 MMBtu/hr while firing natural gas. The L&E oxidizer is operated at a minimum temperature of 1500 °F and provides a minimum residence time of 0.85 seconds. It is equipped with audible and visual alarms that alert the operators if the oxidizer approaches the minimum operating temperature. The L&E oxidizer and the presses have an interlock which requires the operation of the oxidizer prior to running the presses.

The L&E oxidizer has a VOC/HAP DRE of 99 percent, which together with the 100% capture efficiency of ink VOC for each press, results in an overall VOC DRE of 99 percent. The oxidizer exhausts 18 feet above the rooftop through a 38-inch diameter carbon steel stack at an exit velocity of approximately 24 feet per second.

SPECIAL CONDITIONS OF APPROVAL

Emission Limits and Operational Restrictions

- Vertis shall comply with the emission limits/restrictions listed in Table 3 at all times.

**Table 3
 Emission Limits/Restrictions**

Printers	Raw material usage limits		VOC emission limits		HAP emission limits	
	monthly ⁽¹⁾	yearly ⁽²⁾	monthly ⁽¹⁾	yearly ⁽²⁾	monthly ⁽¹⁾	yearly ⁽²⁾
# 701 4-unit heatset and dryer	Heatset Ink 1.5 x 10 ⁶ lb Fountain Solution 8,000 gallons Blanket Wash 1,500 gallons	Heatset Ink 8.00 x 10 ⁶ lb Fountain Solution 46,000 gallons Blanket Wash 7,000 gallons	5.98 tons	31.95 tons	Single HAP 1.62 tons Total HAP 1.62 tons	Single HAP 9.21 tons Total HAP 9.21 tons
# 902 4-unit heatset and dryer						
# 954-1 4-unit heatset and dryer						
# 702 4-unit heatset with integrated dryer/oxidizer						
# 954-2 4-unit heatset with integrated dryer/oxidizer						
# 703 4-unit heatset with integrated dryer/oxidizer	Heatset Ink 0.115 x 10 ⁶ lb Fountain Solution 800 gallons Blanket Wash 200 gallons	Heatset Ink 1.00 x 10 ⁶ lb Fountain Solution 5,000 gallons Blanket Wash 1,000 gallons	0.46 tons	3.18 tons	Single HAP 0.16 tons Total HAP 0.16 tons	Single HAP 0.99 tons Total HAP 0.99 tons
# 704 4-unit heatset with integrated dryer/oxidizer						
New MRK22 4-unit heatset with integrated dryer/oxidizer						
New # 705 (C-700) 4-unit heatset and dryer	Heatset Ink 0.24 x 10 ⁶ lb Fountain Solution 1,300 gallons Blanket Wash 240 gallons	Heatset Ink 2.0 x 10 ⁶ lb Fountain Solution 10,000 gallons Blanket Wash 1,800 gallons	0.81 tons	6.45 tons	Single HAP 0.26 tons Total HAP 0.26 tons	Single HAP 1.99 tons Total HAP 1.99 tons
Facility Total (including new press and VOC emissions from combustion of natural gas and ink oils)	Heatset Ink 1.855 x 10 ⁶ lb Fountain Solution 10,100 gallons Blanket Wash 1,940 gallons	Heatset Ink 11.00 x 10 ⁶ lb Fountain Solution 61,000 gallons Blanket Wash 9,800 gallons	7.37 tons	42.98 tons	Single HAP 2.03 tons Total HAP 2.03 tons	Single HAP 9.21 tons Total HAP 12.19 tons

(1) Calendar month
 (2) Rolling 12-month total

Press MRK22

2. Vertis shall ensure that Press MRK22's thermal oxidizer operates with a VOC destruction efficiency of $\geq 99.0\%$.
3. Vertis shall ensure that Press MRK22 thermal oxidizer is in operation and at a temperature of 1400°F or greater during printing operation except during start-up when the temperature may fall below 1400°F for periods of 10-minute duration or less.
4. Vertis shall operate and maintain Press MRK22 and its integrated thermal oxidizer in accordance with the manufacturer's Standard Operating and Maintenance Procedures ("SOMP").

Press 705 (C-700)

5. Press 705 (C-700) shall be ducted to the L&E oxidizer.
6. Vertis shall operate and maintain Press 705 (C-700) in accordance with the manufacturer's Standard Operating and Maintenance Procedures ("SOMP").

L&E Oxidizer

7. Vertis shall ensure that the L&E oxidizer operates with a VOC destruction efficiency of $\geq 99.0\%$.
8. Vertis shall operate the L&E oxidizer at a minimum temperature of 1500°F except during start-up of the press(es) when the temperature may fall below 1500°F for periods of 10-minute duration or less, but not lower than 1425°F.
9. Vertis shall ensure that the L&E oxidizer is in operation and at a temperature of 1500°F or greater prior to placing presses 701-1, 902-2, 954-1 and 705 (C-700) in printing operation.
10. Vertis shall operate and maintain the L&E oxidizer in accordance with the manufacturer's Standard Operating and Maintenance Procedures ("SOMP").
11. Vertis shall ensure that a copy of the L&E oxidizer's SOMP is posted at or near-by the oxidizer's control panel.

Operational Requirements

12. Vertis shall ensure that the heatset inks used at the facility do not exceed a VOC content of 45% by weight and a monthly average VOC content of 42% by weight. The average VOC content shall be calculated on a monthly basis.
13. Vertis shall ensure that the fountain solution used at the facility does not exceed a VOC content of 1.2 lb/gallon.

14. Vertis shall ensure that the manual and automatic blanket wash solutions used at the facility have a VOC composite partial pressure of 10 mm Hg or less at 20°C (68°F) or do not exceed a VOC content of 2.3 lb/gallon.
15. Vertis shall ensure that the manual and automatic blanket wash and fountain solution used at the facility does not exceed an individual HAP content of 0.64 lb per gallon.
16. Vertis shall not duct or connect any new VOC emission source to the L&E oxidizer without obtaining prior approval from MassDEP.
17. Vertis shall keep VOC containing materials in tightly covered containers during transport and storage; and shall keep cleaning rags used in conjunction with the cleanup solution, in closed containers (when not in use) and collected for proper disposal or laundering.
18. Vertis shall ensure that all the presses at the facility conform to the EPA criteria (or an equivalent method approved by MassDEP) for permanent total enclosure and 100 percent capture of ink VOCs.
19. Vertis shall store and dispose of all volatile organic compounds in a manner which will minimize evaporation to the atmosphere.
20. Vertis shall operate all thermal oxidizers with 0% opacity (no visible emissions) with exception of 5 minutes during startup. During startup visible emissions shall comply with the provisions of 310 CMR 7.06.

Monitoring / Testing Requirements

21. Vertis shall test the capture efficiency for the new MRK22 press and the VOC/HAP destruction removal efficiency for the new MRK22 press thermal oxidizer. Vertis shall complete the testing within 120 days after startup of the new MRK22 press and integrated thermal oxidizer.
22. Vertis shall test the capture efficiency for the 705 (C-700) press. Testing shall be completed within 120 days after startup of the new 705 (C-700) press.
23. Emission testing of the L&E Oxidizer shall be completed within 120 days after startup of the new 705 (C-700) press and conform to the following requirements:
 - a) The testing shall take place under normal inlet VOC loading conditions that are representative of the facility's operation;
 - b) Vertis shall submit a pretest protocol to MassDEP for review and written approval at least 45 days prior to the anticipated test date. The protocol shall include a description of the proposed test port locations, sampling equipment, testing procedures, and operating conditions;

- c) Vertis shall conduct the testing in accordance with test methods set forth in 40 CFR Part 60, Appendix A, or other test methods approved by MassDEP; and
 - d) Vertis shall submit the final emission test report to MassDEP within 45 days after the completion of the compliance stack testing. The report shall, at a minimum, include documentation of all test findings and a description of operating parameters.
24. Vertis shall perform, at the request of the MassDEP or EPA, tests to characterize VOC and solids contents of the materials used.

Recordkeeping Requirements

25. Vertis shall maintain continuous strip chart, circle chart or data logged records of all thermal oxidizers combustion chamber temperature.
26. Vertis shall maintain appropriate and adequate records of all VOC containing material formulations, all monthly/rolling 12-month total raw material usage, and all monthly/rolling 12-month total VOC and HAP emissions at the facility in order to demonstrate compliance with the limits specified in this Final Approval.
27. Vertis shall keep all records required by this approval on site and available for inspection by MassDEP for a minimum of five years.

Reporting Requirements

28. Vertis shall notify MassDEP via email or in writing within a week of when each new unit is installed and when it first starts operating in production mode.
29. Vertis shall generate monthly reports in-house that document the compliance with the emission limits and restrictions in Table 3 of this Final Approval. If any VOC emission limit is exceeded, Vertis shall notify the MassDEP in writing no later than the 15th day of the following month.
30. Vertis shall submit to the MassDEP copies of the monthly reports required above by July 30 for the prior January-June period and by January 31 for the prior July-December period of each year.
31. Vertis shall ensure that emissions of air pollutants resulting from the operation of the Facility shall be reported annually on the MassDEP's Source Registration Forms and submitted to MassDEP in accordance with Regulation 310 CMR 7.12.

GENERAL CONDITIONS

1. In accordance with 310 CMR 7.12, Vertis shall maintain records required to determine the nature and amounts of emissions from the facility.
2. Records kept to demonstrate compliance must be kept on site for five (5) years, and must be made available to representatives of MassDEP upon request.
3. If asbestos remediation/removal are required as a result of the approved construction, reconstruction, or alteration of this facility, removal/remediation of asbestos shall be done in accordance with Regulation 310 CMR 7.15 in its entirety and 310 CMR 4.00.
4. In accordance with 310 CMR 7.12, Vertis shall report the resulting emissions from the facility approved herein on subsequent source registrations. Source registration shall be submitted to MassDEP annually.
5. Vertis shall allow authorized MassDEP representatives, at reasonable times, immediate access to the facility in order to take samples, view the process operation or examine records to verify compliance.
6. This approval may be suspended, modified, or revoked by MassDEP if, at anytime, MassDEP determines that any condition or part of this Approval is being violated.
7. Vertis shall keep records of any information it receives relative to reducing emissions or implementing pollution prevention techniques. Vertis shall document any progress toward decreasing overall emissions to the environment. These records shall be made available to MassDEP upon request.
8. Vertis shall operate the facility in a manner to minimize the occurrence of visible emissions, which cause or contribute to a condition of air pollution as defined in Regulation 310 CMR 7.01 and 7.06.
9. Vertis shall ensure the facility is operated in a manner to minimize the occurrence of dust or odor conditions, which cause or contribute to a condition of air pollution as defined in Regulation 310 CMR 7.01 and 7.09.
10. Vertis shall ensure that noise from the facility during routine operation, including startups and shut downs, shall not exceed MassDEP noise guidelines and shall not cause a condition of air pollution as defined in Regulation 310 CMR 7.01 and 7.10.
11. The facility shall be constructed and operated in strict accordance with the application approved herein. Should there be any differences between the General Conditions or the aforementioned application, and this approval letter, this approval letter shall govern.

12. This Final Approval pertains only to the air quality control aspect of the proposal and does not negate the responsibility of the owners or operators to comply with other applicable state, local, or federal laws and regulations.
13. All notifications and reporting required by this Final Approval shall be made to the attention of:

Department of Environmental Protection
Western Region
436 Dwight Street
Springfield, Massachusetts 01103
ATTN: Permit Section Chief
Telephone: (413) 755-2115
Fax: (413) 784-1149

MassDEP has determined that the filing of an Environmental Notification Form ("ENF") with the Secretary of Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and Regulation 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions" which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

This Final Approval consists of the application materials and this Approval letter. If conflicting information is found between these two documents, then the requirements of this Approval letter shall take precedence over the documentation in the application materials.

APPEAL OF APPROVAL

This **Final Approval** is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this document.

Under Regulation 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request and the relief, sought. Additionally, the request must state why the Final Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P. O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

The filing fee is not required if the appellant is a city or town (or municipal agency) county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

If you have any questions or comments regarding this **Final Approval**, please contact John Kirzec at (413) 755-2225.

Sincerely,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Marc Simpson
Permit Chief
Western Region

JK/jk
Vertis LPA 2011-12-14

ecc: Yi Tian, DEP-Boston
Roberta Baker, DEP- WERO
Peter Czapienski, DEP-WERO

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