

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- RENEWAL

PERMITTEE

Bartlett Manufacturing Co., Inc.
Attn: Gary Meindl
225 North First Street
Cary, Illinois 60013

Application No.: 85060012
Applicant's Designation: IEPA-AF85B
Subject: Circuit Board Manufacturing
Date Issued: April 30, 2007
Location: 225 North First Street, Cary

I.D. No.: 111010AAM
Date Received: April 11, 2006
Expiration Date: April 30, 2012

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of a multi-layer line, LPI line developer, Desmear Line (DL-1), of etch strip (EL-1, 2, 3, 4), oven (OV-1), preclean (PREC-1), silk screen presses, 2UV curing ovens, two LPI silk screen presses and 4 electric ovens pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued:
 - i. To limit the emissions of air pollutants from the source to less than major source thresholds (i.e., volatile organic material to less than 100 tons per year, individual hazardous air pollutants (HAP) to less than 10 tons per year, and a combination of such HAPs to less than 25 tons per year). As a result the source is excluded from the HAPs requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
 - ii. To limit the potential emissions of VOM from the source to less than 25 tons/year. As a result, the source is excluded from the requirement of 35 Ill. Adm. Code Part 205, Emission Reduction Market System. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
 - iii. This permit is issued based upon the plant not being subject to the requirements of 35 Ill. Adm. Code Part 218 Subpart TT (Other Emission Units). This is consequence of the federally enforceable production and operating limitations, which restrict a potential to emit to less than 25 tons per year.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.

- 2a. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.
 - b. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the emission source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 Ill. Adm. Code 212.301 and 212.314.
 - c. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 Ill. Adm. Code 212.321.
- 3a. Pursuant to 35 Ill. Adm. Code Part 218.182(a), no person shall operate a cold cleaning degreaser unless:
 - i. Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;
 - ii. The cover of the degreaser is closed when parts are not being handled; and
 - iii. Parts are drained until dripping ceases.
 - b. Pursuant to 35 Ill. Adm. Code Part 218.182(b), no person shall operate a cold cleaning degreaser unless:
 - i. The degreaser is equipped with a cover which is closed whenever parts are not being handled in the cleaner. The cover shall be designed to be easily operated with one hand or with the mechanical assistance of springs, counter-weights or a powered system if:
 - A. The solvent vapor pressure is greater than 2 kPa (15 mmHg or 0.3 psi) measured at 38°C (100°F);
 - B. The solvent is agitated; or
 - C. The solvent is heated above ambient room temperature.

- ii. The degreaser is equipped with a device for draining cleaned parts. The drainage device shall be constructed so that parts are enclosed under the cover while draining unless:
 - A. The solvent vapor pressure is less than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F); or
 - B. An internal drainage device cannot be fitted into the cleaning system, in which case the drainage device may be external.
 - iii. The degreaser is equipped with one of the following control devices if the vapor pressure of the solvent is greater than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F) or if the solvent is heated above 50°C (120°F) or its boiling point:
 - A. A freeboard height of 7/10 of the inside width of the tank or 91 cm (36 in), whichever is less; or
 - B. Any other equipment or system of equivalent emission control as approved by the Illinois EPA and further processed consistent with 35 Ill. Adm. Code 218.108. Such a system may include a water cover, refrigerated chiller or carbon adsorber.
 - iv. A permanent conspicuous label summarizing the operating procedure is affixed to the degreaser; and
 - v. If a solvent spray is used, the degreaser is equipped with a solid fluid stream spray, rather than a fine, atomized or shower spray.
- c. Pursuant to 35 Ill. Adm. Code 218.182(c)(2), no person shall operate a cold cleaning degreaser with a solvent vapor pressure which exceeds 1.0 mmHg (0.019 psi) measured at 20°C (68°F).
- d. Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hour (8 lbs/hour) of organic material into the atmosphere from any emission unit, except as provided in 35 Ill. Adm. Code 218.302, 218.303, or 218.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 218 Subpart G shall only apply to photochemically reactive material.
4. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the nuisance.
- 5a. Plant-wide VOM and total HAP emissions from ink, clean-up solvent usage and emissions from the operation of the silk screen presses shall not exceed 1.25 tons/month and 12.5 tons/year.

- b. Usage and emissions of VOM from the use of isopropyl alcohol and film kleen shall not exceed 229 lb/month and 0.9 tons/year.
- c. Emissions and operation of the Desmear Line (DL-1) shall not exceed the following:

<u>Liquid Raw Materials</u> <u>(Tons/Year)</u>	<u>VOM Usage and Emissions</u> <u>(Tons/Year)</u>
5.00	1.8

These limits define the potential VOM and HAP emissions of the above operations and are based on actual emissions determined by maximum operation and material balance.

- d. Note that there is a "nested" limit on the emissions of the combination of HAPs as a result of the limit on VOM emissions. The HAPs emitted at this source have been determined to be VOMs and therefore limiting VOM emissions also limits HAP emissions.
6. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
- 7a. Combined natural gas consumption for the natural gas-fired combustion equipment shall not exceed:
- i. Natural gas usage shall not exceed 2.0 mmscf/month and 12.0 mmscf/year.
 - ii. Emissions from the combustion of natural gas shall not exceed the following limits:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(Lbs/mmscf)</u>	<u>E M I S S I O N S</u>	
		<u>(Tons/Month)</u>	<u>(Tons/year)</u>
NO _x	100	1.00	0.60
CO	84	0.08	0.50
PM	7.6	0.01	0.05
VOM	5.5	0.01	0.03
SO ₂	0.6	0.01	0.01

These limits are based on the maximum natural gas fuel usage and standard emission factors (Section 1.4 of AP-42).

- b. This permit is issued based on the use of natural gas for all combustion equipment. Use of any other fuel will require a revised permit.
- 8. Emissions and operation of the following equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Operating Hours (Hours/Year)</u>	<u>Particulate Matter Emissions (Lbs/Hour)</u>	<u>(Tons/Year)</u>
Preclean Line (PREC-1)	7,200	0.36	1.3

These limits define the potential emissions of the above equipment and are based on the maximum hourly emission rate and the maximum hours of operation.

- 9. This permit is based on negligible emissions of particulate matter from each etch line, etch strip, each oven, each silk screen press developer. For this purpose, emission of each source shall not exceed 0.1 lbs/hour and 0.44 tons/year.
- 10. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- 11a. Pursuant to 35 Ill. Adm. Code 212.107, 212.109, and 212.110, testing for particulate matter emissions shall be performed as follows:
 - i. For both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, incorporated by reference in 35 Ill. Adm. Code 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301.
 - ii. Except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, incorporated by reference in 35 Ill. Adm. Code 212.113, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged.

- iii. Measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E.
 - iv. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4.
 - v. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
- b. Testing required by Condition 11(a) shall be performed by a qualified independent testing service.
- 12a. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

- b. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
- c. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
 - i. Name and identification number of all VOM-containing chemicals including: inks, clean-up solvents, etc;
 - ii. Quantity and density (lbs/gallon) VOM-containing material used (gallons/month and gallons/year);
 - iii. VOM content of all VOM-containing materials (inks, clean-up, etc.) (lbs/gallon or weight %);
 - iv. Desmear line solution usage (gallons/month and gallons/year) with VOM and HAP content;
 - v. Natural gas usage (mmft³/month and mmft³/year);
 - vi. Appropriate MSDSs for all VOM-containing materials; and
 - vii. Monthly and annual emissions of CO, NO_x, PM, SO₂, VOM and HAPS from the source, with supporting calculations (tons/month and tons/year).
- 13. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Agency or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
- 14. If there is an exceedance of or deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance/deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or deviation and efforts to reduce emissions and future occurrences.

15. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

Please note also that the 5 mechanical chemical cleaners and all soldering is exempt from state permitting requirements pursuant to 35 Ill. Adm. Code 201.146(o) and (y), respectively.

Please note also that 2 electric ovens, 1 multi-layer line, 1 developer and 3 inks have been added to this permit.

If you have any questions on this, please call Dwayne Booker at 217/782-2113.

Edwin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

ECB:DLB:psj

cc: IEPA, FOS Region 1
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the circuit board manufacturing facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Agency used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels (e.g., 100 tons per year for VOM, 10 tons per year for each individual HAP, and 25 tons per year for a combination of HAPs) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

<u>Emission Unit</u>	E M I S S I O N S (Tons/Year)						<u>Single HAP</u>	<u>Total HAPs</u>
	<u>CO</u>	<u>NO_x</u>	<u>PM</u>	<u>SO₂</u>	<u>VOM</u>			
Silk Screen Presses, Ink, & Clean-Up Solvent Usage					12.5			
Isopropyl Alcohol and Film Kleen					0.9			
Desmear Line (DL- 1)					1.8			
Preclean Line (PREC-1)			<u>1.3</u>					
Fuel Combustion	<u>0.5</u>	<u>0.6</u>	<u>0.05</u>	<u>0.01</u>	<u>0.03</u>	<u>--</u>	<u>--</u>	
Totals	0.5	0.6	1.35	0.01	15.23	< 10	< 25	

ECB:DLB:psj