



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

December 7, 2004

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

TO: Interested Parties / Applicant

RE: Jasper Engine Exchange, Inc. - Branch 53 / 037-20340-00116

FROM: Paul Dubenetzky
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, Room 1049, 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 9/16/03



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
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December 7, 2004

Michael Schwenk
Jasper Engines Exchange, Inc. - Branch 53
P.O. Box 650
Jasper, IN 47547

Re: Registered Construction and Operation Status,
037-20340-00116

Dear Mr. Schwenk:

The application from Jasper Engines Exchange, Inc. (Branch 53), received on November 3, 2004, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following stationary automotive transmission repair and remanufacturing plant, to be located at 911 West Division Road, Jasper, IN 47547 is classified as registered:

- (a) One (1) paint booth (PTB-011), constructed in 2005, using two (2) High Velocity Low Pressure (HVLP) spray guns, with particulate emissions controlled by dry filters, exhausting through stack PTB011, with a maximum capacity of ten (10) transmissions per hour;
- (b) Three (3) abrasive mechanical blasters (BLA056, BLA057, BLA058) using soda bicarbonate based blasting media, with particulate emissions controlled by one (1) baghouse dust collector (DUC063), with an outlet design grain loading of thirty-six millionths (0.000036) grain per actual cubic foot, and a maximum gas flow rate of twelve thousand (12,000) actual cubic feet per minute (acfm);
- (c) Insignificant activities consisting of the following:
 - (1) Four (4) natural gas fired space heaters, each rated at 0.3 MMBtu/hr;
 - (2) Three (3) natural gas fired space heaters, each rated at 0.08 MMBtu/hr;
 - (3) One (1) natural gas fired air make-up unit rated at 3.25 MMBtu/hr;
 - (4) One (1) natural gas fired water heater rated at 0.3 MMBtu/hr;
 - (5) Metal inert gas (MIG) welding operations utilizing ER 70S2 welding wire with a maximum hourly consumption of 1.0 pound of wire day;
 - (6) Metal inert gas (MIG) welding operations utilizing an aluminum-based welding wire (4043 wire) with a maximum hourly consumption of 1.0 pound of wire day;
 - (7) Two (2) milling machines (MIL043 and MIL044) where an aqueous cutting coolant (Tech Cool 3700) continuously floods the machining interface;
 - (8) Eight (8) cold cleaner degreasing units (CLT189, CLT190, CLT191, CLT192, CLT198, CLT199, CLT200, CLT201) using aqueous solutions (containing Dart 371) containing less than 1 percent by weight of volatile organic compounds (VOCs) excluding hazardous air pollutants (HAPs);

- (9) Vessels storing lubricating oils, hydraulic oils, machining oils, and/or machining fluids;
 - (A) Two (2) storage vessels, each 300 gallons in volume, for storage of automatic transmission fluid at a annual throughput of approximately 10,400 gallons;
 - (B) One (1) storage vessel, 55 gallons in volume, for storage of used automatic transmission fluid for recycling;
 - (C) Hydraulic oil (Tellus Plus Oil 46), purchased in 5-gallon buckets, for use in machinery, with an annual usage of approximately 100 gallons;
 - (D) Machining fluid (Tech Cool 3700) is purchased in 5 or 55-gallon buckets with an annual usage of approximately 365 gallons;
- (10) Six (6) hand-held or bench mounted polisher/buffer units;

The following conditions shall be applicable:

- (a) 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) in a six (6) hour period 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.
- (b) 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.
- (c) The requirements of 326 IAC 6-3 are applicable to each of the three (3) abrasive mechanical blasters (BLA056, BLA057, BLA058). Pursuant to 326 IAC 6-3-2(e)(2), any manufacturing process not exempt under 326 IAC 6-3-1(b) or (c) and to which the control methods in 326 IAC 6-3-2 (b) through (d) do not apply shall calculate allowable particulate emissions as follows:
 - (1) No person shall operate any manufacturing process so as to produce, cause, suffer, or allow particulate to be emitted in excess of the amount shown in the table in 326 IAC 6-3-2(e)(2). The allowable rate of emission shall be based on the process weight rate for a manufacturing process.
 - (2) When the process weight rate is less than one hundred (100) pounds per hour, the allowable rate of emission is five hundred fifty-one thousandths (0.551) pound per hour.
 - (3) When the process weight exceeds two hundred (200) tons per hour, the allowable emission may exceed that shown in the table in 326 IAC 6-3-2(e)(2), provided the concentration of particulate in the discharge gases to the atmosphere is less than one-tenth (0.10) pound per one thousand (1,000) pounds of gases:

In order to comply with the allowable rate of emission, the particulate controls of each of the abrasive mechanical blasters shall be in operation at all times when the blaster is in operation. The allowable rate of emission can be 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:

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

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour, and} \\ P = \text{process weight rate in tons per hour}$$

- (d) Pursuant 326 IAC 8-3-5(a), for each of the eight (8) cold cleaner degreasing units (CLT189, CLT190, CLT191, CLT192, CLT198, CLT199, CLT200, CLT201), the owner or operator shall ensure that the following control equipment requirements are met for each of the cold cleaner degreasing units:
- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in 326 IAC 8-3-5(b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.

- (C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (e) Pursuant 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), for each of the eight (8) cold cleaner degreasing units (CLT189, CLT190, CLT191, CLT192, CLT198, CLT199, CLT200, CLT201), the owner or operator shall ensure that the following operating requirements are met for each of the cold cleaner degreasing units:
 - (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or unit dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
- (f) Any change or modification that will result in an increase in the actual emissions of Volatile Organic Compounds (VOCs) from the paint booth (PTB-011) to greater than fifteen (15) pounds per day before add-on controls shall require prior approval of IDEM, Office of Air Quality before such change can occur.

This registration the first registration issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

**Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

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. If you have any questions on this matter, please contact Nathan C. Bell, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 317-234-3350 or at 1-800-451-6027 (ext 43350).

Sincerely,

Original signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

NCB

cc: File - Dubois County
Dubois County Health Department
Air Compliance Section Inspector - Gene Kelso
Permit Tracking
Compliance Data Section
Administrative and Development

Registration Annual Notification

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

Company Name:	Jasper Engines Exchange, Inc. - Branch 53
Address:	911 West Division Road, Jasper, Indiana 47547
City:	Jasper
Authorized individual:	Michael Schwenk
Phone #:	(812) 482-1041
Registration #:	037-20340-00116

I hereby certify that Jasper Engines Exchange, Inc. - Branch 53 is still in operation and is in compliance with the requirements of Registration 037-20340-00116.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: Jasper Engine Exchange, Inc. - Branch 53
Source Location: 911 West Division Road, Jasper, IN 47547
County: Dubois
SIC Code: 7537 (Services: Automotive Transmission Repair Shops)
Application No.: 037-20340-00116
Reviewer: Nathan C. Bell

On November 3, 2004, the Office of Air Quality (OAQ) received an application from Jasper Engine Exchange, Inc. (Branch 53) relating to the operation of an automotive transmission repair and remanufacturing plant.

New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following equipment:

- (a) One (1) paint booth (PTB-011), constructed in 2005, using two (2) High Velocity Low Pressure (HVLV) spray guns, with particulate emissions controlled by dry filters, exhausting through stack PTB011, with a maximum capacity of ten (10) transmissions per hour;
- (b) Three (3) abrasive mechanical blasters (BLA056, BLA057, BLA058) using soda bicarbonate based blasting media, with particulate emissions controlled by one (1) baghouse dust collector (DUC063), with an outlet design grain loading of thirty-six millionths (0.000036) grain per actual cubic foot, and a maximum gas flow rate of twelve thousand (12,000) actual cubic feet per minute (acfm);
- (c) Insignificant activities consisting of the following:
 - (1) Four (4) natural gas fired space heaters, each rated at 0.3 MMBtu/hr;
 - (2) Three (3) natural gas fired space heaters, each rated at 0.08 MMBtu/hr;
 - (3) One (1) natural gas fired air make-up unit rated at 3.25 MMBtu/hr;
 - (4) One (1) natural gas fired water heater rated at 0.3 MMBtu/hr;
 - (5) Metal inert gas (MIG) welding operations utilizing ER 70S2 welding wire with a maximum hourly consumption of 1.0 pound of wire day;
 - (6) Metal inert gas (MIG) welding operations utilizing an aluminum-based welding wire (4043 wire) with a maximum hourly consumption of 1.0 pound of wire day;
 - (7) Two (2) milling machines (MIL043 and MIL044) where an aqueous cutting coolant (Tech Cool 3700) continuously floods the machining interface;

- (8) Eight (8) cold cleaner degreasing units (CLT189, CLT190, CLT191, CLT192, CLT198, CLT199, CLT200, CLT201) using aqueous solutions (containing Dart 371) containing less than 1 percent by weight of volatile organic compounds (VOCs) excluding hazardous air pollutants (HAPs);
- (9) Vessels storing lubricating oils, hydraulic oils, machining oils, and/or machining fluids;
 - (A) Two (2) storage vessels, each 300 gallons in volume, for storage of automatic transmission fluid at a annual throughput of approximately 10,400 gallons;
 - (B) One (1) storage vessel, 55 gallons in volume, for storage of used automatic transmission fluid for recycling;
 - (C) Hydraulic oil (Tellus Plus Oil 46), purchased in 5-gallon buckets, for use in machinery, with an annual usage of approximately 100 gallons;
 - (D) Machining fluid (Tech Cool 3700) is purchased in 5 or 55-gallon buckets with an annual usage of approximately 365 gallons;
- (10) Six (6) hand-held or bench mounted polisher/buffer units;

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Enforcement Issues

There are no enforcement actions pending against this emission source.

Stack Summary

Stack ID	Operation	Height (ft)	Outlet Dimensions (ft)	Flow Rate (acfm)	Temperature (°F)
PTB011	Paint booth PTB-011	32	2	9,000	ambient
DUC063	Three (3) Abrasive Blasters (BLA056, BLA057, BLA058)	32	2	12,000	ambient

Recommendation

The staff recommends to the Commissioner that the application be approved as a registration. This recommendation is based on the following facts and conditions:

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 3, 2004.

Emission Calculations

See Appendix A of this TSD for detailed emissions calculations (Appendix A, pages 1 through 6).

For the two (2) milling machines (MIL043 and MIL044) where an aqueous cutting coolant (Tech Cool 3700) continuously floods the machining interface, it is assumed that the potential emissions of

particulate matter (PM) are negligible. Consequently, each of the two (2) milling machines (MIL043 and MIL044) is exempt from the requirements of 326 IAC 6-3.

Using the Environmental Protection Agency's (EPA) TANKS Version 4.09b program, it was determined that each of the storage vessels storing lubricating oils, hydraulic oils, machining oils, and/or machining fluids at this source have negligible potential emissions of volatile organic compounds (VOCs).

It is also assumed that potential emissions of all regulated criteria pollutants and hazardous air pollutants (HAPs) from the hand-held or bench mounted polisher/buffer units are negligible.

Potential To Emit Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit (PTE) is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency."

The following table reflects the existing source potential to emit. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit:

Pollutant	Potential To Emit (tons/year)
PM	5.27
PM-10	5.27
SO ₂	0.01
NO _x	2.19
VOC	2.98
CO	1.84

Hazardous Air Pollutants (HAPs)	Potential to Emit (tons/yr)
Glycol Ethers	0.31
Benzene	negligible
Dichlorobenzene	negligible
Formaldehyde	negligible
n-Hexane	0.04
Toluene	negligible
Lead	negligible
Cadmium	negligible
Chromium	negligible
Cobalt	negligible
Manganese	negligible
Nickel	negligible
Worst Single HAP	0.31
Combined HAPs	0.35

- (a) The PTE (as defined in 326 IAC 2-1.1-1(16)) of regulated criteria pollutants are less than twenty-five (25) tons per year, but the PTE of particulate matter (PM or PM-10) is greater than five (5) tons per year and/or the PTE of all other regulated criteria pollutants are greater than ten (10) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5. A registration will be issued.

- (b) The 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, the source is not subject to the provisions of 326 IAC 2-7.

County Attainment Status

The source is located in Dubois County.

Pollutant	Status
PM10	Attainment or Unclassifiable
SO ₂	Attainment
NO ₂	Attainment or Unclassifiable
1-Hour Ozone	Attainment or Unclassifiable
8-Hour Ozone	Attainment or Unclassifiable
CO	Attainment or Unclassifiable
Lead	Attainment or Unclassifiable

- (a) 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 the ozone standard. Dubois County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (b) Dubois County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (c) Fugitive Emissions
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

New Source PSD Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	0.14
PM-10	0.27
SO ₂	0.01
NO _x	2.19
VOC	2.98
CO	1.84
Worst Single HAP	0.31
Combination HAPs	0.35

- (a) This existing source is not a major PSD stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the PTE of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) This source is not subject to the requirements of 40 CFR 60, Subpart E (60.50 through 60.54), Standards of Performance for Incinerators (326 IAC 12), because the natural gas-fired heaters and make-up unit have a charging rate less than fifty (50) tons per day and they do not burn refuse consisting of more than 50 percent municipal type waste (household, commercial/retail, and/or institutional waste).
- (b) This source is not subject to the requirements of the following New Source Performance Standards (NSPS), because the natural gas-fired heaters and make-up unit are not considered municipal waste combustors or hospital/medical/infectious waste incinerators:
 - (1) 40 CFR 60 Subpart Ea (60.50a through 60.59a), Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced after December 20, 1989 and on or before September 20, 1994 (326 IAC 12)
 - (2) 40 CFR 60 Subpart Eb (60.50b through 60.59b), Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced after September 20, 1994, or for Which Modification or Reconstruction is commenced after June 19, 1996 (326 IAC 12)
 - (3) 40 CFR 60 Subpart Ec (60.50c through 60.58c), Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced after January 20, 1996 (326 IAC 12)
 - (4) 40 CFR 60 Subpart AAAA (60.1000 through 60.1465), Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001 (326 IAC 12)
- (c) This source is not subject to the requirements of 326 IAC 12 or 40 CFR 60, Subpart Kb (60.110b through 60.117b), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, because each of the storage vessels have a storage capacity less than seventy-five (75) cubic meters (19,815 gallons).
- (d) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (e) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart MMMM, Miscellaneous Metal Parts and Products Surface Coating, because this source is not a major source of HAPs as defined in 40 CFR 63.2.
- (f) The natural gas-fired heaters and make-up unit are not subject to the requirements of the NESHAPs for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR

63, Subpart DDDDD. The natural gas-fired heaters and make-up unit are part of the affected source for the small gaseous fuel subcategory, as defined by 40 CFR 63.7575, because they each have a rated capacity of less than or equal to 10 million British thermal units per hour heat input. However, pursuant to 40 CFR 63.7506(c), there are no applicable requirements from 40 CFR 63, Subpart DDDDD and 40 CFR, Subpart A for the affected source for the small gaseous fuel subcategory.

- (g) This source is not subject to the requirements of 40 CFR Subpart EEE (63.1200 through 63.1214), NESHAPs from Hazardous Waste Combustors (326 IAC 20-28-1), because the natural gas-fired heaters and make-up unit are not considered hazardous waste incinerators and the source is not a major source of HAPs.
- (h) This source is not subject to the requirements of the 40 CFR Subpart T (63.460 Through 63.470), NESHAP for for Halogenated Solvent Cleaning, because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.460(a).
- (i) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in the permit for this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source will be constructed after the applicability date of August 7, 1977, however, it is not one of the 28 listed source categories defined in 326 IAC 2-2-1(y)(1), no major modifications were done to this source, and the uncontrolled potential to emit of all attainment regulated pollutants is less than 250 tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The requirements of 326 IAC 2-4.1 are not applicable to this source, since 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.

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:

- (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) in a six (6) hour period 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.

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.

State Rule Applicability - Individual Facilities

326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)

The requirements of 326 IAC 8-1-6 are not applicable, since each of the emission units at this source does not have the potential to emit greater than twenty-five (25) tons of VOCs per year.

State Rule Applicability - Surface Coating Operations

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

Pursuant to 326 IAC 6-3-1(b)(14), the paint booth (PTB-011) is 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.

326 IAC 8-2 (Volatile Organic Compounds; Surface Coating Emission Limitations)

The paint booth (PTB-011) is not subject to the requirements of 326 IAC 8-2, because this facility, which will be constructed after July 1, 1990, has actual VOC emissions of less than fifteen (15) pounds per day before add-on controls.

State Rule Applicability - Abrasive Mechanical Blaster Emission Unit

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

The requirements of 326 IAC 6-3 are applicable to each of the three (3) abrasive mechanical blasters (BLA056, BLA057, and BLA058). Pursuant to 326 IAC 6-3-2(e)(2), any manufacturing process not exempt under 326 IAC 6-3-1(b) or (c) and to which the control methods in 326 IAC 6-3-2 (b) through (d) do not apply shall calculate allowable particulate emissions as follows:

- (1) No person shall operate any manufacturing process so as to produce, cause, suffer, or allow particulate to be emitted in excess of the amount shown in the table in 326 IAC 6-3-2(e)(2). The allowable rate of emission shall be based on the process weight rate for a manufacturing process.
- (2) When the process weight rate is less than one hundred (100) pounds per hour, the allowable rate of emission is five hundred fifty-one thousandths (0.551) pound per hour.
- (3) When the process weight exceeds two hundred (200) tons per hour, the allowable emission may exceed that shown in the table in 326 IAC 6-3-2(e)(2), provided the concentration of particulate in the discharge gases to the atmosphere is less than one-tenth (0.10) pound per one thousand (1,000) pounds of gases:

In order to comply with the allowable rate of emission, the particulate controls of each of the abrasive mechanical blasters shall be in operation at all times when the blaster is in operation. The allowable rate of emission can be 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:

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

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour, and} \\ P = \text{process weight rate in tons per hour}$$

State Rule Applicability – Natural Gas Combustion Sources

326 IAC 4-2-2 (Incinerators)

The natural gas-fired heaters and make-up unit 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.

326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)

The natural gas-fired heaters and make-up unit are not subject to 326 IAC 6-2 as they are not sources of indirect heating.

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

Pursuant to 326 IAC 6-3-1(b)(14), each of the natural gas-fired heaters and make-up unit are exempt from the requirements of 326 IAC 6-3, because they each have a potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)

The natural gas-fired heaters and make-up unit are each not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

State Rule Applicability - Welding Operations

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

Pursuant to 326 IAC 6-3-1(b)(9), each of the two (2) metal inert gas welders is exempt from the requirements of 326 IAC 6-3, because the potential to consume welding wire for each of the welders is less than six hundred twenty-five (625) pounds per day.

State Rule Applicability - Milling Machines

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

Pursuant to 326 IAC 6-3-1(b)(14), each of the two (2) milling machines (MIL043 and MIL044) is exempt from the requirements of 326 IAC 6-3, because the potential particulate emissions are each less than five hundred fifty-one thousandths (0.551) pound per hour.

326 IAC 8-2 (Volatile Organic Compounds; Surface Coating Emission Limitations)

Each of the two (2) milling machines (MIL043 and MIL044) is not subject to the requirements of 326 IAC 8-2, because each unit, which will be constructed after July 1, 1990, has actual VOC emissions of less than fifteen (15) pounds per day.

State Rule Applicability - Cold Cleaner Degreasing Units

326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control)

Pursuant to 326 IAC 8-3 (Organic Solvent Degreasing Operations), each of the eight (8) cold cleaner degreasing units (CLT189, CLT190, CLT191, CLT192, CLT198, CLT199, CLT200, CLT201) is subject to the requirements of 326 IAC 8-3-5, because the units were constructed after the July 1, 1990 applicability date. Pursuant 326 IAC 8-3-5(a), for each of the cold cleaner degreasing units, the

owner or operator shall ensure that the following control equipment requirements are met for each of the cold cleaner degreasing units:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in 326 IAC 8-3-5(b).
- (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
- (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control)

Pursuant to 326 IAC 8-3 (Organic Solvent Degreasing Operations), each of the eight (8) cold cleaner degreasing units (CLT189, CLT190, CLT191, CLT192, CLT198, CLT199, CLT200, CLT201) is subject to the requirements of 326 IAC 8-3-5, because each unit was constructed after the July 1, 1990 applicability date. Pursuant 326 IAC 8-3-5(b), for each of the cold cleaner degreasing units, the owner or operator shall ensure that the following operating requirements are met for each of the cold cleaner degreasing units:

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

weight could evaporate.

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 degreasing operations do not use a solvent that contains any of the halogenated compounds listed in 326 IAC 20-6-1(a).

State Rule Applicability - Storage Vessels

326 IAC 8-4-3 (Volatile Organic Compounds; Petroleum Liquid Storage Facilities)

Each of the storage vessels is not subject to the requirements of 326 IAC 8-4-3, because each storage vessel, which will be constructed after January 1, 1980, has storage capacity less than thirty-nine thousand (39,000) gallons.

326 IAC 8-9 (Volatile Organic Compounds; Volatile Organic Liquid Storage Vessels)

Each of the storage vessels is not subject to the requirements of 326 IAC 8-9, because the source is located in Dubois County.

Conclusion

The operation of this source shall be subject to the conditions of the attached registration, No 037-20340-00116.

Appendix A: Emissions Calculations
VOC, Particulate, HAPs
Emission Summary

Company Name: Jasper Engine Exchange, Inc. - Branch 53
Address City IN Zip: 911 West Division Road, Jasper, IN 47547
Permit Number: 037-20340
Plt ID: 037-00116
Reviewer: Nathan C. Bell
Date: November 16, 2004

		Uncontrolled Potential Emissions (tons/year)						
		Emissions Generating Activity						
Category	Pollutant	Paint Booth	Abrasive Blasting	Natural Gas Combustion	Welding	Milling Machining	Degreasing Operations	TOTAL
Criteria Pollutants	PM	2.10	3.12	0.04	0.01			5.27
	PM10	2.10	3.12	0.17	0.01			5.39
	SO2			0.01				0.01
	NOx			2.19				2.19
	VOC	1.38		0.12		1.13	0.35	2.98
	CO			1.84				1.84
Hazardous Air Pollutants	Glycol Ethers	0.31						0.31
	Benzene			4.6E-05				4.6E-05
	Dichlorobenzene			2.6E-05				2.6E-05
	Formaldehyde			1.6E-03				1.6E-03
	n-Hexane			0.04				0.04
	Toluene			7.4E-05				7.4E-05
	Lead			1.1E-05				1.1E-05
	Cadmium			2.4E-05				2.4E-05
	Chromium			3.1E-05	2.0E-06			3.3E-05
	Cobalt				1.8E-07			1.8E-07
	Manganese			8.3E-06	6.4E-05			7.3E-05
	Nickel			4.6E-05	1.8E-07			4.6E-05
	Totals	0.31	0	0.04	6.7E-05	0	0	0.35
							Worst Single HAP	0.31

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

		Controlled Potential Emissions (tons/year)						
		Emissions Generating Activity						
Category	Pollutant	Paint Booth	Abrasive Blasting	Natural Gas Combustion	Welding	Milling Machining	Degreasing Operations	TOTAL
Criteria Pollutants	PM	0.063	0.031	0.04	0.01			0.14
	PM10	0.063	0.031	0.17	0.01			0.27
	SO2			0.01				0.01
	NOx			2.19				2.19
	VOC	1.38		0.12		1.13	0.35	2.98
	CO			1.84				1.84
Hazardous Air Pollutants	Glycol Ethers	0.31						0.31
	Benzene			4.6E-05				4.6E-05
	Dichlorobenzene			2.6E-05				2.6E-05
	Formaldehyde			1.6E-03				1.6E-03
	n-Hexane			0.04				0.04
	Toluene			7.4E-05				7.4E-05
	Lead			1.1E-05				1.1E-05
	Cadmium			2.4E-05				2.4E-05
	Chromium			3.1E-05	2.0E-06			3.3E-05
	Cobalt				1.8E-07			1.8E-07
	Manganese			8.3E-06	6.4E-05			7.3E-05
	Nickel			4.6E-05	1.8E-07			4.6E-05
	Totals	0.31	0	0.04	6.7E-05	0	0	0.35
							Worst Single HAP	0.31

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

**Appendix A: Emissions Calculations
VOCs, Particulate, HAPs
From Surface Coating Operations
Paint Booth (PTB-011)**

**Company Name: Jasper Engine Exchange, Inc. - Branch 53
Address City IN Zip: 911 West Division Road, Jasper, IN 47547
Permit Number: 037-20340
Plt ID: 037-00116
Reviewer: Nathan C. Bell
Date: November 16, 2004**

Volatile Organic Comounds (VOC) and Particulate Matter (PM)

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water + Non-VOCs	Weight % Solids	Weight % VOCs	Volume % Water + Non-VOCs	Volume % Solids	Maximum Paint Usage (gal/day)*	Maximum Paint Usage (lbs/hour)	Pounds VOC per gallon of coating less water and non-VOCs	Pounds VOC per gallon of coating	Potential VOC (lbs/hr)	Potential VOC (lbs/day)	Potential VOC (tons/year)	Particulate Potential (lb/day)	Particulate Potential (tons/yr)	lb VOC per gal solids	Transfer Efficiency
KEM AQUA Gloss Enamel Jasper Gray F77AC503	8.86	61.4%	52.5%	38.6%	8.9%	55.8%	33.8%	9.6	3.5	1.78	0.79	0.32	7.57	1.38	11.49	2.10	2.33	65%

*Maximum Paint Usage provided by source was estimated at 9.6 gal/day = 10 transmissions/hour * 0.04 gal/transmission * 24 hour/day

Totals	0.32	7.57	1.38	11.49	2.10
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METHODOLOGY

Maximum Paint Usage (lbs/hr) = Maximum Paint Usage (gal/day) * Density of Paint (lb/gal) / (24 hour/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 Paint 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 Paint 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)

Dry Filter Control Efficiency		97.0%
Particulate Matter Emissions after controls (lb/day)		0.34
Particulate Matter Emissions after controls (ton/yr)		0.063

Hazardous Air Pollutants (HAPs)

Material	Density (Lb/Gal)	Maximum Paint Usage (gal/day)	Weight % Glycol Ethers	Glycol Ether Emissions (ton/yr)
KEM AQUA Gloss Enamel Jasper Gray F77AC503	8.86	9.6	2.0%	0.31

TOTAL HAPs	0.31	ton/yr
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METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Maximum Paint Usage (gal/day) * Weight % HAP * 365 days/yr * (1 ton/2000 lbs)

Note: Glycol Ethers include 2-Butoxyethanol (Ethylene Glycol Butyl Ether)

Appendix A: Emission Calculations
Abrasive Blasting - Confined
Abrasive Blasters BLA056, BLA057, and BLA058

Company Name: Jasper Engine Exchange, Inc. - Branch 53
Address City IN Zip: 911 West Division Road, Jasper, IN 47547
Permit Number: 037-20340
Plt ID: 037-00116
Reviewer: Nathan C. Bell
Date: November 16, 2004

Table 1 - Emission Factors for Abrasives

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

Table 2 - Density of Abrasives (lb/ft3)

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

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

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

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

CALCULATIONS

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters	
Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)	
FR1 = Sand flow rate with internal nozzle diameter (ID1) From Table 3 =	49 lb/hr
D = Density of abrasive =	62 lb/ft3
D1 = Density of sand From Table 2 =	99 lb/ft3
ID = Actual nozzle internal diameter =	0.11 inch
ID1 = Nozzle internal diameter from Table 3 =	0.125 inch
Flow Rate (FR) (lb/hr) =	23.8 lb/hr per nozzle

Uncontrolled Emissions (E, lb/hr)	
EF = emission factor From Table 1 =	0.010 lb PM/ lb abrasive
FR = Flow Rate (lb/hr) =	23.8 lb/hr
w = fraction of time of wet blasting =	0 %
N = number of nozzles =	3
Uncontrolled Emissions =	0.713 lb/hr
=	17.11 lb/day
=	3.12 ton/yr

Controlled Emissions	
Baghouse Control Efficiency =	99.0%
Particulate Matter Emissions after controls =	7.1E-03 lb/hr
=	0.171 lb/day
=	0.031 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 e
 Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lb
 Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)
 E = EF x FR x (1-w/200) x N
 w should be entered in as a whole number (if w is 50%, enter 50)

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

**Company Name: Jasper Engine Exchange, Inc. - Branch 53
Address City IN Zip: 911 West Division Road, Jasper, IN 47547
Permit Number: 037-20340
Pit ID: 037-00116
Reviewer: Nathan C. Bell
Date: November 16, 2004**

Pollutant	PM*	PM10*	SO2	NOx**	VOC	CO	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Emission Factor (lb/MMCF)	1.9	7.6	0.6	100	5.5	84.0	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

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	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Space Heaters - Production Area	4	0.300	1.200	10.51	0.010	0.04	0.003	0.5	0.029	0.4	1.1E-05	6.3E-06	3.9E-04	9.5E-03	1.8E-05	2.6E-06	5.8E-06	7.4E-06	2.0E-06	1.1E-05
Space Heaters - Breakroom and Office	3	0.080	0.240	2.10	0.002	0.01	0.001	0.1	0.006	0.1	2.2E-06	1.3E-06	7.9E-05	1.9E-03	3.6E-06	5.3E-07	1.2E-06	1.5E-06	4.0E-07	2.2E-06
Makeup Unit - Production Area	1	3.250	3.250	28.47	0.027	0.11	0.009	1.4	0.078	1.2	3.0E-05	1.7E-05	1.1E-03	2.6E-02	4.8E-05	7.1E-06	1.6E-05	2.0E-05	5.4E-06	3.0E-05
Water Heater - Production & Domestic Hot Water	1	0.300	0.300	2.63	2.5E-03	1.0E-02	0.001	1.3E-01	0.007	1.1E-01	2.8E-06	1.6E-06	9.9E-05	2.4E-03	4.5E-06	6.6E-07	1.4E-06	1.8E-06	5.0E-07	2.8E-06
Totals	9		5.0		0.04	0.17	0.01	2.19	0.12	1.84	4.6E-05	2.6E-05	1.6E-03	3.9E-02	7.4E-05	1.1E-05	2.4E-05	3.1E-05	8.3E-06	4.6E-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

PM10 = Particulate Matter (<10 um)

SO2 = Sulfur Dioxide

NOx = Nitrous Oxides

VOC = Volatile Organic Compounds

CO = Carbon Monoxide

DCB = Dichlorobenzene

Pb = Lead

Cd = Cadmium

Cr = Chromium

Mn = Manganese

Ni = Nickel

**Appendix A: Emissions Calculations
VOCs, Particulate, HAPs
Welding Operations**

**Company Name: Jasper Engine Exchange, Inc. - Branch 53
Address City IN Zip: 911 West Division Road, Jasper, IN 47547
Permit Number: 037-20340
Pit ID: 037-00116
Reviewer: Nathan C. Bell
Date: November 16, 2004**

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

PROCESS	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	Number of Stations	Max. electrode consumption (lbs/year)	EMISSION FACTORS* (lb pollutant/lb electrode)						EMISSIONS (lbs/hr)						HAPS (lbs/hr)
					PM = PM10	Pb	Cr	Co	Mn	Ni	PM = PM10	Pb	Cr	Co	Mn	Ni	
WELDING																	
Gas Metal Arc Welding (ER70S)	0.042	1	1	365	5.4E-03		1.0E-06	1.0E-06	3.2E-04	1.0E-06	2.3E-04		4.2E-08	4.2E-08	1.3E-05	4.2E-08	1.3E-05
Gas Metal Arc Welding (ER5154)	0.042	1	1	365	2.4E-02		1.0E-05		3.4E-05		1.0E-03		4.2E-07		1.4E-06		8.8E-05

Abbreviations

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

Total Potential Emissions lbs/hr	1.2E-03		4.6E-07	4.2E-08	1.5E-05	4.2E-08	1.0E-04
Total Potential Emissions lbs/day	0.03		1.1E-05	1.0E-06	3.5E-04	1.0E-06	2.4E-03
Total Potential Emissions tons/year	0.01		2.0E-06	1.8E-07	6.4E-05	1.8E-07	4.4E-04

METHODOLOGY

Emission Factors are default values for Gas Metal Arc Welding (GMAW) (SCC 3-09-052) Electrode Type ER70S, AP-42

For this calculation, it was assumed that the aluminum-based wire (4043 wire) had properties and associated emission factors similar to the Gas Metal Arc Welding (GMAW) (SCC 3-09-052) Electrode Type ER5154, AP-42

Welding emissions, lb/hr: (# of stations) * (max. lbs of electrode used/hr/station) * (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.

**Appendix A: Emissions Calculations
Particulate Matter and VOCs
Machining of Metal
Milling Machines (MIL043 and MIL044)**

Company Name: Jasper Engine Exchange, Inc. - Branch 53
Address City IN Zip: 911 West Division Road, Jasper, IN 47547
Permit Number: 037-20340
Pit ID: 037-00116
Reviewer: Nathan C. Bell
Date: November 16, 2004

Particulate Matter from Machining of Metal

It is assumed that the particulate matter (PM) emissions from the two (2) milling machines (MIL043 and MIL044) are negligible, since a an aqueous cutting coolant (Tech Cool 3700). will be used to continuously flood the machining interface. Therefore, the applicant will be in compliance with 326 IAC 6-3.

Volatile Organic Comounds (VOC) and Particulate Matter (PM) from Cutting Fluid

Process	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Non-Volatiles (solids)	Number of Machining Units	Gal of Mat. (gal/day) Per Unit	Total Gal of Mat. (gal/day)	Pounds VOC per gallon of cutting fluid	Potential VOC (lbs/hour)	Potential VOC (lbs/day)	Potential VOC (tons/year)
Tech Cool 3700 Cutting Fluid	8.845	100.0%	65.0%	35.0%	0.00%	2	1	2	3.10	0.26	6.19	1.13

Totals	0.26	6.19	1.13
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Tech Cool 3700 is used as the cutting fluid. Based on the MSDS and the permittee, Tech Cool 3700 is a water based fluid that contains two organic ingredients, triethanolamine (10-30% by weight) and 2-(2-aminoethoxy)ethyl alcohol (1-5% by weight), which are considered as volatile organic compounds (VOCs) as defined by 40CFR 51 Subpart F Section 51.100. Tech Cool 3700 contains no HAPs.

METHODOLOGY

Pounds of VOC per Gallon Cutting Fluid = Density (lb/gal) * Weight % Organics

Potential VOC Pounds per Hour = Pounds of VOC per Gallon cutting fluid (lb/gal) * Total Gal of Material (gal/day) / (24 hours/day)

Potential VOC Pounds per Day = Potential VOC Pounds per Hour * (24 hours/day)

Potential VOC Tons per Year = Potential VOC Pounds per Day * (365 days/yr) * (1 ton/2000 lbs)

No HAPs are present in the product being used

Appendix A: Emission Calculations
Degreasing Operations with Aqueous Solutions
Containing VOCs at Less Than 1% by Weight

Company Name: Jasper Engine Exchange, Inc. - Branch 53
Address City IN Zip: 911 West Division Road, Jasper, IN 47547
Permit Number: 037-20340
Plt ID: 037-00116
Reviewer: Nathan C. Bell
Date: November 16, 2004

PM #	Description	Chemical	Chemical Usage Rate (gallons/year)	VOC Content (lb/gal)	VOC Emissions (lb/year)
CLT189	JRI Pod	Dart 371	1000	0.087	87
CLT190	JRI Pod	Dart 371	1000	0.087	87
CLT191	JRI Pod	Dart 371	1000	0.087	87
CLT192	JRI Pod	Dart 371	1000	0.087	87
CLT198	Hotsy washer	Dart 371	1000	0.087	87
CLT199	Hotsy washer	Dart 371	1000	0.087	87
CLT200	Skid washer	Dart 371	1000	0.087	87
CLT201	Parts washer	Dart 371	1000	0.087	87

Total VOC Emissions (lb/day)	1.91
Total VOC Emissions (lb/year)	696
Total VOC Emissions (tons/year)	0.35

METHODOLOGY

Dart 371 is a waterbased detergent/rust preventative chemical with specific gravity of 1.12
 For this calculation, it was assumed that all the VOC contained in Dart 371 is emitted during use
 VOC Emissions, lbs/year = Chemical Usage Rate (gallons/year) * VOC Content (lb/gal)
 VOC Emissions, tons/yr = VOC Emissions (lbs/year) * 1 ton/2,000 lbs.