



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: December 3, 2013

RE: Wabash Valley Manufacturing / 085 - 33591 - 00083

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 6/13/2013



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REGISTRATION OFFICE OF AIR QUALITY

**Wabash Valley Manufacturing
505 East Main Street
Silver Lake, Indiana 46982**

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. 085-11346-00083

Original signed by:
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Issuance Date: October 6, 1999

First Registration Revision No. 085-33591-00083

Issued by:


Chrystal Wagner, Section Chief
Permits Branch
Office of Air Quality

Issuance Date:
December 3, 2013

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 lawn furniture manufacturing operation.

Source Address:	505 East Main Street, Silver Lake, Indiana 46982
General Source Phone Number:	260-352-2102
SIC Code:	2514 (Lawn Furniture)
County Location:	Kosciusko 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) natural gas-fired blue line oven, with a maximum heat input capacity of 1.4 million BTU per hour.
- (b) One (1) natural gas-fired green line oven, with a maximum heat input capacity of 1.4 million BTU per hour.
- (c) Three (3) natural gas-fired ovens, serving the powder coat lines, with a total maximum heat input capacity of 10.0 million BTU per hour, one (1) gel oven with a maximum heat input capacity of 2.5 million BTU per hour, and one cure oven with a maximum heat input capacity of 5.0 million BTU per hour.
- (d) One (1) natural gas-fired powder line wash tank, with a maximum heat input capacity of 3.5 million BTU per hour.
- (e) One (1) natural gas-fired burn off oven, with a maximum heat input capacity of 0.30 million BTU per hour.
- (f) Two (2) natural gas-fired air makeup units, each with a maximum heat input capacity of 7.5 million BTU per hour.
- (g) Six (6) natural gas-fired heaters, each with a maximum heat input capacity of 0.2 million BTU per hour.
- (h) Nine (9) natural gas-fired heaters, each with a maximum heat input capacity of 0.15 million BTU per hour.
- (i) Two (2) natural gas-fired air makeup units, each with a maximum heat input capacity of 1.925 million BTU per hour.
- (j) One (1) natural gas-fired heater, with a maximum heat input capacity of 0.075 million BTU per hour.
- (k) One (1) natural gas-fired heater, with a maximum heat input capacity of 0.06 million BTU per hour.

- (l) Twelve (12) natural gas-fired heaters, each with a maximum heat input capacity of 0.125 million BTU per hour.
- (m) Five (5) natural gas-fired heaters, each with a maximum heat input capacity of 0.12 million BTU per hour.
- (n) Two (2) powder coating operations, with a nominal throughput of 40 pounds per hour and controlled by a filter system and exhausting into the building.
- (o) Two (2) plastic dip coating operations, with a nominal throughput of 42 gallons per hour, exhausting into the building.
- (p) One (1) shotblast booth, with a nominal throughput of 80 pounds per hour of steel shot, controlled by a dust collector.
- (q) Welding operations, with a nominal throughput of 11 pounds of steel wire per hour and a nominal throughput of 1.5 pounds of aluminum wire per hour.
- (r) Two (2) plasma cutting tables, each with a nominal throughput of 200 inches per minute.
- (s) One (1) parts washer, with a nominal throughput of 70 gallons of solvent per year.
- (t) Fugitive dust sources from paved and unpaved roads.

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 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. 085-33591-00083 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).

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)]

C.3 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-5.1-3(e)(2)] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this registration shall be submitted to:

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
- (b) Unless otherwise specified in this registration, any notice, report, or other submission required by this registration 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.
- (c) The first report shall cover the period commencing on the date of issuance of this registration or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this registration. For the purpose of this registration, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

SECTION D.1

OPERATION CONDITIONS

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

- (n) Two (2) powder coating operations, with a nominal throughput of 40 pounds per hour and controlled by a filter system and exhausting into the building.
- (o) Two (2) plastic dip coating operations, with a nominal throughput of 42 gallons per hour, exhausting into the building.
- (p) One (1) shotblast booth, with a nominal throughput of 80 pounds per hour of steel shot, controlled by a dust collector.
- (q) Welding operations, with a nominal throughput of 11 pounds of steel wire per hour and a nominal throughput of 1.5 pounds of aluminum wire per hour.
- (r) Two (2) plasma cutting tables, each with a nominal throughput of 200 inches per minute.
- (s) One (1) parts washer, with a nominal throughput of 70 gallons of solvent per year.

(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.1.1 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the two powder coating operations shall not exceed 2.90 pounds per hour when operating at a process weight rate of 0.02 tons per hour (40 pounds 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.1.2 326 IAC 8-2-6 (Metal Furniture Coating Operations)

- (a) Pursuant to 326 IAC 8-2-6(b), the Permittee shall not cause, allow, or permit the discharge into the atmosphere of any VOC in excess of thirty-six hundredths (0.36) kilogram per liter of coating (three and zero-tenths (3.0) pounds per gallon) excluding water, delivered to the coating applicator from prime and topcoat or single coat operations.
- (b) Pursuant to 326 IAC 8-2-6(d), the following coating types are exempt from the emission limitations in this section:
 - (1) Stencil coatings;
 - (2) Safety-indicating coatings;
 - (3) Solid film lubricants;
 - (4) Electric-insulating and thermal-conducting coatings;
 - (5) Touch-up and repair coatings; and
 - (6) Hand-held aerosol can coatings.

D.1.3 326 IAC 8-3-2 (Cold Cleaner Degreaser Operating Requirements)

Pursuant to 326 IAC 8-3-2, the following shall apply for the Parts Washer operation:

- (a) The Permittee shall ensure the following control equipment and operating requirements are met:
 - (1) Equip the degreaser with a cover.
 - (2) Equip the degreaser with a device for draining cleaned parts.
 - (3) Close the degreaser cover whenever parts are not being handled in the degreaser.
 - (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.
 - (5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).
 - (6) Store waste solvent only in closed containers.
 - (7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

- (b) The Permittee shall ensure the following additional control equipment and operating requirements are met:
 - (1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent used is insoluble in, and heavier than, water.
 - (C) A refrigerated chiller.
 - (D) Carbon adsorption.
 - (E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.
 - (2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.
 - (3) If used, solvent spray:
 - (A) must be a solid, fluid stream; and
 - (B) shall be applied at a pressure that does not cause excessive splashing.

**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:	Wabash Valley Manufacturing
Address:	505 East Main Street
City:	Silver Lake, Indiana 46982
Phone Number:	260-352-2101
Registration No.:	085-11346-00083

I hereby certify that Wabash Valley Manufacturing is :

- still in operation.
- no longer in operation.
- in compliance with the requirements of Registration No. 085-11346-00083.
- not in compliance with the requirements of Registration No. 085-11346-00083.

I hereby certify that Wabash Valley Manufacturing is :

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 Revision

Source Description and Location
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Source Name:	Wabash Valley Manufacturing
Source Location:	505 East Main Street, Silver Lake, Indiana 46982
County:	Kosciusko
SIC Code:	2514 (Lawn Furniture)
Registration No.:	085-11346-00083
Registration Issuance Date:	October 6, 1999
Registration Revision No.:	085-33591-00083
Permit Reviewer:	Jack Harmon

On August 28, 2013, the Office of Air Quality (OAQ) received an application from Wabash Valley Manufacturing related to a modification to a stationary lawn furniture manufacturing operation. Additional information was received September 12, and November 19, 2013.

Existing Approvals

The source was issued Registration No. 085-11346-00083 on October 6, 1999. The source has received no additional approvals since that time.

County Attainment Status

The source is located in Kosciusko County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, 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	Unclassifiable or attainment effective December 31, 2011.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.	

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) 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 NO_x emissions are considered when evaluating the rule applicability relating to ozone. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
Kosciusko 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}, SO₂, and NO_x 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
 Kosciusko 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 2-5.1-2 (Registrations) applicability.

Status of the Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all enforceable limits established in the effective permits:

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)*									
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Natural Gas Combustion	0.21	0.83	0.83	0.07	10.91	0.60	9.16	13172.38	2.06E-01	1.96E-01 (Hexane)
Total PTE of Entire Source	0.21	0.83	0.83	0.07	10.91	0.60	9.16	13172.38	2.06E-01	1.96E-01 (Hexane)
Exemptions Levels**	5	5	5	10	10	10	25	100,000	25	10
Registration Levels**	25	25	25	25	25	25	100	100,000	25	10

*These emissions are based upon Registration No. 085-11346-00083, issued October 6, 1999.
 **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.

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Wabash Valley Manufacturing on August 28, 2013, relating to a request to revise its Registration to add several natural gas-fired emission units, powder coating operations, dip coating operations, shot blast booth, welding and plasma cutting operations, a parts washer, and fugitive dust sources to its Registration. The request was the result of a voluntary air environmental audit of its facility and subsequent notification to IDEM using the IDEM Self-Disclosure and Environmental Policy. IDEM issued an administrative completeness letter on August 13, 2013, and the source submitted its application on August 28, 2013. The environmental audit revealed that there is existing equipment that should be included in the current Registration, and the application is intended to update the Registration to reflect all equipment currently in operation.

The following is a list of the new emission units:

- (a) Three (3) natural gas-fired ovens, serving the powder coat lines, with a total maximum heat input capacity of 10.0 MMBtu/hr, using no controls, and exhausting to the atmosphere, consisting of one (1) dry oven with a maximum heat input capacity of 2.5 million BTU per hour, one (1) gel oven with a maximum heat input capacity of 2.5 million BTU per hour, and one cure oven with a maximum heat input capacity of 5.0 million BTU per hour.

- (b) One (1) natural gas-fired air make-up unit, with a maximum heat input capacity of 7.5 MMBtu/hr, using no controls, and exhausting to the atmosphere.
- (c) Three (3) natural gas-fired heaters, each with a maximum heat input capacity of 0.15 MMBtu/hr, using no controls, and exhausting to the atmosphere.
- (d) One (1) natural gas-fired heater, with a maximum heat input capacity of 0.12 MMBtu/hr, using no controls, and exhausting to the atmosphere.
- (e) Two (2) powder coating operations, with a nominal throughput of 40 pounds per hour and controlled by a filter system and exhausting into the building.
- (f) Two (2) plastic dip coating operations, with a nominal throughput of 42 gallons per hour, exhausting into the building.
- (g) One (1) shotblast booth, with a nominal throughput of 80 pounds per hour of steel shot, controlled by a dust collector.
- (h) Welding operations, with a nominal throughput of 11 pounds of steel wire per hour and a nominal throughput of 1.5 pounds of aluminum wire per hour.
- (i) Two (2) plasma cutting tables, each with a nominal throughput of 200 inches per minute.
- (j) One (1) parts washer, with a nominal throughput of 70 gallons of solvent per year.
- (k) Fugitive dust sources from paved and unpaved roads.

The following is a list of the modified emission units:

- (a) One (1) natural gas-fired powder line wash tank heater, with a maximum heat input capacity changed from 2.5 MMBtu/hr to 3.5 MMBtu/hr.
- (b) One (1) natural gas-fired burn off oven, with a maximum heat input capacity changed from 0.95 MMBtu/hr to 0.30 MMBtu/hr.
- (c) Two (2) natural gas-fired air make-up units, each with a maximum heat input capacity changed from 0.96 MMBtu/hr to 1.925 MMBtu/hr.

The following is a list of emission units removed from the source:

- (a) One (1) natural gas-fired powder line oven, with a maximum heat input capacity of 3.5 million Btu per hour.
- (b) Six (6) natural gas-fired heaters, each with a maximum heat input capacity of 0.15 million BTU per hour.
- (c) Four (4) natural gas-fired heaters, each with a maximum heat input capacity of 0.125 million Btu/hr.
- (d) One (1) natural gas-fired heater, with a maximum heat input capacity of 0.125 MMBtu/hr.

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.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Registration Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-5.5-6. This table reflects the PTE before controls of the proposed revision.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)									
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e	Total HAPs	Worst Single HAP
Powder Coating	12.87	12.87	12.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dip Coating	0.00	0.00	0.00	0.00	0.00	21.43	0.00	0.00	0.00	0.00
Shot Blast Operation	1.40	1.21	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Combustion	0.13	0.51	0.51	0.04	6.71	0.37	5.64	8103.84	1.27E-01	1.21E-01 (Hexane)
Welding	0.69	0.69	0.69	0.00	0.00	0.00	0.00	0.00	1.75E-02	1.75E-02
Parts Washer	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00
Fugitive Emissions	6.90	1.71	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total PTE of Proposed Revision	22.20	17.82	16.28	0.04	6.71	22.03	5.64	8103.84	1.44E-01	1.21E-01 (Hexane)

This Registration is being revised through a Registration Revision pursuant to 326 IAC 2-5.5-6(g), because the revision involves the addition of new emission units to the source, which are not described in 326 IAC 2-5.5-6(d) (Registration Administrative Amendments).

PTE of the Entire Source After Issuance of the Registration Revision

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units.

Process/ Emission Unit	Potential To Emit of the Entire Source With the Revision (tons/year)*									
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Powder Coating	12.87	12.87	12.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dip Coating	0.00	0.00	0.00	0.00	0.00	21.43	0.00	0.00	0.00	0.00
Shot Blast Operation	1.40	1.21	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Combustion	0.33 0.24	1.34 0.83	1.34 0.83	0.11 0.07	17.62 40.94	0.97 0.60	14.80 9.16	21276.22 43172.38	3.33E-01 2.06E-04	3.17E-01 4.96E-04 (Hexane)

Process/ Emission Unit	Potential To Emit of the Entire Source With the Revision (tons/year)*									
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Welding	0.69	0.69	0.69	0.00	0.00	0.00	0.00	0.00	1.75E-02	1.53E-02
Parts Washer	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00
Fugitive Emissions	6.90	1.71	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total PTE of Entire Source	22.20 0.24	17.82 0.83	16.28 0.83	0.11 0.07	17.62 10.94	22.63 0.60	14.80 9.16	21276.22 13172.38	3.50E-01 2.06E-01	3.17E-01 1.96E-01 (Hexane)
Exemptions Levels**	5	5	5	10	10	10	25	100,000	25	10
Registration Levels**	25	25	25	25	25	25	100	100,000	25	10

*These emissions are based upon Registration No. 085-11346-00083, issued October 6, 1999.
 **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.

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)

Process/ Emission Unit	Potential To Emit of the Entire Source With the Revision (tons/year)*									
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Powder Coating	12.87	12.87	12.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dip Coating	0.00	0.00	0.00	0.00	0.00	21.43	0.00	0.00	0.00	0.00
Shot Blast Operation	1.40	1.21	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Combustion	0.33	1.34	1.34	0.11	17.62	0.97	14.80	21276.22	3.33E-01	3.17E-01 (Hexane)
Welding	0.69	0.69	0.69	0.00	0.00	0.00	0.00	0.00	1.75E-02	1.53E-02
Parts Washer	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00
Fugitive Emissions	6.90	1.71	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total PTE of Entire Source	22.20	17.82	16.28	0.11	17.62	22.63	14.80	21276.22	3.50E-01	3.17E-01
Exemptions Levels**	5	5	5	10	10	10	25	100,000	25	10
Registration Levels**	25	25	25	25	25	25	100	100,000	25	10

*These emissions are based upon Registration No. 085-11346-00083, issued October 6, 1999.
 **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.

- (a) This revision will not change the registration status of the source, because the uncontrolled/unlimited potential to emit of all criteria pollutants from the entire source will still be within the ranges listed in 326 IAC 2-5.5-1(b)(1). Therefore, the source will still be subject to the provisions of 326 IAC 2-5.5 (Registrations).
- (b) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit of any single HAP will still be less than ten (10) tons per year and the PTE of a combination of HAPs will still be 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) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit greenhouse gases (GHGs) will still be less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO₂ equivalent (CO₂e) emissions per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

The federal rules applicable to the existing emission units at this source will not change as a result of this revision.

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) 40 CFR 63, Subpart MMMM (National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Surface Coating of Miscellaneous Metals Parts and Products)
This source is not subject to the provisions of 40 CFR 63, Subpart MMMM because the source is not a major source of HAPs. Therefore, 40 CFR 63, Subpart MMMM does not apply.
- (c) 40 CFR 63, Subpart HHHHHH (National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources)
This source is not subject to the provisions of 40 CFR 63, Subpart HHHHHH because the source does not perform paint stripping or perform spray applications of coating to motor vehicles, and because the source does not perform spray applications of coatings that contain the target HAPs outlined in the rule. Therefore, 40 CFR 63, Subpart HHHHHH does not apply.
- (d) 40 CFR 63, Subpart RRRR (National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Surface Coating of Metal Furniture)
This source is not subject to the provisions of 40 CFR 63, Subpart RRRR because the source is not a major source of HAPs. Therefore, 40 CFR 63, Subpart RRRR does not apply.
- (e) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

- (f) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to 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 state rules applicable to the existing emission units at this source will not change as a result of this revision.

- (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 proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the new and modified units is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (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)
Due to this revision, the source is not subject to the requirements of 326 IAC 6-5, because the fugitive dust sources do not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.
- (g) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the two powder coating operations shall not exceed 2.90 pounds per hour when operating at a process weight rate of 0.02 tons per hour (40 pounds 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:

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

Based on calculations, no control device is needed to comply with this limit.

- (h) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(5), the Dip Coating operation is exempt from this rule.
- (i) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the shotblast operation and the welding operations are each exempt from this rule because the shotblast operation has the potential to emit particulate of less than 0.551 pounds per hour, and the welding operation consumes less than six hundred twenty-five (625) pounds of rod or wire per day.
- (j) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The proposed revision is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each new and modified unit is less than twenty-five (25) tons per year.
- (k) 326 IAC 8-2-6 (Metal Furniture Coating Operations)
The dip coating operations are subject to the requirements of 326 IAC 8-2-6 because the units apply surface coating to metal furniture, as defined in the rule.
 - (a) Pursuant to 326 IAC 8-2-6(b), the Permittee shall not cause, allow, or permit the discharge into the atmosphere of any VOC in excess of thirty-six hundredths (0.36) kilogram per liter of coating (three and zero-tenths (3.0) pounds per gallon) excluding water, delivered to the coating applicator from prime and topcoat or single coat operations.

The source can comply with this limit because it currently uses compliant coatings in this operation.
 - (b) Pursuant to 326 IAC 8-2-6(d), the following coating types are exempt from the emission limitations in this section:
 - (A) Stencil coatings;
 - (B) Safety-indicating coatings;
 - (C) Solid film lubricants;
 - (D) Electric-insulating and thermal-conducting coatings;
 - (E) Touch-up and repair coatings; and
 - (F) Hand-held aerosol can coatings.
- (k) 326 IAC 8-3-2 (Cold Cleaner Degreaser Operating Requirements)
The Parts Washer is subject to the requirements of 326 IAC 8-3-2 because it is a cold cleaner degreaser, as defined in the rule. Pursuant to 326 IAC 8-3-2:
 - (1) The Permittee shall ensure the following control equipment and operating requirements are met:
 - (A) Equip the degreaser with a cover.
 - (B) Equip the degreaser with a device for draining cleaned parts.
 - (C) Close the degreaser cover whenever parts are not being handled in the degreaser.
 - (D) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.
 - (E) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).
 - (F) Store waste solvent only in closed containers.
 - (G) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

- (2) The Permittee shall ensure the following additional control equipment and operating requirements are met:
 - (A) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):
 - (i) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (ii) A water cover when solvent used is insoluble in, and heavier than, water.
 - (iii) A refrigerated chiller.
 - (iv) Carbon adsorption.
 - (v) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.
 - (B) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.
 - (C) If used, solvent spray:
 - (i) must be a solid, fluid stream; and
 - (ii) shall be applied at a pressure that does not cause excessive splashing.
- (l) 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers)
The Parts Washer would be subject to the requirements of 326 IAC 8-3-8 because it is a cold cleaner degreaser as defined in the rule. However, pursuant to 326 IAC 8-3-8(a)(2), the effective date of the rule for this source, located in Kosciusko County, is January 1, 2015. Therefore, at this time, the Parts Washer is not subject to these requirements.
- (m) There are no other 326 IAC 8 Rules that are applicable to the source.

Proposed Changes

The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

The source has requested to add emission units to its Registration that had not been permitted in the original Registration. Some of the new emissions units had applicable requirements under state rules. Therefore, Sections A.2 and D.1 of the permit have been changed as follows:

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) natural gas-fired blue line oven, with a maximum heat input capacity of 1.4 million BTU per hour.
- (b) One (1) natural gas-fired green line oven, with a maximum heat input capacity of 1.4 million BTU per hour.
- ~~(c) one (1) natural gas-fired powder line oven, with a maximum heat input capacity of 3.5 million Btu per hour~~
- (c) Three (3) natural gas-fired powder line ovens, one (1) dry oven with a maximum heat input capacity of 2.5 million BTU per hour. One (1) gel oven with a maximum heat input capacity of 2.5 million BTU per hour. One cure oven with a maximum heat input capacity of 5.0 million BTU per hour. Total input capacity for all three ovens, 10.0 million BTU per hour.**
- (d) One (1) natural gas-fired powder line wash tank, with a maximum heat input capacity of ~~2.53.5~~ million BTU per hour.

- (e) One (1) natural gas-fired burn off oven, with a maximum heat input capacity of ~~0.95~~**0.30** million BTU per hour.
- (f) ~~One (1)~~ **Two (2)** natural gas-fired air makeup units, **each** with a maximum heat input capacity of 7.5 million BTU per hour.
- (g) Six (6) natural gas-fired heaters, each with a maximum heat input capacity of 0.2 million BTU per hour.
- (h) ~~Six (6)~~ **Nine (9)** natural gas-fired heaters, each with a maximum heat input capacity of 0.15 million BTU per hour.
- (i) Two (2) natural gas-fired air makeup units, each with a maximum heat input capacity of ~~0.96~~**1.925** million BTU per hour.
- (j) ~~Six (6) natural gas-fired heaters, each with a maximum heat input capacity of 0.15 million BTU per hour.~~
- (kj) One (1) natural gas-fired heater, with a maximum heat input capacity of 0.075 million BTU per hour.
- (lk) One (1) natural gas-fired heater, with a maximum heat input capacity of 0.06 million BTU per hour.
- (ml) ~~Thirteen (13)~~**Twelve (12)** natural gas-fired heaters, each with a maximum heat input capacity of 0.125 million BTU per hour.
- (om) ~~Four (4) natural gas-fired heaters, each with a maximum heat input capacity of 0.125 million BTU per hour.~~
- (pn) ~~Four (4)~~**Five (5)** natural gas-fired heaters, each with a maximum heat input capacity of 0.12 million BTU per hour.
- (o) **Two (2) powder coating operations, with a nominal throughput of 40 pounds per hour and controlled by a filter system and exhausting into the building.**
- (p) **Two (2) plastic dip coating operations, with a nominal throughput of 42 gallons per hour, exhausting into the building.**
- (q) **One (1) shotblast booth, with a nominal throughput of 80 pounds per hour of steel shot, controlled by a dust collector.**
- (r) **Welding operations, with a nominal throughput of 11 pounds of steel wire per hour and a nominal throughput of 1.5 pounds of aluminum wire per hour.**
- (s) **Two (2) plasma cutting tables, each with a nominal throughput of 200 inches per minute.**
- (t) **One (1) parts washer, with a nominal throughput of 70 gallons of solvent per year.**
- (u) **Fugitive dust sources from paved and unpaved roads.**

Section D.1 EMISSION UNIT OPERATING CONDITIONS

- (n) **Two (2) powder coating operations, with a nominal throughput of 40 pounds per hour and**

controlled by a filter system and exhausting into the building.

- (o) Two (2) plastic dip coating operations, with a nominal throughput of 42 gallons per hour, exhausting into the building.
- (p) One (1) shotblast booth, with a nominal throughput of 80 pounds per hour of steel shot, controlled by a dust collector.
- (q) Welding operations, with a nominal throughput of 11 pounds of steel wire per hour and a nominal throughput of 1.5 pounds of aluminum wire per hour.
- (r) Two (2) plasma cutting tables, each with a nominal throughput of 200 inches per minute.
- (s) One (1) parts washer, with a nominal throughput of 70 gallons of solvent per year.

D.1.1 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the two powder coating operations shall not exceed 2.90 pounds per hour when operating at a process weight rate of 0.02 tons per hour (40 pounds 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.1.2 326 IAC 8-2-6 (Metal Furniture Coating Operations)

- (a) Pursuant to 326 IAC 8-2-6(b), the Permittee shall not cause, allow, or permit the discharge into the atmosphere of any VOC in excess of thirty-six hundredths (0.36) kilogram per liter of coating (three and zero-tenths (3.0) pounds per gallon) excluding water, delivered to the coating applicator from prime and topcoat or single coat operations.
- (b) Pursuant to 326 IAC 8-2-6(d), the following coating types are exempt from the emission limitations in this section:
 - (1) Stencil coatings;
 - (2) Safety-indicating coatings;
 - (3) Solid film lubricants;
 - (4) Electric-insulating and thermal-conducting coatings;
 - (5) Touch-up and repair coatings; and
 - (6) Hand-held aerosol can coatings.

D.1.3 326 IAC 8-3-2 (Cold Cleaner Degreaser Operating Requirements)

Pursuant to 326 IAC 8-3-2, the following shall apply for the Parts Washer operation:

- (1) The Permittee shall ensure the following control equipment and operating requirements are met:
 - (A) Equip the degreaser with a cover.
 - (B) Equip the degreaser with a device for draining cleaned parts.
 - (C) Close the degreaser cover whenever parts are not being handled in the degreaser.

- (D) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.
 - (E) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).
 - (F) Store waste solvent only in closed containers.
 - (G) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.
- (2) The Permittee shall ensure the following additional control equipment and operating requirements are met:
- (A) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):
 - (i) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (ii) A water cover when solvent used is insoluble in, and heavier than, water.
 - (iii) A refrigerated chiller.
 - (iv) Carbon adsorption.
 - (v) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.
 - (B) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.
 - (C) If used, solvent spray:
 - (i) must be a solid, fluid stream; and
 - (ii) shall be applied at a pressure that does not cause excessive splashing.

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 August 28, 2013. Additional information was received on September 12 and November 19, 2013.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed Registration Revision No. 085-33591-00083. The staff recommends to the Commissioner that this Registration Revision be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Jack Harmon 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) 233-4228 or toll free at 1-800-451-6027 extension 3-4228.
- (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

**Emissions Calculations
Uncontrolled Emissions Summary
Entire Source**

Source Name: Wabash Valley Manufacturing, Inc.
Source Address: 505 East Main Street, Silver Lake, Indiana
Registration Revision No. 085-33591-00083
Permit Reviewer: Jack Harmon
Date: September, 2013

After Revision

Uncontrolled Potential to Emit After the Revision (tons per year)

Emission Units / Operations		PM10	PM2.5	SO2	NOx	VOC	CO	GHG, as CO2e	Total HAPs	Worst Case HAP
Powder Coating	12.87	12.87	12.87	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Dip Coating	0.00	0.00	0.00	0.00	0.00	21.43	0.00	0.00	0.00E+00	0.00E+00
Shot Blast Operation	1.40	1.21	1.21	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Natural Gas Combustion	0.33	1.34	1.34	0.11	17.62	0.97	14.80	21,276.22	3.33E-01	3.17E-01
Welding	0.69	0.69	0.69	0.00	0.00	0.00	0.00	0.00	1.75E-02	1.53E-02
Parts Washer	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00E+00	0.00E+00
Fugitive Emissions - Unpaved Roads	6.79	1.69	0.17	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Fugitive Emissions - Paved Roads	0.11	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Total Uncontrolled Emissions	22.20	17.82	16.28	0.11	17.62	22.63	14.80	21276.22	3.50E-01	3.17E-01

Hexane

Before Revision

Uncontrolled Potential to Emit Before the Revision (tons per year)

Emission Units / Operations	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHG, as CO2e	Total HAPs	Worst Case HAP
Natural Gas Combustion	0.21	0.83	0.83	0.07	10.91	0.60	9.16	13172.38	2.06E-01	1.96E-01
Total Uncontrolled Emissions	0.21	0.83	0.83	0.07	10.91	0.60	9.16	13172.38	2.06E-01	1.96E-01

Hexane

Revision

Uncontrolled Potential to Emit Of the Revision (tons per year)

Emission Units / Operations	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHG, as CO2e	Total HAPs	Worst Case HAP
Powder Coating	12.87	12.87	12.87	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Dip Coating	0.00	0.00	0.00	0.00	0.00	21.43	0.00	0.00	0.00E+00	0.00E+00
Shot Blast Operation	1.40	1.21	1.21	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Natural Gas Combustion	0.13	0.51	0.51	0.04	6.71	0.37	5.64	8103.84	1.27E-01	1.21E-01
Welding	0.69	0.69	0.69	0.00	0.00	0.00	0.00	0.00	1.75E-02	1.75E-02
Parts Washer	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00E+00	0.00E+00
Fugitive Emissions - Unpaved Roads	6.79	1.69	0.17							
Fugitive Emissions - Paved Roads	0.11	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Total Uncontrolled Emissions	21.99	16.99	15.45	0.04	6.71	22.03	5.64	8103.84	1.44E-01	1.21E-01

Hexane

**Emissions Calculations
Shot Blasting Operation**

**Source Name: Wabash Valley Manufacturing, Inc.
Source Address: 505 East Main Street, Silver Lake, Indiana
Registration Revision No. 085-33591-00083
Permit Reviewer: Jack Harmon
Date: September, 2013**

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	

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

0.004

FR = Flow Rate (lb/hr) =

80.00

w = fraction of time of wet blasting =

0 %

N = number of nozzles =

1

Uncontrolled PM Emissions =	0.32 lb/hr
	1.40 ton/yr

Uncontrolled PM10 Emissions	0.28 lb/hr
	1.21 ton/yr

METHODOLOGY

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

Flow Rate (FR) (lb/hr) was provided by source, and is the maximum media usage rate for each machine.

Emissions (lb/hr) = Emission Factor (lb PM/lb abrasive) x Flow Rate (lb/hr) x (1-% fraction of time of wet blasting/200) x No. nozzles)

Emissions (ton/yr) = lb/hr X 8760 hr/yr X ton/

**Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

Source Name: Wabash Valley Manufacturing, Inc.
Source Address: 505 East Main Street, Silver Lake, Indiana
Registration Revision No. 085-33591-00083
Permit Reviewer: Jack Harmon
Date: September, 2013

Note: Detailed emission units are listed in Emission Unit Listing worksheet of this Appendix.

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

40.235

352.5

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100	5.5	84
					**see below		
Potential Emission in tons/yr	0.33	1.34	1.34	0.11	17.62	0.97	14.80

*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/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPs Calculations

Emission Factor in lb/MMcf	HAPs - Organics					Totals
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	3.701E-04	2.115E-04	1.322E-02	3.172E-01	5.992E-04	3.316E-01
Emission Factor in lb/MMcf	HAPs - Metals					Totals
	Lead	Cadmium	Chromium	Manganese	Nickel	
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	8.811E-05	1.939E-04	2.467E-04	6.697E-05	3.701E-04	9.657E-04
Methodology is the same as page 1.						Total HAPs
						3.326E-01

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

Greenhouse Gas Calculations

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	21,148	0.4	0.4
Summed Potential Emissions in tons/yr	21,148.31		
CO2e Total in tons/yr	21,276.22		

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.
Global 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).

**Emissions Calculations
Welding and Thermal Cutting**

**Source Name: Wabash Valley Manufacturing, Inc.
Source Address: 505 East Main Street, Silver Lake, Indiana
Registration Revision No. 085-33591-00083
Permit Reviewer: Jack Harmon
Date: September, 2013**

PROCESS	Number of Stations	Max. electrode consumption total (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)	
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr		
WELDING												
Metal Inert Gas (MIG) & Tungsten Inert Gas (TIG) - Steel	Numerous	11	0.0052	0.000318	0.000001		0.057	0.003	0.000	0	0.004	
Tungsten Inert Gas (TIG)	Numerous	1.5	0.0052	0.000318	0.000001		0.008	0.000	0.000	0	0.000	
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Plasma**	2	0.625	200	0.0039				0.094	0.000	0.000	0.000	0.000
EMISSION TOTALS												
Potential Emissions lbs/hr								0.16				0.00
Potential Emissions lbs/day								3.81				0.10
Potential Emissions tons/year								0.69				0.02

METHODOLOGY

Welding emission factor from AP-42, Chapter 12.19

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Welding emissions, lb/hr: (max. lbs of electrode used/hr)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs

**Emissions Calculations Prior to the Revision
Natural Gas Combustion Only
MM BTU/HR <100**

**Source Name: Wabash Valley Manufacturing, Inc.
Source Address: 505 East Main Street, Silver Lake, Indiana
Registration Revision No. 085-33591-00083
Permit Reviewer: Jack Harmon
Date: September, 2013**

Note: Detailed emission units are listed in Emission Unit Listing worksheet of this Appendix.

Heat Input Capacity Potential Throughput
MMBtu/hr MMCF/yr

24.910 218.2

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.21	0.83	0.83	0.07	10.91	0.60	9.16

*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/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPs Calculations

Emission Factor in lb/MMcf	HAPs - Organics					Totals
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	2.053E-01
Potential Emission in tons/yr	2.291E-04	1.309E-04	8.183E-03	1.964E-01	3.710E-04	
Emission Factor in lb/MMcf	HAPs - Metals					Totals
	Lead	Cadmium	Chromium	Manganese	Nickel	
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	5.979E-04
Potential Emission in tons/yr	5.455E-05	1.200E-04	1.527E-04	4.146E-05	2.291E-04	
Methodology is the same as page 1.					Total HAPs	2.059E-01

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

Greenhouse Gas Calculations

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	13,093	0.3	0.2
Summed Potential Emissions in tons/yr	13,093.19		
CO2e Total in tons/yr	13,172.38		

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.
Global 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

Appendix A: Emission Calculations
Fugitive Dust Emissions - Unpaved Roads

Company Name: Wabash Valley Manufacturing
 Address City IN Zip: 505 E Main St Silver Lake IN 46982
 Permit Number: 085-33591-00083
 Reviewer: Jack Harmon
 Date: 11/14/2013

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (11/2006).

Vehicle Information (provided by source)

Type	Average 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) - Street to back of plant	1.4	1.0	1.4	40.0	56.0	1040	0.197	0.3	100.7
Vehicle (leaving plant) (one-way trip) - Street to back of plant	1.4	1.0	1.4	40.0	56.0	1040	0.197	0.3	100.7
Vehicle (entering plant) (one-way trip) - Street/shipping dock	4.1	1.0	4.1	40.0	164.0	120	0.023	0.1	34.0
Vehicle (leaving plant) (one-way trip) - Street/shipping dock	4.1	1.0	4.1	40.0	164.0	120	0.023	0.1	34.0
Vehicle (entering plant) (one-way trip) - West employee lot	28.1	1.0	28.1	2.0	56.2	750	0.142	4.0	1456.9
Vehicle (leaving plant) (one-way trip) - West employee lot	28.1	1.0	28.1	2.0	56.2	750	0.142	4.0	1456.9
Vehicle (entering plant) (one-way trip) - East employee lot	13.7	1.0	13.7	2.0	27.4	450	0.085	1.2	426.2
Vehicle (leaving plant) (one-way trip) - East employee lot	13.7	1.0	13.7	2.0	27.4	450	0.085	1.2	426.2
Totals			94.6		607.2			11.1	4035.5

Average Vehicle Weight Per Trip = $\frac{6.4}{0.12}$ tons/trip
 Average Miles Per Trip = $\frac{6.4}{0.12}$ miles/trip

Unmitigated Emission Factor, $E_f = k \left[\frac{s}{12} \right]^a \left[\frac{W}{3} \right]^b$ (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.3	4.3	4.3	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-1 Service Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2 for Industrial Roads)
W =	6.4	6.4	6.4	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2 for Industrial Roads)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [(365 - P)/365]$ (Equation 2 from AP-42 13.2.2)

Mitigated Emission Factor, $E_{ext} = E * [(365 - P)/365]$
 where P = 135 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	3.36	0.84	0.08	lb/mile
Mitigated Emission Factor, E_{ext} =	2.12	0.53	0.05	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures)

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)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.17	0.04	0.00	0.11	0.03	0.00	0.05	0.01	0.00
Vehicle (leaving plant) (one-way trip)	0.17	0.04	0.00	0.11	0.03	0.00	0.05	0.01	0.00
Vehicle (entering plant) (one-way trip)	0.06	0.01	0.00	0.04	0.01	0.00	0.02	0.00	0.00
Vehicle (leaving plant) (one-way trip)	0.06	0.01	0.00	0.04	0.01	0.00	0.02	0.00	0.00
Vehicle (entering plant) (one-way trip)	2.45	0.61	0.06	1.54	0.38	0.04	0.77	0.19	0.02
Vehicle (leaving plant) (one-way trip)	2.45	0.61	0.06	1.54	0.38	0.04	0.77	0.19	0.02
Vehicle (entering plant) (one-way trip)	0.72	0.18	0.02	0.45	0.11	0.01	0.23	0.06	0.01
Vehicle (leaving plant) (one-way trip)	0.72	0.18	0.02	0.45	0.11	0.01	0.23	0.06	0.01
Totals	6.79	1.69	0.17	4.28	1.07	0.11	2.14	0.53	0.05

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 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

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

Company Name: Wabash Valley Manufacturing
Source Address: 505 E Main St Silver Lake IN 46982
Permit Number: 085-33591-00083
Reviewer: Jack Harmon
Date: 11/14/2013

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 (1/2011).

Vehicle Information (provided by source) South Office employee parking lot

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)	27.4	1.0	27.4	2.0	54.8	330	0.063	1.7	625.1
Vehicle (leaving plant) (one-way trip)	27.4	1.0	27.4	2.0	54.8	330	0.063	1.7	625.1
Totals			54.8		109.6			3.4	1250.1

Average Vehicle Weight Per Trip = $\frac{2.0}{1}$ tons/trip
 Average Miles Per Trip = $\frac{0.06}{1}$ miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$ (Equation 1 from AP-42 13.2.1)

	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 =	2.0	2.0	2.0	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m ² = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3

Update silt content value (if necessary) based on the specifics of the source

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [1 - (p/4N)]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$
 where p = 135 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, $E_f =$	0.176	0.035	0.0087	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.160	0.032	0.0079	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures)

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)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.06	0.01	0.00	0.05	0.01	0.00	0.03	0.01	0.00
Vehicle (leaving plant) (one-way trip)	0.06	0.01	0.00	0.05	0.01	0.00	0.03	0.01	0.00
Totals	0.11	0.02	0.01	0.10	0.02	0.00	0.05	0.01	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

Appendix A, TSD - Emissions Calculations

Emission Unit Listing

Source Name: Wabash Valley Manufacturing, Inc.

Source Address: 505 East Main Street, Silver Lake, Indiana

Registration Revision No. 085-33591-00083

Permit Reviewer: Jack Harmon

Date: September, 2013

<u>Natural Gas Combustion Units</u>								Change Due to 2013 Revision
<u>Original Registration</u>				<u>After 2013 Registration Revision</u>				<u>Total MMBtu/hr</u>
<u>Description</u>	<u>No. Units</u>	<u>MMBth-hr ea</u>	<u>Total MMBtu/hr</u>	<u>Description</u>	<u>No. Units</u>	<u>MMBth-hr ea</u>	<u>Total MMBtu/hr</u>	
Blue Line Oven	1.0	1.400	1.400	Blue Line Oven	1.0	1.400	1.400	0.000
Green Line Oven	1.0	1.400	1.400	Green Line Oven	1.0	1.400	1.400	0.000
Powder Line Oven	1.0	3.500	3.500	Powder Line Oven	0.0	0.000	0.000	-3.500
Powder Line Oven	0.0	0.000	0.000	Powder Line Oven	1.0	10.000	10.000	10.000
Powder Line Wash Tank Htr	1.0	2.500	2.500	Powder Line Wash Tank Htr	1.0	3.500	3.500	1.000
Burn-Off Oven	1.0	0.950	0.950	Burn-Off Oven	1.0	0.300	0.300	-0.650
Air Make-up Units	1.0	7.500	7.500	Air Make-up Units	2.0	7.500	15.000	7.500
Heaters	6.0	0.200	1.200	Heaters	6.0	0.200	1.200	0.000
Heaters	6.0	0.150	0.900	Heaters	9.0	0.150	1.350	0.450
Air Make-up Units	2.0	0.960	1.920	Air Make-up Units	2.0	1.925	3.850	1.930
Heaters	6.0	0.150	0.900	Heaters	0.0	0.000	0.000	-0.900
Heaters	1.0	0.075	0.075	Heaters	1.0	0.075	0.075	0.000
Heaters	1.0	0.060	0.060	Heaters	1.0	0.060	0.060	0.000
Heaters	13.0	0.125	1.625	Heaters	12.0	0.125	1.500	-0.125
Heaters	4.0	0.125	0.500	Heaters	0.0	0.000	0.000	-0.500
Heaters	4	0.120	<u>0.480</u>	Heaters	5.0	0.120	<u>0.600</u>	<u>0.120</u>
			24.910				40.235	15.325

Powder Coating Operations
Two (2) powder coating operation throughput 40 lbs (0.02 tons) per hour.
(6-3-2 limit = 2.90 lb/hr each powder coating operation)

Plastic Dip Coating Operations
Two (2) plastic dip coating operations, 42 gallons per hour throughput
(6-3-2 limit = N/A, exempt under 6-3-1(b)(5))

Shot Blast Operation
One (1) shot blast booth, 80 lb/hr throughput maximum
(6-3-2 limit = N/A, exempt under 6-3-1(b)(14) because PTE is less than 0.551 lb/hr (2.41 tons/yr.)

Welding Operation and Plasma Cutting Operation
One (1) Welding operation, throughput 11 pounds steel wire/hr, and throughput 1.5 lb/hr luminum wire thoughput, and
One (1) Plasma Cutting operation, throughput of 200 inches per minute.
(6-3-2 limit = N/A, exempt under 6-3-1(b)(14) because PTE is less than 0.551 lb/hr (2.41 tons/yr)

Parts Washer
One (1) Parts Washer, usage of solvent is 70 gallons of solvent per year.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: Jose Barbosa
Wabash Valley Manufacturing
PO Box 5
Silver Lake, IN 46982

DATE: December 3, 2013

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

SUBJECT: Final Decision
Registration Revision
085 - 33591 - 00083

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:
James R Haney, VP - Ops
Kathy Moore KERAMIDA Environmental, 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 6/13/2013

Mail Code 61-53

IDEM Staff	LPOGOST 12/3/2013 Wabash Valley Manufacturing, Inc. 33591 /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		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing 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		Jose Barbosa Wabash Valley Manufacturing, Inc. PO Box 5 Silver Lake IN 46982 (Source CAATS) Via confirmed delivery										
2		James R Haney VP - Ops Wabash Valley Manufacturing, Inc. PO Box 5 Silver Lake IN 46982 (RO CAATS)										
3		Kosciusko County Board of Commissioners 100 W. Center St, Room 220 Warsaw IN 46580 (Local Official)										
4		Etna Green Town Council P.O. Box 183, 132 West Broadway Etna Green IN 46524 (Local Official)										
5		Kosciusko County Health Department 100 W. Center Street, 3rd Floor Warsaw IN 46580-2877 (Health Department)										
6		Mrs. Kathy Moore KERAMIDA Environmental, Inc. 401 North College Indianapolis IN 46202 (Consultant)										
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Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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