

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

United Plastics Group, Inc.
Attn: Bob Arsenault
529 Thomas Drive
Bensenville, Illinois 60106

Application No.: 00080021

I.D. No.: 043414ADT

Applicant's Designation: PLASTICS

Date Received: August 9, 2000

Subject: Plastic Parts Manufacturing

Date Issued: December 1, 2003

Expiration Date: December 1, 2008

Location: 529 Thomas Drive, Bensenville

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of a plastic parts coating operation (plastic molding injection machines and nine paint booths eight with water curtain and the other with dry filter; with three air makeup units) and pad and laser label printing operations as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

Findings

1. United Plastics Group, Inc. (UPG) has applied for a permit for its plastic parts manufacturing plant in Bensenville, which it located to in 1999. This permit would typically address requirements of 35 IAC Part 203 for a major source, including control of volatile organic material emissions to the Lowest Achievable Emission Rate (LAER), as well as the acquisition of offsets.
2. The area in which the source is located is designated as nonattainment for ozone.
- 3a. This permit addresses the plant as a major new source subject to 35 IAC, Part 203 (Major Stationary Sources Construction and Modification (MSSCAM)) because the plant's actual VOM emissions were in excess of 25 tons/year, after it was initially constructed and began operation in 1994.
- b. After reviewing all materials submitted by UPG, the Illinois EPA has determined that the plant will comply with all applicable Board emissions standards and not require use of the Lowest Achievable Emission Rate (LAER).
- c. The permitted VOM emissions of this plant, as established by this permit are 10.0 tons/year.

- d. This permit does not address the requirement to provide emission offsets under 35 IAC 203.302 for operation of the plant prior to issuance of this permit. The requirement for emissions offsets for prior operation of the plant and the means by which such obligation is satisfied has been determined as part of a separate legal proceeding to resolve the pending enforcement case.
4. This permit relies upon the plant's VOM emissions complying with the standard set in 35 IAC 218.204(o)(4) and 40 CFR 60 Subpart TTT.
5. This federally enforceable state operating permit is also issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 25 tons/year for VOM, 10 ton/year individual HAP, 25 ton/year combined HAP). As a result the source is excluded from the 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.
6. Prior to issuance, a draft of this permit has undergone a public notice and comment period.

1.0 PLANT-WIDE CONDITIONS/LAER-OFFSETS

- a.
 - i. VOM Emissions from this plant shall not exceed 10.0 tons per year (including emissions from VOM-containing materials, air makeup heaters, etc.).
 - ii. As a consequence of the limit imposed in (a), Lowest Achievable Emission Rate (LAER) and offsets will not be required.
- b. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.
- c.
 - i. This permit is issued based on negligible emissions of particulate matter from the plastic injection molding machines. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.
 - ii. This permit is issued based on negligible emissions of all regulated pollutants from the air makeup heaters. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.

2.0 UNIT SPECIFIC CONDITIONS

2.1 Plastic Parts Coating Line and Dryer

2.1.1 Description

United Plastics Group, Inc. (UPG) manufactures plastic parts used in cellular telephones and hand-held walkie-talkies. UPG molds the plastic parts onsite by the injection molding process in the Foster Avenue building and the parts are then shield coated in the Thomas Drive building. Shield coating is performed on the plastic parts to prevent EMI/RFI signals from interrupting the performance of other electronic components. The Federal Communication Commission (FCC) regulates EMI/RFI emissions, which results in the use of shielding material.

The two major performance specifications for EMI/RFI shielding materials are conductivity and adhesion, UPG uses an organic-solvent-based metal-filled coating material containing particles of nickel, silver and copper in either an acrylic or urethane resin. Typically these shielding materials are spray applied by air atomizing the spray coating with compressed air. The coating process involves surface preparation, coating application and curing. The transfer efficiency for EMI/RFI shield coating is about 50%.

After the shield-coated parts are dried, they are assembled and shipped off-site.

2.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
01	Spray Booth (Cell #13)	Water Wash Curtain
02	Spray Booth (Cell #14)	Water Wash Curtain
03	Spray Booth (Cell #16)	Water Wash Curtain

2.1.3 Applicability Provisions and Applicable Regulations

- a. An "affected coating line" for the purpose of these unit-specific conditions, is an emission unit described in Conditions 2.1.1 and 2.1.2.
- b. Each affected coating line is subject to 35 IAC 218.204(o) which provides that the VOM content of each coating as applied, not exceed the following limits:

<u>Coating Type</u>	<u>VOM Content</u> <u>Lb/Gal*</u>
Primer	1.2
Color Coat (Non-Texture Coat)	2.3
Color Coat (Texture Coat)	2.3
EMI-RFI Shielding Coatings	4.0
Specialty Coatings	
Soft Coat	4.3
Plating Resist	5.9
Plating Sensitizer	7.1

* Minus water and exempt compounds

- c. Each affected coating line is subject to 40 CFR 60.720 - 726, Standards of Performance for Industrial Surface Coating of Plastic Parts for Business Machines, which requires that discharge of VOM as applied not to exceed the following limits:

<u>Coating Type</u>	<u>VOM Content</u> <u>Kg/Liter Solids Applied</u>
Prime Coating	1.5
Color Coating	1.5
Texture Coating	2.3
Touch-Up	2.3

- d. The emissions of particulate matter into the atmosphere in any one hour period from each of the affected coating lines shall not exceed the allowable emission rates specified in the following equation [35 IAC 212.321]:

$$E = A (P)^B$$

Where:

P = Process weight rate

E = Allowable emission rate

- A. For process weight rates up to 408 Mg/hr (450 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

B. For process weight rates in excess of 408 Mg/hr (450 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	11.42	24.8
B	0.16	0.16

Where:

P = Process weight rate in metric or English tons per hour, and

E = Allowable emission rate in kilograms or pounds per hour.

2.1.4 Non-Applicable Regulations of Concern

- a. Each affected coating line complying with 35 IAC 218.204(o) is not subject to 35 IAC 218.301, Use of Organic Material, pursuant to 35 IAC 218.209, Exemption From General Rule on Use of Organic Material which excludes affected coating lines from this requirement.
- b. The cleanup solvent operations are not subject to the control requirements of 35 IAC 218.986 pursuant to the exemption in 35 IAC 218.980(b)(2)(B).

2.1.5 Operational and Production Limits and Work Practices

Usage of coating and thinner shall not exceed the following limits:

	<u>(Lb VOM/Gal)</u>	<u>(Gal/Mo)</u>	<u>(Gal/Yr)</u>
EMI-RFI Shield Coating	4.0	80	960
Color Coating	2.3	25	300
Thinners	8.85	10	120
Clean-Up Solvent	6.59	50	600

2.1.6 Emission Limitations

VOM emissions from the affected coating line (including oven emissions) shall not exceed the following:

VOM Emissions	
<u>(Lb/Month) *</u>	<u>(Tons/Year)</u>
1,666	10.0

* Rolling average of previous 12 months.

2.1.7 Testing Requirements

Upon request by the Illinois EPA the VOM content of coatings shall be determined according to USEPA Reference Methods 24 and 24A of 40 CFR Part 60, Appendix A and the procedures of 35 IAC 218.105 [35 IAC 218.211(a)].

This testing may be performed by the supplier of a material provided that the supplier provides appropriate documentation for such testing to the Permittee. The Permittee's records shall reflect the application and separately account for any additions of solvent. If a request for testing has not been made, the VOM content provided by the coating supplier may be used, including formulation data.

2.1.8 Monitoring Requirements

N/A

2.1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected coating line to demonstrate compliance with conditions of this permit:

- a. The name and identification number of each coating as applied on the affected coating line;
- b. The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line;
- c. The instrument or method by which the Permittee will accurately measure or calculate the volume of each coating as applied each day on the affected coating line;
- d. The annual usage of each coating and solvent, in units of pounds or gallons;
- e. The VOM content of all coatings as applied on the affected coating line in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) if complying with 35 IAC 218.204(o);

- f. Cleaning solvent usage and VOM content of cleaning solvents; and
- g. VOM emissions determined in accordance with condition 2.1.12.

2.1.10 Reporting Requirements

The Permittee shall notify the Illinois EPA, Compliance Section, of noncompliance of the affected coating line with the permit requirements within 30 days of the violation.

2.1.11 Operational Flexibility

The following coating transfer/application techniques in addition to spray application may be used:

None

2.1.12 Compliance Procedures

- a. Calculation of VOM emissions shall be calculated using the following equation:

$$\text{VOM Emissions} = \text{VOM Containing Material Usage} \times \text{VOM Content}$$

- b. Compliance with Condition 2.1.3(b) is addressed by coating VOM content testing in accordance with Condition 2.1.7 and the recordkeeping required by Condition 2.1.9.
- c. Compliance provisions addressing Condition 2.1.3(d) are not set by this permit as compliance is assumed to be achieved by the normal work practices and maintenance activities inherent in operation of an affected coating line.
- d. Calculation of fuel combustion emissions from the dryers shall be determined by the emission factors listed below:

<u>Pollutant</u>	<u>Natural Gas Emission Factors for Boilers (lb/ 10⁶ ft³)</u>
NO _x	100
PM	7.6
SO ₂	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in boilers, Tables 1.4-1 and 1.4-2, AP-42, Volume I, Supplement F, March, 1998.

$$\text{Dryer Emissions (lb)} = (\text{Natural Gas Consumed, ft}^3) \times (\text{The Appropriate Emission Factor})$$

2.2 Units 04-05 Pad and Laser Printing Operations

2.2.1 Description

The pad and laser printing process is used to apply ink at specific locations on a paper substrate.

2.2.2 List of Emission Equipment and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
04	1 Pad Printing Line	None
05	1 Laser Printing Line	None

2.2.3 Applicable Regulations

- a. An affected printing line for the purpose of these unit-specific conditions, is an emission unit described in Conditions 2.2.1 and 2.2.2.
- b. No person shall cause or allow the discharge of more than 3.6 Kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit listed in Condition 2.2.2. If no odor nuisance exists, this limitation shall apply only to photochemically reactive material [35 IAC 218.301].

2.2.4 Non-Applicable Regulations

The control requirements of 35 IAC 218.986 Other Emission Units, do not apply to the affected printing line because the potential VOM emissions of applicable emission units including the pad and laser screening operations are limited to below 2.5 tons of VOM per year [35 IAC 218.980 (d)].

2.2.5 Operational and Work Practice Requirements

All drying and curing operations for the affected printing line shall only use natural gas for fuel.

2.2.6 Emission Limitations

Emissions of VOM from the affected printing lines shall not exceed 2.5 tons/year. This annual limit is based on the emissions from the current month and the previous 11 months of data.

2.2.7 Testing Requirements

- a. Upon request by the Illinois EPA, the VOM contents of inks and adhesives shall be determined according to USEPA Reference Method 24 specified in 40 CFR Appendix A, pursuant to 35 IAC 218.105(a).
- b. If the Permittee wants credit for the cleaning solvents sent off-site, then the percent concentration of solvent in the waste shall be determined in accordance with USEPA Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW-846), Test Method 8260.

2.2.8 Monitoring Requirements

N/A

2.2.9 Recordkeeping Requirements

The Permittee shall collect and record the following information for the affected printing lines:

- a. Monthly usage of ink, adhesive, and solvent in gallons.
- b. Total VOM usage of ink, adhesive, and solvent in pounds per month.
- c. Monthly VOM emissions calculated in accordance with Condition 2.2.12.
- d. Annual usage of cleaning solvent in pounds.
- e. VOM content of materials.
- f. Cleaning solvent sent off-site (ton/year) with waste solvent VOM content test data.

2.2.10 Reporting Requirements

Report of Deviations

If there is an exceedance of 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. 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 violation and efforts to reduce emissions and future occurrences.

2.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

2.2.12 Compliance Procedures

Compliance with emission limits shall be determined using the formulas listed below:

Total VOM in Ink, Adhesive, and Solvent Used = VOM Emissions

VOM Usage = VOM Content x Material Usage

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

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JPB:jar

cc: Region 1

Attachment A

This attachment provides a summary of the maximum emissions from operation of this EMI/RFI shielded plastic parts manufacturing plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario that results in maximum emissions from such a plant. The resulting maximum emissions are well below the levels (i.e., 25 tons/year for VOM, 10 ton/year individual HAP, 25 ton/year combined HAP) 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.

1.

<u>Emission Units</u>	<u>VOM</u>	Emissions		<u>PM₁₀</u>
		<u>Single HAP</u>	<u>Combined HAP</u>	
Coating Operations, Printing Operations, Plastic Molding Operations, Fuel Combustion Units.	10.0	< 10	< 25	0.88

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