



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: September 22, 2011

RE: Abrasive Blasting & Coating Services, LLC / 039-30548-00320

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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REGISTRATION OFFICE OF AIR QUALITY

Abrasive Blasting & Coating Services, LLC
910 Summa Drive
Elkhart, Indiana 46516

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. 039-30548-00320	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: September 22, 2011

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 custom metal parts coating source.

Source Address:	910 Summa Drive Elkhart, Indiana 46516
General Source Phone Number:	(574-294-7100)
SIC Code:	3479 (Metal Coating and Allied Services)
County Location:	Elkhart County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration, Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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 room, identified as SC1, constructed in 1983 and approved in 2011 for modification, with a maximum capacity of 1.0 metal parts per hour, using two (2) high volume, low pressure (HVLV) spray guns, equipped with dry filters as control, and exhausting to stack SCSV1.
- (b) One (1) paint repair station, identified as R1, constructed in 1998 and approved in 2011 for modification, with a maximum capacity of 0.75 metal parts per hour, using two (2) high volume, low pressure (HVLV) spray guns, equipped with dry filters as control, and exhausting to stack RSV1.
- (c) One (1) shot blasting booth, identified as SB1, approved in 2011 for construction, using a maximum capacity of 846 pounds of steel shot per hour, using an external return air closed loop abrasive blasting media recovery system for particulate control, and exhausting indoors. This recovery system is considered an integral part of the shot blasting booth.
- (d) One (1) thermal arc metalizing booth, identified as TA1, using a direct transfer flow coat system, approved in 2011 for construction, with a maximum capacity of 2.98 pounds per hour of Zinc, and exhausting indoors.
- (e) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British thermal units per hour.
 - (1) One (1) portable diesel-fired power washer, identified as WW1, approved for construction in 2011, with a maximum heat input capacity of 0.04 MMBtu/hr, and exhausting indoors.
 - (2) One (1) air makeup heater, identified as AM1, approved for construction in 2011, with a maximum heat input capacity of 0.80 MMBtu/hr, and exhausting to stack AMSV1.
 - (3) Two (2) unit heaters, identified as H1 and H2 approved for construction in 2011, each with a maximum heat input capacity of 0.04 MMBtu/hr, and exhausting to stacks HSV1 and HSV2.
- (f) Paved 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. 039-20548-00320 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.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The Registrant shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Registrant to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Registrant is required by 40 CFR Part 60 or 40 CFR Part 63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such OMM Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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]

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 forty percent (40%) 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 room, identified as SC1, constructed in 1983 and approved in 2011 for modification, with a maximum capacity of 1.0 metal parts per hour, using two (2) high volume, low pressure (HVLP) spray guns, equipped with dry filters as control, and exhausting to stack SCSV1.
- (b) One (1) paint repair station, identified as R1, constructed in 1998 and approved in 2011 for modification, with a maximum capacity of 0.75 metal parts per hour, using two (2) high volume, low pressure (HVLP) spray guns, equipped with dry filters as control, and exhausting to stack RSV1.

(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 Compound (VOC) [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9(c), no owner or operator of a facility (the surface coating room, identified as SC1) engaged in the surface coating of miscellaneous metal parts and products may cause, allow, or permit the discharge into the atmosphere of any VOC in excess of the following:
 - (1) Fifty-two hundredths (0.52) kilogram per liter (four and three-tenths (4.3) pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies clear coatings. A clear coating is a coating that:
 - (A) lacks color or opacity; and
 - (B) is transparent and uses the undercoat as a reflectant base or undertone color.
 - (2) Forty-two hundredths (0.42) kilogram per liter (three and five-tenths (3.5) pounds per gallon) of coating excluding water, delivered to a coating applicator in a coating application system that is air dried or forced warm air dried at temperatures up to ninety (90) degrees Celsius (one hundred ninety-four (194) degrees Fahrenheit).
 - (3) Forty-two hundredths (0.42) kilogram per liter (three and five-tenths (3.5) pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings. Extreme performance coatings are coatings designed for exposure to:
 - (A) temperatures consistently above ninety-five (95) degrees Celsius;
 - (B) detergents;
 - (C) abrasive or scouring agents;
 - (D) solvents;
 - (E) corrosive atmospheres;

- (F) outdoor weather at all times; or
 - (G) similar environmental conditions.
- (4) Thirty-six hundredths (0.36) kilogram per liter (three (3) pounds per gallon) of coating, excluding water, delivered to a coating applicator for all other coatings and coating application systems.
- (b) Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not be limited to, the following:
- (1) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.
 - (2) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.
 - (3) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.
 - (4) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.
 - (5) Minimize VOC emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

D.1.2 Particulate [326 IAC 6-3-2(d)]

- (a) Particulate from the surface coating room, identified as SC1, and the paint repair station, identified as R1, shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.
- (b) 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:
 - (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
 - (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (c) 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.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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

D.1.4 Volatile Organic Compounds

Compliance with the VOC content and usage limitations contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3)(A) using formulation data supplied by the coating manufacturer. However, IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

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

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

D.1.5 Record Keeping Requirements

-
- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (2) below. Records maintained for (1) through (2) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits 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.
 - (2) The amount of coating material and solvent less water used on a monthly basis.
 - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.
- (b) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2

OPERATION CONDITIONS

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

- (c) One (1) shot blasting booth, identified as SB1, approved in 2011 for construction, using a maximum capacity of 846 pounds of steel shot per hour, using an external return air closed loop abrasive blasting media recovery system for particulate control, and exhausting indoors. This recovery system is considered an integral part of the shot blasting booth.
- (d) One (1) thermal arc metalizing booth, identified as TA1, using a direct transfer flow coat system, approved in 2011 for construction, with a maximum capacity of 2.98 pounds per hour of Zinc, and exhausting indoors.

(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 [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the shot blasting booth (SB1) shall not exceed the pound per hour limitation specified in the following table:

Emission unit ID	Control	Maximum Process Weight (tons/hour)	326 IAC 6-3 Limit (lbs/hr)
shot blasting booth (SB1)	abrasive blasting media recovery system	0.423*	2.304

The particulate emissions limitations from the above table shall be calculated using 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 [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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

D.2.3 Particulate Control

In order to comply with Condition D.2.1, the abrasive blasting media recovery system for particulate control shall be in operation and control emissions from the shot blasting booth (SB1) at all times the shot blasting booth (SB1) 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)]:

- (e) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British thermal units per hour.
...
- (2) One (1) air makeup heater, identified as AM1, approved for construction in 2011, with a maximum heat input capacity of 0.80 MMBtu/hr, and exhausting to stack AMSV1.
- (3) Two (2) unit heaters, identified as H1 and H2 approved for construction in 2011, each with a maximum heat input capacity of 0.04 MMBtu/hr, and exhausting to stacks HSV1 and HSV2.

(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 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from the one (1) air makeup heater, identified as AM1, and two (2) unit heaters, identified as H1 and H2 shall each not exceed 0.6 pounds per MMBtu heat input.

**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:	Abrasive Blasting & Coating Services, LLC
Address:	910 Summa Drive
City:	Elkhart, Indiana 46516
Phone Number:	(574) 294-7100
Registration No.:	039-30548-00320

I hereby certify that Abrasive Blasting & Coating Services, LLC is:

still in operation.

I hereby certify that Abrasive Blasting & Coating Services, LLC is:

no longer in operation.

in compliance with the requirements of Registration No. 039-30548-00320.

not in compliance with the requirements of Registration No. 039-30548-00320.

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 FESOP Transitioning to a
Registration**

Source Description and Location

Source Name: Abrasive Blasting & Coating Services, LLC
Source Location: 910 Summa Drive, Elkhart, Indiana 46516
County: Elkhart
SIC Code: 3479 (Metal Coating and Allied Services)
Registration No.: 039-30548-00320
Permit Reviewer: Sarah Conner, Ph. D.

On May 13, 2011, the Office of Air Quality (OAQ) received an application from Abrasive Blasting & Coating Services, LLC related to a modification to an existing a van and recreational vehicle parts custom painting source by changing the parts being manufactured such that the source is now a stationary custom metal parts coating source. The modification also involves construction and operation of new emission units and to transition from a FESOP to a Registration. The source is able to transition from a FESOP to a Registration by removing or modifying several existing emissions units.

Existing Approvals

The source was issued FESOP No. F039-20456-00320 on April 12, 2007. The source has since received Administrative Amendment No. 039-30404-00320, issued on May 5, 2011.

Due to this application, the source is transitioning from a FESOP to a Registration.

County Attainment Status

The source is located in Elkhart 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 Elkhart County, and is a maintenance area for the 1-hour 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 PM_{2.5}.

- (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. Elkhart 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) **PM_{2.5}**
Elkhart County has been classified as attainment for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM_{2.5} significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM_{2.5} and SO₂ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**
Elkhart County has been classified as attainment or unclassifiable in Indiana for all other 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, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-5.5 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Abrasive Blasting & Coating Services, LLC on May 13, 2011, relating to the modification of an existing a van and recreational vehicle parts custom painting source to a stationary custom metal parts coating source with new emission units. Abrasive Blasting & Coating Services, LLC modified a previous source after they took ownership of the source to retrofit a completely different operation. See Administrative Amendment 039-30404-00320, issued May 5, 2011 for the change in ownership. The previous source SIC code was 3711 and source description was "a van and recreational vehicle parts custom painting source" The previous source had 3 paint booths and 1 repair paint booth. The new source Abrasive Blasting & Coating Services, LLC has removed 1 of the paint booths and modified the other 3 remaining paint booths, one for surface coating, one for repair and the other for abrasive blasting. The new source has changed their operations to SIC code 3479 and source description to " a stationary custom metal parts coating source". The new source has constructed new emission units, One (1) shot blasting room, identified as SB1, One (1) thermal arc metalizing booth, identified as TA1, One (1) portable diesel-fired power washer, identified as WW1, One (1) air makeup heater, identified as AM1, and two (2) unit heaters, identified as H1 and H2.

The following is a list of the modified emission unit(s) and pollution control device(s):

- (a) One (1) surface coating room, identified as SC1, constructed in 1983 and approved in 2011 for modification, with a maximum capacity of 1.0 metal parts per hour, using two (2) high volume, low pressure (HVLP) spray guns, equipped with dry filters as control, and exhausting to stack SCSV1.
- (b) One (1) paint repair station, identified as R1, constructed in 1998 and approved in 2011 for modification, with a maximum capacity of 0.75 metal parts per hour, using two (2) high volume, low pressure (HVLP) spray guns, equipped with dry filters as control, and exhausting to stack RSV1.

Note: These surface coating room and paint repair station are previously permitted as Paint Booth 1 and Repair Booth 4, respectively. They are being modified to accommodate the change in products being manufactured.

- (c) Paved roads and parking lots with public access.

Unpermitted Emission Units and Pollution Control Equipment

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

- (a) One (1) shot blasting booth, identified as SB1, approved in 2011 for construction, using a maximum capacity of 846 pounds of steel shot per hour, using an external return air closed loop abrasive blasting media recovery system for particulate control, and exhausting indoors. This recovery system is considered an integral part of the shot blasting booth.
- (b) One (1) thermal arc metalizing booth, identified as TA1, using a direct transfer flow coat system, approved in 2011 for construction, with a maximum capacity of 2.98 pounds per hour of Zinc, and exhausting indoors.
- (c) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million British thermal units per hour.
- (1) One (1) portable diesel-fired power washer, identified as WW1, approved for construction in 2011, with a maximum heat input capacity of 0.04 MMBtu/hr, and exhausting indoors.
- (2) One (1) air makeup heater, identified as AM1, approved for construction in 2011, with a maximum heat input capacity of 0.80 MMBtu/hr, and exhausting to stack AMSV1.
- (3) Two (2) unit heaters, identified as H1 and H2 approved for construction in 2011, each with a maximum heat input capacity of 0.04 MMBtu/hr, and exhausting to stacks HSV1 and HSV2.

Changes due to Transition

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous permits are superseded by this Registration.

The following terms and conditions from previous approvals have been revised or removed in this Registration:

1. All FESOP (326 IAC 2-8) requirements have been removed from this permit. In addition, all FESOP (326 IAC 2-8) limitations have been removed from Section D.1 of this permit because the source is no longer operating under the FESOP program.
2. Section B (General Conditions) and Section C (Source Operating Conditions) have been revised to reference Registrations (326 IAC 2-5.5) language.
3. Pursuant to T039-7510-00320, issued on September 6, 2000, and 326 IAC 8-1-6, referenced in Condition D.1.1 of the FESOP F 039-20456-00320, issued on April 12, 2007, the three (3) paint booths (Paint Booths 1 through 3), the one (1) parts repair spray booth (Repair Booth 4) and the two (2) parts sanding booths (Sanding Booths 5 and 6) were subject to 326 IAC 8-1-6. The source has removed Paint Booth 2, Paint Booth 3, Sanding Booth 5 and Sanding Booth 5. Paint Booth 1 and Repair Booth 4 are being modified and are now identified as one (1) surface coating room, identified as SC1, and one (1) paint repair station, identified as R1. The unlimited VOC potential emissions from

SC1 and R1 combined are less than twenty-five (25) tons per year and SC1 is subject to 326 IAC 8-2-9. Therefore, the requirements of 326 IAC 8-1-6 no longer apply to the source and Condition D.1.1 has been removed.

4. The two Sanding Booths 5 and 6 and associated requirements have been removed from the permit.
5. The monitoring and record keeping requirements in Section D.1 have been revised.
6. The requirements of 326 IAC 8-2-9 have been included in Section D.1 for the surface coating room (SC1).
7. Section D.2 has been added to include the requirements for the shot blasting booth (SB1).
8. Section D.3 has been added to include the requirements for the natural gas-fired combustion facilities.

"Integral Part of the Process" Determination

The Permittee has submitted the following information to justify why the abrasive blasting media recovery system should be considered an integral part of the shot blasting booth (SB-1):

- (a) The abrasive blasting media recovery system is integral to the designed operation of the shot blasting booth. The cartridge filter system is part of the original design of the system. The recovery and the removal of fine dust from the blast media allows the source to ensure a clean product with low backside contamination required for customized top coating. 100% of the blast media is recovered. The manufacturer estimated that approximately 10% of the total volume will be retained in the filter system collection and 90% will be returned back to perform further blasting.
- (b) The recovery, storage and reuse of the blast media is a significant economic benefit for the source because it reduces the amount of blast media purchased and reduces disposal costs. The blast media recovery system (including the designed and installed electric interlocked recovery system) is integral to the designed operation of the blast booth based on the significant economic benefit derived from collecting and re-using the blast media. The estimated annual cost for operating the cartridge filter portion of the system includes filters, operating costs and maintenance and is \$2,700. Without the recovery system the source would have to continuously purchase new blast media and dispose of used media. The additional cost for media replacement alone would be \$727.56 per hour based on a media unit cost of \$0.86 per pound, and a media re-use rate of 846 pounds per hour. The yearly cost savings would be dependent on the units annual hours of operation. If the source operates 40 hours a week, the cost savings would be approximately 2,080 hours x \$727.56 = 1,513,324.80 a year.

IDEM, OAQ has evaluated the information submitted and agrees that the abrasive blasting media recovery system should be considered an integral part of the shot blasting booth (SB-1). This determination is based on the fact that the total cost of installation, operation, and maintenance of the abrasive blasting media recovery system is far less than the net savings that the source enjoys from recovering otherwise lost product. Therefore, the permitting level will be determined using the potential to emit after the abrasive blasting media recovery system. Operating conditions in the proposed permit will specify that the abrasive blasting media recovery system shall operate at all times when the shot blasting booth (SB-1) is in operation.

Enforcement Issues

IDEM is aware that equipment has been constructed 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	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Surface coating room (SC1) and paint repair station (R1)	15.13	15.13	15.13	-	-	16.44	-	-	7.11	6.12 (Xylene)
Shot Blasting (SB1)***	2.03	2.03	2.03	-	-	-	-	-	-	-
Thermal arc metalizing booth (TA1)	0.00	0.00	0.00	-	-	-	-	-	0.00	0.00
Water Wash (WW1)	0.05	0.05	0.05	0.05	0.77	0.06	0.17	28.83	6.79E-04	2.07E-04 (Formaldehyde)
Natural Gas Heating (AM1, H1 and H2)	0.01	0.03	0.03	0.00	0.39	0.02	0.32	465.34	0.007	6.94E-03 (Hexane)
Paved Roads	4.7E-03	9.5E-04	2.3E-04	-	-	-	-	-	-	-
Total PTE of Entire Source	17.22	17.24	17.24	0.05	1.16	16.53	0.49	494.17	7.12	6.12 (Xylene)
Registration Levels**	25	25	25	25	25	25	100	100,000	25	10

- = 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".
 **The 100,000 CO₂e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.
 *** PTE after control is used for permit level determination because the recovery system is considered integral part of the process. The PTE before control in conjunction with the PTE of the other emissions units is less than 250 tons per year, therefore 326 IAC 2-2 (PSD) does not apply.

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of pollutants PM, PM10, PM2.5, and VOC are within the ranges listed in 326 IAC 2-5.5-1(b)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.5-1(b)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.5 (Registrations). A Registration will be issued.

- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) 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.
- (c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standard for Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60.40c, Subpart Dc), are not included in the permit for the natural gas-fired combustion sources because each has a heat input capacity less than ten (10) million British thermal units per hour. In addition, none of the natural gas-fired combustion sources are "steam generating units" as defined in §60.41c.
- (b) The requirements of the New Source Performance Standard, for Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations 326 IAC 12 (40 CFR 60.390, Subpart MM), are not included in the permit for this source because this source is not a light duty truck assembly plant.
- (c) 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)

- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 63, Subpart T (National Emission Standards for Halogenated Solvent Cleaning (326 IAC 14), are not included in the permit for this source because this source is not a major source of HAPs, as defined in 40 CFR 63.2, and because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.460(a).
- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP): Surface Coating of Automobiles and Light-Duty Trucks (40 CFR 63, Subpart IIII) are not included in the permit because is not a major source of HAPs, as defined in 40 CFR 63.2. In addition, this source does not coat automobiles and light duty trucks.
- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR 63.388, Subpart MMMM, are not included in the permit, since this source is not a major source of HAPs.
- (g) The requirements of the National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production (326 IAC 20-81 and 40 CFR 63, Subpart PPPP) are not included in the permit. This source is not a major source of HAPs as defined in 40 CFR 63.2. In addition, this source does not coat plastic parts.
- (h) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) Area Source Standards for Nine Metal Fabrication and Finishing Source Categories, Subpart XXXXXX are not included in the permit because this source is not primarily engaged in the operations in one of the nine source categories listed in paragraphs (a)(1) through (9) of 40 CFR 63.11514. In addition, Abrasive Blasting & Coating Services, LLC actually operates under SIC code 3479 "Metal Coating and Allied Services", which is not identified in the list of Standard

Industrial Classification (SIC) codes included in Table 1 of the Federal Register (FR) publication of the final rule; therefore, the requirements of NESHAP Subpart XXXXXX are not applicable to the source.

- (i) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Paint Stripping and Surface Coating at Area Sources, 40 CFR 63.1116, Subpart HHHHHH, are not included in the permit, since the source does not use chemical strippers containing methylene chloride, does not perform spray application of coatings, as defined in §63.11180, to motor vehicles and mobile equipment, and does not perform spray application of coatings that contain the target HAP, as defined in §63.11180, to a plastic and/or metal substrate on a part or product.
- (j) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources (40 CFR 63, Subpart JJJJJJ (6J)), are not included in the permit because there are no boilers as defined in 40 CFR 63.11237 at this source.
- (k) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (l) 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 2-5.5 (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)
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 forty percent (40%) 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 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 Operations

- (h) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(d), particulate from the surface coating room, identified as SC1, and the paint repair station, identified as R1, shall be controlled by a dry particulate filter, and the Permittee shall operate the control devices in accordance with manufacturer's specifications.

If overspray is visibly detected at the exhaust of 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 an observation:

- (1) Repair the control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (2) 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 visible detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

- (i) 326 IAC 8-1-6 (New facilities; general reduction requirements)
The source has removed Paint Booth 2, Paint Booth 3, Sanding Booth 5 and Sanding Booth 5. Paint Booth 1 and Repair Booth 4 are being modified and are now identified as one (1) surface coating room, identified as SC1, and one (1) paint repair station, identified as R1. The unlimited VOC potential emissions from SC1 and R1 combined are less than twenty-five (25) tons per year and SC1 is subject to 326 IAC 8-2-9. Therefore, the requirements of 326 IAC 8-1-6 no longer apply to the source.
- (j) 326 IAC 8-2 (Surface Coating Emission Limitations)
 - (a) The paint repair station, identified as R1, was constructed after July 1, 1990, is of the types described in sections 2 through 12 of this rule, and has potential emission less than fifteen (15) pounds of VOC per day before add-on controls. Therefore, the paint repair station, identified as R1, is not subject to the requirements of 326 IAC 8-2.

The source has submitted an application relating to the modification of an existing a van and recreational vehicle parts custom painting source to a stationary custom metal parts

coating source with new emission units. The source is changing their method of operation in the surface coating operations. The surface coating room, identified as SC1, is subject to 326 IAC 8-2-1(a)(4) because it will be modified after July 1, 1990, and is of the types described in sections 2 through 12 of this rule and has actual emissions of greater than fifteen (15) pounds of VOC per day before add-on controls.

The surface coating room, identified as SC1, is subject to 326 IAC 8-2-9 (Miscellaneous metal and plastic coating operations).

(b) Pursuant to 326 IAC 8-2-9(c), no owner or operator of a facility (the surface coating room, identified as SC1) engaged in the surface coating of miscellaneous metal parts and products may cause, allow, or permit the discharge into the atmosphere of any VOC in excess of the following:

- (1) Fifty-two hundredths (0.52) kilogram per liter (four and three-tenths (4.3) pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies clear coatings. A clear coating is a coating that:
 - (A) lacks color or opacity; and
 - (B) is transparent and uses the undercoat as a reflectant base or undertone color.
- (2) Forty-two hundredths (0.42) kilogram per liter (three and five-tenths (3.5) pounds per gallon) of coating excluding water, delivered to a coating applicator in a coating application system that is air dried or forced warm air dried at temperatures up to ninety (90) degrees Celsius (one hundred ninety-four (194) degrees Fahrenheit).
- (3) Forty-two hundredths (0.42) kilogram per liter (three and five-tenths (3.5) pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings. Extreme performance coatings are coatings designed for exposure to:
 - (A) temperatures consistently above ninety-five (95) degrees Celsius;
 - (B) detergents;
 - (C) abrasive or scouring agents;
 - (D) solvents;
 - (E) corrosive atmospheres;
 - (F) outdoor weather at all times; or
 - (G) similar environmental conditions.
- (4) Thirty-six hundredths (0.36) kilogram per liter (three (3) pounds per gallon) of coating, excluding water, delivered to a coating applicator for all other coatings and coating application systems.

Based on the MSDS submitted by the source and calculations made, surface coating room, identified as SC1 will be able to comply with these requirements by using only compliant coatings.

- (b) Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not be limited to, the following:
- (1) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.
 - (2) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.
 - (3) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.
 - (4) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.
 - (5) Minimize VOC emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

Abrasive Blasting Operations

- (k) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
- (1) Pursuant to 326 IAC 6-3-1(b)(14), the requirements of 326 IAC 6-3-2 do not apply to the thermal arc metalizing booth (TA1) because manufacturing processes with potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour are exempt from the requirements of 326 IAC 6-3.
 - (2) Pursuant to 326 IAC 6-3-2, the particulate emissions from the shot blasting booth (SB1) shall not exceed the pound per hour limitation specified in the following table:

Emission unit ID	Control	Maximum Process Weight (tons/hour)	326 IAC 6-3 Limit (lbs/hr)
shot blasting booth (SB1)	abrasive blasting media recovery system	0.423*	2.304

* The maximum process weight rate is based on the weight of the shot blast only.

The particulate emissions limitations from the above table shall be calculated using 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:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

The abrasive blasting media recovery system shall be in operation at all times the shot blasting room (SB1) is in operation, in order to comply with 326 IAC 6-3-2.

Combustion related activities

- (l) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), indirect heating units constructed after September 21, 1983 shall be limited using the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

where: Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), for Q less than 10 MMBtu/hr, particulate emissions from the one (1) air makeup heater, identified as AM1, and two (2) unit heaters, identified as H1 and H2 shall each not exceed 0.6 pounds per MMBtu heat input.

Based on Appendix A, the potential to emit PM from AM1 is 0.01 tons/year and the potential to emit PM from H1 and H2 each is 0.0003 tons/year.

For AM1 $0.01 \text{ tons/yr} \times (2000 \text{ lbs/ton} / 8760 \text{ hrs/yr}) = 0.0023 \text{ lbs/hr}$
 $(0.0023 \text{ lbs/hr} / 0.88 \text{ MMBtu/hr}) = 0.003 \text{ lbs PM per MMBtu}$

For H1 and H2 $0.0003 \text{ tons/yr} \times (2000 \text{ lbs/ton} / 8760 \text{ hrs/yr}) = 0.0001 \text{ lbs/hr, each}$
 $(0.0001 \text{ lbs/hr} / 0.88 \text{ MMBtu/hr}) = 0.0001 \text{ lbs PM per MMBtu, each}$

Therefore, the one (1) air makeup heater, identified as AM1, and two (2) unit heaters, identified as H1 and H2 will be able to comply with this rule.

- (m) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
- (a) The one (1) portable diesel-fired power washer, identified as WW1, has potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour. In addition, pursuant to 326 IAC 1-2-59(a), liquid and gaseous fuels and combustion air will not be considered as part of the process weight. Therefore, pursuant to 326 IAC 6-3-1(b)(14), portable diesel-fired power washer is exempt from this rule.
- (b) The one (1) air makeup heater, identified as AM1, and two (2) unit heaters, identified as H1 and H2 are each exempt from the requirements of 326 IAC 6-3 since they are sources of indirect heating.

Compliance Determination, Monitoring and Testing Requirements

The abrasive blasting media recovery system is a completely enclosed system that does not exhaust to the atmosphere. Therefore, there are no compliance monitoring or testing requirements in this permit.

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 May 13, 2011. Additional information was received on August 15, 2011, August 25, 2011 and August 30, 2011.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. 039-30548-00320. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Sarah Conner, Ph. D. 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) (234-6555) or toll free at 1-800-451-6027 extension (4-6555).
- (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.in.gov/idem

Appendix A: Emission Calculations
Summary of Revision

Company Name: Abrasive Blasting & Coating Services, LLC
 Address City IN Zip: 910 Summa Drive
 Registration : 039-30548-00320
 Reviewer: Sarah Conner, Ph. D.
 Date: 8/22/2011

Emission Unit	Uncontrolled PTE (tons/year) before Revision of existing units									
	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	GHGs as CO2e (tons/yr)	Total HAPs (tons/yr)	Worst Single HAP (tons/yr)
Paint Booths 1, 2 and 3 and Repair Booth 4	7.55	7.55	7.55	-	-	53.51	-	-	<24.0	<9.0
Total PTE before Revision	7.55	7.55	7.55	-	-	53.51	-	-	<24.0	<9.0

- = negligible

Note 1: These emissions are based upon FESOP No. F039-20456-00320, issued on April 12, 2007.

Emission Unit	Uncontrolled PTE (tons/year) of New Units									
	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	GHGs as CO2e (tons/yr)	Total HAPs (tons/yr)	Worst Single HAP (tons/yr)
Surface coating room (SC1) and paint repair station (R1)	15.13	15.13	15.13	-	-	16.44	-	-	7.11	6.12 (Xylene)
Total PTE after Revision	15.13	15.13	15.13	-	-	16.44	-	-	7.11	6.12 (Xylene)
Change in PTE due to Revision	7.58	7.58	7.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00

- = negligible

Emissions Unit	Uncontrolled PTE (tons/year) of New Units									
	PM	PM10	PM2.5	SO2	Nox	VOC	CO	GHGs as CO2e (tons/yr)	Total HAPs	Worst Single HAP (tons/yr)
Shot Blasting (SB1)	2.03	2.03	2.03	-	-	-	-	-	-	-
Thermal arc metalizing booth (TA1)	0.00	0.00	0.00	-	-	-	-	-	0.00	0.00
Water Wash (WW1)	0.05	0.05	0.05	0.05	0.77	0.06	0.17	28.83	6.79E-04	2.07E-04 (Formaldehyde)
Natural Gas Heating (AM1, H1 and H2)	0.01	0.03	0.03	0.00	0.39	0.02	0.32	465.34	7.27E-03	6.94E-03 (Hexane)
TOTAL	2.09	2.11	2.11	0.05	1.16	0.08	0.49	494.17	0.01	6.94E-03 (Hexane)

- = negligible

Total Uncontrolled PTE for Revision of existing units plus new units.	9.67	9.69	9.69	0.05	1.16	0.08	0.49	494.17	7.12	6.12 (Xylene)
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Appendix A: Emission Calculations
Summary

Company Name: Abrasive Blasting & Coating Services, LLC
 Address City IN Zip: 910 Summa Drive
 Registration : 039-30548-00320
 Reviewer: Sarah Conner, Ph. D.
 Date: 8/22/2011

Uncontrolled PTE after Revision of Source										
Emissions Unit	PM	PM10	PM2.5	SO2	Nox	VOC	CO	GHGs as CO2e (tons/yr)	Total HAPs	Worst Single HAP (tons/yr)
Surface coating room (SC1) and paint repair station (R1)	15.13	15.13	15.13	-	-	16.44	-	-	7.11	6.12 (Xylene)
Shot Blasting (SB1)	2.03	2.03	2.03	-	-	-	-	-	-	-
Thermal arc metalizing booth (TA1)	0.00	0.00	0.00	-	-	-	-	-	0.00	0.00
Water Wash (WW1)	0.05	0.05	0.05	0.05	0.77	0.06	0.17	28.83	6.79E-04	2.07E-04 (Formaldehyde)
Natural Gas Heating (AM1, H1 and H2)	0.01	0.03	0.03	0.00	0.39	0.02	0.32	465.34	0.007	6.94E-03 (Hexane)
Paved Roads	4.7E-03	9.5E-04	2.3E-04	-	-	-	-	-	-	-
TOTAL	17.22	17.24	17.24	0.05	1.16	16.53	0.49	494.17	7.12	6.12 (Xylene)

- = negligible

Material	Density (Lb/Gal)	Weight % Volatile (-H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	² 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)	lb VOC/gal solids	Transfer Efficiency	
Surface Coating Room SC1																	
Interthane 870HS	11.3	23.0%	0.0%	23.0%	0.0%	65.00%	0.7499	1,000	2.60	1.95	46.76	8.54	7.14	4.00	75%		
Interthane 870	11.5	27.3%	0.0%	27.3%	0.0%	59.00%	0.7499	1,000	3.14	2.35	56.50	10.31	8.87	5.32	75%		
Interthane 870JHS	12.1	15.8%	0.0%	15.8%	0.0%	71.00%	0.7499	1,000	1.91	1.43	34.41	6.28	5.37	2.69	75%		
Interthane 990HS	12.5	21.8%	0.0%	21.8%	0.0%	71.00%	0.7499	1,000	2.72	2.04	48.93	8.93	8.03	3.83	75%		
Interthane 200HS	13.9	13.8%	0.0%	13.8%	0.0%	80.00%	0.4762	1,000	1.91	1.91	21.84	3.99	6.25	2.39	75%		
MEK Solvent	6.790	100.0%	0.0%	100.0%	0.0%	0.00%	0.0547	1,000	6.79	0.37	8.91	1.63	0.00	N/A	100%		
Paint Repair Station R1																	
Interthane 870HS	11.3	23.0%	0.0%	23.0%	0.0%	65.00%	0.0950	0.250	2.60	0.06	1.48	0.27	0.23	4.00	75%		
Interthane 870	11.5	27.3%	0.0%	27.3%	0.0%	59.00%	0.0950	0.250	3.14	0.07	1.79	0.33	0.22	5.32	75%		
Interthane 870JHS	12.1	15.8%	0.0%	15.8%	0.0%	71.00%	0.0950	0.250	1.91	0.05	1.09	0.20	0.26	2.69	75%		
Interthane 990HS	12.5	21.8%	0.0%	21.8%	0.0%	71.00%	0.0950	0.250	2.72	0.06	1.55	0.28	0.25	3.83	75%		
Interthane 200HS	13.9	13.8%	0.0%	13.8%	0.0%	80.00%	0.0749	0.250	1.91	0.04	0.86	0.16	0.25	2.39	75%		
MEK Solvent	6.790	100.0%	0.0%	100.0%	0.0%	0.00%	0.0050	0.250	6.79	0.01	0.20	0.04	0.00	N/A	100%		
Total PTE after Revision (tons/yr)													16.44	15.13			

Note 1: The source could use Interthane 870, Interthane 870HS and Interthane 870 JHP. The manufacturer stated that Interthane 870HS is no longer going to be produced and a close alternative is their Interthane 990HS. Therefore, PTE for VOC, particulate and HAPs were calculated using each of these to determine the worse case coating.

Note 2: The lb/gal VOC mixed for every coating as determined by EPA method 24 was provided by the manufacturer. The % weight organic was estimated based on the lb/gal VOC.

Dry Filler Particulate Control Efficiency is 79%

Total Controlled PTE (tons/yr) 16.44 3.18

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 (gall/unit) * Maximum (units/hr)
 Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gall/unit) * Maximum (units/hr) * (24 hr/day)
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gall/unit) * Maximum (units/hr) * (8760 hrs/yr) * (1 ton/2000 lbs)
 Particulate Potential Tons per Year = (units/hour) * (gall/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

Potential VOC tons per year	Particulate Potential (ton/yr)
53.51	7.55
16.44	15.13
0.00	7.58

*Paint Booths 1, 2 and 3 and Repair Booth 4 (Prior to Revision) Change in PTE due to Revision
 Surface Coating Operations (SC1&R1) (After Revision)

Note 1: These emissions are based upon FESOP No. F039-20456-00320, issued on April 12, 2007.

Appendix A: Emission Calculations
HAP Emission Calculations

Company Name: Abrasive Blasting & Coating Services, LLC
 Address City IN Zip: 910 Summa Drive
 Registration : 039-30548-00320
 Reviewer: Sarah Conner, Ph. D.
 Date: 8/22/2011

Material	Gallons of Material (gal/unit)	Maximum (unit/hour)	Ethyl Benzene (lb/gal)	Xylene (lb/gal)	Ethyl Benzene Emissions (tons/yr)	Xylene Emissions (tons/yr)
Surface Coating Room SC1						
^{1,2} Interthane 870HS	0.7499	1.000	0.00	0.02	0.00	0.07
^{1,2} Interthane 870	0.7499	1.000	0.21	1.05	0.69	3.45
			Maximum PTE from Interthane Materials		0.69	3.45
³ Intercure 200HS	0.4762	1.000	0.13	1.18	0.27	2.46
Paint Repair Station R1						
^{1,2} Interthane 870HS	0.0950	0.250	0.00	0.02	0.00	0.00
^{1,2} Interthane 870	0.0950	0.250	0.21	1.05	0.02	0.11
			Maximum PTE from Interthane Materials		0.02	0.11
³ Intercure 200HS	0.0749	0.250	0.13	1.18	0.01	0.10
Total PTE Single HAP (tons/yr)					0.99	6.12
Total PTE Combined HAPs (tons/yr)					7.11	6.12

^{1,2} Xylene (ton/yr)	<9.0	Total HAP (ton/yr)	<24.0
6.12 (Xylene)		7.11	
0.0		0.0	

Change in PTE due to Revision

Note 1: These emissions are based upon FESOP No. F039-20456-00320, issued on April 12, 2007.
 Note 2: The highest single HAP is Xylene. In order to comply with 326 IAC 2-8, the source limited any single HAP to less than 9.0 tons per year and total HAPs to less than 24.0 tons per year

Note 1: The source could use Interthane 870, Interthane 870HS and Interthane 870 UHP. The manufacturer stated that Interthane 870HS is no longer going to be produced and a close alternative is their Interthane 990HS. Therefore, PTE for VOC, particulate and HAPs were calculated using each of these to determine the worse case coating.

Note 2: Interthane 870HS mixed contains 0.02 lb/gal Xylene. Interthane 870 mixed contains 1.05 lb/gal Xylene and 0.21 lb/gal Ethyl Benzene. Interthane 870UHS and Interthane 990HS do not contain any HAPs. This information was provided by the manufacturer to IDEM, OAG.

Note 3: Interthane 200HS mixed contains 1.18 lb/gal Xylene and 0.13 lb/gal of Ethyl Benzene. This information was provided by the manufacturer to IDEM, OAG.

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

**Appendix A: Emissions Calculations
Abrasive Blasting
Shot Blasting Room (SB1)**

Company Name: Abrasive Blasting & Coating Services, LLC
Address City IN Zip: 910 Summa Drive
Registration : 039-30548-00320
Reviewer: Sarah Conner, Ph. D.
Date: 8/22/2011

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.700
Grit	0.010	0.700
Steel Shot	0.004	0.860
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Steel Shot	487

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 =

940
487
99.0
0.438
0.438

Flow Rate (FR) (lb/hr) = 4624 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
4624
0.00
1.00

Uncontrolled Emissions =	46.2 lb/hr
Note 1:	202.5 ton/yr
Emissions Control Present	Yes
Emissions Control Integral	Yes
Emissions Control Rate	99.00%
Controlled Emissions =	0.462 lb/hr
Note 1:	2.025 ton/yr

Note 1: This unit (SB-1) has an abrasive blasting media recovery system for particulate control that has been determined to be an integral part of the shot blasting booth (SB-1). Therefore, the permitting level under 326 IAC 2-5.5 (Registrations) will be determined using the potential to emit after the abrasive blasting media recovery system.

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
w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emissions Calculations
Thermal Arc Metalizing

Company Name: Abrasive Blasting & Coating Services, LLC
 Address City IN Zip: 910 Summa Drive
 Registration : 039-30548-00320
 Reviewer: Sarah Conner, Ph. D.
 Date: 8/22/2011

Material	Wire Usage Rate (Lbs/hr)	Transfer Efficiency %	Uncontrolled PM Emissions (Lbs/hr)	Uncontrolled PM Emissions (Tons/yr)
Zinc Wire	2.98	100.00%	0.00	0.00
Potential Emission Rates - Coating Room				
Coating + Cleanup = Potential to Emit				
Particulate Matter Emission Rates (lb/hr)				

Cleanup - Manual non solvent

Total uncontrolled PM Emissions (Tons/Yr)
 Total uncontrolled PM Emissions (Tons/Yr)

0.00

0.00E+00 Uncontrolled Lead (tons/yr)
 0.00E+00 Uncontrolled Cadmium (tons/yr)
 0.00E+00 Uncontrolled Total HAPs (tons/yr)

Note: The thermal arc metalizing process (TA1) is a direct transfer flow coat system. No airborne particulate matter is generated from this process.

METHODOLOGY

The Zinc Wire contains <0.03% Lead and <0.02% Cadmium which are HAPs.

Uncontrolled PM tons/yr = lbs wire used per hour * (1-Transfer Efficiency) * 8760 hr/yr / 2000 lbs/ton

Uncontrolled Lead tons/yr = lbs wire used per hour * (1-Transfer Efficiency) * 8760 hr/yr / 2000 lbs/ton * 0.03%

Uncontrolled Cadmium tons/yr = lbs wire used per hour * (1-Transfer Efficiency) * 8760 hr/yr / 2000 lbs/ton * 0.02%

**Appendix A: Emission Calculations
 Reciprocating Internal Combustion Engines - Diesel Fuel
 Portable Diesel-Fired Power Washer
 Output Rating (<=600 HP)
 Maximum Input Rate (<=4.2 MMBtu/hr)**

Company Name: Abrasive Blasting & Coating Services, LLC
 Address City IN Zip: 910 Summa Drive
 Registration : 039-30548-00320
 Reviewer: Sarah Conner, Ph. D.
 Date: 8/22/2011

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Heat Input Capacity (MMBtu/hr)	0.04
Maximum Hours Operated per Year	8760
Potential Throughput (MMBtu/yr)	350

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.31	0.29	4.41	0.36	0.95
Potential Emission in tons/yr	0.05	0.05	0.05	0.05	0.77	0.06	0.17

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							Total PAH HAPs***
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/MMBtu	9.33E-04	4.09E-04	2.85E-04	3.91E-05	1.18E-03	7.67E-04	9.25E-05	1.68E-04
Potential Emission in tons/yr	1.63E-04	7.17E-05	4.99E-05	6.85E-06	2.07E-04	1.34E-04	1.62E-05	2.94E-05

Potential Emission of Total HAPs (tons/yr)	6.79E-04
---	-----------------

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu	1.64E+02	6.61E-03	1.32E-03
Potential Emission in tons/yr	28.73	0.00	0.00

Summed Potential Emissions in tons/yr	28.73
CO2e Total in tons/yr	28.83

Methodology

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2

CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Potential Throughput (MMBtu/yr) = [Heat Input Capacity (MMBtu/hr)] * [Maximum Hours Operated per Year]

Potential Emission (tons/yr) = [Potential Throughput (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Natural Gas Fired Heaters

Company Name: Abrasive Blasting & Coating Services, LLC
 Address City IN Zip: 910 Summa Drive
 Registration : 039-30548-00320
 Reviewer: Sarah Conner, Ph. D.
 Date: 8/22/2011

Unit description	Unit number	Number of Emission Units	Total MMBtu/hr
Air Makeup Heater	AM1	1	0.800
Unit Heaters	H1-H2	2	0.080
		Total	0.880

Heat Input Capacity
 MMBtu/hr

0.9

Total for all natural gas-fired
 emission units

Potential Throughput
 MMCF/yr

7.7

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC
1.9	7.6	7.6	0.6	100	5.5	84
0.01	0.03	0.03	0.002	**see below	0.02	0.32

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
 PM2.5 emission factor is filterable and condensable PM2.5 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 next page for HAPs emissions calculations.

Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Natural Gas Fired Heaters
 HAPs Emissions

Company Name: Abrasive Blasting & Coating Services, LLC
 Address City IN Zip: 910 Summa Drive
 Registration : 039-30548-00320
 Reviewer: Sarah Conner, Ph. D.
 Date: 8/22/2011

		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	8.09E-06	4.63E-06	2.89E-04	6.94E-03	1.31E-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	1.93E-06	4.24E-06	5.40E-06	1.46E-06	8.09E-06
					Total
					0.0073

Methodology is the same the previous page.

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
 Natural Gas Combustion Only
 MM BTU/HR <100
 Natural Gas Fired Heaters
 Greenhouse Gas Emissions

Company Name: Abrasive Blasting & Coating Services, LLC
 Address City IN Zip: 910 Summa Drive
 Registration : 039-30548-00320
 Reviewer: Sarah Conner, Ph. D.
 Date: 8/22/2011

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	462.53	0.01	0.01
Summed Potential Emissions in tons/yr		462.55	
CO2e Total in tons/yr		465.34	

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
 Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
 CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: Abrasive Blasting & Coating Services, LLC
 Address City IN Zip: 910 Summa Drive
 Registration : 039-30548-00320
 Reviewer: Sarah Conner, Ph. D.
 Date: 8/22/2011

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 per day	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)	1.0	5.0	5.0	15.0	75.0	125	0.024	0.1	43.2
Vehicle (leaving plant) (one-way trip)	1.0	5.0	5.0	15.0	75.0	125	0.024	0.1	43.2
			0.0		0.0		0.000	0.0	0.0
			0.0		0.0		0.000	0.0	0.0
Total			10.0		150.0			0.2	86.4

Average Vehicle Weight Per Trip = 15.0 tons/trip
 Average Miles Per Trip = 0.02 miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$ (Equation 1 from AP-42 13.2.1.3 (01/2011))

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	15.0	15.0	15.0	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-2)

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

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

Unmitigated Emission Factor, $E_f =$	0.11	0.02	0.01	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.10	0.02	0.00	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)	2.36E-03	4.73E-04	1.16E-04	2.16E-03	4.32E-04	1.06E-04
Vehicle (leaving plant) (one-way trip)	2.36E-03	4.73E-04	1.16E-04	2.16E-03	4.32E-04	1.06E-04
	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	4.73E-03	9.46E-04	2.32E-04	4.32E-03	8.65E-04	2.12E-04

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

Appendix A: 326 IAC 6-3-2 Compliance

Company Name: Abrasive Blasting & Coating Services, LLC
Address City IN Zip: 910 Summa Drive
Registration : 039-30548-00320
Reviewer: Sarah Conner, Ph. D.
Date: 8/22/2011

Emissions Units	Maximum Process Weight (tons/hour)	326 IAC 6-3 Limit (lbs/hr)	Uncontrolled Maximum Emissions of PM (pounds/hour)
process weight rate up to sixty thousand (60,000) pounds per hour			
Shot Blasting Room (SB1)	0.423	2.304	0.46

Pursuant to 326 IAC 6-3-2, the particulate emissions limitations from the above table shall be calculated using the following equations:

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:

$$E = 4.10 P^{0.67}$$

Where:

E = Rate of emission in pounds per hour.

P = Process weight rate in tons per hour.



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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Abrasive Blasting & Coating Services LLC / 039-30548-00320

DATE: September 22, 2011

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

SUBJECT: Final Decision
Registration
039-30548-00320

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:
Jim Odom, Member Manager, Responsible Official
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	DPABST 9/22/2011		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	 Abrasive Blasting & Coating Services LLC 039-30548-00320 (Final) Indiana Department of Environmental Management Office of Air Quality -- Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail:	CERTIFICATE OF MAILING ONLY

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handling Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Rodney Rouch Abrasive Blasting & Coating Services LLC 910 Summa Dr Elkhart IN 46516 (Source CAATS) (CONFIRM DELIVERY)										
2		Jim Odum Member Manager Abrasive Blasting & Coating Services LLC 2700 Fairforest-Clevedale Rd Sparta IN 46516 (RO CAATS)										
3		Elkhart City Council and Mayor's Office 229 South Second Street Elkhart IN 46516 (Local Official)										
4		Elkhart County Health Department 608 Oakland Avenue Elkhart IN 46516 (Health Department)										
5		Laurence A. McHugh Barnes & Thornburg 100 North Michigan South Bend IN 46601-1632 (Affected Party)										
6		Elkhart County Board of Commissioners 117 North Second St. Goshen IN 46526 (Local Official)										
7		Mark Zeitwanger 26545 CR 52 Nappanee IN 46550 (Affected Party)										
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