



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: February 16, 2010

RE: Manufacturing Technology, LLC / 141-28925-00570

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FN-REGIS.dot 1/2/08



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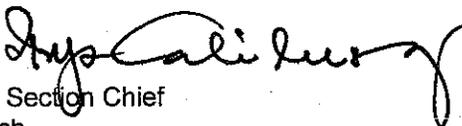
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REGISTRATION OFFICE OF AIR QUALITY

Manufacturing Technology, LLC
1702 West Washington Street
South Bend, IN 46628

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. 141-28925-00570	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: February 16, 2010

SECTION A

SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary large industrial welding machine manufacturing facility.

Source Address:	1702 West Washington Street, South Bend, IN 46628
Mailing Address:	1702 West Washington Street, South Bend, IN 46628
General Source Phone Number:	(574) 233-9490
SIC Code:	3548
County Location:	St. Joseph County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) Surface Coating Booth, identified as SB1, constructed prior to 1980, performing HVLP spray application of coatings to metal, with a maximum capacity of 1.25 gallons per hour, u, with a maximum capacity of 1.25 gallons per hour, using fabric filters as particulate control, and exhausting to stack SVSB-1.
- (b) One (1) sand blasting cabinet, identified as SBC, constructed prior to 1980, with a maximum capacity of 1.0 units per hour and maximum sand usage rate of 135 pounds per hour, using a high efficiency external return-air bagfilter system as particulate control, and exhausting within the building.
- (c) One (1) cutting and grinding operation, identified as CG, constructed prior to 1980, utilizing a drum mounted dust collector as particulate control, exhausting within the building, and consisting of:
 - (1) Two (2) hose cut-off saws, identified as S1 and S2, with maximum process rates of 10 inches per hour, each.
 - (2) Two (2) grinders, identified as G1 and G2, with maximum process rates of 5 inches per hour, each.
- (d) Degreasing operations that do not exceed 145 gallons per 12 months consisting of the following:
 - (1) Five (5) cold cleaning solvent degreasers, identified as SD1 through SD5.
- (e) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - (1) One (1) natural gas-fired heater, identified as H1, constructed prior to 1980, with a maximum heat input capacity of 0.05 MMBtu/hr, exhausting through stack HSV1.

- (2) Five (5) natural gas-fired heaters, identified as H2 through H6, constructed prior to 1980, with a maximum heat input capacity of 0.10 MMBtu/hr each, exhausting through stacks HSV2 through HSV6.
 - (3) Twenty-five (25) natural gas fired tube heaters, identified as H7 through H31, constructed prior to 1980, with a maximum capacity of 0.06 MMBtu/hr each, exhausting through stacks HSV7 through HSV31.
- (f) Paved and unpaved roads and parking lots with public access.

SECTION B

GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (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 registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. 141-28925-00570 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003

Indianapolis, IN 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

This source is located in St. Joseph County, in the area North of Kern Road and East of Pine Road. Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this registration:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) One (1) Surface Coating Booth, identified as SB1, constructed prior to 1980, performing HVLP spray application of coatings to metal, with a maximum capacity of 1.25 gallons per hour, using fabric filters as particulate control, and exhausting to stack SVSB-1.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9, when coating metal, the Permittee shall not allow the discharge into the atmosphere of VOC in excess of three (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator.

D.1.2 Volatile Organic Compound (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment during cleanup or color changes shall be directed into containers. Said containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

D.1.3 Particulate [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2(d), particulate from the surface coating operations shall be controlled by dry filters, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

D.1.4 Preventive Maintenance Plan

A Preventive Maintenance Plan, in accordance with 326 IAC 1-6-3 (Preventive Maintenance Plan), is required for the surface coating booth SB1 and its fabric filters.

Compliance Determination Requirements [326 IAC 2-5.1-2(g)][326 IAC 2-5.5-4(b)]

D.1.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-4] [326 IAC 8-1-2(a)(7)]

- (a) Compliance with the VOC usage limitations contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a)(7) by preparing or obtaining from the manufacturer the copies of the as supplied and as applied VOC data

sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

- (b) The daily volume weighted average of VOC content shall be calculated using the following methodology:

Where:

$$A = \frac{C \times U}{U} \leq 3.5 \text{ lb VOC/gal}$$

A = Daily volume weighted average in pounds VOC per gallon, as applied

C = As-applied VOC content of coating in pounds VOC per gallon

U = Usage rate of coating in gallons per day

Record Keeping and Reporting Requirements [326 IAC 2-5.1-2(g)][326 IAC 2-5.5-4(b)]

D.1.6 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) and (2) below. Records maintained for (1) and (2) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC content limit established in Condition D.1.1. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (1) The VOC content of each coating material and solvent used less water;
- (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and VOC content;
- (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents; and
- (2) The volume weighted VOC content less water of the non-compliant coatings used for each day.

The volume weighted VOC content does not have to be calculated or recorded on those days when only compliant coatings are used.

SECTION D.2

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (b) One (1) sand blasting cabinet, identified as SBC, constructed prior to 1980, with a maximum capacity of 1.0 units per hour and maximum sand usage rate of 135 pounds per hour, using a high efficiency external return-air bagfilter system as particulate control, and exhausting within the building.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the sand blasting operation shall not exceed 0.67 pounds per hour when operating at a process weight rate of 0.07 tons per hour. The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

D.2.2 Preventive Maintenance Plan

A Preventive Maintenance Plan, in accordance with 326 IAC 1-6-3 (Preventive Maintenance Plan), is required for the sand blasting cabinet SBC and its high efficiency external return-air bagfilter system.

Compliance Determination Requirements

D.2.3 Particulate Control

In order to comply with Condition D.2.1, the high efficiency external return-air bagfilter for particulate control shall be in operation and control emissions at all times SBC is in operation.

SECTION D.3

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (d) Degreasing operations that do not exceed 145 gallons per 12 months consisting of the following:
 - (1) Five (5) cold cleaning solvent degreasers, identified as SD1 through SD5.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.3.1 326 IAC 8-3-2 (Cold Cleaner Operations)

Pursuant to 326 IAC 8-3-2, the owner or operator of the cold cleaning facility shall:

- (a) equip the cleaner with a cover;
- (b) equip the cleaner with a facility for draining cleaned parts;
- (c) close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) provide a permanent, conspicuous label summarizing the operation requirements;
- (f) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.3.2 326 IAC 8-3-5 (Cold Cleaner Operation and Control)

Pursuant to 326 IAC 8-3-5(a), the owner or operator of a cold cleaner degreaser facility shall ensure that the following control equipment requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

- (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
- (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

- (1) Close the cover whenever articles are not being handled in the degreaser.
- (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
- (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Manufacturing Technology, LLC
Address:	1702 West Washington Street,
City:	South Bend, IN 46628
Phone Number:	(574) 233-9490
Registration No.:	141-28925-00570

- I hereby certify that Manufacturing Technology, LLC is : still in operation.
 no longer in operation.
- I hereby certify that Manufacturing Technology, LLC is : in compliance with the requirements of Registration No. 141-28925-00570.
 not in compliance with the requirements of Registration No. 141-28925-00570.

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Description and Location

Source Name:	Manufacturing Technology, LLC
Source Location:	1702 West Washington Street, South Bend, IN 46628
County:	St. Joseph
SIC Code:	3548
Registration (or Exemption) No.:	141-28925-00570
Permit Reviewer:	Jason R Krawczyk

On January 29, 2010, the Office of Air Quality (OAQ) received an application from Manufacturing Technology, LLC related to the construction and operation of a new stationary large industrial welding machine manufacturing facility.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective July 19, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.

¹Attainment effective October 18, 2000, for the 1-hour ozone standard for the South Bend-Elkhart area, including St. Joseph County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour standard was revoked effective June 15, 2005.
Unclassifiable or attainment effective April 5, 2005, for PM2.5.

(a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5

St. Joseph County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements.

The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

(c) Other Criteria Pollutants

St. Joseph County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Manufacturing Technology, LLC on January 29, 2010, relating to the construction and operation of a stationary large industrial welding machine manufacturing facility.

There are no permitted emissions units operating at this source.

Unpermitted Emission Units and Pollution Control Equipment

The source consists of the following unpermitted emission unit(s):

- (a) One (1) Surface Coating Booth, identified as SB1, constructed prior to 1980, performing HVLP spray application of coatings to metal, with a maximum capacity of 1.25 gallons per hour, using fabric filters as particulate control, and exhausting to stack SVSB-1.
- (b) One (1) sand blasting cabinet, identified as SBC, constructed prior to 1980, with a maximum capacity of 1.0 units per hour and maximum sand usage rate of 135 pounds per hour, using a high efficiency external return-air bagfilter system as particulate control, and exhausting within the building.
- (c) One (1) cutting and grinding operation, identified as CG, constructed prior to 1980, utilizing a drum mounted dust collector as particulate control, exhausting within the building, and consisting of:
 - (1) Two (2) hose cut-off saws, identified as S1 and S2, with maximum process rates of 10 inches per hour, each.
 - (2) Two (2) grinders, identified as G1 and G2, with maximum process rates of 5 inches per hour, each.
- (d) Degreasing operations that do not exceed 145 gallons per 12 months consisting of the following:
 - (1) Five (5) cold cleaning solvent degreasers, identified as SD1 through SD5.
- (e) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - (1) One (1) natural gas-fired heater, identified as H1, constructed prior to 1980, with a maximum heat input capacity of 0.05 MMBtu/hr, exhausting through stack HSV1.

- (2) Five (5) natural gas-fired heaters, identified as H2 through H6, prior to 1980, with a maximum heat input capacity of 0.10 MMBtu/hr each, exhausting through stacks HSV2 through HSV6.
 - (3) Twenty-five (25) natural gas fired tube heaters, identified as H7 through H31, constructed prior to 1980, with a maximum capacity of 0.06 MMBtu/hr each, exhausting through stacks HSV7 through HSV31.
- (f) Paved and unpaved roads and parking lots with public access.

Enforcement Issues

IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination –Registration

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Surface Coating Booth (SB1)	7.08	7.08	7.08	-	-	19.21	-	4.66	2.58 Xylene
Sand Blasting Cabinet (SBC)	5.91	5.91	5.91	-	-	-	-	-	-
Hose Cut-off Saws (S1 - S2)	0.07	0.07	0.07	-	-	-	-	-	-
Grinders (G1 - G2)	0.03	0.03	0.03	-	-	-	-	-	-
Degreasers (SD1 - SD5)	-	-	-	-	-	0.36	-	-	-
Natural Gas Combustion (H1 - H31)	0.02	0.07	0.07	0.26	0.92	0.05	0.78	0.02	-
Paved Roads	0.02	negl.	negl.	-	-	-	-	-	-
Total PTE of Entire Source	13.13	13.17	13.16	0.26	0.92	19.62	0.78	4.68	2.58 Xylene
Exemptions Levels	5	5	5	10	10	10	25	25	10
Registration Levels	25	25	25	25	25	25	100	25	10

negl. = negligible
 * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of PM10 and VOC are within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per

year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for National Emission Standards for Halogenated Solvent Cleaning, 40 CFR 63.460, Subpart T (326 IAC 20-6-1), are not included in the permit, since this source is an area source and does not use any solvent containing methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. Any change or modification that will require the use of any Halogenated Solvents in the solvent degreasers, shall obtain prior approval from the IDEM, OAQ.
- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR 63.3880, Subpart MMMM (326 IAC 20-80), are not included in the permit because the source is not a major source of HAPs as defined in 40 CFR 63.2.
- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63.11169, Subpart HHHHHH (326 IAC 20-80), are not included in the permit, since this source does not use paint stripping operations that involve the use of chemical strippers that contain methylene chloride (MeCl), does not perform autobody refinishing operations that encompass motor vehicle and mobile equipment spray-applied surface coating operations, and does not perform spray application of coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), to any part or product made of metal or plastic, or combinations of metal and plastic that are not motor vehicles or mobile equipment.
- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Nine Metal Fabrication and Finishing Source Categories, 40 CFR 63.11514, Subpart XXXXXX, are not included in the permit, since the source is not primarily engaged in operations which are classified in one of the nine source categories listed in this NESHAP.
- (f) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (g) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-5.1-2 (Registrations)
Registration applicability is discussed under the Permit Level Determination – Registration section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 326 IAC 5-1 (Opacity Limitations)
This source is located in St. Joseph County, in the area North of Kern Road and East of Pine Road. Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.
- (g) 326 IAC 6.5-7 (Particulate Matter Limitations; St. Joseph County)
Although the source is located in St. Joseph County, it is not specifically listed in 326 IAC 6.5-7-2 through 326 IAC 6.5-20. Therefore the requirements of 326 IAC 6.5-7 are not applicable.
- (h) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

Surface Coating Operation

- (i) 326 IAC 6-3-2(d) (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(d), particulate from the painting operations shall be controlled by dry filters, and the Permittee shall operate the control device in accordance with manufacturer (s) specifications.

If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

- (j) 326 IAC 8-2-9 (Volatile Organic Compounds)
The Painting Operations are subject to 326 IAC 8-2-9 because the actual VOC emissions are greater than 15 lb/day and the facility was existing as of November 1, 1980 and is located in St. Joseph County.
- (1) Pursuant to 326 IAC 8-2-9, when coating metal, the Permittee shall not allow the discharge into the atmosphere of VOC in excess of three (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator.
- (a) Compliance with the VOC usage limitations shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a)(7) by preparing or obtaining from the manufacturer the copies of the as supplied and as applied VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.
- (b) The daily volume weighted average of VOC content shall be calculated using the following methodology:
- Where:
- $$A = \frac{C \times U}{U} \leq 3.5 \text{ lb VOC/gal}$$
- A = Daily volume weighted average in pounds VOC per gallon, as applied
C = As-applied VOC content of coating in pounds VOC per gallon
U = Usage rate of coating in gallons per day
- Based on calculations, the source is able to comply with the VOC usage limitations.
- (2) Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment of the Painting Operation during cleanup or color changes shall be directed into containers. Said containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

Sand Blasting

- (k) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the sand blasting operation shall not

exceed 0.67 pounds per hour when operating at a process weight rate of 0.07 tons per hour. The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The drum mounted dust collector shall be in operation at all times the sand blasting cabinet operation is in operation, in order to comply with this limit.

Cutting and Grinding (CG)

- (l) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the cutting and grinding operation, identified as CG, is exempt from the requirements of 326 IAC 6-3 because it has potential particulate emissions less than five hundred fifty-one thousandths (0.551) pounds per hour.

Degreasing Operations

- (m) 326 IAC 8-3-2 (Cold Cleaner Operations)
The solvent degreasers (SD1 - SD5) are subject to this rule because they were constructed after 1980. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator of the cold cleaning facility shall:
- (1) Equip the cleaner with a cover;
 - (2) Equip the cleaner with a facility for draining cleaned parts;
 - (3) Close the degreaser cover whenever parts are not being handled in the cleaner;
 - (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
 - (5) Provide a permanent, conspicuous label summarizing the operation requirements;
 - (6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.
- (n) 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)
The solvent degreasers (SD1 - SD-5) are subject to this rule because they were constructed after July 1, 1990. The solvent degreasers (SD1 - SD5) shall comply with the following requirements.
- (1) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser facility shall ensure that the following control equipment requirements are met:
 - (a) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (i) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (ii) The solvent is agitated; or
 - (iii) The solvent is heated.
 - (b) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32)

millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

- (c) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (d) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (e) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (i) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (ii) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (iii) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S EPA as a SIP revision.
- (2) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:
- (a) Close the cover whenever articles are not being handled in the degreaser.
 - (b) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (c) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

Conclusion and Recommendation

Unless otherwise stated, information 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 January 29, 2010.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. 141-28925-00570. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Jason R. Krawczyk at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 232-8427 or toll free at 1-800-451-6027 extension 2-8427.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>

- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

SUMMARY OF EMISSIONS

Company Name: Manufacturing Technology, Inc.
Address: 1702 W. Washington Street, South Bend, IN 46628
Registration: 141-28925-00570
Plant ID: 141-00570
Reviewer: Jason R. Krawczyk
Date: February 4, 2010

Uncontrolled Emissions (Tons/Yr)								
Pollutant	Nat. Gas	Surface Coating	Sand Blasting Cabinet	Hose Cutting	Grinding	Degreasing	Paved Roads	Total PTE
PM	0.02	7.08	5.91	0.07	0.03	-	0.02	13.13
PM10	0.07	7.08	5.91	0.07	0.03	-	0.00	13.17
PM2.5	0.07	7.08	5.91	0.07	0.03	-	0.00	13.16
VOC	0.05	19.21	-	-	-	0.36	-	19.62
NOx	0.92	-	-	-	-	-	-	0.92
SO2	0.26	-	-	-	-	-	-	0.26
CO	0.78	-	-	-	-	-	-	0.78
Single HAP (Xylene)	-	2.58	-	-	-	-	-	2.58
Combined HAPs	0.02	4.66	-	-	-	-	-	4.68

Controlled Emissions (Tons/Yr)								
Pollutant	Nat. Gas	Surface Coating	Sand Blasting Cabinet	Hose Cutting	Grinding	Degreasing	Paved Roads	Total PTE
PM	0.02	0.35	0.06	0.07	0.03	-	0.02	0.55
PM10	0.07	0.35	0.06	0.07	0.03	-	0.00	0.58
PM2.5	0.07	0.35	0.06	0.07	0.03	-	0.00	0.58
VOC	0.05	19.21	-	-	-	0.36	-	19.62
NOx	0.92	-	-	-	-	-	-	0.92
SO2	0.26	-	-	-	-	-	-	0.26
CO	0.78	-	-	-	-	-	-	0.78
Single HAP (Xylene)	-	2.58	-	-	-	-	-	2.58
Combined HAPs	0.02	4.66	-	-	-	-	-	4.68

**Appendix A: Emissions Calculations
Natural Gas Combustion Only**

**Company Name: Manufacturing Technology, Inc.
Address: 1702 W. Washington Street, South Bend, IN 46628
Registration: 141-28925-00570
Plant ID: 141-00570
Reviewer: Jason R. Krawczyk
Date: February 4, 2010**

<u>Heat Input Capacity</u> MMBtu/hr	<u>Potential Throughput</u> MMCF/yr	<u>Emission Unit</u>
0.05	0.44	One (1) Duct Heater @ 0.05 MMBtu/hr
0.500	4.38	Five (5) Duct Heaters @ 0.10 MMBtu/hr
1.560	13.67	Twenty-Five (25) Tube Heaters @ 0.06 MMBtu/hr
2.110	18.48	

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	28.5	100	5.5	84
				**see below		
Potential Emission in tons/yr	0.02	0.07	0.26	0.92	0.05	0.78

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

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

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

See page 3 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
HAPs Emissions**

**Company Name: Manufacturing Technology, Inc.
Address: 1702 W. Washington Street, South Bend, IN 46628
Registration: 141-28925-00570
Plant ID: 141-00570
Reviewer: Jason R. Krawczyk
Date: February 4, 2010**

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.941E-05	1.109E-05	6.931E-04	1.664E-02	3.142E-05

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	4.621E-06	1.017E-05	1.294E-05	3.512E-06	1.941E-05

Methodology is the same as page 2.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Booth (SB1)**

**Company Name: Manufacturing Technology, Inc.
Address: 1702 W. Washington Street, South Bend, IN 46628
Registration: 141-28925-00570
Plant ID: 141-00570
Reviewer: Jason R. Krawczyk
Date: February 4, 2010**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Ib VOC/gal solids	Transfer Efficiency	Particulate Control Efficiency
EP369 Primer	14.94	15.00%	0.0%	15.00%	0.0%	85.00%	2.00000	0.096	2.24	2.24	0.43	10.33	1.88	2.67	2.64	75%	95%
PA 38 Low VOC Activator	9.56	41.50%	0.0%	41.50%	0.0%	58.46%	0.49900	0.096	3.97	3.97	0.19	4.56	0.83	0.29	6.79	75%	95%
UNO HD 85 Basecoat	9.90	34.00%	0.0%	34.00%	0.0%	66.00%	6.00000	0.096	3.37	3.37	1.94	46.53	8.49	4.12	5.10	75%	95%
VR29 Low VOC Reducer	6.74	100.00%	90.0%	10.00%	0.0%	0.00%	2.00000	0.096	0.67	0.67	0.13	3.11	0.57	0.00	N/A	75%	95%
Pure Grade Laquer Thinner	7.07	100.00%	0.0%	100.00%	0.0%	0.00%	2.50000	0.096	7.07	7.07	1.70	40.72	7.43	0.00	N/A	100%	N/A

Uncontrolled Emissions (Tons/Yr):	4.39	105.25	19.21	7.08
Controlled Emissions (Tons/Yr):	4.39	105.25	19.21	0.35

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emissions Calculations

**HAPs Emissions
From Surface Coating Booth (SB1)**

Company Name: Manufacturing Technology, Inc.

Address: 1702 W. Washington Street, South Bend, IN 46628

Registration: 141-28925-00570

Plant ID: 141-00570

Reviewer: Jason R. Krawczyk

Date: February 4, 2010

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Methanol	Weight % Ethyl Benzene	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Methanol Emissions (ton/yr)	Ethyl Benzene (ton/yr)
EP369 Primer	14.94	2.00000	0.096	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00
PA 38 Low VOC Activator	9.56	0.49900	0.096	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00
UNO HD 85 Basecoat	9.90	6.00000	0.096	4.10%	0.00%	0.00%	1.00%	1.02	0.00	0.00	0.25
VR29 Low VOC Reducer	6.74	2.00000	0.096	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00
Pure Grade Laquer Thinner	7.07	2.50000	0.096	20.90%	15.70%	4.80%	4.20%	1.55	1.17	0.36	0.31

Potential Emissions: 2.58 1.17 0.36 0.56

Single Worst HAP (Xylene): 2.58

Combined Total HAPs 4.66

Methodology:

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

**Appendix A: Emission Calculations
Manufacturing Operations**

**Company Name: Manufacturing Technology, Inc.
Address: 1702 W. Washington Street, South Bend, IN 46628
Registration: 141-28925-00570
Plant ID: 141-00570
Reviewer: Jason R. Krawczyk
Date: February 4, 2010**

Hose Cutting Operations

Emission Units	Material Thickness (in)	Cutting Surface Thickness (in)	Process Rate (in/hr)	Material Loss (in ³ /hr)	Material Density (lb/in ³)	Potential Emissions		
						(lb/hr)	(ton/yr)	
Cut-Off Saw S1	0.1793	0.03125	10	0.06	0.14	0.008	0.034	
Cut-Off Saw S2	0.1793	0.03125	10	0.06	0.14	0.008	0.034	
Total:							0.07	

Grinding Operations

Emission Units	Material Thickness (in)	Cutting Surface Thickness (in)	Process Rate (in/hr)	Material Loss (in ³ /hr)	Material Density (lb/in ³)	Potential Emissions		
						(lb/hr)	(ton/yr)	
Horizontal Grinder G1	0.1793	0.015625	5	0.01	0.29	0.003	0.013	
Horizontal Grinder G2	0.1793	0.015625	5	0.01	0.29	0.003	0.013	
Total:							0.03	

Note:
Mass Balance

Methodology:
 Material Loss (in³/hr) = Material Thickness (in) * Cutting Surface Thickness (in) * Process Rate (in/hr)
 Potential Emissions (lb/hr) = Material Loss (in³/hr) * Material Density (lb/in³)
 Potential Emissions (ton/yr) = Potential Emissions (lb/hr) * 8,760 hours / 2,000 lbs

**Appendix A: Emission Calculations
Abrasive Blasting - Confined
Sand Blasting Cabinet (SBC)**

Company Name: Manufacturing Technology, Inc.
Address: 1702 W. Washington Street, South Bend, IN 46628
Registration: 141-28925-00570
Plant ID: 141-00570
Reviewer: Jason R. Krawczyk
Date: February 4, 2010

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Black Beauty	99

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

135
99
99
0.063
0.063

Flow Rate (FR) (lb/hr) = 135.0 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.010
135.0
0
1

Emissions before control device =	1.35 lb/hr
	5.91 ton/yr

Controlled Emissions =	0.01 lb/hr
	0.06 ton/yr

Methodology:

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)

E = EF x FR x (1-w/200) x N

Appendix A: Emissions Calculations

Degreasing Operations

Company Name: Manufacturing Technology, Inc.
Address City IN Zip: 1702 W. Washington Street, South Bend, IN 46628
Permit Number: 141-28925-00570
Plt ID: 141-00570
Reviewer: Jason R. Krawczyk
Date: February 4, 2010

Degreasing Operations (SD-1 through SD-5)

Substance	Maximum Usage	Density	Percent by weight VOC	Potential VOC Emissions	
	gal/day	lb/gal	%	lbs/day	tons/yr
Mineral Spirits 150	0.30	6.62	100.00%	1.99	0.36

Methodology

Potential emissions (tons/yr) = maximum usage (gal/day) * density (lb/gal) * percent by weight * 365 days * 1 ton/2000 lbs

**Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads**

Company Name: Manufacturing Technology, Inc.
Address City IN Zip: 1702 W. Washington Street, South Bend, IN 46628
Permit Number: 141-28925-00570
Plt ID: 141-00570
Reviewer: Jason R. Krawczyk
Date: February 4, 2010

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	2.0	2.0	4.0	15.0	60.0	225	0.043	0.2	62.2
Vehicle (leaving plant) (one-way trip)	2.0	2.0	4.0	15.0	60.0	225	0.043	0.2	62.2
Total			8.0		120.0			0.3	124.4

Average Vehicle Weight Per Trip = $\frac{15.0}{1}$ tons/trip
 Average Miles Per Trip = $\frac{0.04}{1}$ miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	15.0	15.0	15.0	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-1)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for sum)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = \frac{E_f * [1 - (p/4N)]}{1}$
 where p = $\frac{125}{365}$ days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
 N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	0.42	0.08	0.01	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.38	0.07	0.01	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.01	0.00	0.00	0.01	0.00	0.00
Vehicle (leaving plant) (one-way trip)	0.01	0.00	0.00	0.01	0.00	0.00
	0.03	0.01	0.00	0.02	0.00	0.00

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
 Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
 Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particle Matter (<2.5 um)
 PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
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Thomas W. Easterly
Commissioner

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Toll Free (800) 451-6027
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SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Doug Wait
Manufacturing Technology, LLC
1702 W. Washington St
South Bend, IN 46628

DATE: February 16, 2010

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Registration
141-28925-00570

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Dan Adams (VP - Manufacturing Technology, Inc)
Doug Elliott (D&B Environmental Services, Inc)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

Mail Code 61-53

IDEM Staff	MIDENNEY 2/16/2010 Manufacturing Technology, Inc 141-28925-00570 (final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

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2		Dan Adams Vice President Manufacturing Technology, Inc 1702 W Washington St South Bend IN 46628 (RO CAATS)										
3		Mr. Charles L. Berger Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 (Affected Party)										
4		Laurence A. McHugh Barnes & Thornburg 100 North Michigan South Bend IN 46601-1632 (Affected Party)										
5		Mr. Wayne Falda South Bend Tribune 255 W Colfax Ave South Bend IN 46626 (Affected Party)										
6		South Bend City Council / Mayors Office 227 W. Jefferson Blvd. South Bend IN 46601 (Local Official)										
7		Mr. Doug Elliott D & B Environmental Services, Inc. 401 Lincoln Way West Osceola IN 46561 (Consultant)										
8		St. Joseph County Board of Commissioners 227 West Jefferson Blvd, South Bend IN 46601 (Local Official)										
9		St. Joseph County Health Department 227 W Jefferson Blvd, Room 825 South Bend IN 46601-1870 (Health Department)										
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