



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: December 22, 2008

RE: Koontz-Wagner Maintenance Services / 141-27127-00169

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

**Koontz – Wagner Maintenance Services
3801 Voorde Drive
South Bend, Indiana 46628**

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

Registration No. 141-27127-00169	
Issued by:  Alfred C. Dumauval, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: December 22, 2008

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 electric motor repair and electrical component installation operation.

Source Address:	3801 Voorde Drive, South Bend, Indiana 46628
Mailing Address:	3801 Voorde Drive, South Bend, Indiana 46628
General Source Phone Number:	(574) 232-2051
SIC Code:	7694
County Location:	St. Joseph County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

This stationary electric motor repair and electrical component installation operation consists of the following emission units and pollution control devices:

- (a) one (1) touch-up paint spray booth, identified as PB-1, utilizing an air atomized application system, performing touch up (not production/process related) when needed on steel control boxes, with dry filters for overspray control, and exhausting at one (1) stack, identified as S7;
- (b) one (1) small motor paint spray booth, identified as PB-2, utilizing an air atomized application system, coating a maximum of 0.625 small electric motors per hour, with dry filters for overspray control, and exhausting at one (1) stack, identified as S6;
- (c) one (1) large motor dip tank, identified as DT-1, coating a maximum of 0.25 large electric motors per hour, and exhausting at one (1) stack, identified as S10;
- (d) one (1) small motor dip tank, identified as DT-2, coating a maximum of .25 electric motors per hour, and exhausting at one (1) stack, identified as S14;
- (e) one (1) Vacuum Pressure Impregnator tank, identified as VPI-1, coating a maximum of 0.25 electric motors per hour, and exhausting at one (1) stack, identified as S12;
- (f) three (3) natural gas fired curing ovens, each rated at 0.97, 0.97, and 0.75 million (MM) British thermal units (Btu) per hour, respectively;
- (g) one (1) natural gas fired heat clean oven, rated at 0.97 MMBtu per hour;
- (h) two (2) natural gas fired steam cleaners, each rated at 0.45 and 0.40 MMBtu per hour, respectively;
- (i) one (1) natural gas fired parts washer, rated at 0.065 MMBtu per hour;
- (j) one (1) abrasive cleaner, identified as SB-1, equipped with a baghouse for control of particulate emissions, and exhausting at one (1) stack, identified as S13; and
- (k) three (3) welding stations.

SECTION B

GENERAL CONDITIONS

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

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

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

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

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

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

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM, the fact that continuance of this registration is not consistent with purposes of this article.

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

- (a) All terms and conditions of permits established prior to Registration No. 141-27127-00169 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 Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

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

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

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

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

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

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this registration:

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

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

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

SECTION D.1

OPERATION CONDITIONS

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

- (a) one (1) touch-up paint spray booth, identified as PB-1, utilizing an air atomized application system, performing touch up (not production/process related) when needed on steel control boxes, with dry filters for overspray control, and exhausting at one (1) stack, identified as S7;
- (b) one (1) small motor paint spray booth, identified as PB-2, utilizing an air atomized application system, coating a maximum of 0.625 small electric motors per hour, with dry filters for overspray control, and exhausting at one (1) stack, identified as S6;
- (c) one (1) large motor dip tank, identified as DT-1, coating a maximum of 0.25 large electric motors per hour, and exhausting at one (1) stack, identified as S10;
- (d) one (1) small motor dip tank, identified as DT-2, coating a maximum of .25 electric motors per hour, and exhausting at one (1) stack, identified as S14;
- (e) one (1) Vacuum Pressure Impregnator tank, identified as VPI-1, coating a maximum of 0.25 electric motors per hour, and exhausting at one (1) stack, identified as S12;
- (f) three (3) natural gas fired curing ovens, each rated at 0.97, 0.97, and 0.75 million (MM) British thermal units (Btu) per hour, respectively;
- (g) one (1) natural gas fired heat clean oven, rated at 0.97 MMBtu per hour;
- (h) two (2) natural gas fired steam cleaners, each rated at 0.45 and 0.40 MMBtu per hour, respectively;
- (i) one (1) natural gas fired parts washer, rated at 0.065 MMBtu per hour;
- (j) one (1) abrasive cleaner, identified as SB-1, equipped with a baghouse for control of particulate emissions, and exhausting at one (1) stack, identified as S13; and
- (k) three (3) welding stations.

(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) Limitation [326 IAC 8-2-9]

To render the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) not applicable, the VOC input, including coatings, dilution solvents and cleaning solvents, for paint spray booths PB-1 and PB-2, dip tank DT-1 and vacuum pressure impregnation tank VPI-1 shall be less than 15.0 pounds per day each. Compliance with this limit renders the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) not applicable.

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the abrasive cleaner (SB-1) shall not exceed 0.97 pounds per hour when operating at a process weight rate of 0.12 tons of abrasive per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 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

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

D.1.3 Particulate Control

- (a) In order to comply with Condition D.1.2, the baghouse for particulate control shall be in operation and control emissions from the abrasive cleaner (SB-1) at all times the abrasive cleaner (SB-1) is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

D.1.4 Record Keeping Requirements

- (a) To document compliance with D.1.1, the owner or operator of this source shall maintain records for the total VOC usage for the paint spray booths PB-1 and PB-2, dip tank DT-1 and vacuum pressure impregnation tank VPI-1, each day. These records shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC emission limit for paint spray booths PB-1 and PB-2, dip tank DT-1, and vacuum impregnation tank VPI-1:
 - (1) The amount and VOC content of each coating material, dilution solvent, and cleanup solvent used for each day. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount of materials used.
 - (2) The total VOC usage for each day.
- (b) Records of all required monitoring data, reports and support information required by this registration shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the owner or operator of this source, the owner or operator of this source shall furnish the records to the Commissioner within a reasonable time.
- (c) Unless otherwise specified in this registration, all record keeping requirements not already legally required shall be implemented within ninety (90) days of approval date of this registration.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE 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:	Koontz – Wagner Maintenance Services
Address:	3801 Voorde Drive
City:	South Bend, Indiana 46628
Phone Number:	(574) 232-2051
Registration No.:	141-27127-00169

I hereby certify that Koontz – Wagner Maintenance Services is :

- still in operation.
 no longer in operation

I hereby certify that Koontz – Wagner Maintenance Services is :

- in compliance with the requirements of Registration No. 141-27127-00169.
 not in compliance with the requirements of Registration No. 141-27127-00169.

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:

**Appendix A: Emissions Calculations
Emission Summary**

**Company Name: Koontz-Wagner Electric Company, Inc.
Address City IN Zip: 3801 Voorde Drive, South Bend, IN 46628
Registration Number: 141-27127-00169
Pit ID: 141-00169
Reviewer: Gary Freeman**

Unlimited Potential Emissions (tons/year)						
Category	Emissions Generating Activity					
	Pollutant	Welding & Flame Cutting	Abrasive Blasting (SB-1)	Surface Coating (PB-1, PB-2, DT-1, DT-2, and VPI-1)	Natural Gas Combustion	TOTAL
Criteria Pollutants	PM	0.64	10.25	2.61	0.04	13.54
	PM10	0.64	7.17	2.61	0.15	10.58
	PM2.5	0.64	7.17	2.61	0.15	10.58
	SO2				0.01	0.01
	NOx				2.00	2.00
	VOC			20.02	0.11	20.14
	CO				1.68	1.68
Hazardous Air Pollutants	Cobalt	6.1E-07				6.1E-07
	Chromium	1.2E-03			2.8E-05	1.2E-03
	Manganese	2.2E-03			7.6E-06	2.2E-03
	Nickel	3.9E-04			4.2E-05	4.4E-04
	Benzoquinone			0.02		0.02
	Ethylbenzene			0.30		0.30
	Xylene			3.03		3.03
	n-Hexane				0.04	0.04
	Toluene				6.8E-05	6.8E-05
	Benzene				4.2E-05	4.2E-05
	Dichlorobenzene				2.4E-05	2.4E-05
	Formaldehyde				1.5E-03	1.5E-03
	Lead				1.0E-05	1.0E-05
	Cadmium				2.2E-05	2.2E-05
Totals	3.8E-03	0	3.35	0.04	3.39	
				Worse Case HAP	3.03	

Total emissions based on rated capacity at 8,760 hours/year.

Limited Potential Emissions (tons/year)						
Category	Emissions Generating Activity					
	Pollutant	Welding & Flame Cutting	Abrasive Blasting (SB-1)	Surface Coating (PB-1, PB-2, DT-1, DT-2, and VPI-1)	Natural Gas Combustion	TOTAL
Criteria Pollutants	PM	0.64	10.25	1.99	0.04	12.92
	PM10	0.64	7.17	1.99	0.15	9.96
	PM2.5	0.64	7.17	1.99	0.15	9.96
	SO2				0.01	0.01
	NOx				2.00	2.00
	VOC			11.65	0.11	11.76
	CO				1.68	1.68
Hazardous Air Pollutants	Cobalt	6.1E-07				6.1E-07
	Chromium	1.2E-03			2.8E-05	1.2E-03
	Manganese	2.2E-03			7.6E-06	2.2E-03
	Nickel	3.9E-04			4.2E-05	4.4E-04
	Benzoquinone			0.01		0.01
	Ethylbenzene			0.22		0.22
	Xylene			2.28		2.28
	n-Hexane				0.04	0.04
	Toluene				6.8E-05	6.8E-05
	Benzene				4.2E-05	4.2E-05
	Dichlorobenzene				2.4E-05	2.4E-05
	Formaldehyde				1.5E-03	1.5E-03
	Lead				1.0E-05	1.0E-05
	Cadmium				2.2E-05	2.2E-05
Totals	3.8E-03	0	2.52	0.04	2.56	
				Worse Case HAP	2.28	

Total emissions based on rated capacity at 8,760 hours/year.

**Appendix A: Emissions Calculations
Welding and Flame Cutting Operation**

**Company Name: Koontz-Wagner Electric Company, Inc.
Address City IN Zip: 3801 Voorde Drive, South Bend, IN 46628
Registration Number: 141-27127-00169
Plt ID: 141-00169
Reviewer: Gary Freeman**

Particulate Matter (PM) and Hazardous Air Pollutants (HAPs)

PROCESS	Max. electrode consumption (lbs/hr)	Max. electrode consumption (lbs/day)	Max. electrode consumption (lbs/year)	EMISSION FACTORS* (lb pollutant/lb electrode)					EMISSIONS (lbs/hr)					HAPS (lbs/hr)
				PM = PM10	Cr	Co	Mn	Ni	PM = PM10	Cr	Co	Mn	Ni	
WELDING														
MIG and TIG Welding (Gas Metal Arc Welding (E70S))	0.14	3.4	1,226	5.2E-03	1.0E-06	1.0E-06	3.2E-04	1.0E-06	7.3E-04	1.4E-07	1.4E-07	4.5E-05	1.4E-07	4.5E-05
Stick Welding (Shielded Metal Arc Welding (E7024))	0.02	0.5	175	9.2E-03	1.0E-06		6.29E-04		1.8E-04	2.0E-08		1.3E-05		1.3E-05

PROCESS	Max. Metal Thickness Cut (in)	Max. Metal Cutting Rate (in/minute)	Max. Metal Cutting Rate (in/hour)	EMISSION FACTORS* (lb pollutant/1,000 inches cut, 1" thick)					EMISSIONS (lbs/hr)					HAPS (lbs/hr)
				PM = PM10	Cr	Co	Mn	Ni	PM = PM10	Cr	Co	Mn	Ni	
FLAME CUTTING														
Oxyacetylene/Electric Arc	1.00	15.00	900	1.6E-01	3.0E-04		5.0E-04	1.0E-04	0.15	2.7E-04		4.5E-04	9.0E-05	8.1E-04

Abbreviations

Cr = Chromium Mn = Manganese
Co = Cobalt Ni = Nickel

Total Potential Emissions lbs/hr	0.15	2.7E-04	1.4E-07	5.1E-04	9.0E-05	8.7E-04
Total Potential Emissions lbs/day	3.53	6.5E-03	3.4E-06	1.2E-02	2.2E-03	2.1E-02
Total Potential Emissions tons/year	0.64	1.2E-03	6.1E-07	2.2E-03	3.9E-04	3.8E-03

METHODOLOGY

Welding emissions, lb/hr: (# of stations) * (max. lbs of electrode used/hr/station) * (emission factor, lb. pollutant/lb. of electrode used)
Cutting emissions, lb/hr: (# of stations) * (max. metal thickness, in.) * (max. cutting rate, in./min.) * (60 min./hr.) * (emission factor, lb. pollutant/1,000 in. cut, 1" thick)
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.

Appendix A: Emission Calculations
Abrasive Blasting - Confined
Abrasive Cleaner SB-1

Company Name: **Koontz-Wagner Electric Company, Inc.**
 Address City IN Zip: **3801 Voorde Drive, South Bend, IN 46628**
 Registration Number: **141-27127-00169**
 Plt ID: **141-00169**
 Reviewer: **Gary Freeman**

Table 1 - Emission Factors for Abrasives

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

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

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

Flow rate (FR1) of sand through a blasting nozzle as a function of nozzle pressure and internal diameter (ID1)

Nozzle Type (diameter)	Internal diameter, in	Nozzle Pressure (psig)								
		30	40	50	60	70	80	90	100	
No. 2 (1/8 inch)	0.125	28	35	42	49	55	63	70	77	
No. 3 (3/16 inch)	0.1875	65	80	94	107	122	135	149	165	
No. 4 (1/4 inch)	0.25	109	138	168	195	221	255	280	309	
No. 5 (5/16 inch)	0.3125	205	247	292	354	377	420	462	507	
No. 6 (3/8 inch)	0.375	285	355	417	477	540	600	657	720	
No. 7 (7/16 inch)	0.4375	385	472	560	645	755	820	905	940	
No. 8 (1/2 inch)	0.5	503	615	725	835	945	1050	1160	1265	
No. 10 (5/8 inch)	0.625	820	990	1170	1336	1510	1680	1850	2030	
No. 12 (3/4 inch)	0.75	1140	1420	1670	1915	2160	2400	2630	2880	
No. 16 (1 inch)	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) of abrasive at nozzle pressure and internal nozzle diameter (ID)

D1 = Density of sand from Table 2 =

99	99	99
----	----	----

 lb/ft3
 ID1 = Internal diameter of nozzle for sand blasting from Table 3 =

0.1563	0.1875	0.125
--------	--------	-------

 inch
 FR1 = Sand flow rate at nozzle pressure and internal diameter (ID1) from Table 3 =

78	107	49
----	-----	----

 lb/hr

D = Density of actual abrasive* =

99	99	99
----	----	----

 lb/ft3
 ID = internal diameter of actual nozzle =

0.1563	0.1875	0.125
--------	--------	-------

 inch
 FR = Flow rate of actual abrasive (lb/hr) =

78.0	107.0	49.0
------	-------	------

 lb/hr (per nozzle)

Potential to Emit Before Control

FR = Flow rate of actual abrasive (lb/hr) =

78.0	107.0	49.0
------	-------	------

 lb/hr (per nozzle)
 w = fraction of time of wet blasting =

0	0	0
---	---	---

 %
 N = number of nozzles =

1	1	1
---	---	---

 EF = PM emission factor for actual abrasive from Table 1 =

0.010	0.010	0.010
-------	-------	-------

 lb PM / lb abrasive
 PM10 emission factor ratio for actual abrasive from Table 1 =

0.70	0.70	0.70
------	------	------

 lb PM10 / lb PM

Potential to Emit PM (before control) =

0.78	1.07	0.49
------	------	------

 lb/hr
 Potential to Emit PM10 (before control) =

0.55	0.75	0.34
------	------	------

 lb/hr

Potential to Emit PM (before control) =

3.42	4.69	2.15
------	------	------

 tons/yr
 Potential to Emit PM10 (before control) =

2.39	3.28	1.50
------	------	------

 tons/yr

Total Potential to Emit (before control) =

PM	PM10
2.34	1.64

 lb/hr
 =

10.25	7.17
-------	------

 ton/yr

Potential to Emit After Control

Emission Control Device Efficiency =

PM	PM10
90.0%	90.0%

 Total Potential to Emit (after control) =

PM	PM10
0.23	0.16

 lb/hr
 =

1.02	0.72
------	------

 ton/yr

Allowable Emissions Calculation (per 326 IAC 6-3-2)

Equation from 326 IAC 6-3-2: $E = 4.10 * (P^{0.67})$
 Process Weight Rate, P =

0.12

 tons/hr
 Allowable Emission Rate, E =

0.97

 lbs/hr

Since potential controlled emissions are less than the allowable emissions, the abrasive blasting process is able to comply with 326 IAC 6-3-2.

METHODOLOGY

* Since the density of abrasives was unknown, the density of sand was used.

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

Flow rate of actual abrasive (FR) (lb/hr) = $FR1 \times (ID/ID1)^2 \times (D/D1)$

Potential to Emit (before control) = $EF \times FR \times (1 - w/200) \times N$ (where w should be entered in as a whole number (if w is 50%, enter 50))

Potential to Emit (after control) = [Potential to Emit (before control)] * [1 - control efficiency]

Potential to Emit (tons/year) = [Potential to Emit (lbs/hour)] x [8760 hours/year] x [ton/2000 lbs]

**Appendix A: Emissions Calculations
Surface Coating and Cleanup Solvents
Volatile Organic Compounds (VOC) and Particulate Matter (PM)**

**Company Name: Koontz-Wagner Electric Company, Inc.
Address City IN Zip: 3801 Voorde Drive, South Bend, IN 46628
Registration Number: 141-27127-00169
Plt ID: 141-00169
Reviewer: Gary Freeman**

Potential to Emit (PTE) of Volatile Organic Compounds (VOC) and Particulate Matter (PM)

Operation and Material*	Primary Type of Surface Coated	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water + Non-VOCs	Weight % Solids	Weight % VOCs	Volume % Water + Non-VOCs	Volume % Solids	Usage (gal/unit)	Maximum Capacity (unit/hr)	Maximum Usage (gal/day)	Maximum Usage (lb/hr)	Pounds VOC per gallon of coating less water and non-VOCs	Pounds VOC per gallon of coating	PTE VOC (lb/hr)	PTE VOC (lb/day)	PTE VOC (tons/yr)	PTE PM (lb/hr)	PTE PM (tons/yr)	lb VOC per gal solids	Transfer Efficiency				
Touch-Up Paint Spray Booth PB-1																									
Speed Bar Ox Gloss Alkyd	Metal	8.33	60.0%	0%	40%	60.0%	0%	40.00%	0.200	0.63	3.00	1.04	5.00	5.00	0.62	14.99	2.74	0	1	12.50	65%				
Red Protect	Metal	8.81	22.8%	0%	77%	22.8%	0%	70.50%	0.200	0.63	3.00	1.10	2.01	2.01	0.25	6.03	1.10	0	1	2.85	65%				
Glyptal Red	Metal	9.35	58.0%	0%	42%	58.0%	0%	44.10%	0.200	0.63	3.00	1.17	5.42	5.42	0.68	16.27	2.97	0	1	12.30	65%				
Glyptal Alkyd	Metal	8.42	75.9%	0%	24%	75.9%	0%	25.40%	0.200	0.63	3.00	1.05	6.39	6.39	0.80	19.17	3.50	0	0	25.16	65%				
Gloss Black	Metal	8.58	51.6%	0%	48%	51.6%	0%	37.30%	0.200	0.63	3.00	1.07	4.43	4.43	0.55	13.28	2.42	0	1	11.87	65%				
Xylene (Clean-up)	Metal	7.26	100.0%	0%	0%	100.0%	0%	0.00%	0.005	0.63	0.07	0.02	7.26	7.26	0.02	0.52	0.10	0	0	NA	65%				
Worst Case Paint + Cleanup															0.82	19.70	3.59	0.30	1.30						
Small Motor Spray Booth PB-2																									
Speed Bar Ox Gloss Alkyd	Metal	8.33	60.0%	0%	40%	60.0%	0%	40.00%	0.200	0.63	3.00	1.04	5.00	5.00	0.62	14.99	2.74	0	1	12.50	65%				
Red Protect	Metal	8.81	22.8%	0%	77%	22.8%	0%	70.50%	0.200	0.63	3.00	1.10	2.01	2.01	0.25	6.03	1.10	0	1	2.85	65%				
Glyptal Red	Metal	9.35	58.0%	0%	42%	58.0%	0%	44.10%	0.200	0.63	3.00	1.17	5.42	5.42	0.68	16.27	2.97	0	1	12.30	65%				
Glyptal Alkyd	Metal	8.42	75.9%	0%	24%	75.9%	0%	25.40%	0.200	0.63	3.00	1.05	6.39	6.39	0.80	19.17	3.50	0	0	25.16	65%				
Gloss Black	Metal	8.58	51.6%	0%	48%	51.6%	0%	37.30%	0.200	0.63	3.00	1.07	4.43	4.43	0.55	13.28	2.42	0	1	11.87	65%				
Xylene (Clean-up)	Metal	7.26	100.0%	0%	0%	100.0%	0%	0.00%	0.005	0.63	0.07	0.02	7.26	7.26	0.02	0.52	0.10	0	0	NA	65%				
Worst Case Paint + Cleanup															0.82	19.70	3.59	0.30	1.30						
Large Motor Dip Tank (DT-1)																									
PED711-F-21067	Metal	7.61	59.4%	0%	41%	59.4%	0%	34.40%	1.500	0.25	9.00	2.85	4.52	4.52	1.70	40.68	7.42	0	0	13.14	100%				
Small Motor Dip Tank (DT-2)																									
PED961/A6-101	Metal	7.72	49.90%	0%	50.1%	49.9%	0%	43.90%	0.500	0.08	1.00	0.32	3.85	3.85	0.16	3.84	0.70	0	0	8.78	100%				
Vacuum Pressure Impregnator Tank (VPI-1)																									
PED 433-76-VTC	Metal	9.08	23.20%	0%	76.8%	23.2%	0%	73.20%	0.590	0.25	3.54	1.34	2.11	2.11	0.31	7.46	1.36	0	0	2.88	100%				
Monomer (inhibited) #2849	Metal	7.47	100.00%	0%	0.0%	100.0%	0%	0.00%	0.380	0.25	2.28	0.71	7.47	7.47	0.71	17.03	3.11	0	0	NA	100%				
Inhibitor D5-101	Metal	7.60	97.00%	0%	3.0%	97.0%	0%	2.10%	0.030	0.25	0.18	0.06	7.37	7.37	0.06	1.33	0.24	0	0	351.05	100%				
Totals															1.08	25.82	4.71	0	0						

Total Uncontrolled Potential to Emit (PTE) = 4.57 109.73 20.02 0.60 2.61

VOC Limitations to render 326 IAC 8-2-9 not applicable

	PB-1	PB-2	DT-1	DT-2	VPI-1
Material Usage Limitation (%) =	76.16%	76.16%	36.87%	none	58.09%
Limited PTE of VOC (lbs/day) =	15.0	15.0	15.0	3.8	15.00
Limited PTE of VOC (tons/year) =	2.74	2.74	2.74	0.70	2.74
Total Limited PTE of VOC (tons/year) =	11.65				

Limited PTE of PM (tons/year) =	0.99	0.99	0.00	0.00	0.00
Total Limited PTE of PM (tons/year) =	1.99				

Dry Filter Control Efficiency =	95.00%	95.00%
Controlled PTE of PM (tons/year) =	1.24	1.24

METHODOLOGY

Maximum Usage (lbs/hr) = Maximum Usage (gal/day) * Density (lb/gal) / (24 hour/day)
 Maximum Usage (gal/day) = Usage (gallons/unit) * Maximum Capacity (units/hour) * 24 hours/day
 Pounds of VOC per Gallon Coating less Water and non-VOCs = (Density (lb/gal) * Weight % VOCs) / (1-Volume % water and non-VOCs)
 Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % VOCs)
 Potential VOC Pounds per Hour = Maximum Usage (lbs/hr) * Weight % VOCs
 Potential VOC Pounds per Day = Potential VOC (lbs/hr) * (24 hours/day)
 Potential VOC Tons per Year = Potential VOC (lbs/day) * (365 days/yr) * (1 ton/2000 lbs)
 Particulate Potential Tons per Year = Density (lbs/gal) * Maximum Usage (gal/day) * (Weight % Solids) * (1-Transfer efficiency) * (365 days/yr) * (1 ton/2000 lbs)
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % VOCs) / (Volume % solids)
 Controlled Potential to Emit = Uncontrolled Potential to Emit * (1 - Control Efficiency)
 Limited Potential to Emit = [Material Usage Limitation (%)] * [Unlimited Potential to Emit]

**Appendix A: Emissions Calculations
Surface Coating and Cleanup Solvents
Hazardous Air Pollutants (HAPs)**

**Company Name: Koontz-Wagner Electric Company, Inc.
Address City IN Zip: 3801 Voorde Drive, South Bend, IN 46628
Registration Number: 141-27127-00169
Plt ID: 141-00169
Reviewer: Gary Freeman**

Potential to Emit (PTE) of Hazardous Air Pollutants (HAPs)

Operation and Material*	Density (lb/gal)	Maximum Capacity (unit/hr)	Weight % Xylene	PTE of Xylene (tons/yr)	Weight % Ethyl Benzene	PTE of Ethyl Benzene (tons/yr)	Weight % Benzoquinone	PTE of Benzoquinone (tons/yr)	Total PTE of HAPs (tons/yr)
Touch-Up Paint Spray Booth PB-1									
Speed Bar Ox Gloss Alkyd	8.33	0.63	4.80%	0.05	0.00%	0.00	0.00%	0.00	
Red Protect	8.81	0.63	41.90%	0.42	13.33%	0.13	0.00%	0.00	
Glyptal Red	9.35	0.63	4.80%	0.05	0.00%	0.00	0.00%	0.00	
Glyptal Alkyd	8.42	0.63	45.55%	0.44	0.00%	0.00	0.00%	0.00	
Gloss Black	8.58	0.63	41.07%	0.40	0.00%	0.00	0.00%	0.00	
Xylene (Clean-up)	7.26	0.63	100.00%	0.83	0.00%	0.00	0.00%	0.00	
Worst Case Paint + Cleanup				1.46		0.13		0.00	1.59
Small Motor Spray Booth PB-2									
Speed Bar Ox Gloss Alkyd	8.33	0.63	4.80%	0.05	0.00%	0.00	0.00%	0.00	
Red Protect	8.81	0.63	41.90%	0.42	13.33%	0.13	0.00%	0.00	
Glyptal Red	9.35	0.63	4.80%	0.05	0.00%	0.00	0.00%	0.00	
Glyptal Alkyd	8.42	0.63	45.55%	0.44	0.00%	0.00	0.00%	0.00	
Gloss Black	8.58	0.63	41.07%	0.40	0.00%	0.00	0.00%	0.00	
Xylene (Clean-up)	7.26	0.63	100.00%	0.83	0.00%	0.00	0.00%	0.00	
Worst Case Paint + Cleanup				1.46		0.13		0.00	1.59
Large Motor Dip Tank (DT-1)									
PED711-F-21067	7.61	0.25	21.96%	0.08	7.62%	0.03	0.00%	0.00	0.10
Small Motor Dip Tank (DT-2)									
PED961/A6-101	7.72	0.08	33.03%	0.04	8.93%	0.01	0.00%	0.00	0.05
Vacuum Pressure Impregnator Tank (VPI-1)									
Inhibitor D5-101	7.60	0.25	0.00%	0.00	0.00%	0.00	6.00%	0.02	0.02
Total Unlimited Potential to Emit (PTE) =				3.03		0.30		0.02	3.35

Limited Potential to Emit HAPs

Emission Unit	Material Usage Limitation	Limited PTE of Xylene (tons/yr)	Limited PTE of Ethyl Benzene (tons/yr)	Limited PTE of Benzoquinone (tons/yr)	Total Limited PTE of HAPs (tons/yr)
PB-1	76.16%	1.11	0.10	0.00	1.21
PB-2	76.16%	1.11	0.10	0.00	1.21
DT-1	36.87%	0.03	0.01	0.00	0.04
DT-2	none	0.04	0.01	0.00	0.05
VPI-1	58.09%	0.00	0.00	0.01	0.01
Totals		2.28	0.22	0.01	2.52

METHODOLOGY

Unlimited Potential to Emit HAPs (tons/yr) = Density (lb/gal) * Maximum Usage (gal/day) * Weight % HAP * 365 days/yr * 1 ton/2000 lbs
 Limited Potential to Emit HAPs = [Material Usage Limitation (%)] * [Unlimited Potential to Emit HAPs]

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

Company Name: Koontz-Wagner Electric Company, Inc.
Address City IN Zip: 3801 Voorde Drive, South Bend, IN 46628
Registration Number: 141-27127-00169
Plt ID: 141-00169
Reviewer: Gary Freeman

Emission Unit	Number of Units	Unit Heat Input Capacity MMBtu/hr	Combined Total Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Potential Emission tons/yr					
					PM*	PM10*	SO2	NOx**	VOC	CO
					1.9	7.6	0.6	100	5.5	84.0
Curing Ovens	2	0.970	1.940	16.99	0.016	0.065	0.005	0.850	0.047	0.714
Curing Oven	1	0.750	0.750	6.57	0.006	0.025	0.002	0.329	0.018	0.276
Heat Clean Oven	1	0.970	0.970	8.50	0.008	0.032	0.003	0.425	0.023	0.357
Steam Cleaner	1	0.450	0.450	3.94	0.004	0.015	0.001	0.197	0.011	0.166
Steam Cleaner	1	0.400	0.400	3.50	0.003	0.013	0.001	0.175	0.010	0.147
Parts Washer	1	0.065	0.065	0.57	5.4E-04	0.002	0.000	0.028	0.002	0.024
Totals	7		4.6		0.038	0.152	0.012	2.004	0.110	1.683

Emission Unit	Potential Emission tons/yr									
	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Curing Ovens	1.8E-05	1.0E-05	6.4E-04	0.015	2.9E-05	4.2E-06	9.3E-06	1.2E-05	3.2E-06	1.8E-05
Curing Oven	6.9E-06	3.9E-06	2.5E-04	0.006	1.1E-05	1.6E-06	3.6E-06	4.6E-06	1.2E-06	6.9E-06
Heat Clean Oven	8.9E-06	5.1E-06	3.2E-04	0.008	1.4E-05	2.1E-06	4.7E-06	5.9E-06	1.6E-06	8.9E-06
Steam Cleaner	4.1E-06	2.4E-06	1.5E-04	0.004	6.7E-06	9.9E-07	2.2E-06	2.8E-06	7.5E-07	4.1E-06
Steam Cleaner	3.7E-06	2.1E-06	1.3E-04	0.003	6.0E-06	8.8E-07	1.9E-06	2.5E-06	6.7E-07	3.7E-06
Parts Washer	6.0E-07	3.4E-07	2.1E-05	0.001	9.7E-07	1.4E-07	3.1E-07	4.0E-07	1.1E-07	6.0E-07
Totals	4.2E-05	2.4E-05	1.5E-03	0.036	6.8E-05	1.0E-05	2.2E-05	2.8E-05	7.6E-06	4.2E-05

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

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

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

Methodology

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

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

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 (SUPPLEMENT D 3/98)

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu, MMCF = 1,000,000 Cubic Feet of Gas

Abbreviations

PM = Particulate Matter

NOx = Nitrous Oxides

DCB = Dichlorobenzene

Cr = Chromium

PM10 = Particulate Matter (<10 um)

VOC = Volatile Organic Compounds

Pb = Lead

Mn = Manganese

SO2 = Sulfur Dioxide

CO = Carbon Monoxide

Cd = Cadmium

Ni = Nickel

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Re-Registration

Source Description and Location

Source Name:	Koontz – Wagner Maintenance Services
Source Location:	3801 Voorde Drive, South Bend, Indiana 46628
County:	St. Joseph
SIC Code:	7694
Registration No.:	141-27127-00169
Permit Reviewer:	Gary Freeman

On November 7, 2008, the Office of Air Quality (OAQ) received an application from Koontz – Wagner Maintenance Services for a Re-Registration in order to address the requirements of 326 IAC 2-5.5-5(b), which required existing emission sources with a valid air registration to reapply for approval by December 2000. This registration is being issued to address the requirements of this rule.

Existing Approvals

The source has been operating under Construction Permit No. CP 141-7606-00169, issued on September 24, 1997.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective July 19, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Attainment effective October 18, 2000, for the 1-hour ozone standard for the South Bend-Elkhart area, including St. Joseph County and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour standard was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for 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. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5

St. Joseph County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

(c) Other Criteria Pollutants

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

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.5 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Koontz – Wagner Maintenance Services on November 7, 2008, relating to the continued operation of an electric motor repair and electrical component installation operation

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

- (a) one (1) touch-up paint spray booth, identified as PB-1, utilizing an air atomized application system, performing touch up (not production/process related) when needed on steel control boxes, with dry filters for overspray control, and exhausting at one (1) stack, identified as S7;
- (b) one (1) small motor paint spray booth, identified as PB-2, utilizing an air atomized application system, coating a maximum of 0.625 small electric motors per hour, with dry filters for overspray control, and exhausting at one (1) stack, identified as S6;
- (c) one (1) large motor dip tank, identified as DT-1, coating a maximum of 0.25 large electric motors per hour, and exhausting at one (1) stack, identified as S10;
- (d) one (1) small motor dip tank, identified as DT-2, coating a maximum of 0.25 electric motors per hour, and exhausting at one (1) stack, identified as S14;
- (e) one (1) Vacuum Pressure Impregnator tank, identified as VPI-1, coating a maximum of 0.25 electric motors per hour, and exhausting at one (1) stack, identified as S12;
- (f) three (3) natural gas fired curing ovens, each rated at 0.97, 0.97, and 0.75 million (MM) British thermal units (Btu) per hour, respectively;
- (g) one (1) natural gas fired heat clean oven, rated at 0.97 MMBtu per hour;
- (h) two (2) natural gas fired steam cleaners, each rated at 0.45 and 0.40 MMBtu per hour, respectively;
- (i) one (1) natural gas fired parts washer, rated at 0.065 MMBtu per hour;
- (j) one (1) abrasive cleaner, identified as SB-1, equipped with a baghouse for control of particulate emissions, and exhausting at one (1) stack, identified as S13; and
- (k) three (3) welding stations.

Enforcement Issues

Pursuant to 326 IAC 2-5.5-2(b), this existing source was required to reapply for approval by December 2000. IDEM is reviewing this matter and will take appropriate action.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Registration

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

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10 *	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPS	Worst Case HAP
Surface Coating PB-1 and PB-2 DT-1, DT-2 and VPI Tank	2.61	2.61	2.61	0	0	20.02	0	3.35	3.03 (xylene)
Natural Gas Combustion	0.04	0.15	0.15	0.01	2.00	0.11	1.68	0.04	0.04 (hexane)
Abrasive Blasting SB-1	10.25	7.17	7.17	0	0	0	0	0	0
Welding and Flame Cutting	0.64	0.64	0.64	0	0	0	0	3.8E-03	2.2E-03 (manganese)
Total	13.54	10.58	10.58	0.01	2.00	20.14	1.68	3.39	
Registration Levels	25	25	25	25	25	25	100	25	10
Exemptions Levels	5	5	5	10	10	5 or 10	25	25	10

• Total emissions based on rated capacity at 8,760 hours/year.

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of VOC, PM, and PM10 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(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) The requirements of National Emission Standards for Hazardous Air Pollutants (40 CFR 63, Subpart T) for Halogenated Solvent Cleaning (63.460 through 63.470) (326 IAC 20-6-1) are not included in the permit because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.460(a).
- (b) The requirements of 40 CFR 63, Subpart MMMM, NESHAP for Surface Coating of Miscellaneous Metal Parts and Products (40 CFR 63.3880 – 63.3981), are not included in the permit because this source is not a major source of HAPS as defined in 40 CFR 63.2.
- (c) The requirements of 40 CFR 63, Subpart HHHHHH, NESHAP for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources (40 CFR Part 63.11169 -63.11180), are not included in this permit, since this area source does not perform paint stripping using chemical strippers that contain methylene chloride for the removal of dried paint, does not perform spray application of coatings to motor vehicles or mobile equipment, and does not perform spray application of coatings that contain chromium, lead, manganese, nickel, or cadmium to a plastic and/or metal substrates.
- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 61, 63) included in the permit for this source.

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

- (e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.
- (g) 326 IAC 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 (Particulate Emission Limitations for Manufacturing Processes)
 - (1) Pursuant to 326 IAC 6-3-1(b)(15), the spray booths PB-1 and PB-2 are each exempt from the requirements of 326 IAC 6-3, because they each have a potential paint usage of less than five (5) gallons per day.
 - (2) Pursuant to 326 IAC 6-3-1(b)(5), the dip tanks DT-1 and DT-2 and the vacuum pressure impregnator tank (VPI-1) are each exempt from the requirements of 326 IAC 6-3, because they each use dip coating application.
- (i) 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations)
Pursuant to 326 IAC 8-2-1, the provisions of 326 IAC 8-2-9 apply to miscellaneous metal coating operations constructed after July 1, 1990, located in any county, and which have actual emissions of greater than fifteen (15) pounds per day before add-on controls. For spray booths PB-1 and PB-2, dip tank DT-1 and the vacuum impregnator tank VPI-1 the potential to emit VOCs are each greater than fifteen (15) pounds per day, but the source has opted to limit the VOC input to less than fifteen (15) pounds per day each, in order to render the requirements of 326 IAC 8-2-9 not applicable. Therefore, the owner or operator of this source shall comply with the following:
 - (1) The VOC input, including coatings dilution solvents, and cleaning solvents for spray booths PB-1 and PB-2, dip tank DT-1 and the vacuum impregnator tank VPI-1 shall be less than 15.0 pounds per day each.

Compliance with this limit renders the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) not applicable.
 - (2) To document compliance with this limit, the owner or operator of this source shall maintain records for the total VOC input for spray booths PB-1 and PB-2, dip tank DT-1 and the vacuum impregnator tank VPI-1, each day. These records shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC emission limit for the spray booths PB-1 and PB-2, dip tank DT-1 and the vacuum impregnator tank VPI-1:
 - (A) The amount and VOC content of each coating material, dilution solvent, and cleanup solvent used for each day. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount of materials used.

- (B) The total VOC usage for each day.
- (3) Records of all required monitoring data, reports and support information required by this registration shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the owner or operator of this source, the owner or operator of this source shall furnish the records to the Commissioner within a reasonable time.
- (4) Unless otherwise specified in this registration, all record keeping requirements not already legally required shall be implemented within ninety (90) days of approval date of this registration.

Natural Gas Combustion Sources

- (j) 326 IAC 4-2-2 (Incinerators)
The natural gas-fired ovens, cleaners, and parts washer are not incinerators, as defined by 326 IAC 1-2-34, since they do not burn waste substances. Therefore, these ovens are not subject to 326 IAC 4-2-2.
- (k) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The natural gas-fired ovens, cleaners, and parts washer are each exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion are not considered as part of the process weight. Pursuant to 326 IAC 6-3-1(b)(14), the natural gas-fired ovens, cleaners and parts washer are also each exempt from the requirements of 326 IAC 6-3, because the potential particulate emissions are less than five hundred fifty one thousandths (0.551) pound per hour.
- (l) 326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)
The natural gas-fired ovens cleaners, and parts washer are each not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions of sulfur dioxide are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

Abrasive Cleaner

- (m) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

The requirements of 326 IAC 6-3 are applicable to the abrasive cleaner SB-1. Pursuant to 326 IAC 6-3-2(e)(2), the particulate emissions from SB-1 shall not exceed 0.97 pounds per hour based on a process weight rate equal to 0.12 tons of abrasive per hour. The allowable rate of emissions was calculated as follows:

Interpolation of the data in the table in 326 IAC 6-3-2(e)(2) for the process weight rates up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

The hourly potential particulate matter emissions after control from the abrasive cleaner are estimated to be 0.23 pounds per hour, which is less than the 326 IAC 6-3-2 allowable hourly rate of 0.97 pounds per hour. Therefore, the source is able to comply with the 326 IAC 6-3 allowable emission rate.

Welding and Flame Cutting

- (n) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
 - (a) Pursuant to 326 IAC 6-3-1(b)(9), each of the welding operations is exempt from the requirements of 326 IAC 6-3, because the potential to consume welding wire is less than six hundred twenty-five (625) pounds per day.
 - (b) Pursuant to 326 IAC 6-3-1(b)(9), the oxyacetylene/electric arc flame cutting operation is exempt from the requirements of 326 IAC 6-3, because the maximum capacity of the torch cutting operation is less than three thousand four hundred (3,400) inches per hour of stock one (1) inch thickness or less is cut.

Degreasing Operations

- (o) 326 IAC 8-3-1 (Organic Solvent Degreasing Operations)
The requirements of 326 IAC 8-3-1 are not applicable to the parts washer at this source, since the parts washers utilizes a aqueous based cleaner and does not emit volatile organic compounds (VOC).
- (p) 326 IAC 20-6-1 (Halogenated Solvent Cleaning)
This source is not subject to the requirements of the 326 IAC 20-6-1, since the parts washer does not use a solvent that contains any of the halogenated compounds listed in 326 IAC 20-6-1(a).

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 November 7, 2008

The operation of this source shall be subject to the conditions of the attached proposed Registration No. 141-27127-00169. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Gary Freeman 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) 233-5334 or toll free at 1-800-451-6027 extension 3-5334
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov